



Appendix 6B - Residential Receptor Glare Results (10 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Residential Receptors 10deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 73007.12854

Project type Advanced
 Project status: active
 Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

Summary of Results Glare with potential for temporary after-image predicted

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced |
|------------|------|-------------|---------------|----------------|-----------------|
| | deg | deg | min | min | kWh |
| PV array 1 | 10.0 | 180.0 | 0 | 231,985 | - |

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 10.0 deg
Orientation: 180.0 deg
Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



| Vertex | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| 1 | 52.977416 | -0.868813 | 20.30 | 2.80 | 23.10 |
| 2 | 52.978501 | -0.867955 | 20.00 | 2.80 | 22.80 |
| 3 | 52.978398 | -0.866989 | 20.39 | 2.80 | 23.19 |
| 4 | 52.978450 | -0.865830 | 20.46 | 2.80 | 23.26 |
| 5 | 52.978191 | -0.863856 | 20.00 | 2.80 | 22.80 |
| 6 | 52.977584 | -0.862376 | 19.95 | 2.80 | 22.75 |
| 7 | 52.984483 | -0.858556 | 24.76 | 2.80 | 27.56 |
| 8 | 52.984612 | -0.859200 | 25.60 | 2.80 | 28.40 |
| 9 | 52.984431 | -0.859865 | 26.00 | 2.80 | 28.80 |
| 10 | 52.985335 | -0.861732 | 25.02 | 2.80 | 27.82 |
| 11 | 52.987777 | -0.860380 | 19.95 | 2.80 | 22.75 |
| 12 | 52.987828 | -0.860659 | 19.88 | 2.80 | 22.68 |
| 13 | 52.986317 | -0.862998 | 21.01 | 2.80 | 23.81 |
| 14 | 52.985568 | -0.864972 | 20.25 | 2.80 | 23.05 |
| 15 | 52.985723 | -0.865337 | 19.79 | 2.80 | 22.59 |
| 16 | 52.986007 | -0.865358 | 20.07 | 2.80 | 22.87 |
| 17 | 52.986911 | -0.864371 | 20.22 | 2.80 | 23.02 |
| 18 | 52.987893 | -0.866152 | 18.00 | 2.80 | 20.80 |
| 19 | 52.987841 | -0.866581 | 18.05 | 2.80 | 20.85 |
| 20 | 52.987893 | -0.866774 | 18.33 | 2.80 | 21.13 |
| 21 | 52.988074 | -0.866603 | 18.08 | 2.80 | 20.88 |
| 22 | 52.989779 | -0.870723 | 22.00 | 2.80 | 24.80 |
| 23 | 52.989908 | -0.871280 | 22.00 | 2.80 | 24.80 |
| 24 | 52.987738 | -0.873448 | 22.05 | 2.80 | 24.85 |
| 25 | 52.986924 | -0.874778 | 22.79 | 2.80 | 25.59 |
| 26 | 52.986395 | -0.875894 | 22.62 | 2.80 | 25.42 |
| 27 | 52.985516 | -0.875293 | 21.94 | 2.80 | 24.74 |
| 28 | 52.984522 | -0.875551 | 21.38 | 2.80 | 24.18 |
| 29 | 52.984121 | -0.874006 | 20.15 | 2.80 | 22.95 |
| 30 | 52.984845 | -0.872310 | 20.21 | 2.80 | 23.01 |
| 31 | 52.985012 | -0.871474 | 20.01 | 2.80 | 22.81 |
| 32 | 52.984793 | -0.870873 | 20.22 | 2.80 | 23.02 |
| 33 | 52.984909 | -0.870358 | 20.19 | 2.80 | 22.99 |
| 34 | 52.985167 | -0.870208 | 19.84 | 2.80 | 22.64 |
| 35 | 52.984638 | -0.868233 | 20.05 | 2.80 | 22.85 |
| 36 | 52.983914 | -0.867182 | 19.95 | 2.80 | 22.75 |
| 37 | 52.983759 | -0.867332 | 20.03 | 2.80 | 22.83 |
| 38 | 52.983540 | -0.868448 | 20.67 | 2.80 | 23.47 |
| 39 | 52.981460 | -0.869113 | 21.77 | 2.80 | 24.57 |
| 40 | 52.981615 | -0.870765 | 23.94 | 2.80 | 26.74 |
| 41 | 52.978966 | -0.872439 | 24.87 | 2.80 | 27.67 |
| 42 | 52.978088 | -0.871924 | 23.83 | 2.80 | 26.63 |

Discrete Observation Receptors

| Number | Latitude | Longitude | Ground elevation | Height above ground | Total Elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| OP 1 | 52.991878 | -0.860633 | 18.00 | 2.00 | 20.00 |
| OP 2 | 52.989789 | -0.847463 | 22.03 | 2.00 | 24.03 |
| OP 3 | 52.989172 | -0.848995 | 23.42 | 2.00 | 25.42 |
| OP 4 | 52.989028 | -0.848850 | 23.70 | 2.00 | 25.70 |
| OP 5 | 52.989004 | -0.849217 | 23.33 | 2.00 | 25.33 |
| OP 6 | 52.988773 | -0.850092 | 22.99 | 2.00 | 24.99 |
| OP 7 | 52.988676 | -0.850427 | 22.75 | 2.00 | 24.75 |
| OP 8 | 52.987971 | -0.852160 | 22.68 | 2.00 | 24.68 |
| OP 9 | 52.981609 | -0.852149 | 20.00 | 2.00 | 22.00 |
| OP 10 | 52.980817 | -0.851548 | 21.77 | 2.00 | 23.77 |
| OP 11 | 52.980685 | -0.851822 | 21.32 | 2.00 | 23.32 |
| OP 12 | 52.980591 | -0.851666 | 21.38 | 2.00 | 23.38 |
| OP 13 | 52.976479 | -0.862465 | 22.41 | 2.00 | 24.41 |
| OP 14 | 52.976388 | -0.862516 | 22.54 | 2.00 | 24.54 |
| OP 15 | 52.975518 | -0.861988 | 22.36 | 2.00 | 24.36 |
| OP 16 | 52.975783 | -0.862733 | 23.00 | 2.00 | 25.00 |
| OP 17 | 52.975881 | -0.863506 | 23.16 | 2.00 | 25.16 |
| OP 18 | 52.975411 | -0.863812 | 23.97 | 2.00 | 25.97 |
| OP 19 | 52.975096 | -0.864166 | 24.00 | 2.00 | 26.00 |
| OP 20 | 52.975274 | -0.865689 | 23.25 | 2.00 | 25.25 |
| OP 21 | 52.979075 | -0.884707 | 23.36 | 2.00 | 25.36 |
| OP 22 | 52.979295 | -0.885147 | 23.62 | 2.00 | 25.62 |
| OP 23 | 52.979734 | -0.884481 | 23.96 | 2.00 | 25.96 |
| OP 24 | 52.979979 | -0.883854 | 24.55 | 2.00 | 26.55 |
| OP 25 | 52.980118 | -0.882336 | 23.89 | 2.00 | 25.89 |
| OP 26 | 52.981507 | -0.881847 | 23.29 | 2.00 | 25.29 |
| OP 27 | 52.981919 | -0.877057 | 23.15 | 2.00 | 25.15 |
| OP 28 | 52.982271 | -0.877234 | 23.01 | 2.00 | 25.01 |
| OP 29 | 52.982653 | -0.877186 | 23.29 | 2.00 | 25.29 |
| OP 30 | 52.982552 | -0.877578 | 23.43 | 2.00 | 25.43 |
| OP 31 | 52.982643 | -0.878264 | 23.62 | 2.00 | 25.62 |
| OP 32 | 52.982323 | -0.878071 | 23.10 | 2.00 | 25.10 |
| OP 33 | 52.982019 | -0.878007 | 23.34 | 2.00 | 25.34 |
| OP 34 | 52.981971 | -0.878275 | 23.46 | 2.00 | 25.46 |
| OP 35 | 52.982191 | -0.878329 | 23.24 | 2.00 | 25.24 |
| OP 36 | 52.982268 | -0.878559 | 23.52 | 2.00 | 25.52 |
| OP 37 | 52.982326 | -0.878817 | 23.99 | 2.00 | 25.99 |
| OP 38 | 52.982229 | -0.879144 | 24.00 | 2.00 | 26.00 |
| OP 39 | 52.982401 | -0.879149 | 24.21 | 2.00 | 26.21 |
| OP 40 | 52.982785 | -0.879772 | 24.77 | 2.00 | 26.77 |
| OP 41 | 52.982966 | -0.879836 | 25.00 | 2.00 | 27.00 |
| OP 42 | 52.982753 | -0.880292 | 24.71 | 2.00 | 26.71 |
| OP 43 | 52.982414 | -0.880163 | 24.23 | 2.00 | 26.23 |
| OP 44 | 52.982556 | -0.880780 | 24.12 | 2.00 | 26.12 |
| OP 45 | 52.982388 | -0.881129 | 24.00 | 2.00 | 26.00 |
| OP 46 | 52.982591 | -0.881746 | 24.00 | 2.00 | 26.00 |
| OP 47 | 52.982653 | -0.881392 | 24.00 | 2.00 | 26.00 |
| OP 48 | 52.982921 | -0.881349 | 24.00 | 2.00 | 26.00 |
| OP 49 | 52.983221 | -0.881070 | 24.35 | 2.00 | 26.35 |
| OP 50 | 52.983363 | -0.880737 | 24.74 | 2.00 | 26.74 |
| OP 51 | 52.983470 | -0.880962 | 24.77 | 2.00 | 26.77 |
| OP 52 | 52.983579 | -0.881193 | 24.63 | 2.00 | 26.63 |
| OP 53 | 52.983731 | -0.881038 | 24.76 | 2.00 | 26.76 |
| OP 54 | 52.983851 | -0.880866 | 24.68 | 2.00 | 26.68 |
| OP 55 | 52.983744 | -0.880641 | 24.84 | 2.00 | 26.84 |
| OP 56 | 52.983831 | -0.880244 | 24.70 | 2.00 | 26.70 |
| OP 57 | 52.983644 | -0.880136 | 24.98 | 2.00 | 26.98 |
| OP 58 | 52.983744 | -0.879391 | 24.84 | 2.00 | 26.84 |
| OP 59 | 52.983612 | -0.878854 | 25.00 | 2.00 | 27.00 |
| OP 60 | 52.983570 | -0.878007 | 24.64 | 2.00 | 26.64 |
| OP 61 | 52.983886 | -0.878779 | 24.69 | 2.00 | 26.69 |
| OP 62 | 52.983967 | -0.879198 | 24.50 | 2.00 | 26.50 |
| OP 63 | 52.984161 | -0.879149 | 24.22 | 2.00 | 26.22 |
| OP 64 | 52.984177 | -0.878650 | 24.50 | 2.00 | 26.50 |

| | | | | | |
|-------|-----------|-----------|-------|------|-------|
| OP 65 | 52.984393 | -0.878726 | 24.37 | 2.00 | 26.37 |
| OP 66 | 52.984487 | -0.878345 | 25.08 | 2.00 | 27.08 |
| OP 67 | 52.984258 | -0.877170 | 23.47 | 2.00 | 25.47 |
| OP 68 | 52.984736 | -0.878473 | 25.26 | 2.00 | 27.26 |
| OP 69 | 52.984681 | -0.878903 | 24.54 | 2.00 | 26.54 |
| OP 70 | 52.984871 | -0.879198 | 24.81 | 2.00 | 26.81 |
| OP 71 | 52.985004 | -0.879026 | 25.00 | 2.00 | 27.00 |
| OP 72 | 52.985143 | -0.879332 | 24.80 | 2.00 | 26.80 |
| OP 73 | 52.985236 | -0.877819 | 25.07 | 2.00 | 27.07 |
| OP 74 | 52.985272 | -0.877497 | 24.53 | 2.00 | 26.53 |
| OP 75 | 52.985391 | -0.877427 | 24.22 | 2.00 | 26.22 |

Summary of PV Glare Analysis

PV configuration and total predicted glare

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced | Data File |
|------------|------|-------------|---------------|----------------|-----------------|-----------|
| | deg | deg | min | min | kWh | |
| PV array 1 | 10.0 | 180.0 | 0 | 231,985 | - | - |

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

| PV | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---------------------|-----|-----|-----|------|------|------|------|------|------|-----|-----|-----|
| pv-array-1 (green) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pv-array-1 (yellow) | 0 | 6 | 869 | 1290 | 1419 | 1429 | 1448 | 1369 | 1190 | 141 | 0 | 0 |

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 potential temporary after-image

| Component | Green glare (min) | Yellow glare (min) |
|-----------|-------------------|--------------------|
| OP: OP 1 | 0 | 0 |
| OP: OP 2 | 0 | 483 |
| OP: OP 3 | 0 | 684 |
| OP: OP 4 | 0 | 751 |
| OP: OP 5 | 0 | 765 |
| OP: OP 6 | 0 | 860 |
| OP: OP 7 | 0 | 766 |
| OP: OP 8 | 0 | 1159 |
| OP: OP 9 | 0 | 2364 |
| OP: OP 10 | 0 | 3281 |
| OP: OP 11 | 0 | 2819 |
| OP: OP 12 | 0 | 3198 |
| OP: OP 13 | 0 | 1986 |
| OP: OP 14 | 0 | 1812 |
| OP: OP 15 | 0 | 749 |
| OP: OP 16 | 0 | 1200 |
| OP: OP 17 | 0 | 1257 |
| OP: OP 18 | 0 | 230 |
| OP: OP 19 | 0 | 0 |
| OP: OP 20 | 0 | 0 |
| OP: OP 21 | 0 | 2561 |
| OP: OP 22 | 0 | 2285 |
| OP: OP 23 | 0 | 2698 |
| OP: OP 24 | 0 | 2799 |
| OP: OP 25 | 0 | 2949 |
| OP: OP 26 | 0 | 2679 |
| OP: OP 27 | 0 | 3256 |
| OP: OP 28 | 0 | 3076 |
| OP: OP 29 | 0 | 3234 |

| | | |
|-----------|---|------|
| OP: OP 30 | 0 | 3449 |
| OP: OP 31 | 0 | 3395 |
| OP: OP 32 | 0 | 3050 |
| OP: OP 33 | 0 | 3210 |
| OP: OP 34 | 0 | 3298 |
| OP: OP 35 | 0 | 3242 |
| OP: OP 36 | 0 | 3301 |
| OP: OP 37 | 0 | 3433 |
| OP: OP 38 | 0 | 3344 |
| OP: OP 39 | 0 | 3547 |
| OP: OP 40 | 0 | 3536 |
| OP: OP 41 | 0 | 3768 |
| OP: OP 42 | 0 | 3636 |
| OP: OP 43 | 0 | 3549 |
| OP: OP 44 | 0 | 3464 |
| OP: OP 45 | 0 | 3356 |
| OP: OP 46 | 0 | 3468 |
| OP: OP 47 | 0 | 3314 |
| OP: OP 48 | 0 | 3529 |
| OP: OP 49 | 0 | 3664 |
| OP: OP 50 | 0 | 3755 |
| OP: OP 51 | 0 | 3833 |
| OP: OP 52 | 0 | 3771 |
| OP: OP 53 | 0 | 3864 |
| OP: OP 54 | 0 | 3829 |
| OP: OP 55 | 0 | 3923 |
| OP: OP 56 | 0 | 3972 |
| OP: OP 57 | 0 | 3941 |
| OP: OP 58 | 0 | 4086 |
| OP: OP 59 | 0 | 4144 |
| OP: OP 60 | 0 | 4106 |
| OP: OP 61 | 0 | 4242 |
| OP: OP 62 | 0 | 4141 |
| OP: OP 63 | 0 | 4156 |
| OP: OP 64 | 0 | 4366 |
| OP: OP 65 | 0 | 4364 |
| OP: OP 66 | 0 | 4789 |
| OP: OP 67 | 0 | 4924 |
| OP: OP 68 | 0 | 4883 |
| OP: OP 69 | 0 | 4482 |
| OP: OP 70 | 0 | 4492 |
| OP: OP 71 | 0 | 4630 |
| OP: OP 72 | 0 | 4489 |
| OP: OP 73 | 0 | 5390 |
| OP: OP 74 | 0 | 5495 |
| OP: OP 75 | 0 | 5464 |

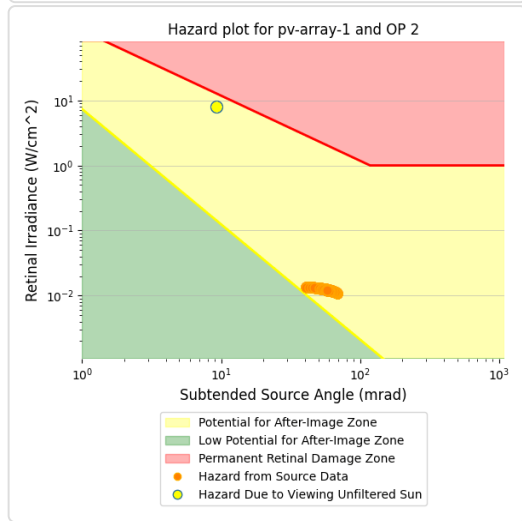
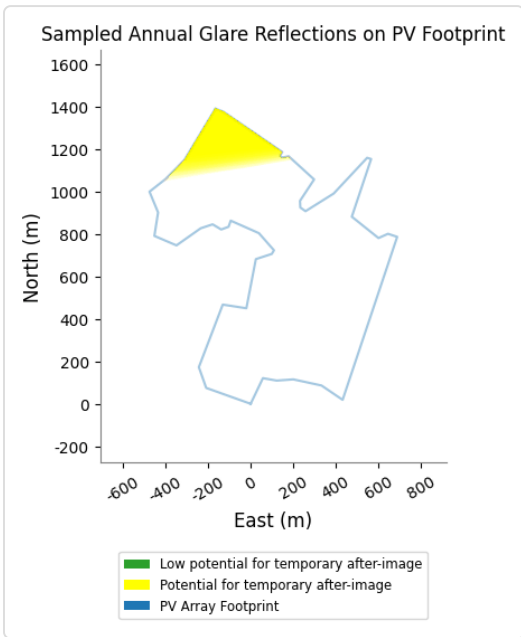
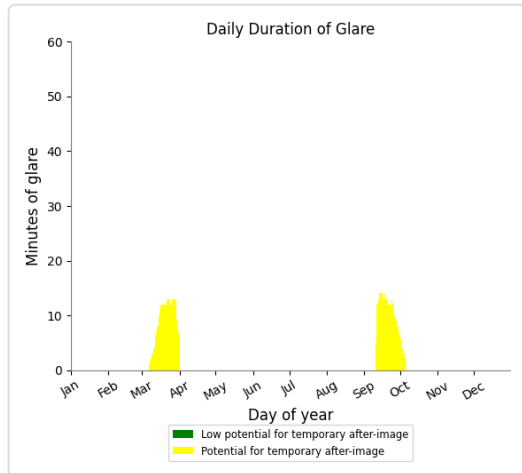
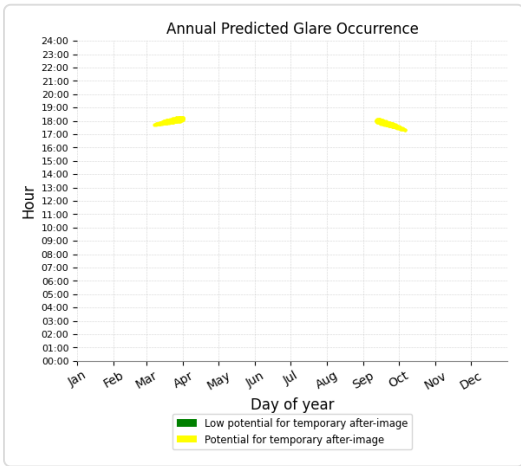
PV array 1 - OP Receptor (OP 1)

No glare found

PV array 1 - OP Receptor (OP 2)

PV array is expected to produce the following glare for receptors at this location:

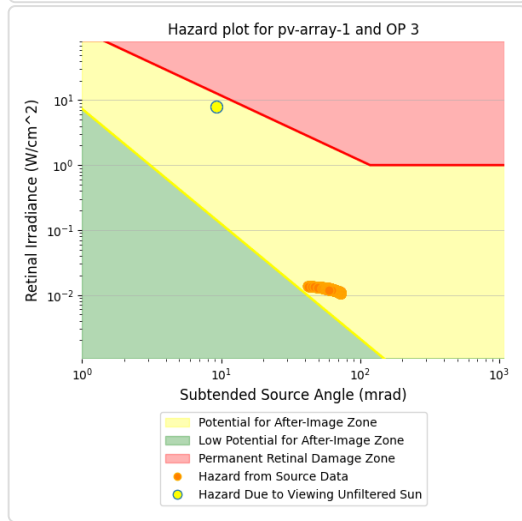
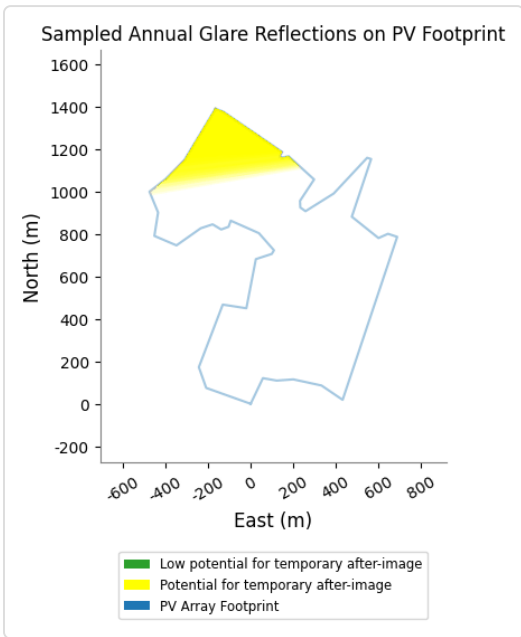
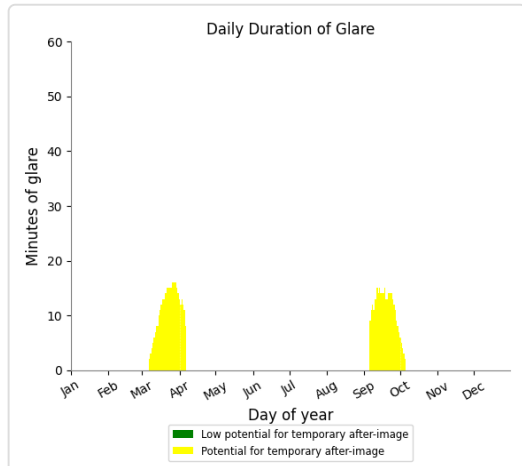
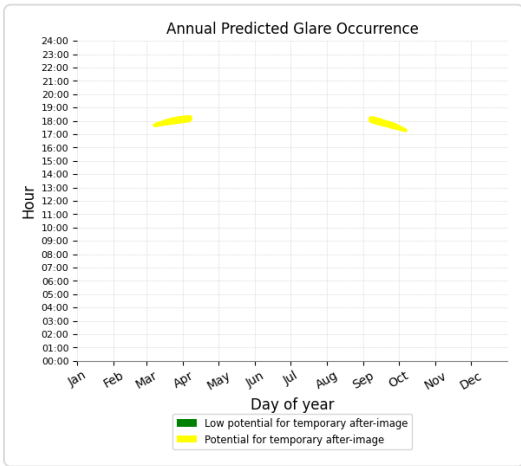
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 483 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:

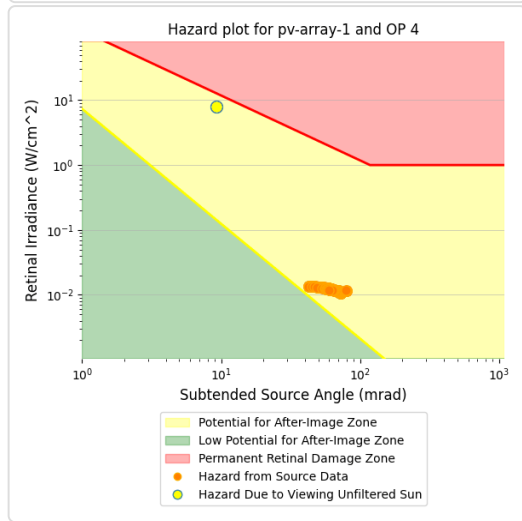
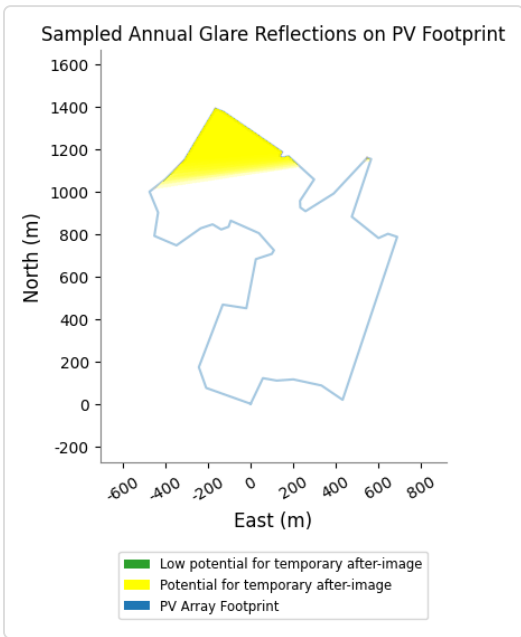
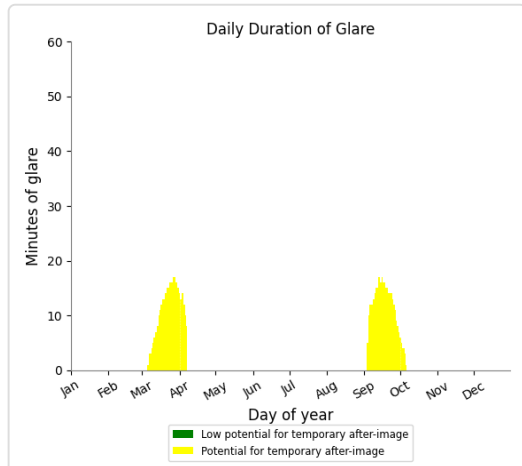
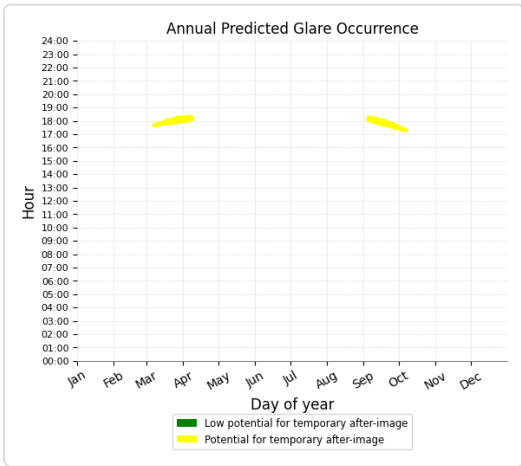
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 684 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 4)

PV array is expected to produce the following glare for receptors at this location:

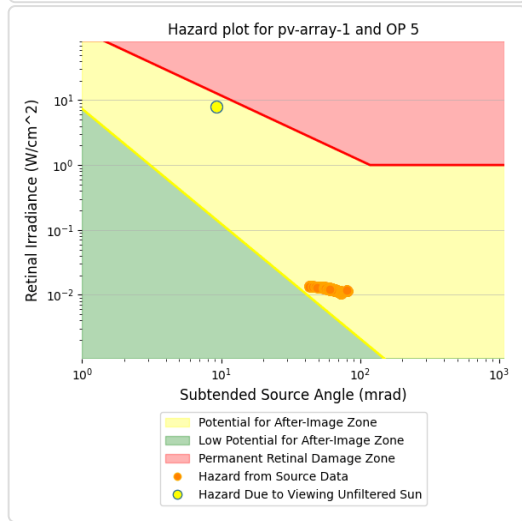
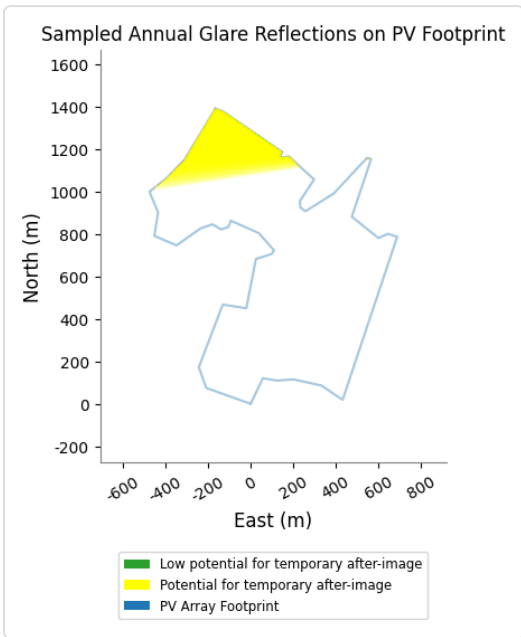
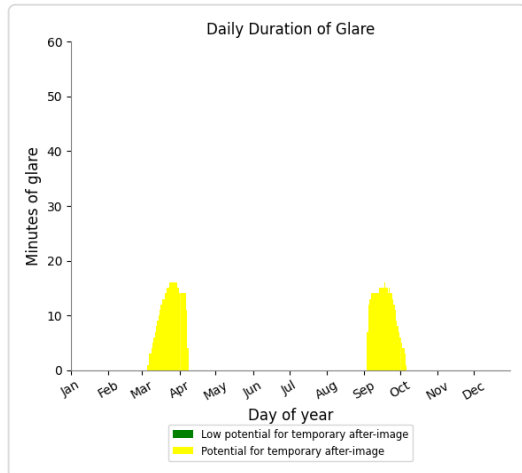
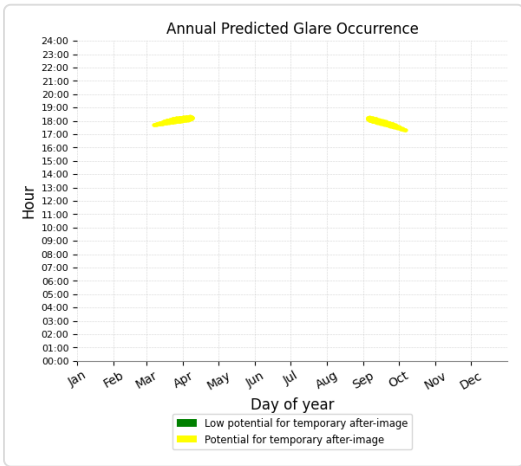
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 751 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:

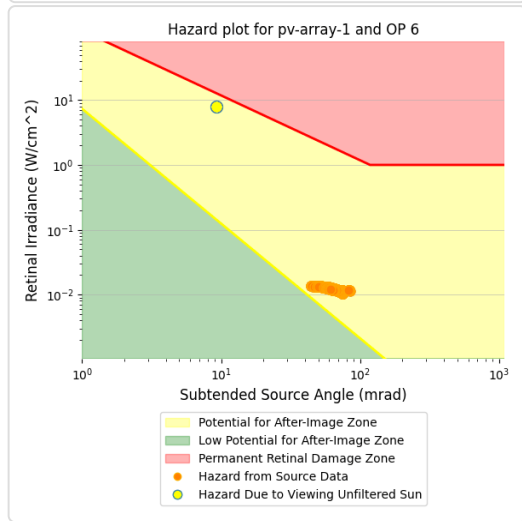
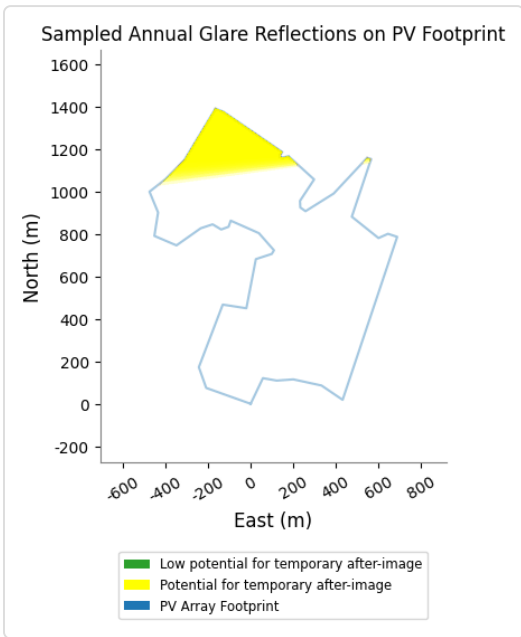
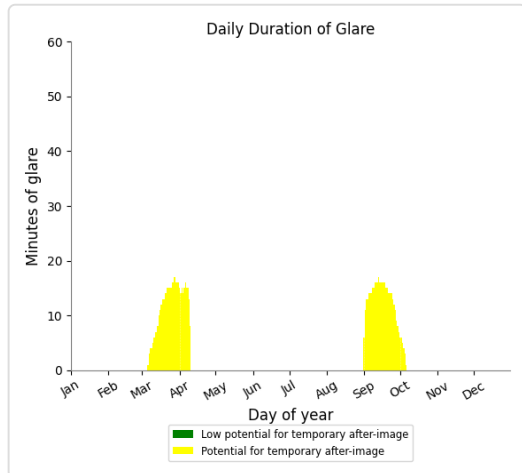
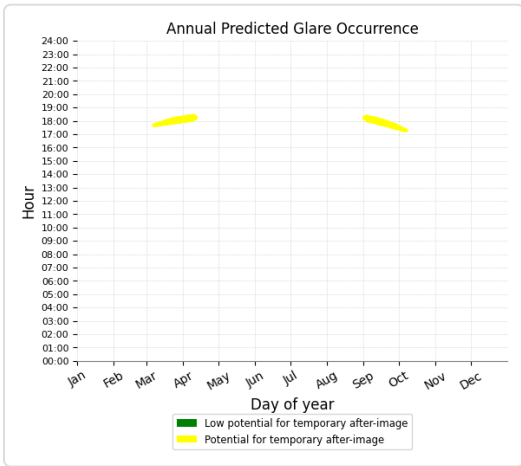
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 765 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 6)

PV array is expected to produce the following glare for receptors at this location:

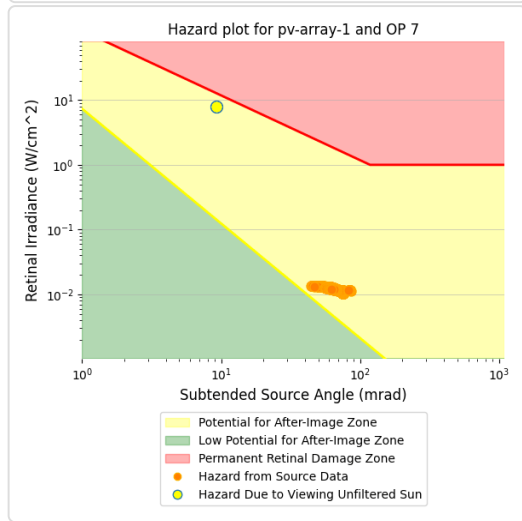
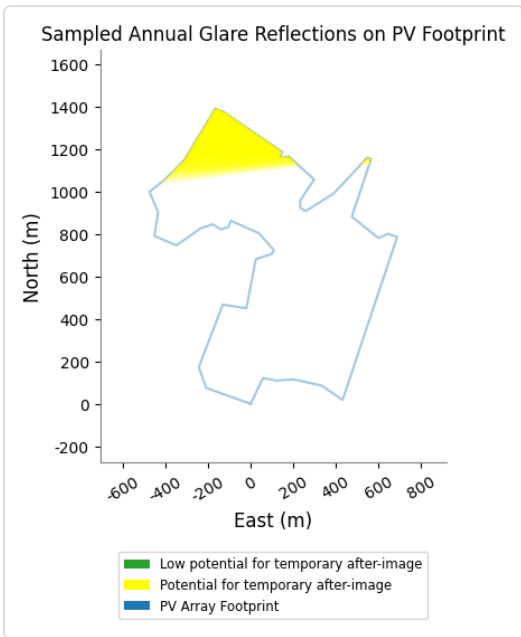
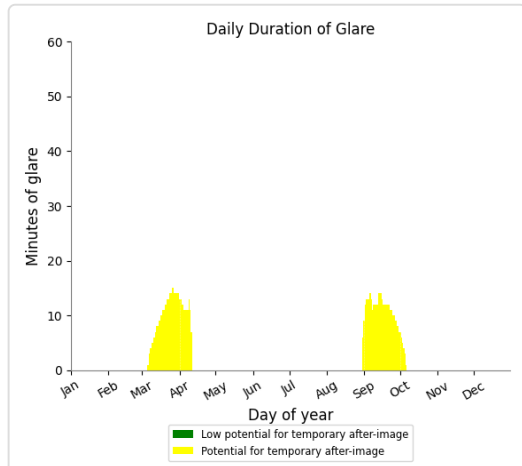
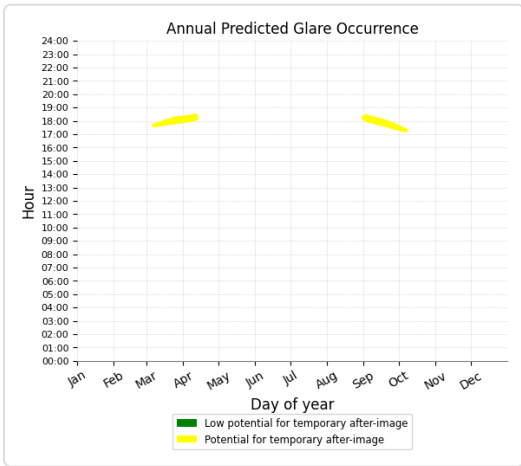
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 860 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 7)

PV array is expected to produce the following glare for receptors at this location:

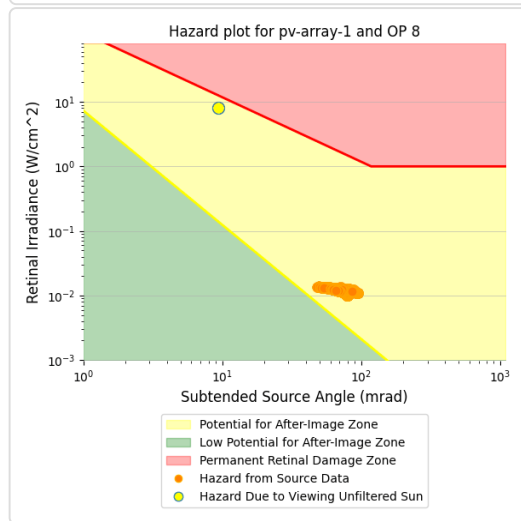
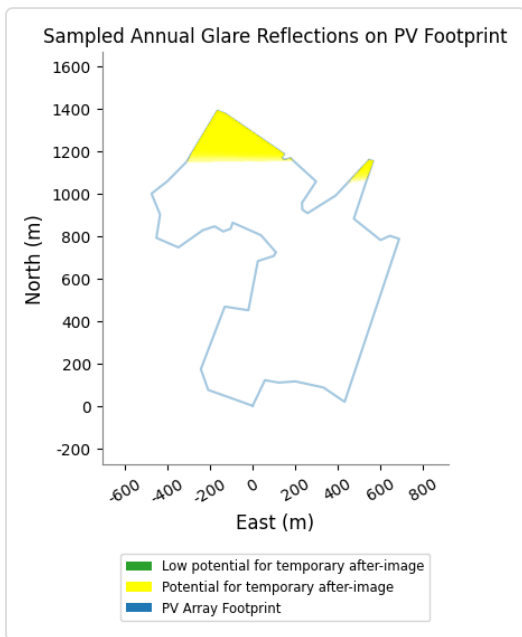
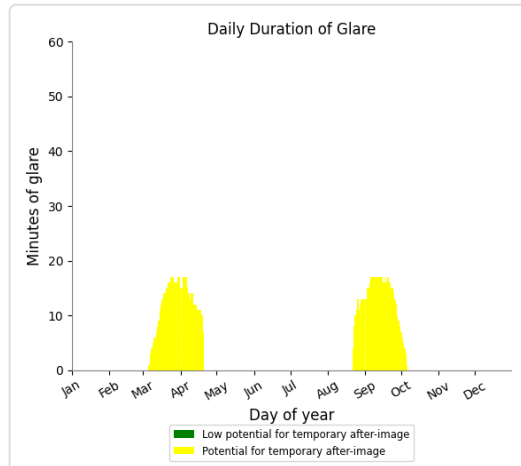
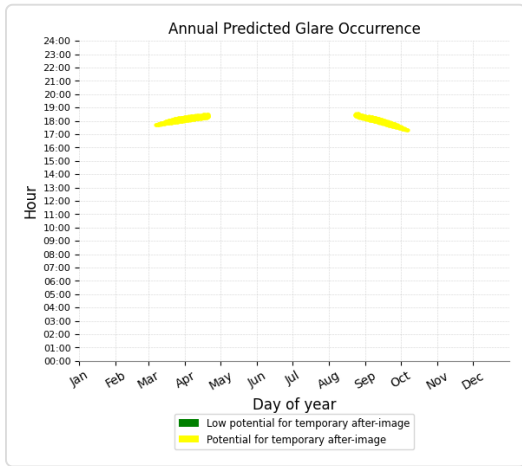
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 766 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 8)

PV array is expected to produce the following glare for receptors at this location:

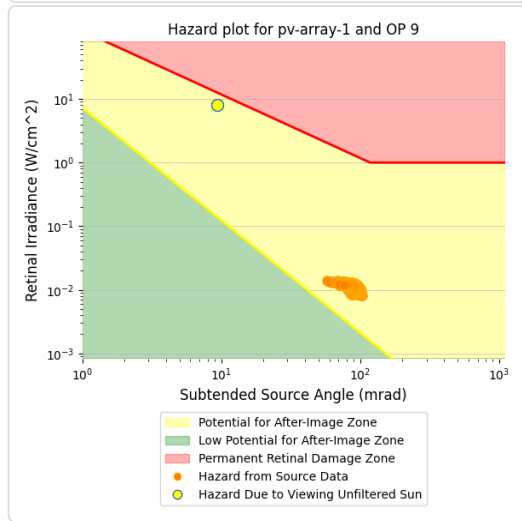
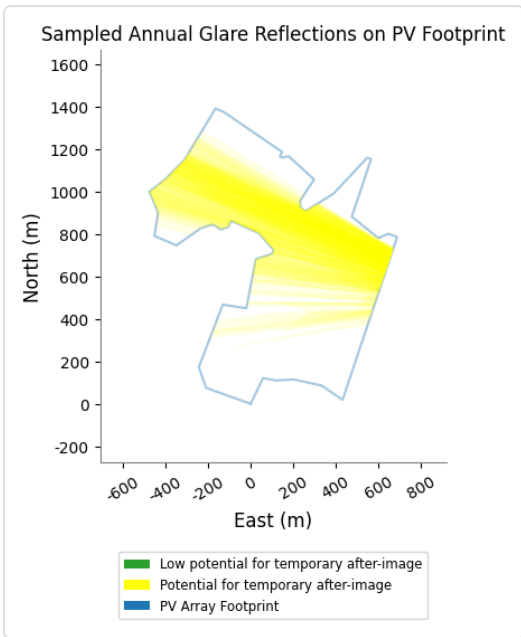
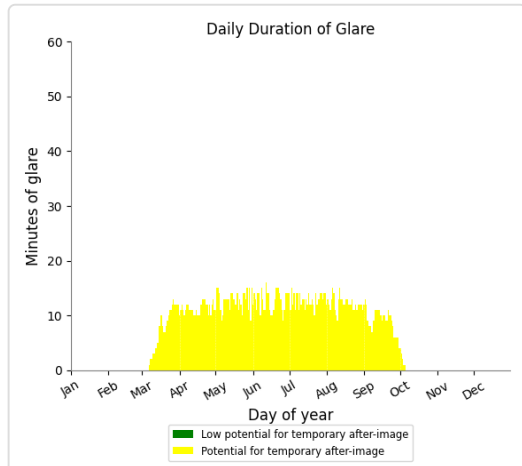
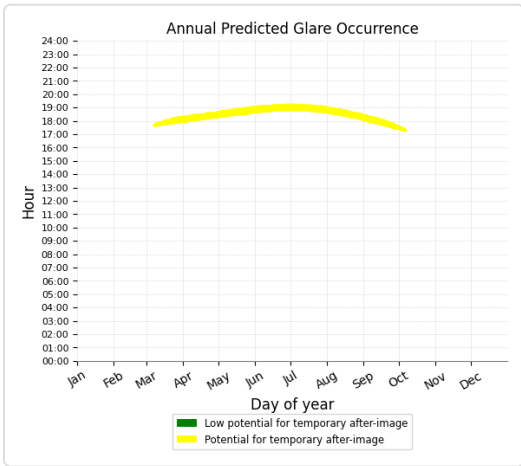
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,159 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 9)

PV array is expected to produce the following glare for receptors at this location:

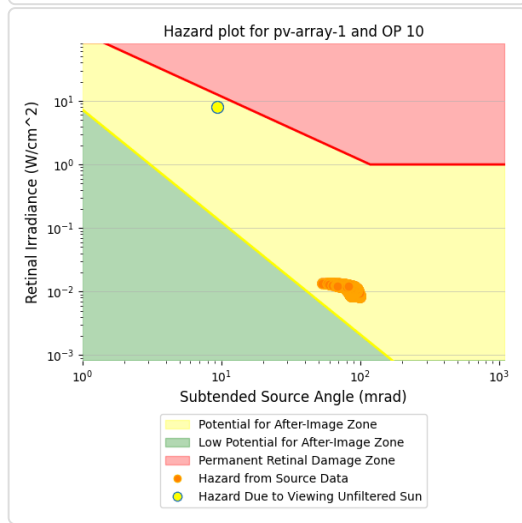
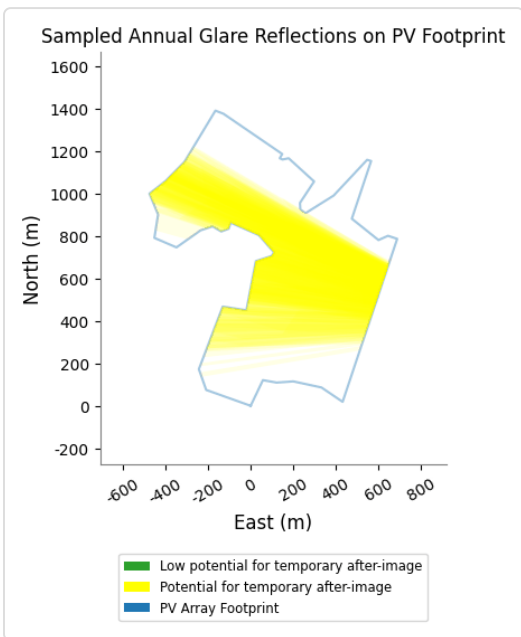
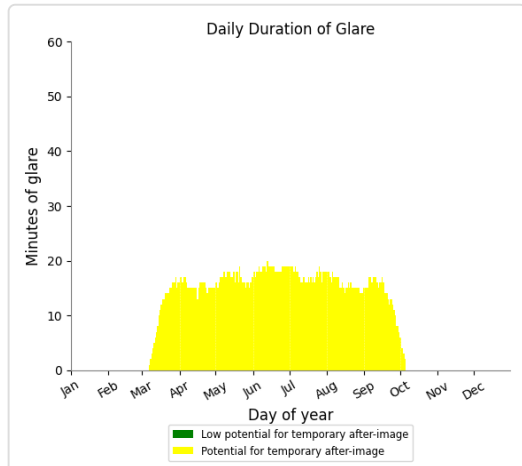
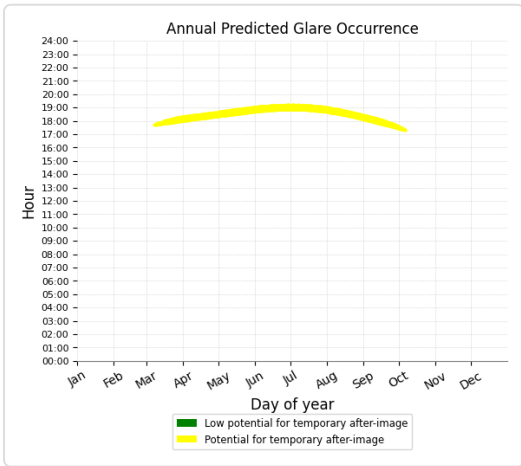
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,364 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 10)

PV array is expected to produce the following glare for receptors at this location:

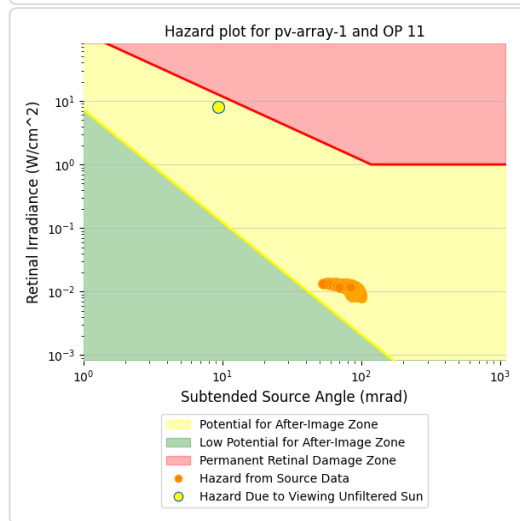
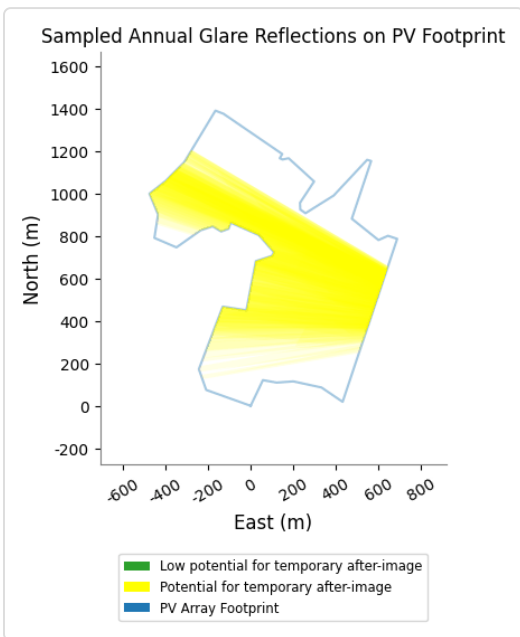
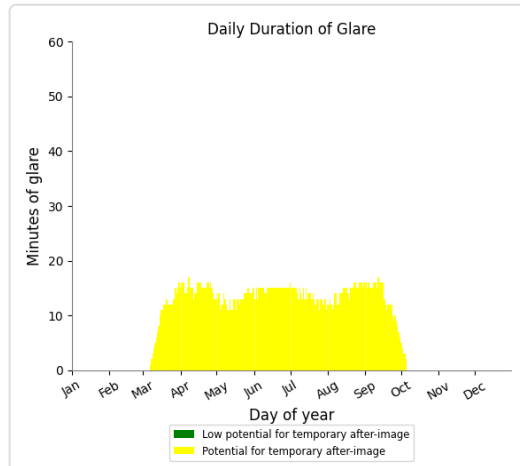
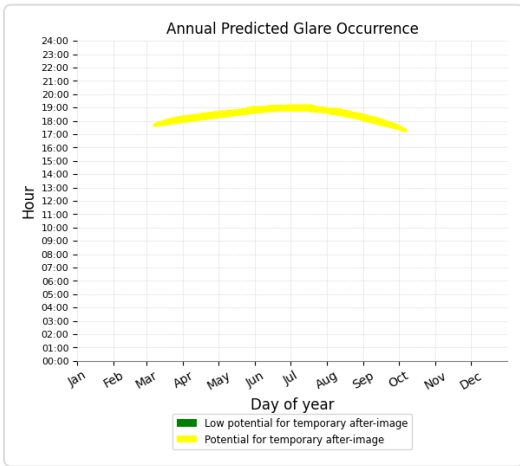
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,281 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 11)

PV array is expected to produce the following glare for receptors at this location:

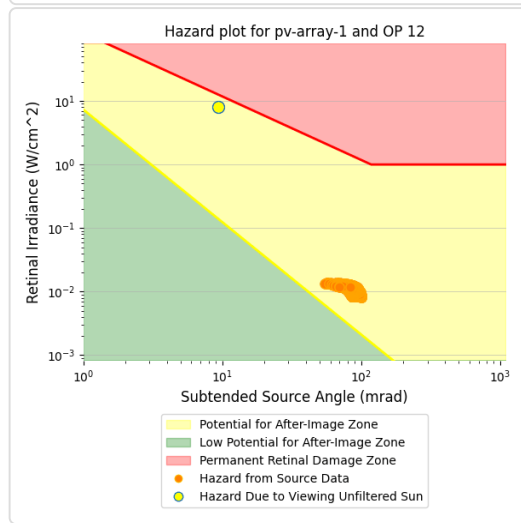
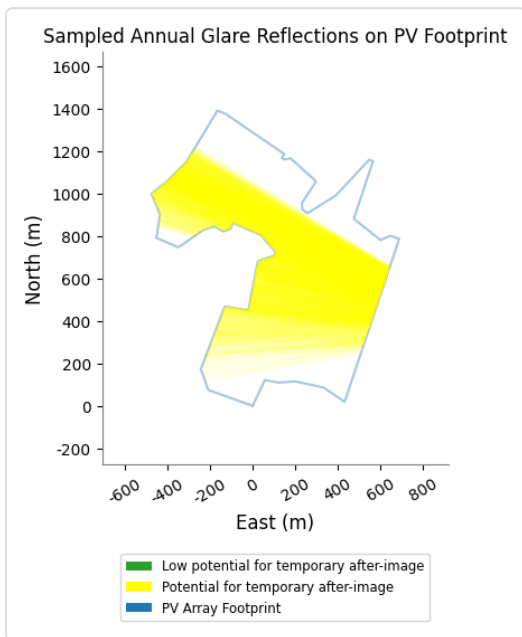
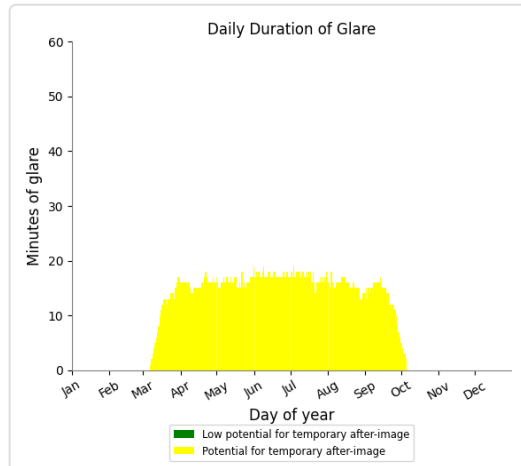
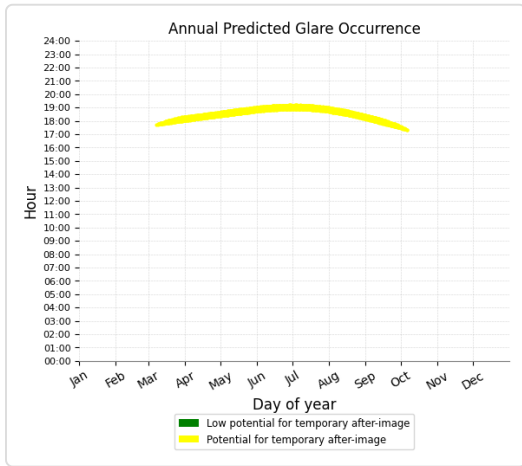
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,819 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 12)

PV array is expected to produce the following glare for receptors at this location:

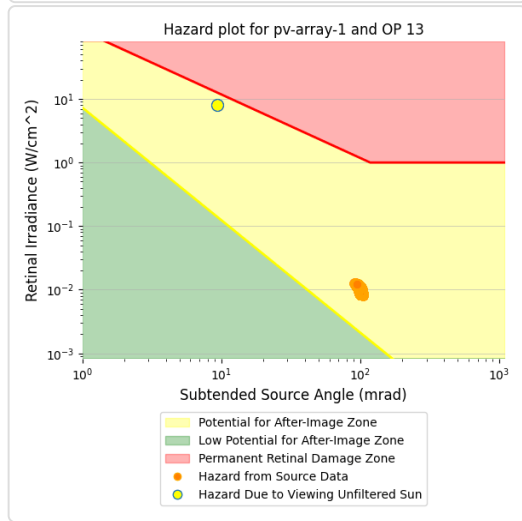
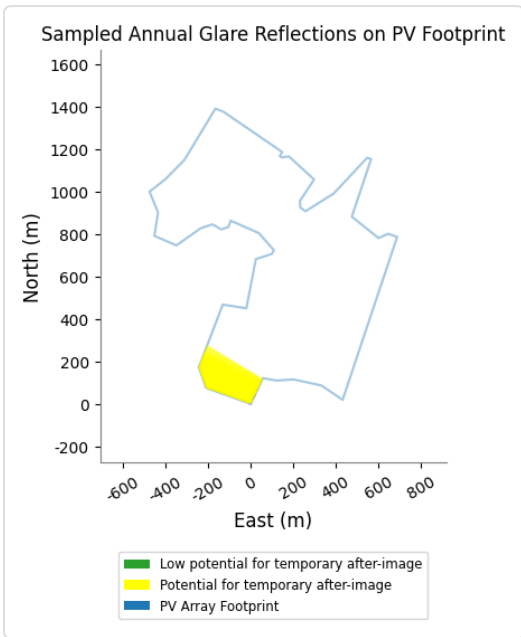
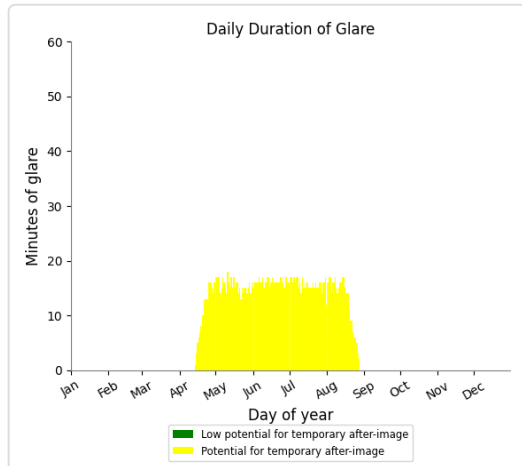
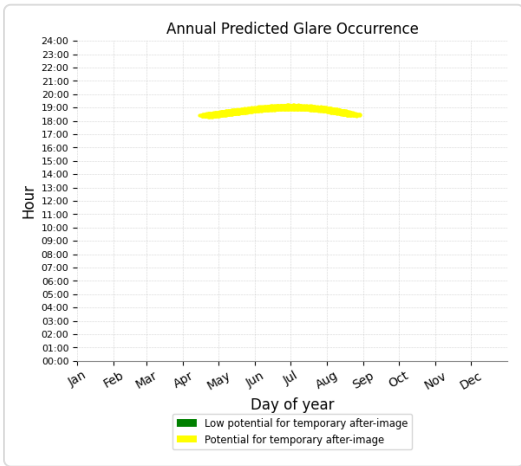
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,198 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 13)

PV array is expected to produce the following glare for receptors at this location:

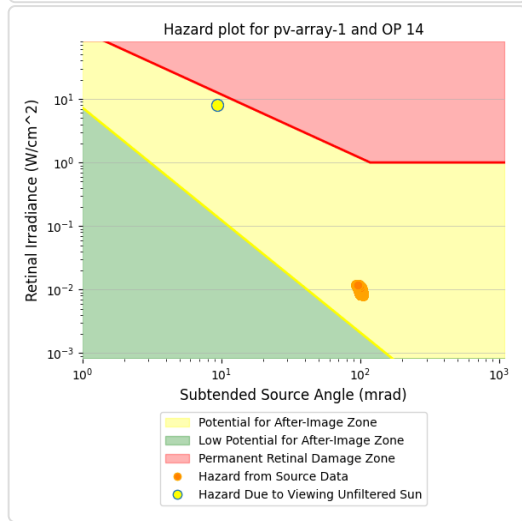
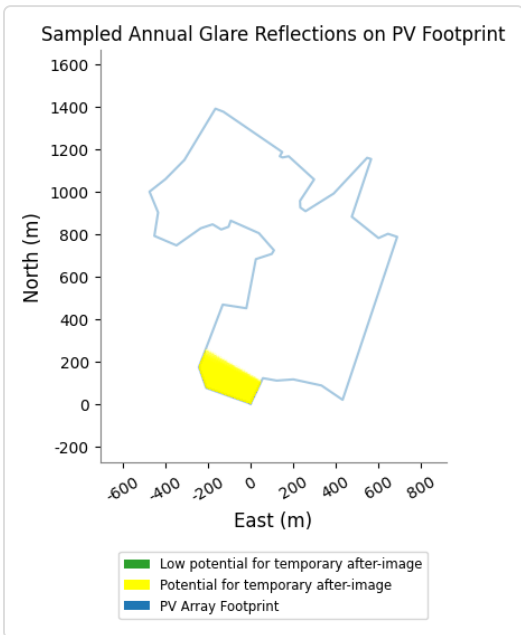
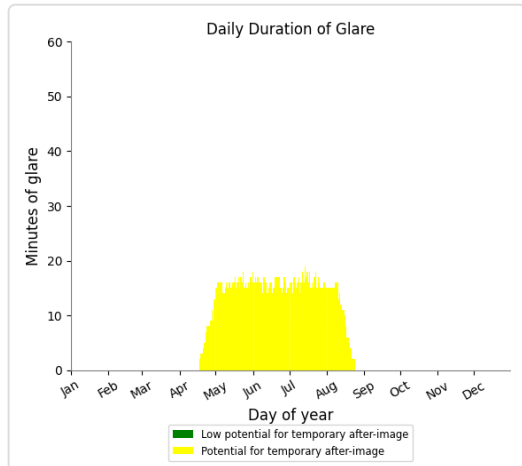
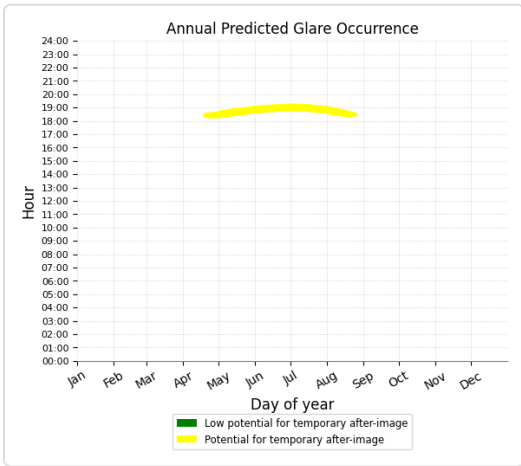
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,986 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 14)

PV array is expected to produce the following glare for receptors at this location:

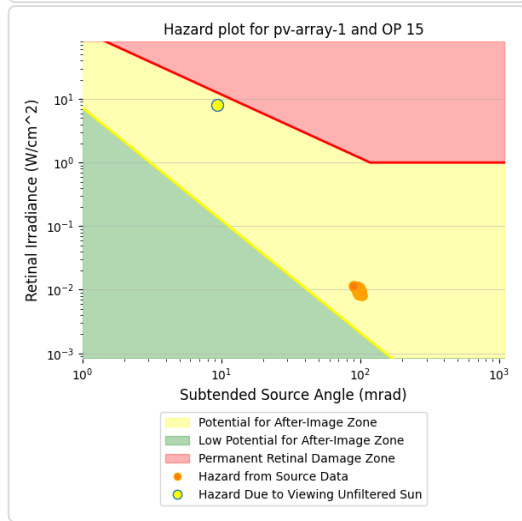
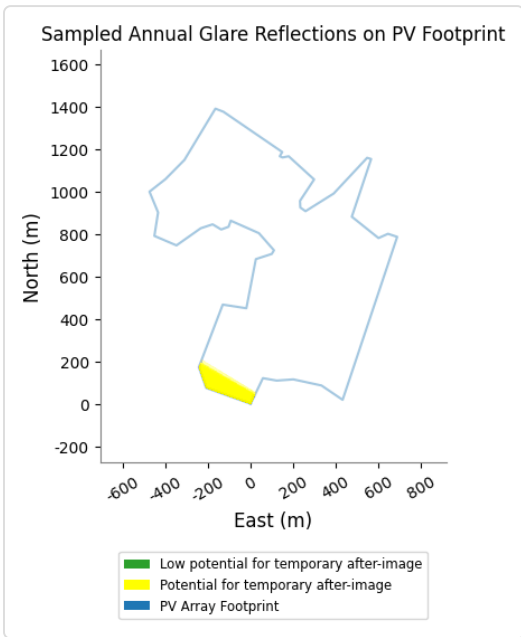
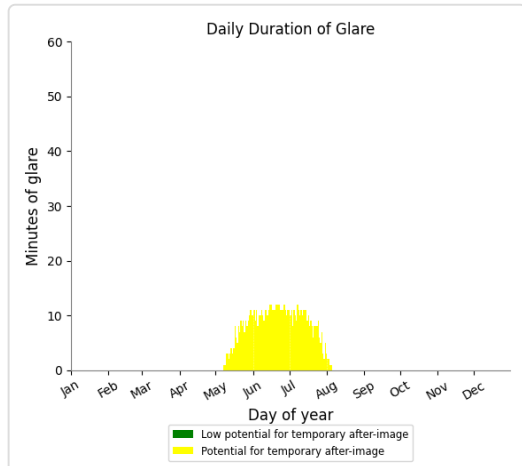
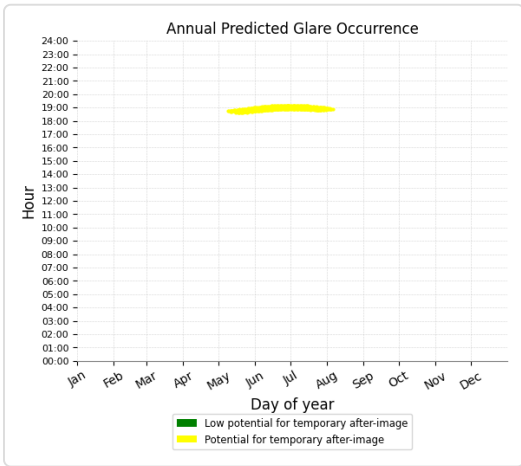
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,812 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:

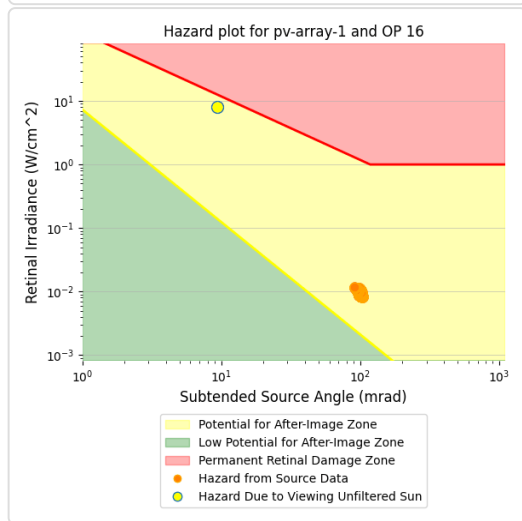
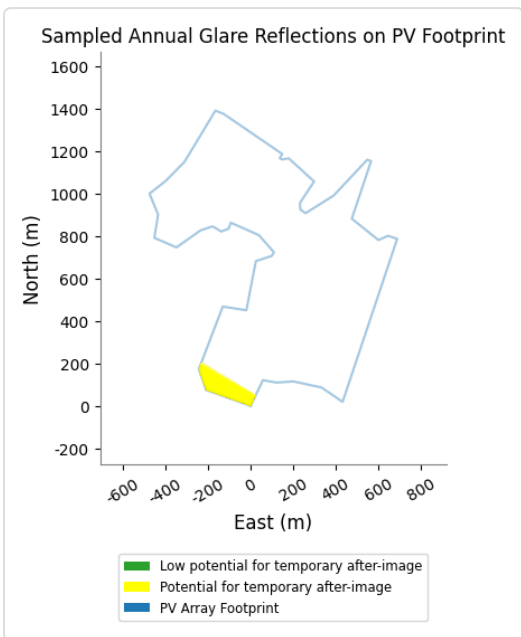
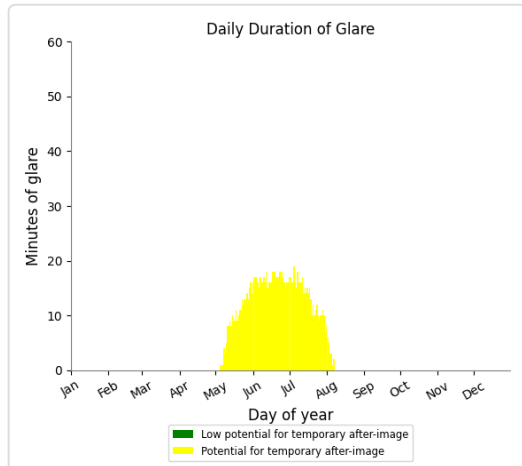
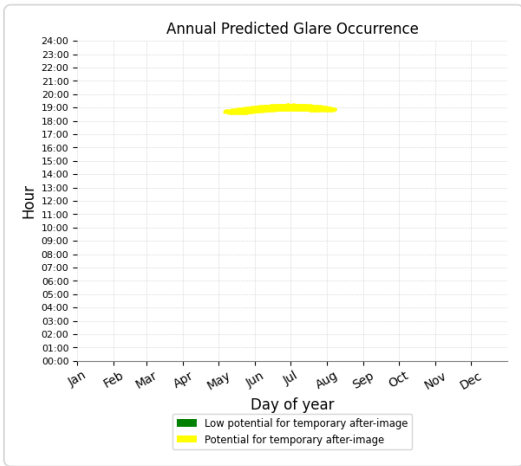
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 749 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 16)

PV array is expected to produce the following glare for receptors at this location:

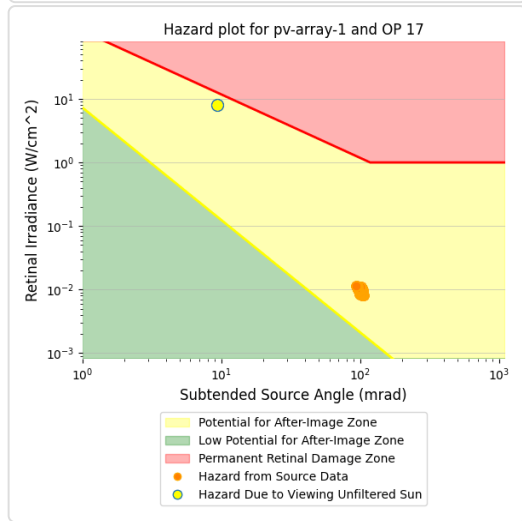
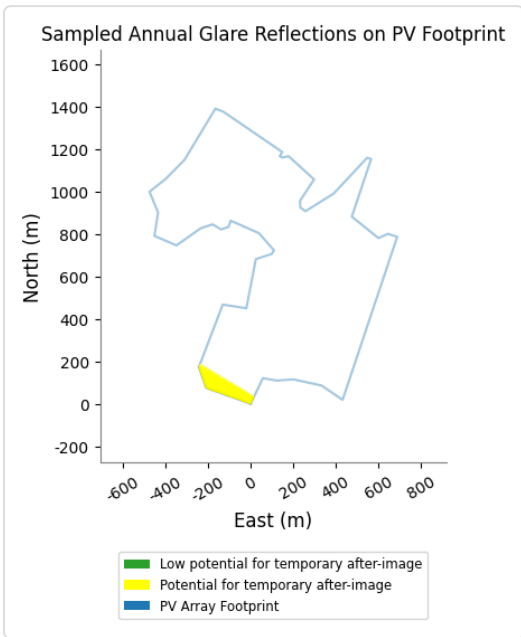
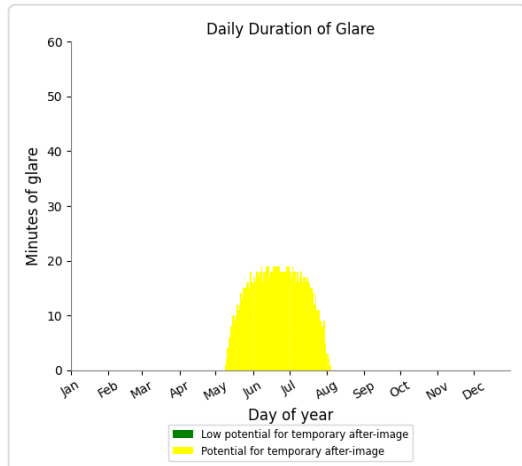
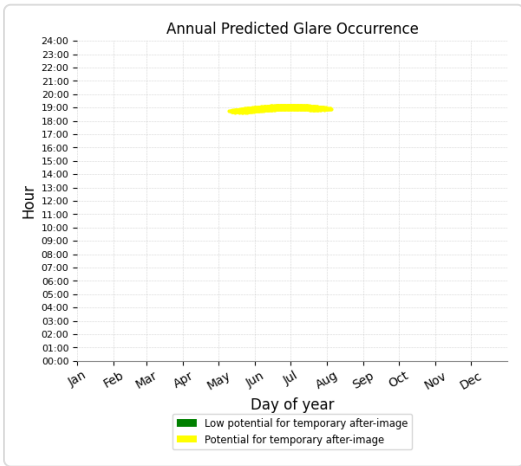
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,200 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 17)

PV array is expected to produce the following glare for receptors at this location:

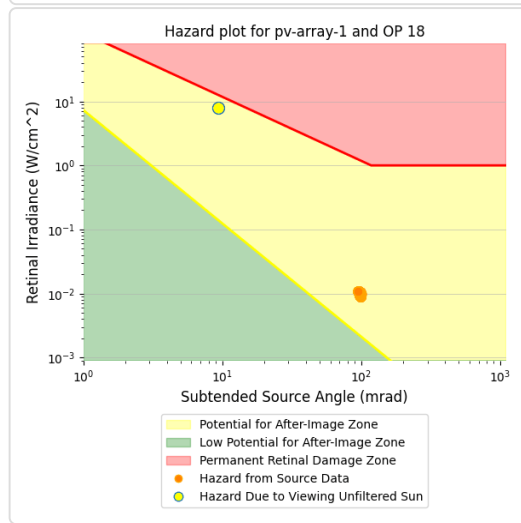
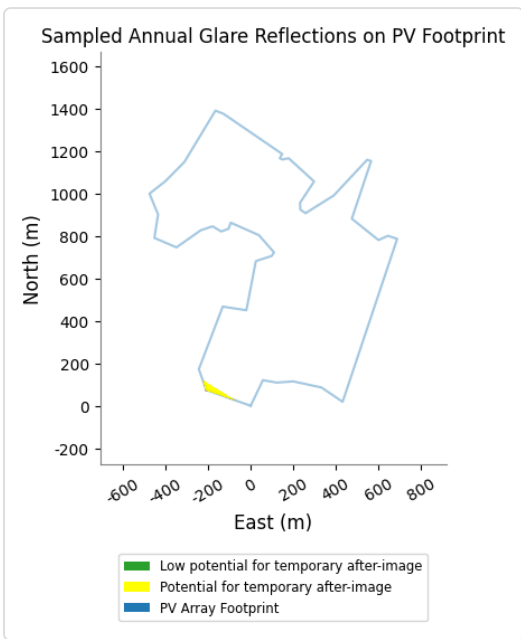
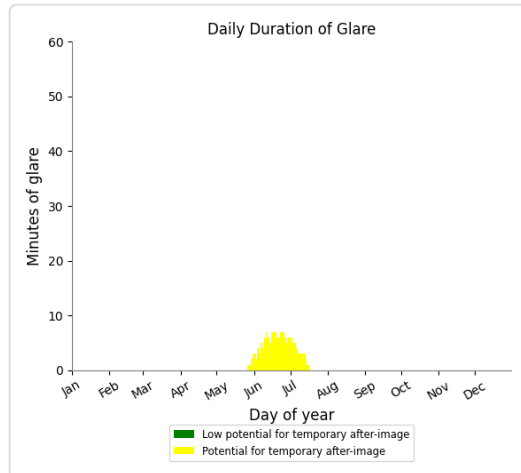
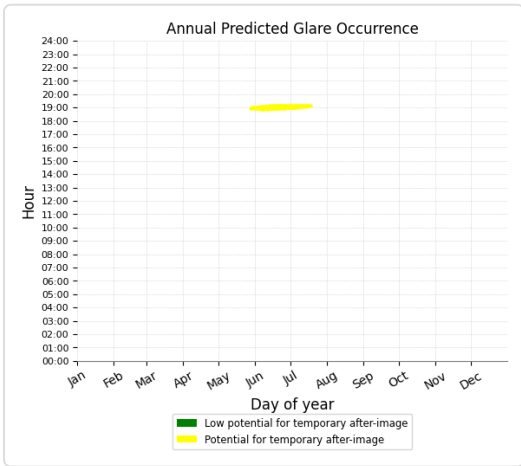
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,257 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 18)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 230 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 19)

No glare found

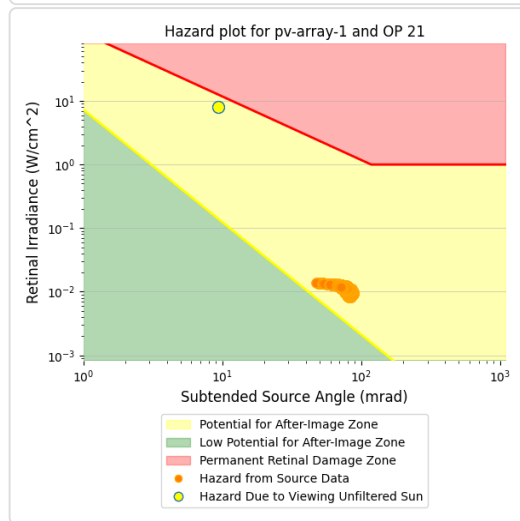
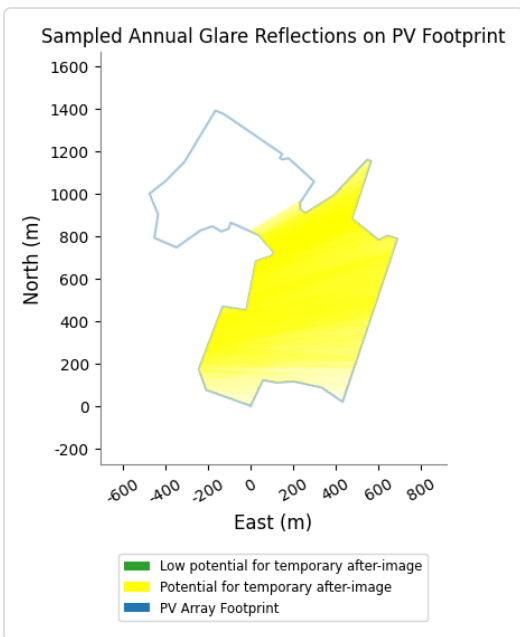
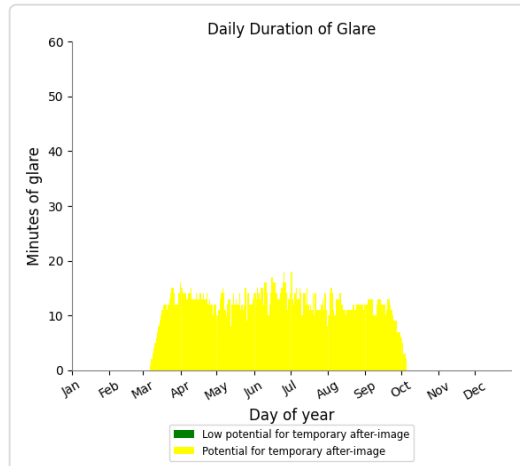
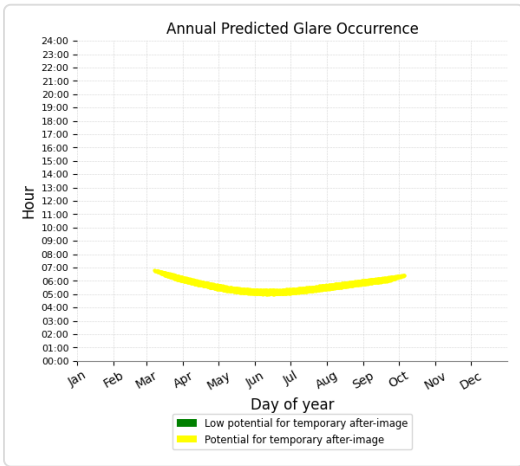
PV array 1 - OP Receptor (OP 20)

No glare found

PV array 1 - OP Receptor (OP 21)

PV array is expected to produce the following glare for receptors at this location:

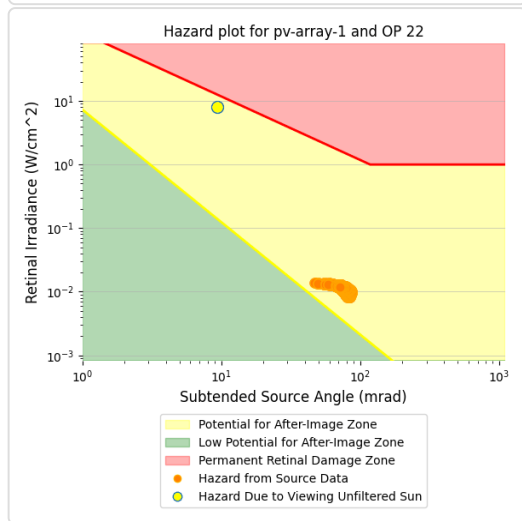
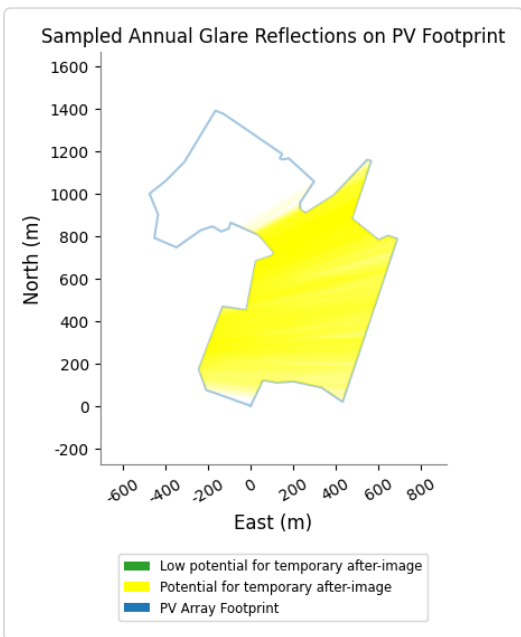
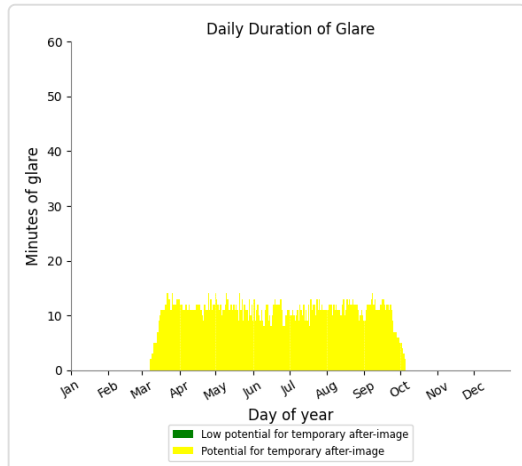
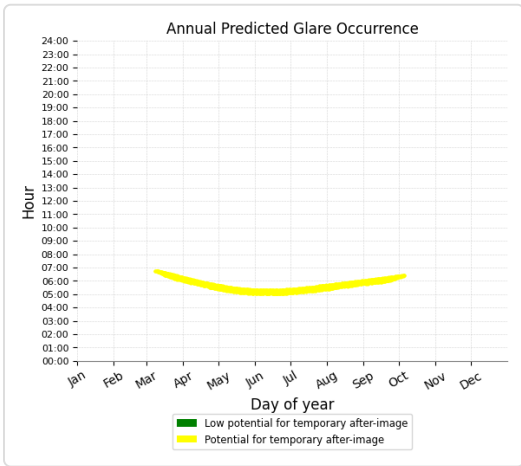
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,561 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 22)

PV array is expected to produce the following glare for receptors at this location:

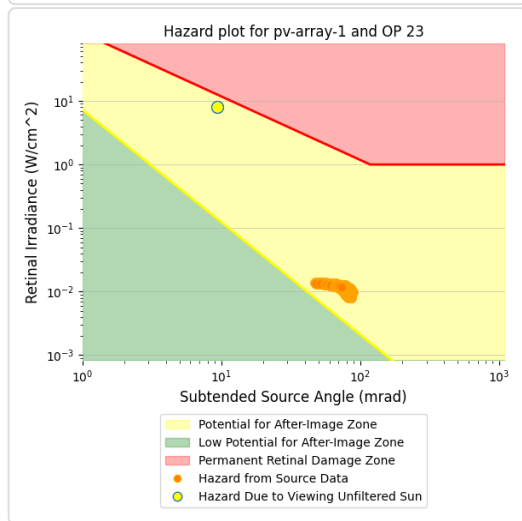
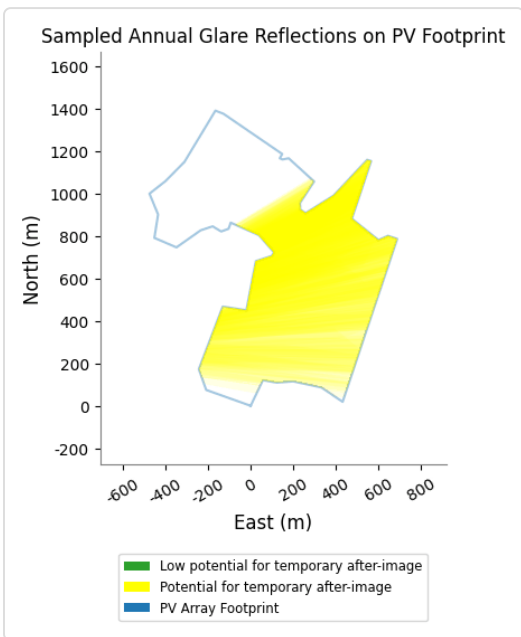
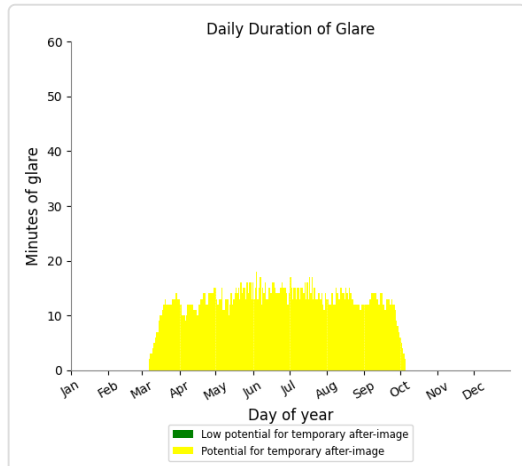
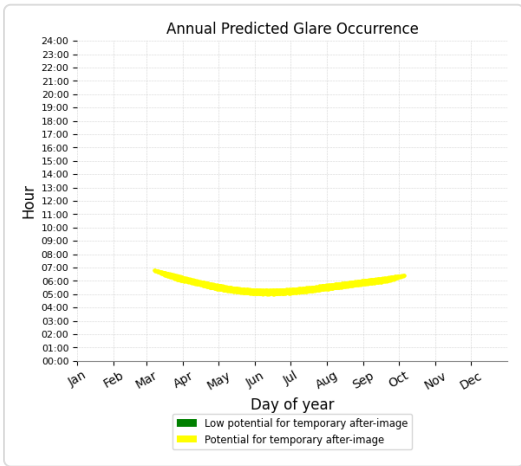
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,285 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:

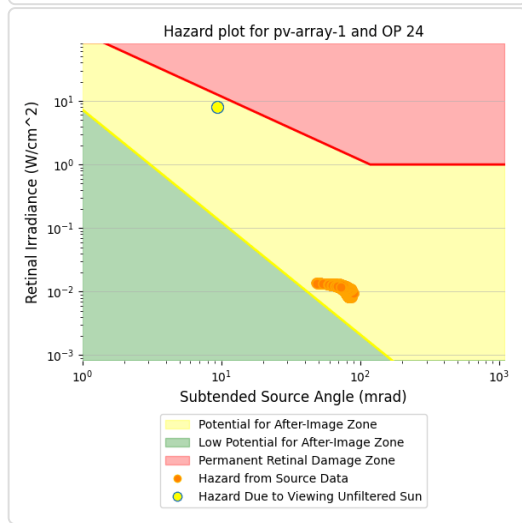
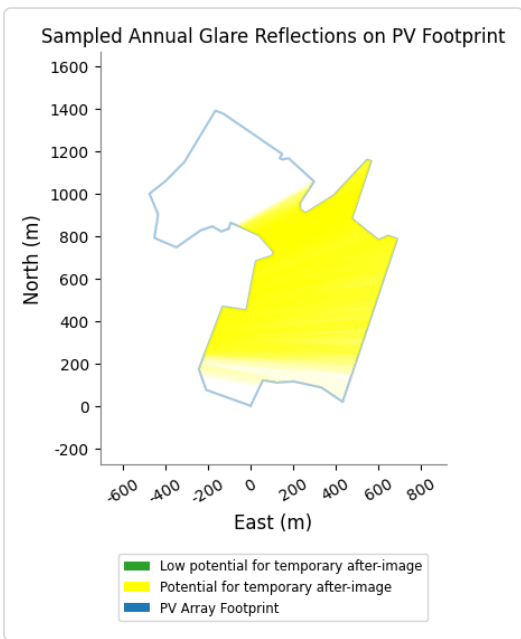
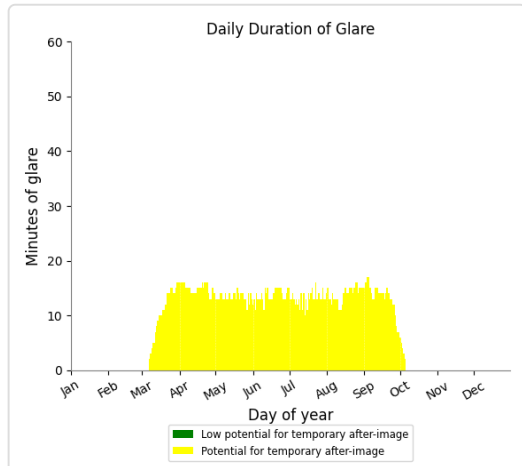
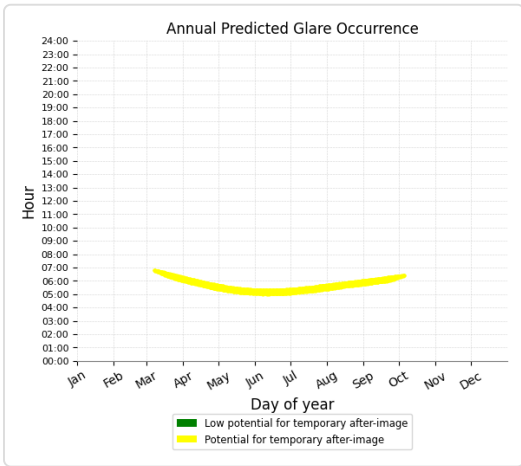
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,698 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 24)

PV array is expected to produce the following glare for receptors at this location:

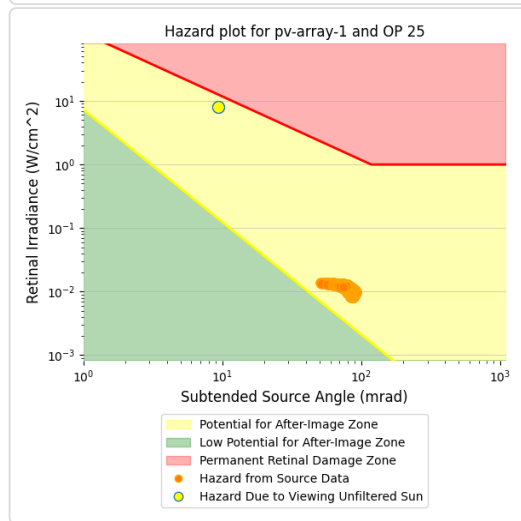
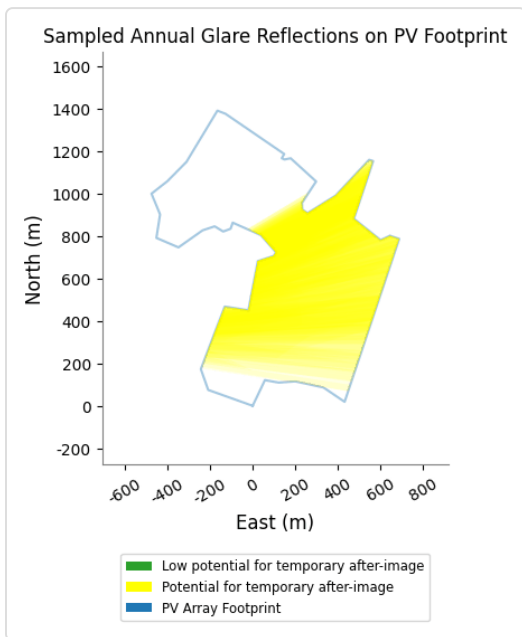
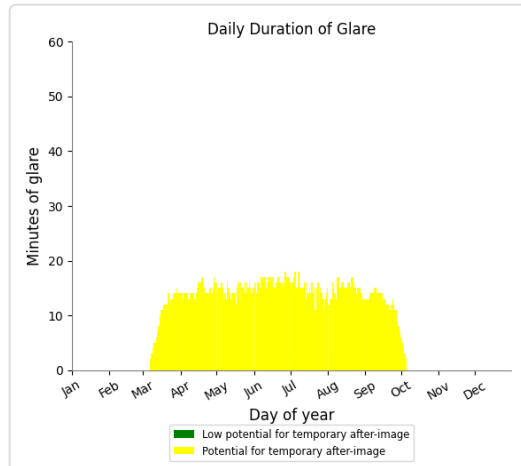
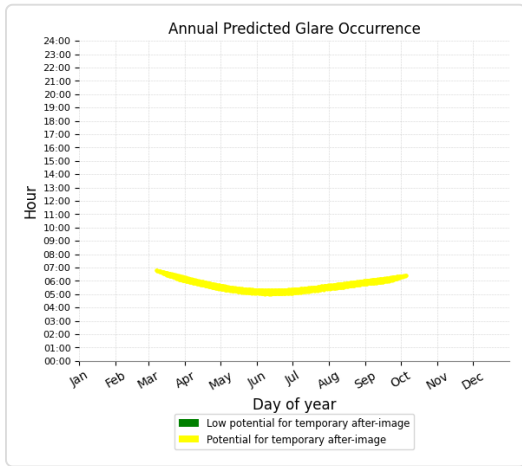
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,799 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 25)

PV array is expected to produce the following glare for receptors at this location:

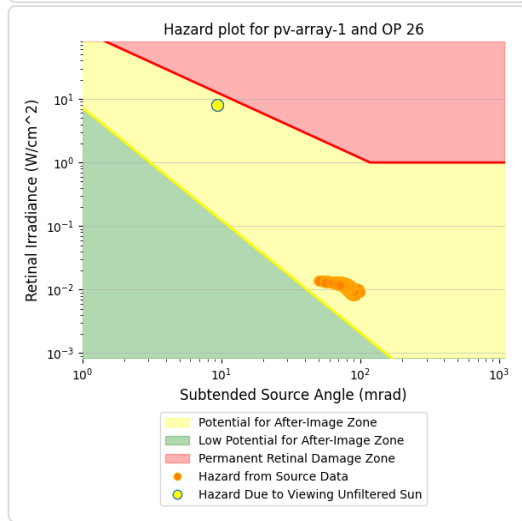
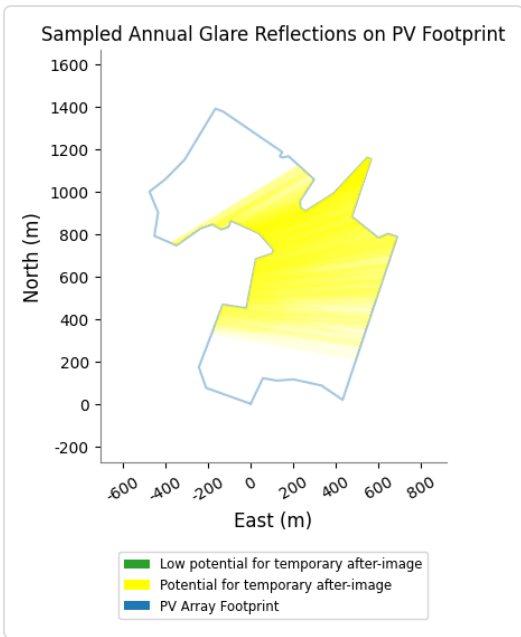
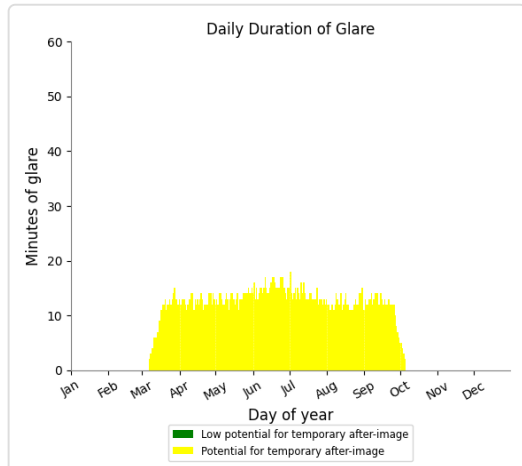
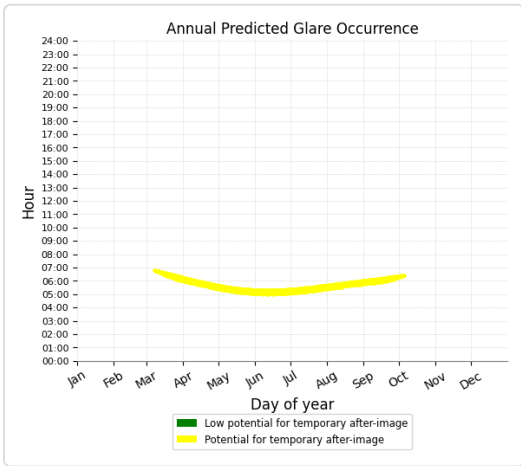
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,949 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 26)

PV array is expected to produce the following glare for receptors at this location:

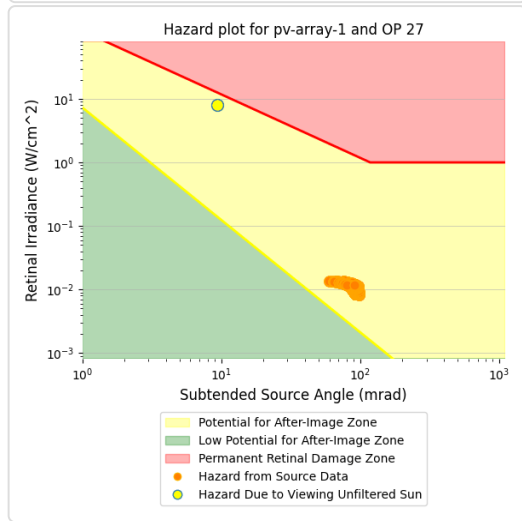
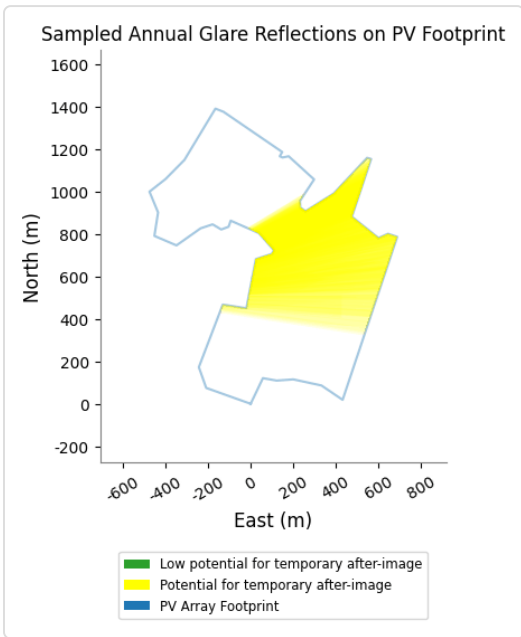
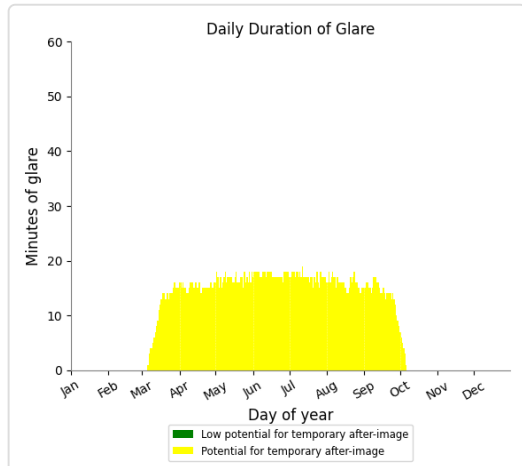
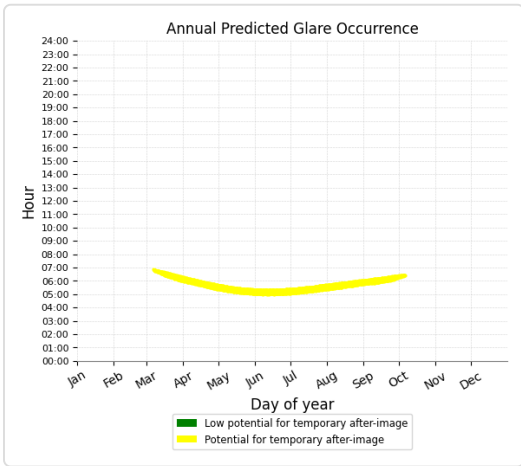
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,679 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:

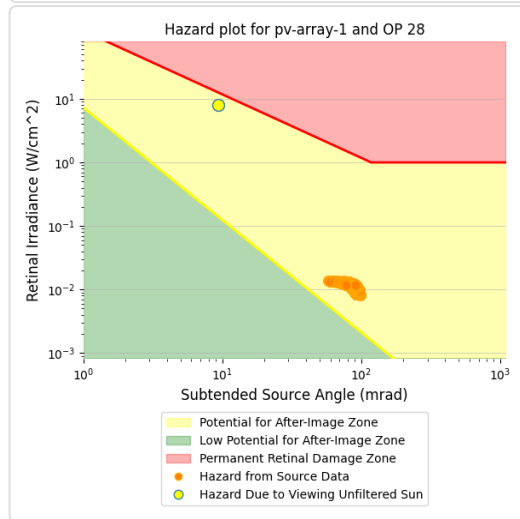
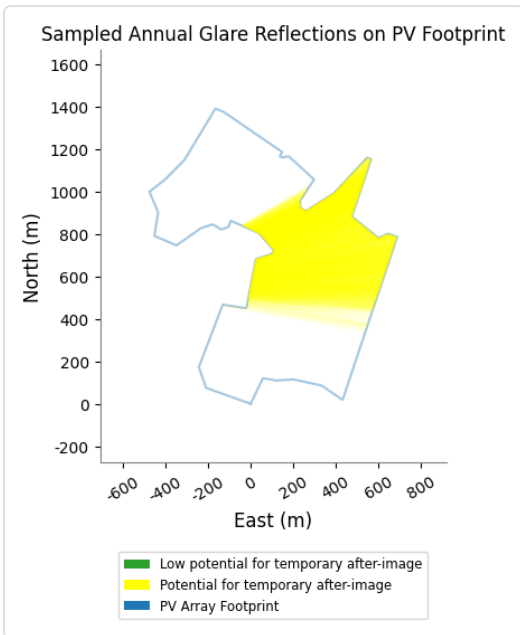
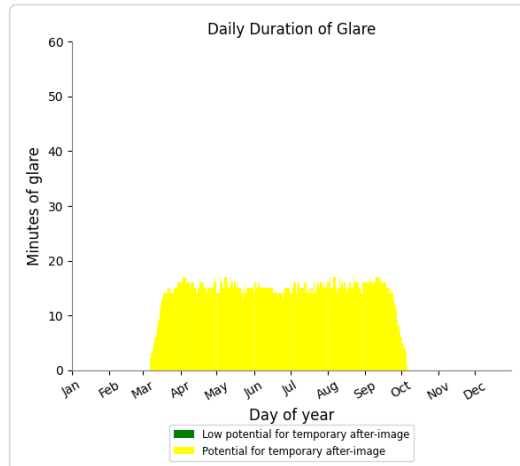
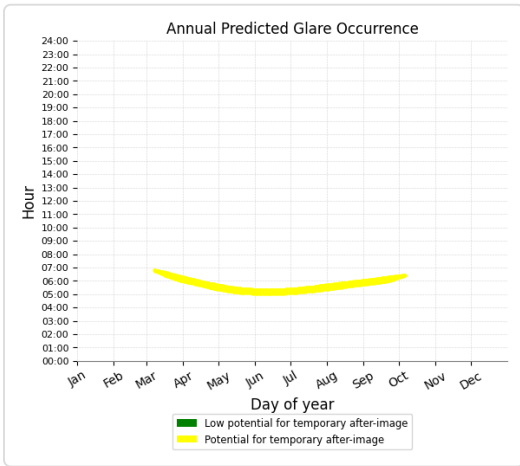
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,256 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:

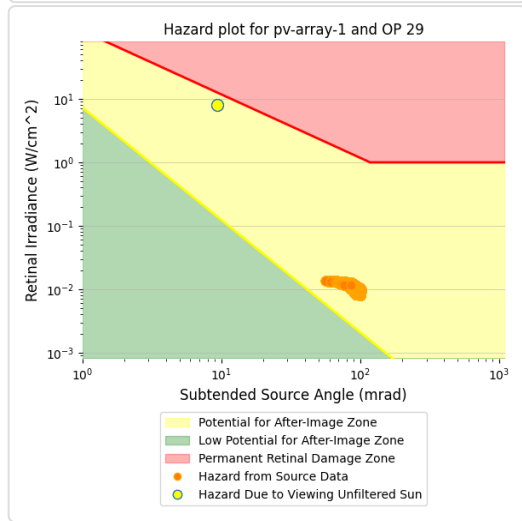
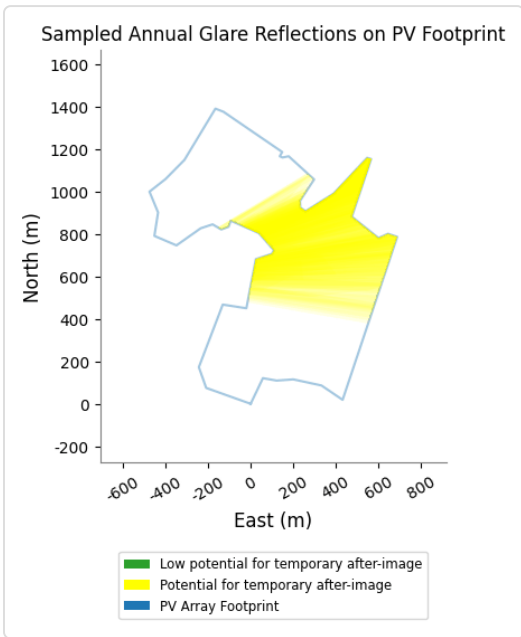
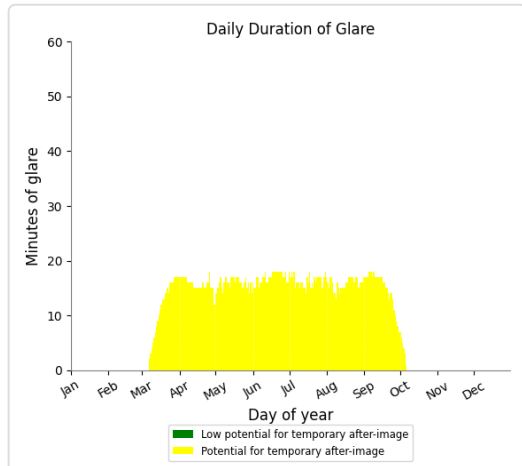
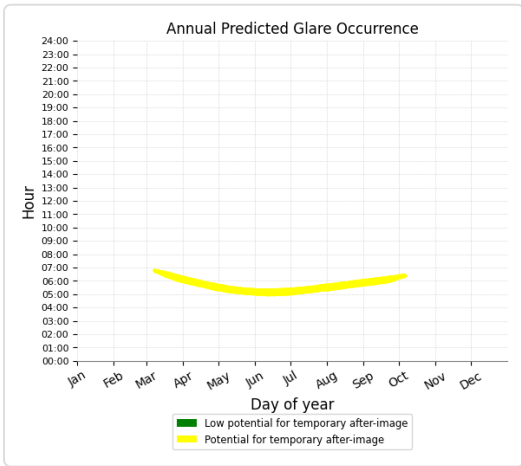
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,076 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 29)

PV array is expected to produce the following glare for receptors at this location:

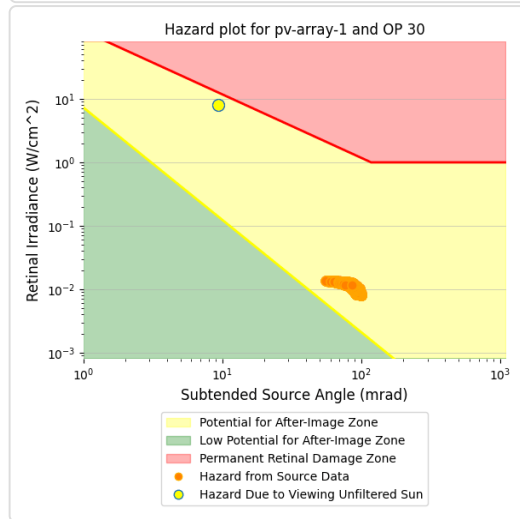
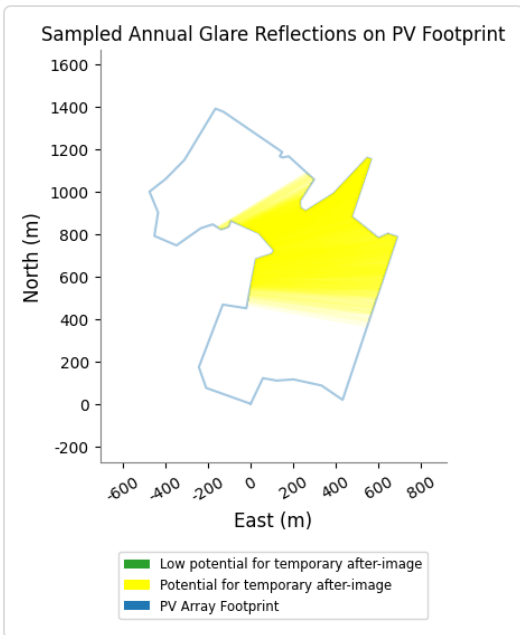
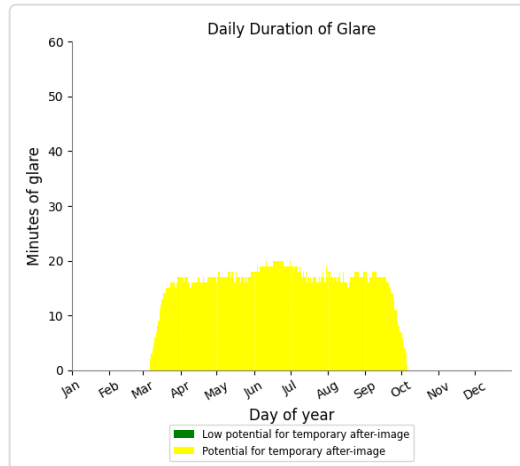
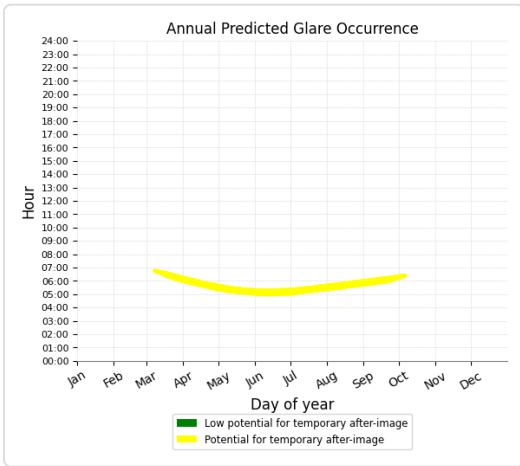
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,234 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:

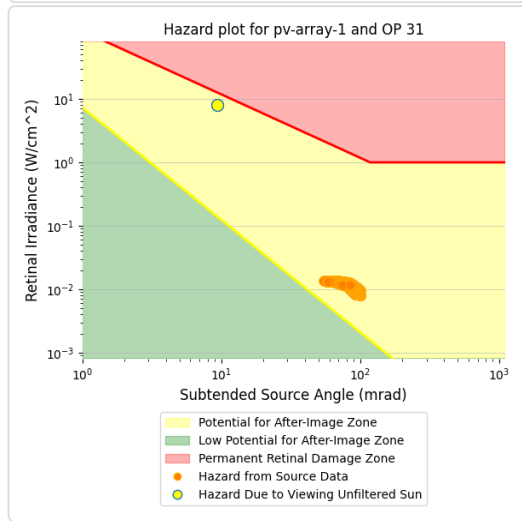
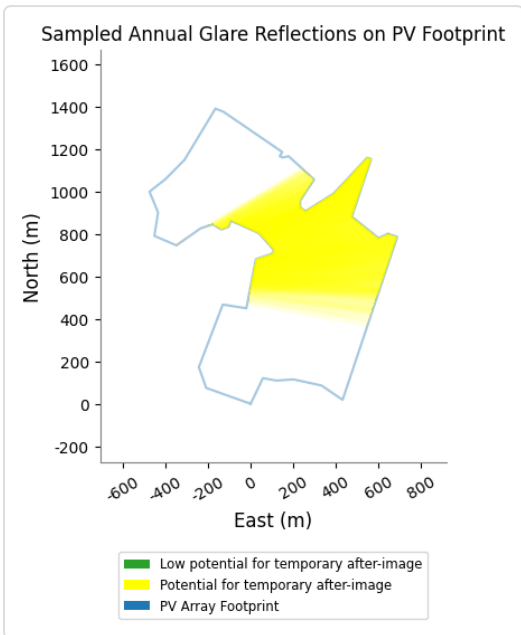
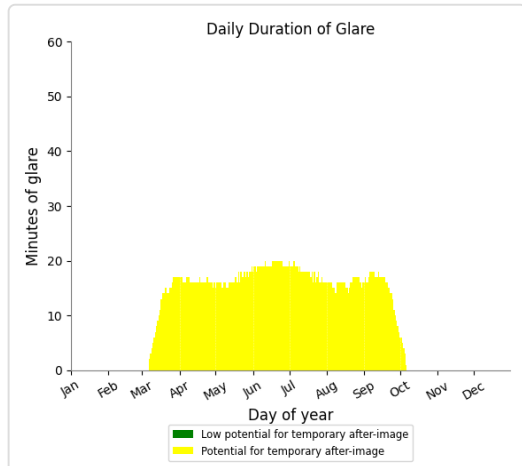
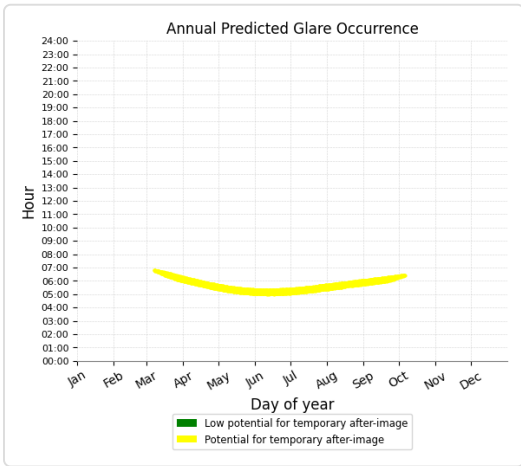
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,449 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 31)

PV array is expected to produce the following glare for receptors at this location:

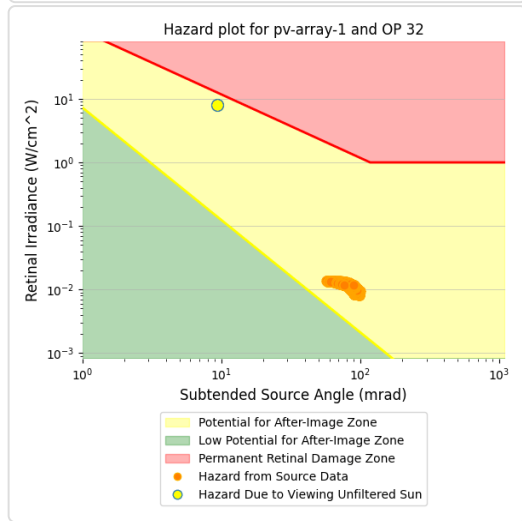
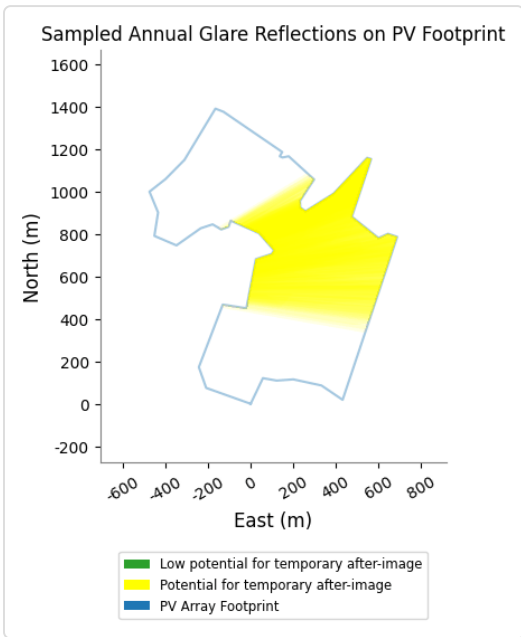
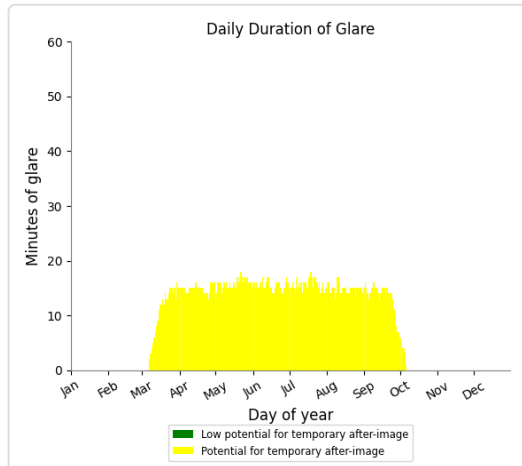
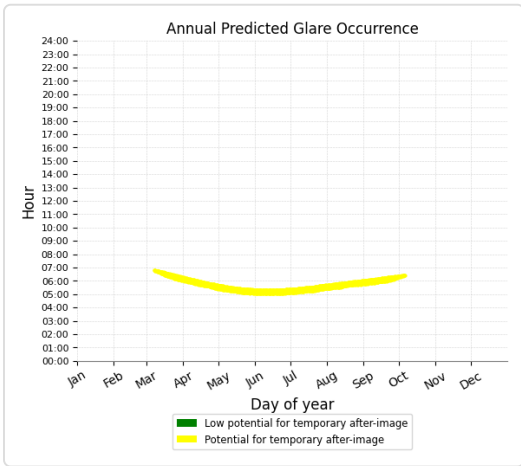
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,395 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 32)

PV array is expected to produce the following glare for receptors at this location:

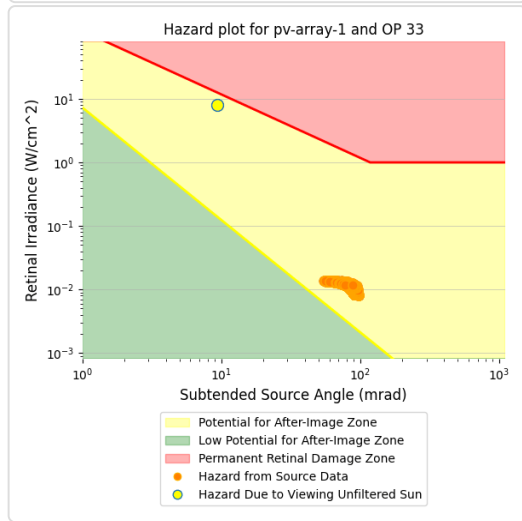
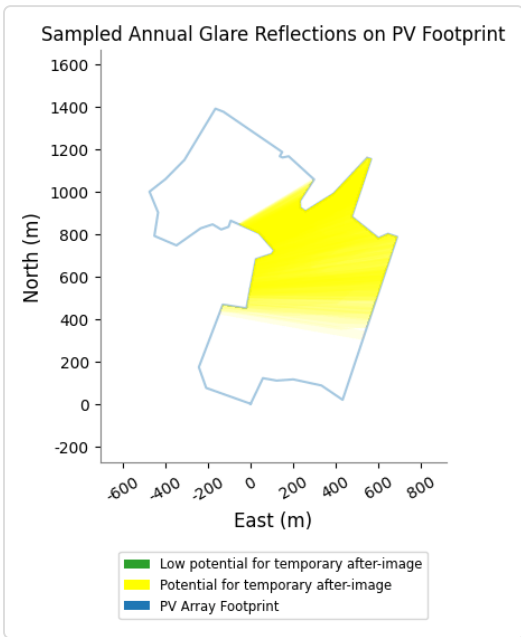
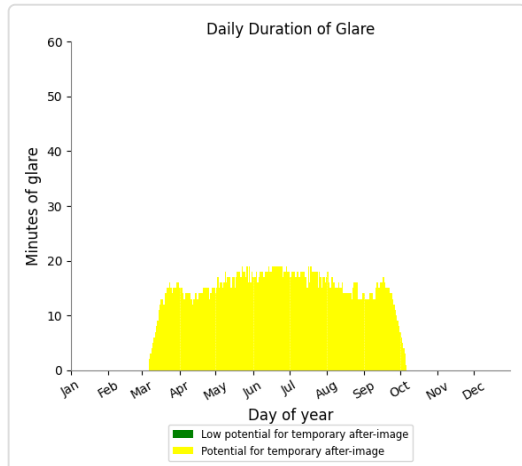
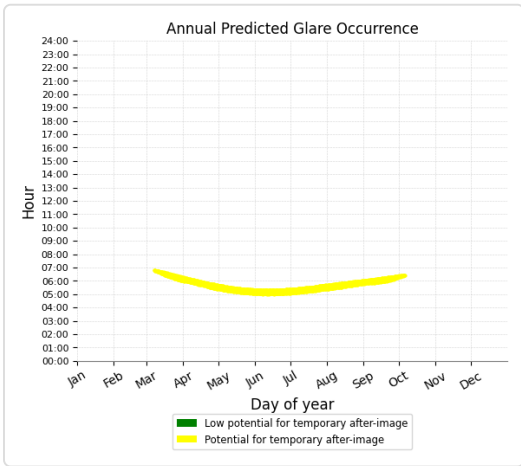
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,050 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 33)

PV array is expected to produce the following glare for receptors at this location:

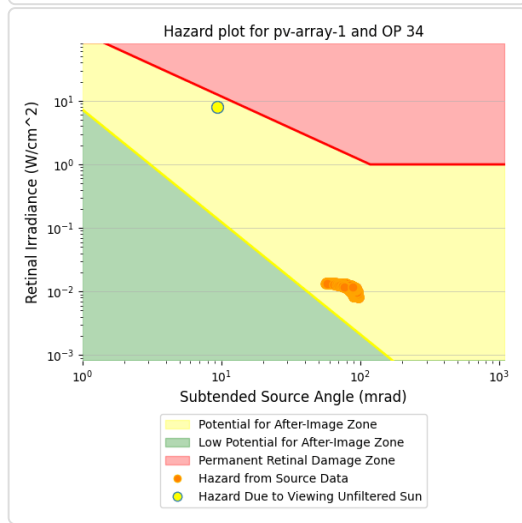
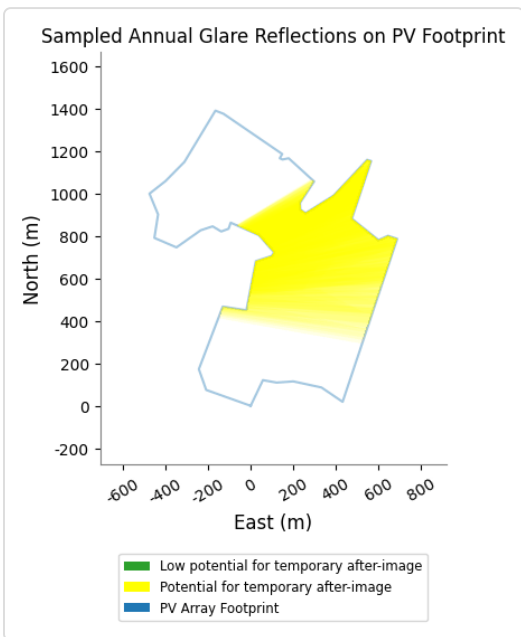
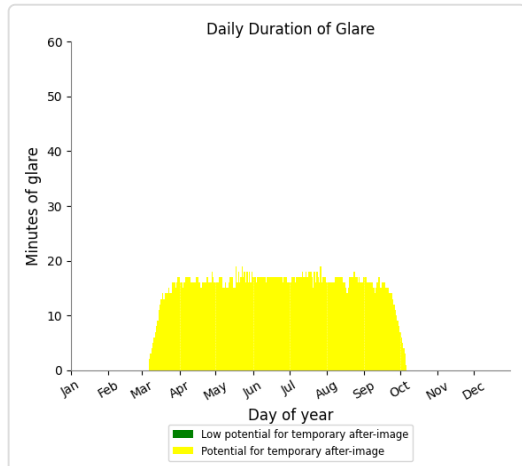
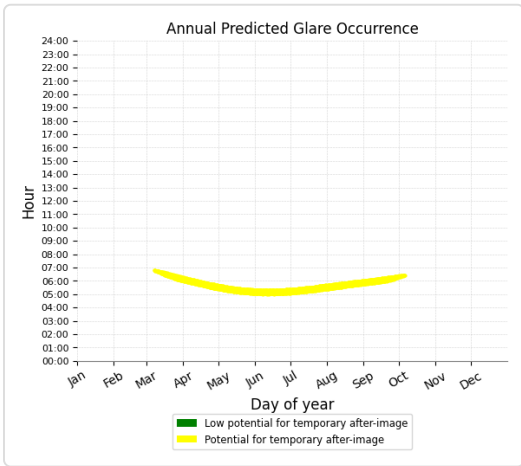
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,210 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 34)

PV array is expected to produce the following glare for receptors at this location:

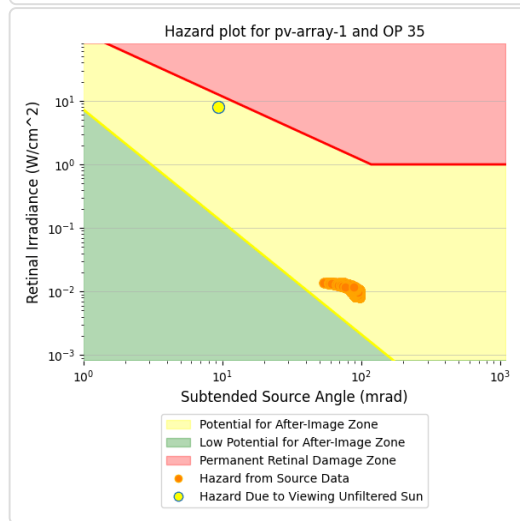
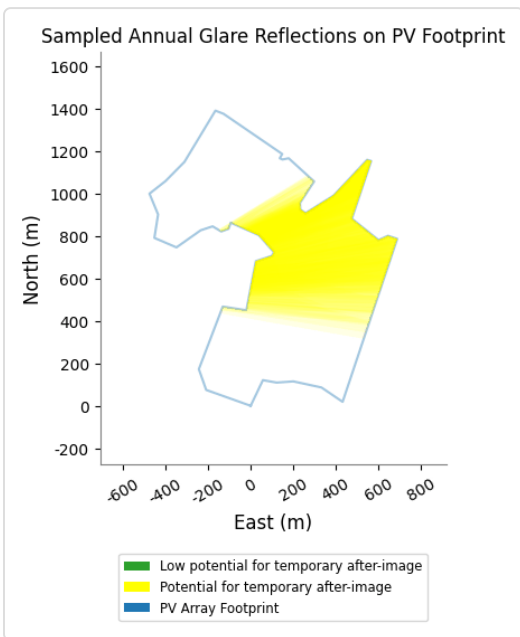
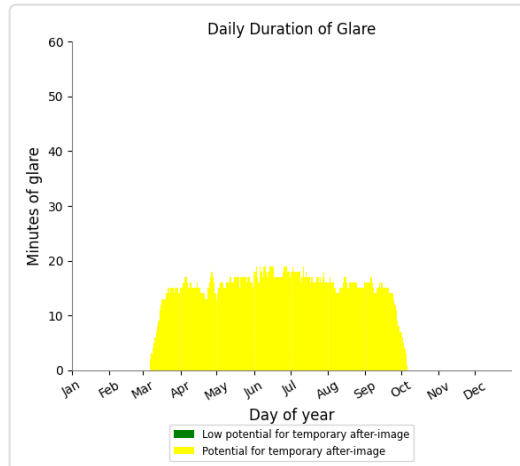
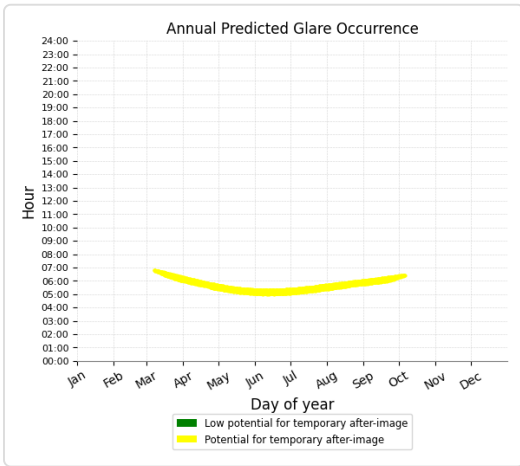
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,298 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 35)

PV array is expected to produce the following glare for receptors at this location:

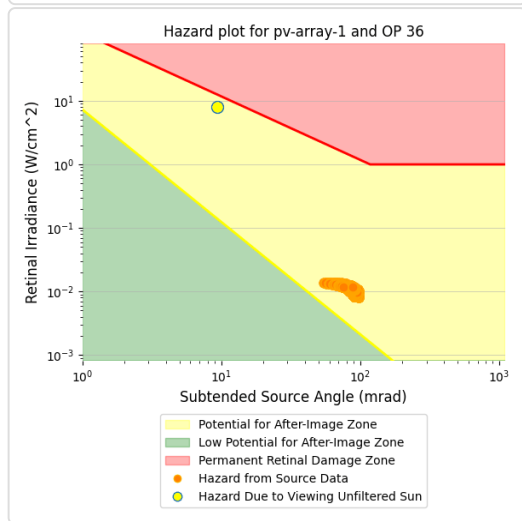
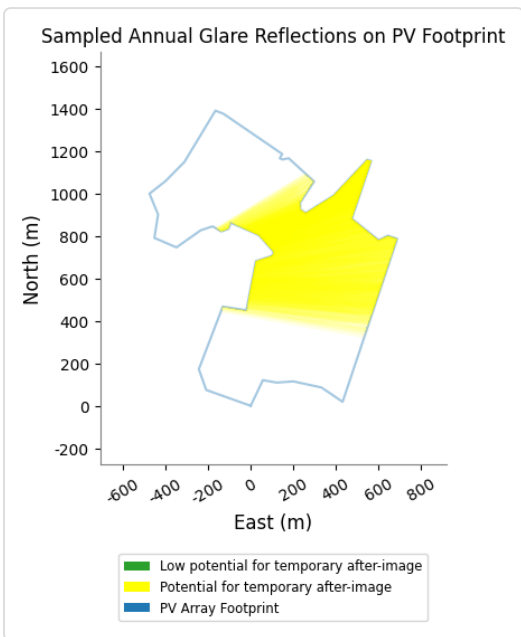
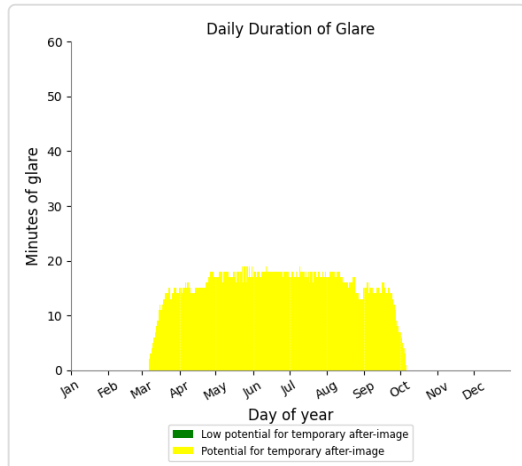
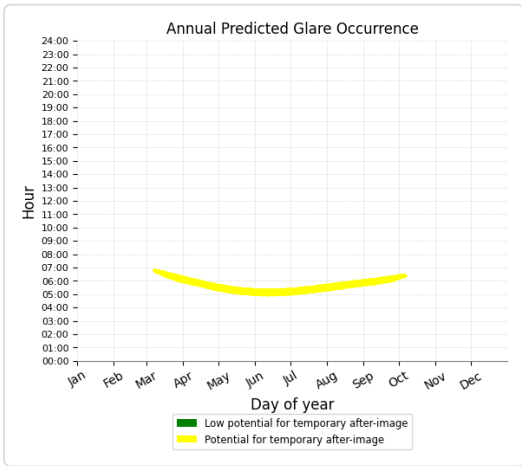
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,242 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 36)

PV array is expected to produce the following glare for receptors at this location:

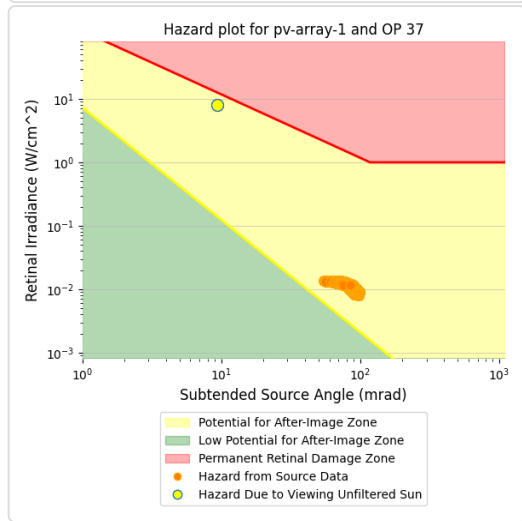
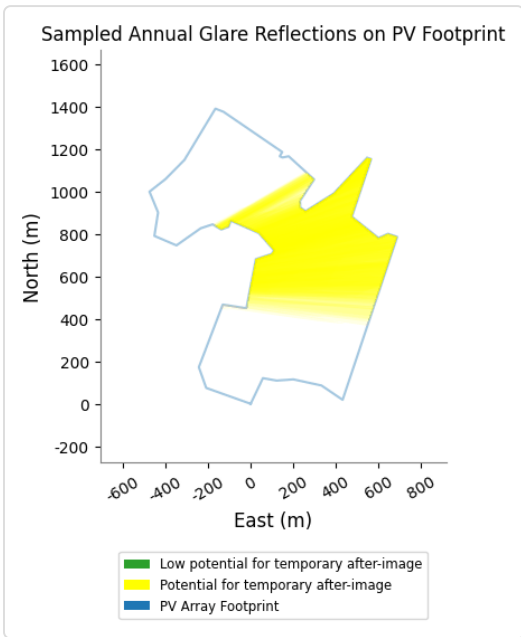
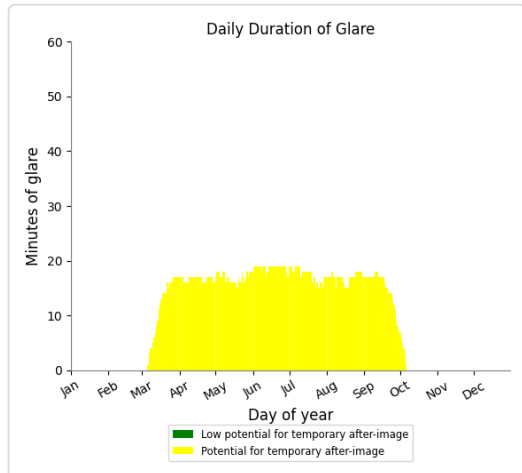
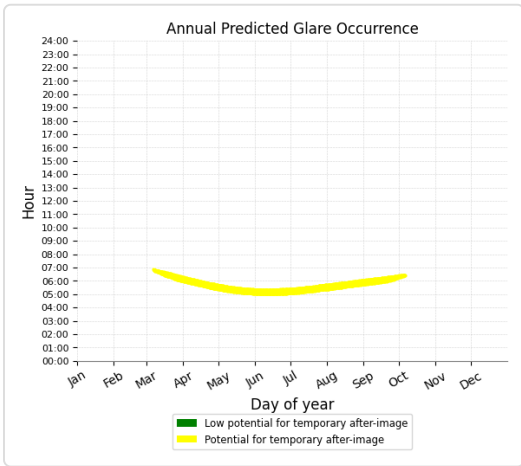
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,301 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 37)

PV array is expected to produce the following glare for receptors at this location:

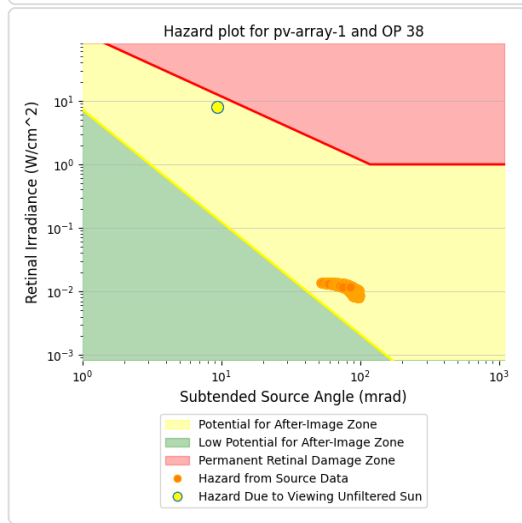
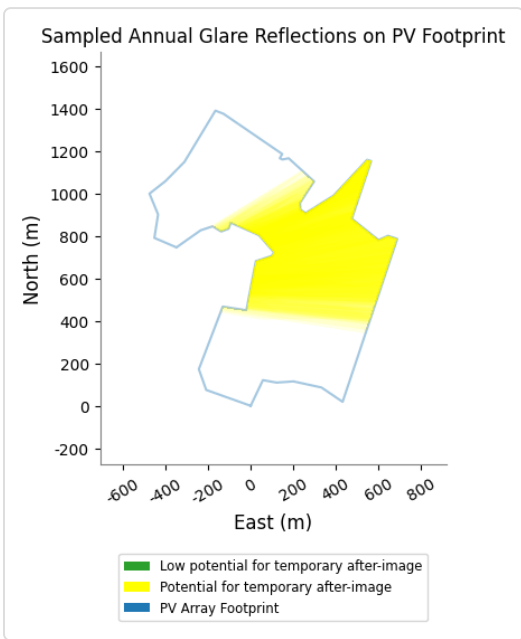
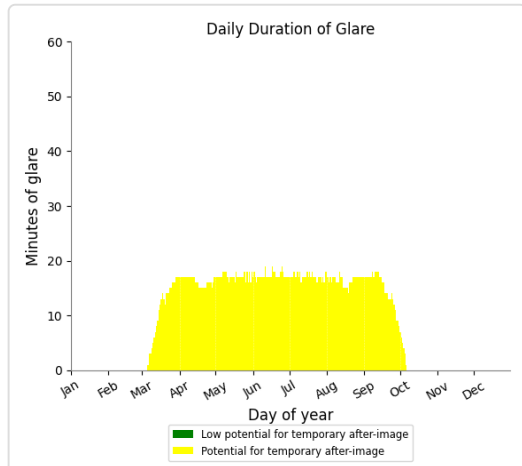
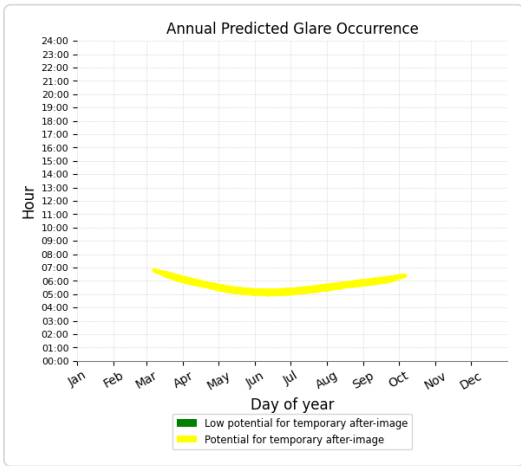
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,433 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 38)

PV array is expected to produce the following glare for receptors at this location:

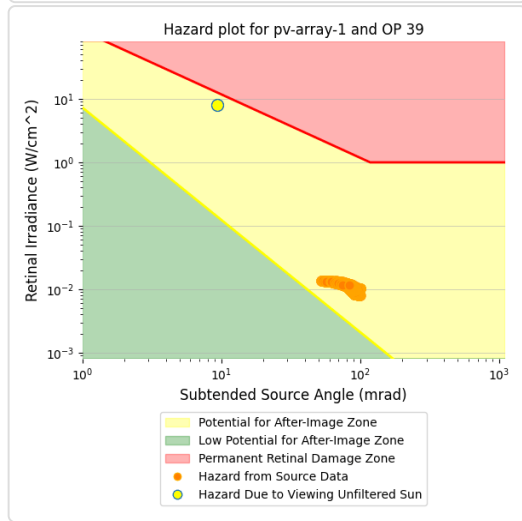
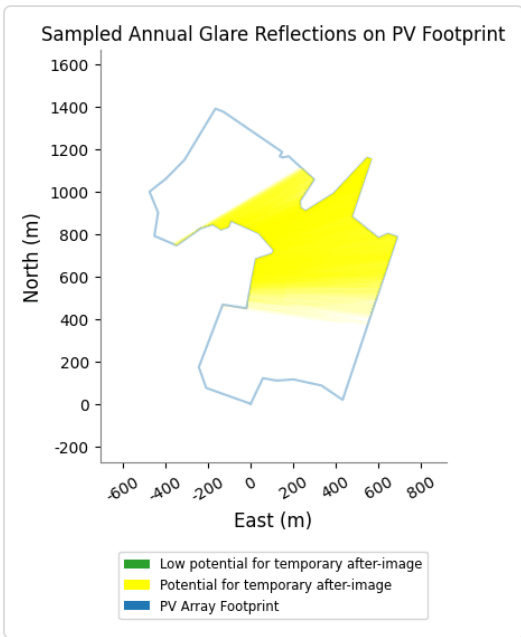
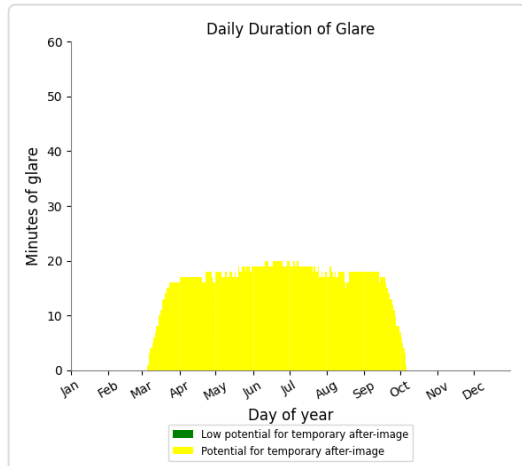
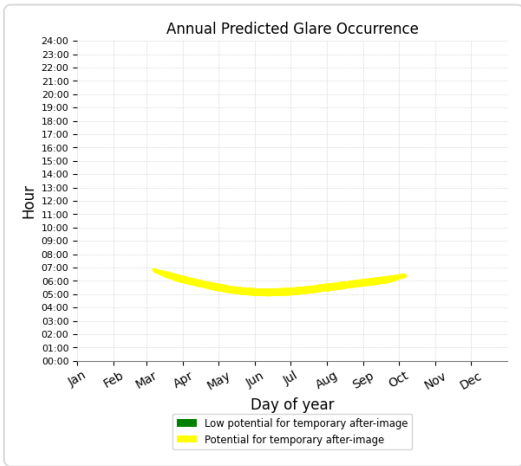
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,344 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 39)

PV array is expected to produce the following glare for receptors at this location:

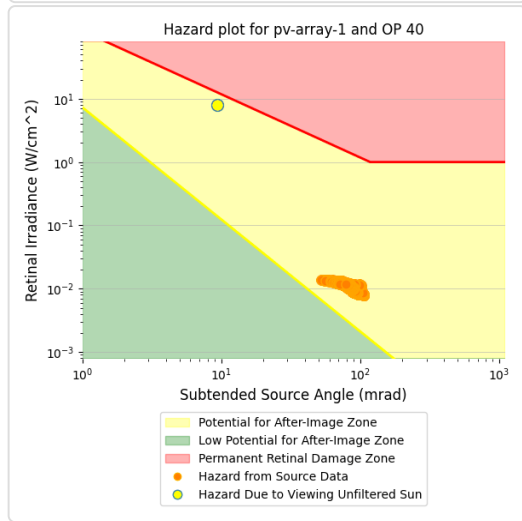
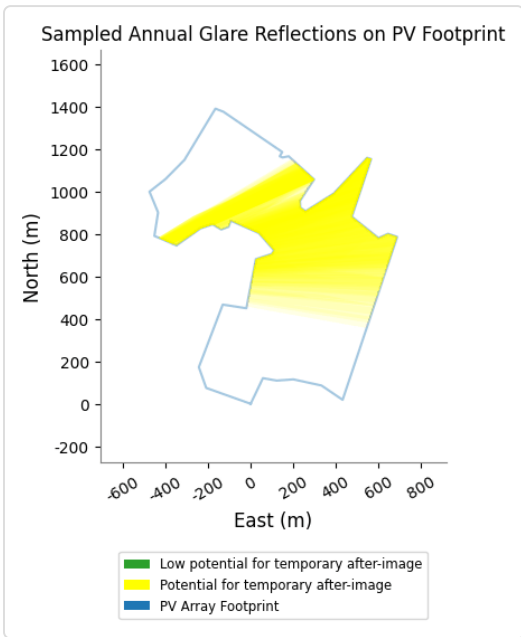
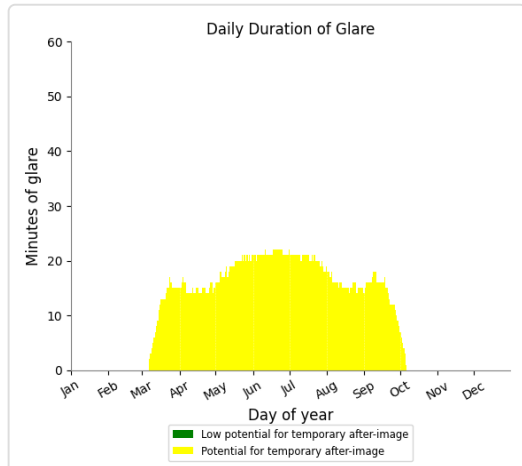
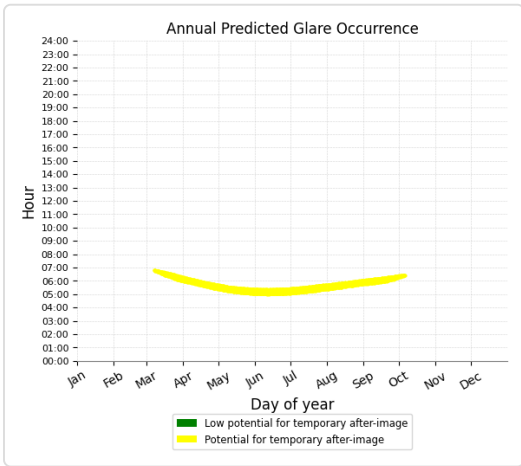
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,547 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 40)

PV array is expected to produce the following glare for receptors at this location:

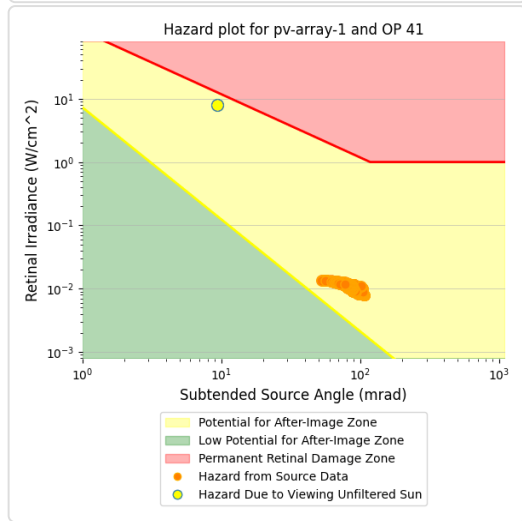
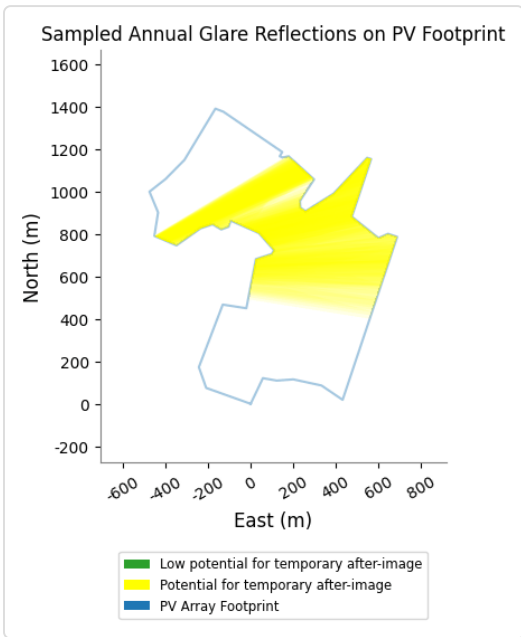
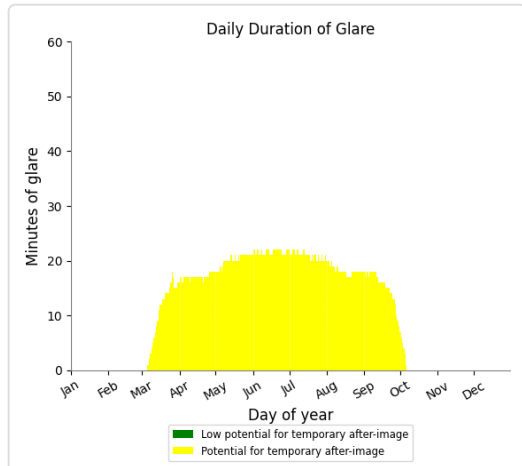
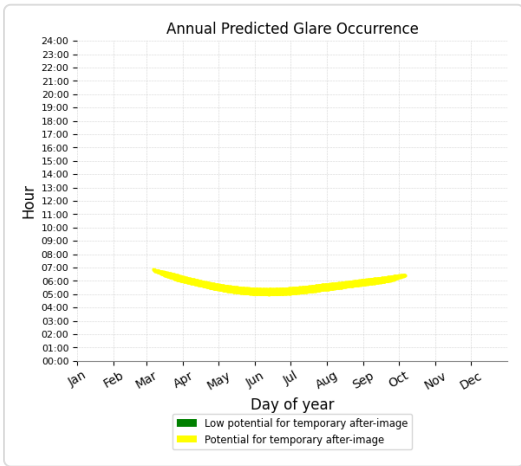
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,536 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 41)

PV array is expected to produce the following glare for receptors at this location:

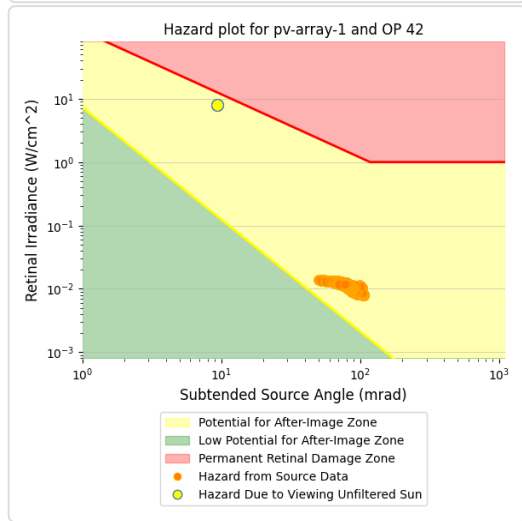
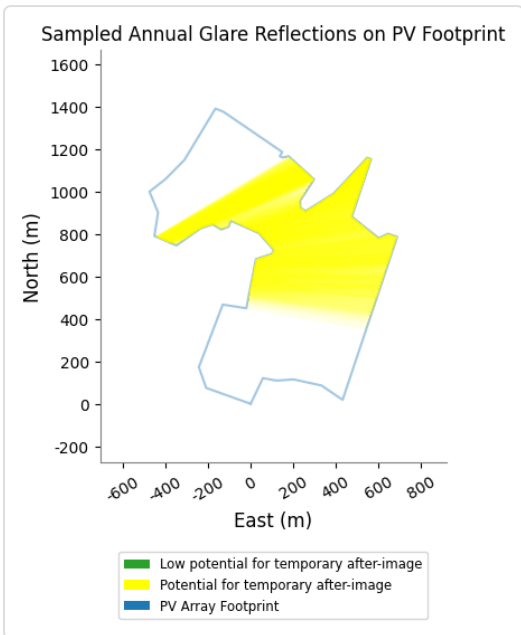
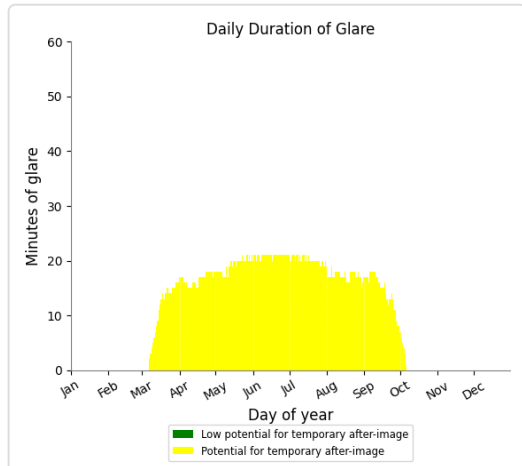
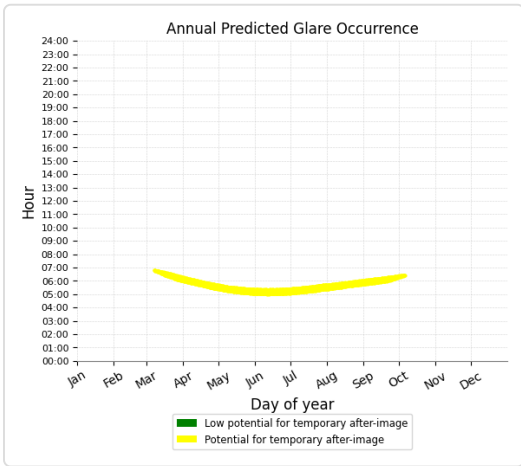
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,768 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 42)

PV array is expected to produce the following glare for receptors at this location:

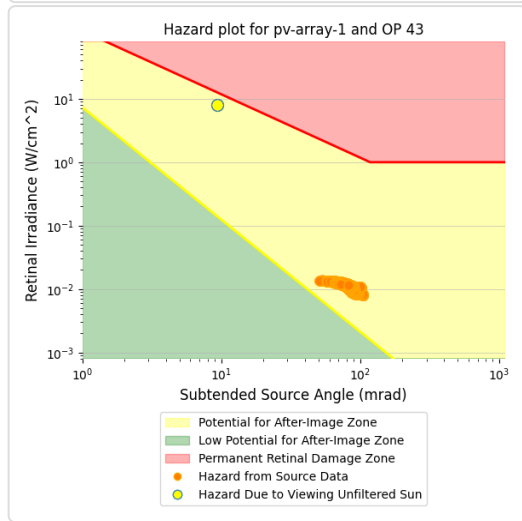
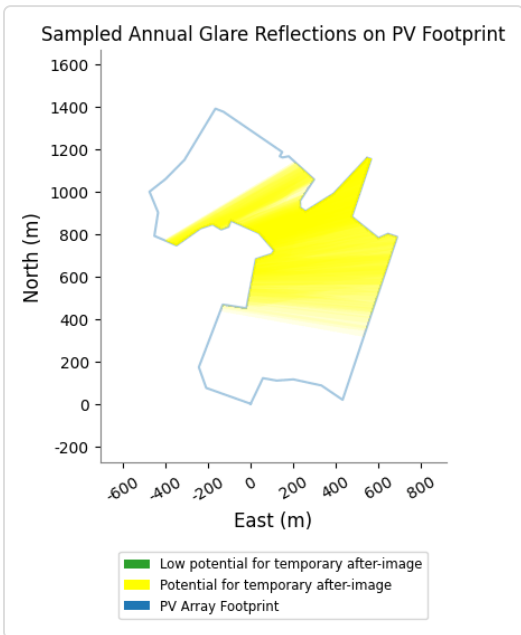
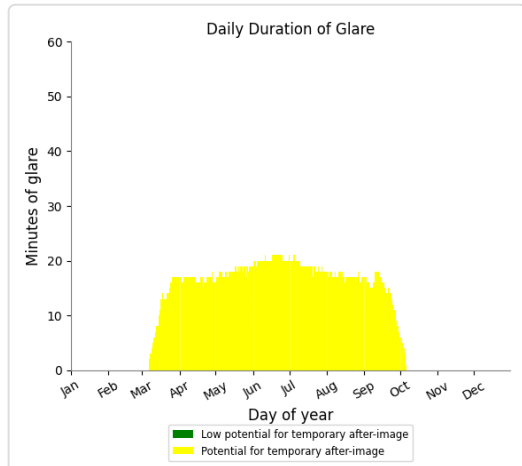
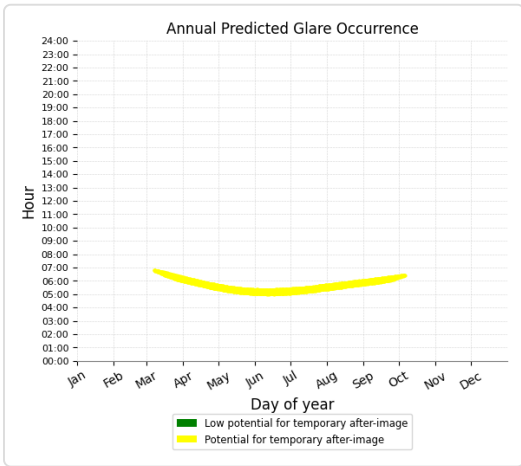
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,636 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 43)

PV array is expected to produce the following glare for receptors at this location:

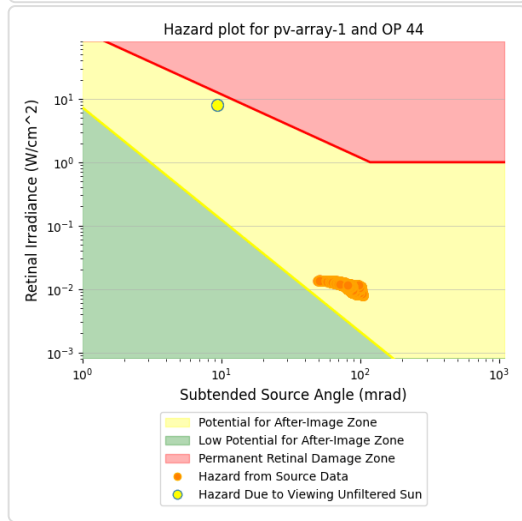
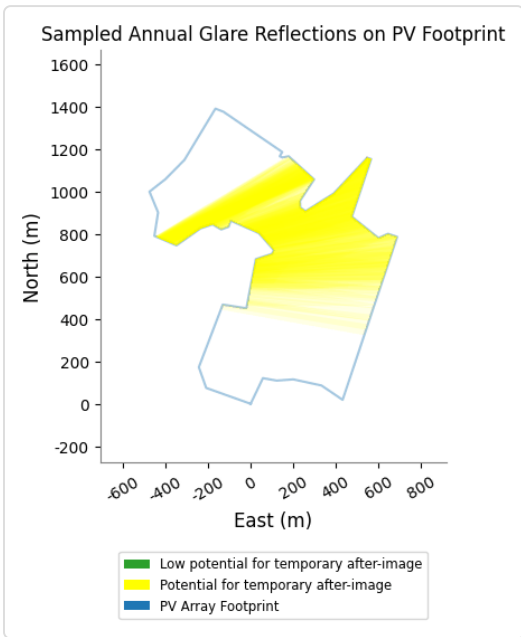
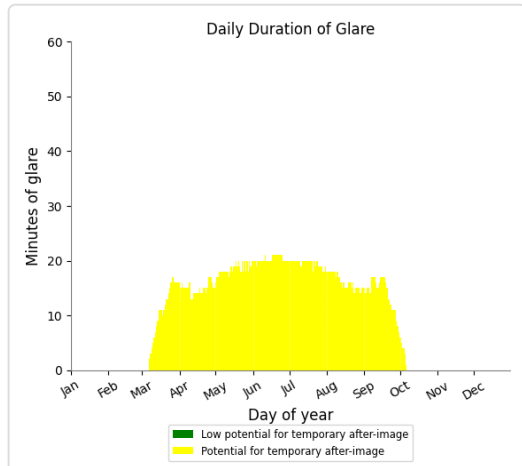
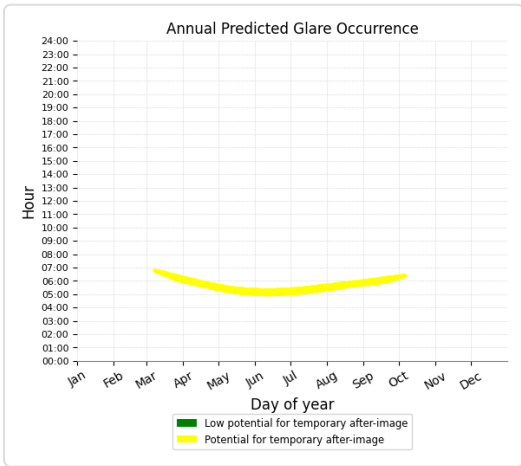
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,549 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 44)

PV array is expected to produce the following glare for receptors at this location:

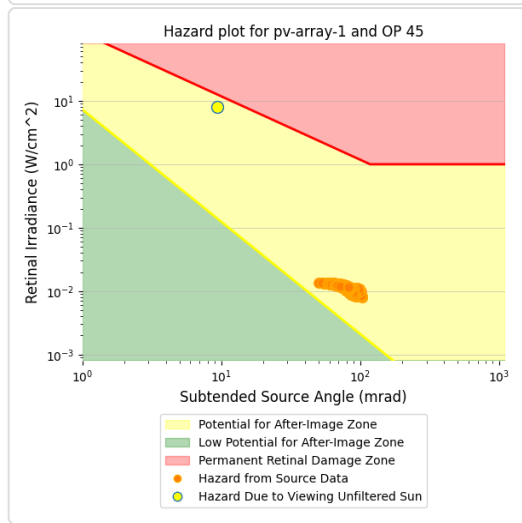
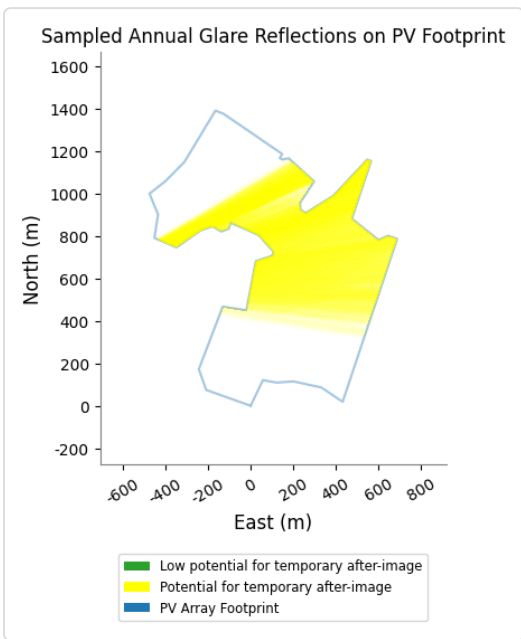
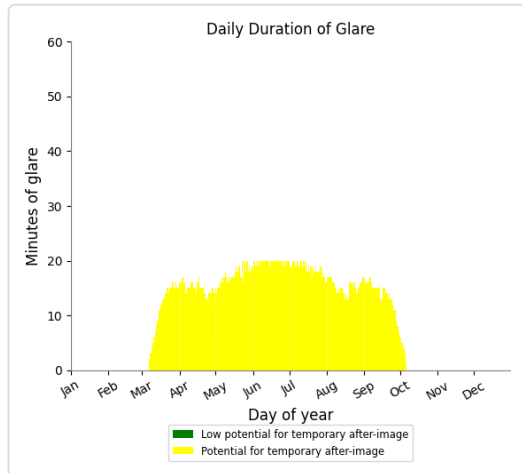
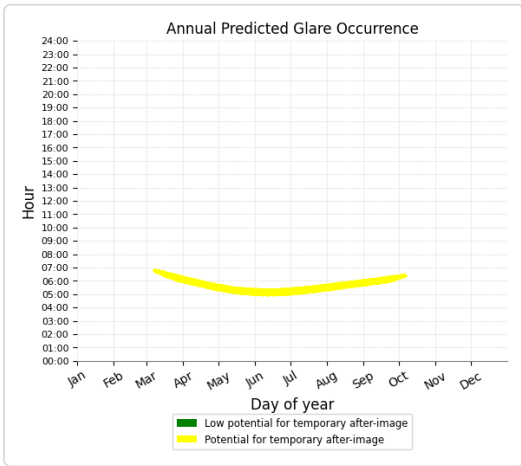
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,464 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 45)

PV array is expected to produce the following glare for receptors at this location:

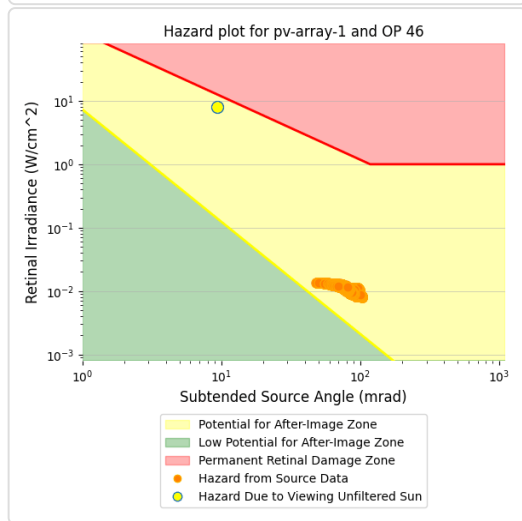
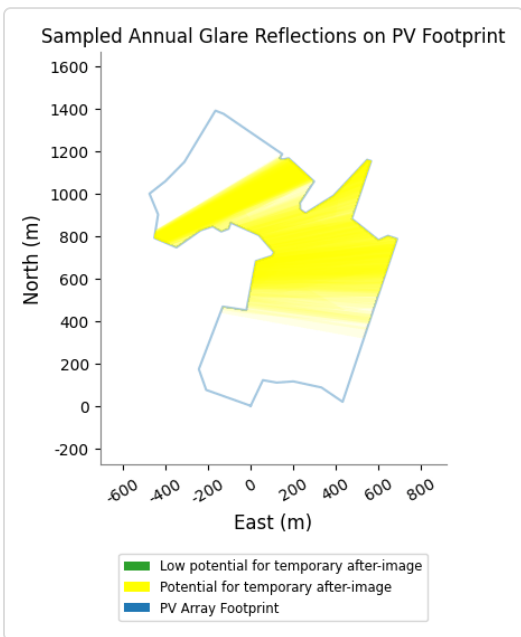
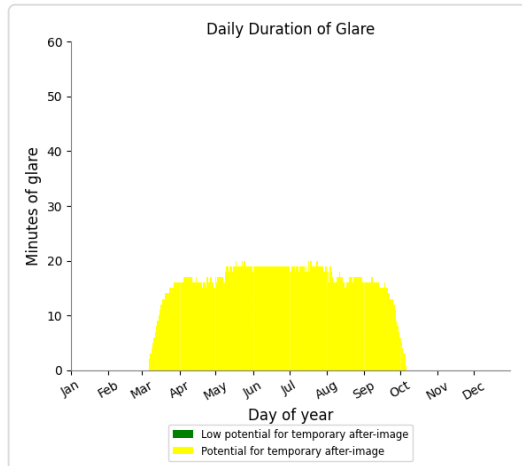
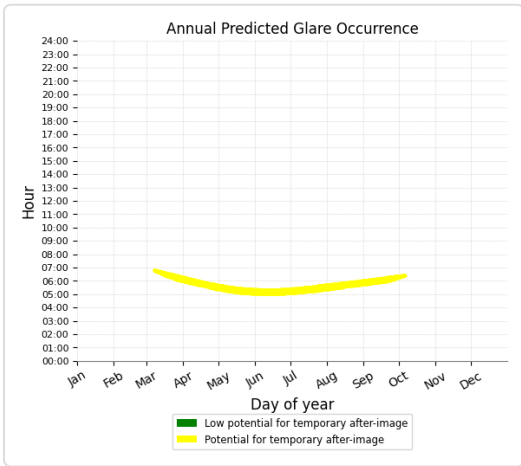
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,356 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 46)

PV array is expected to produce the following glare for receptors at this location:

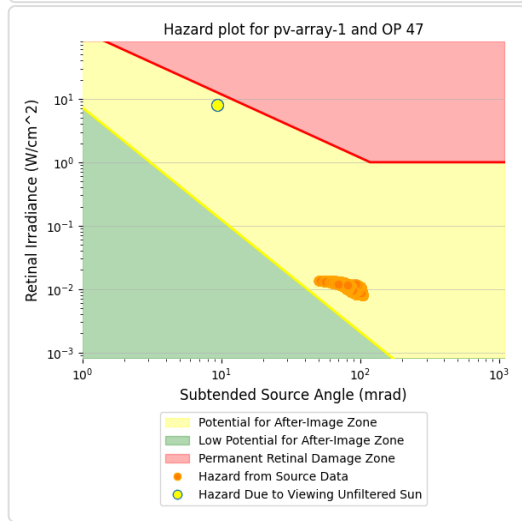
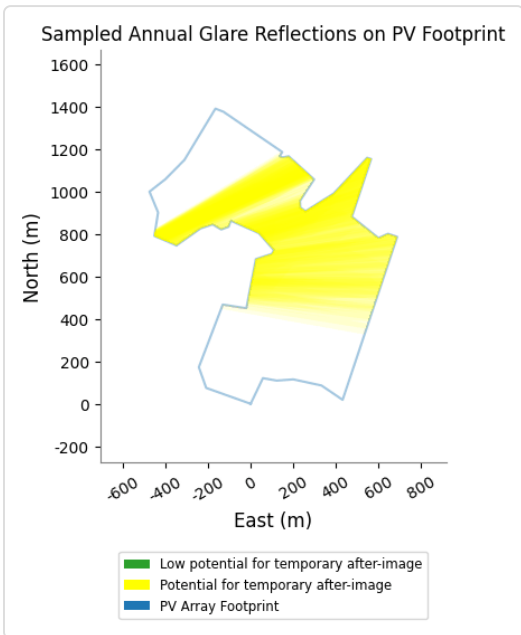
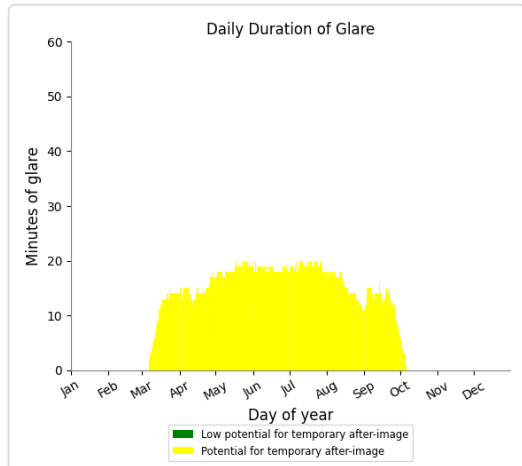
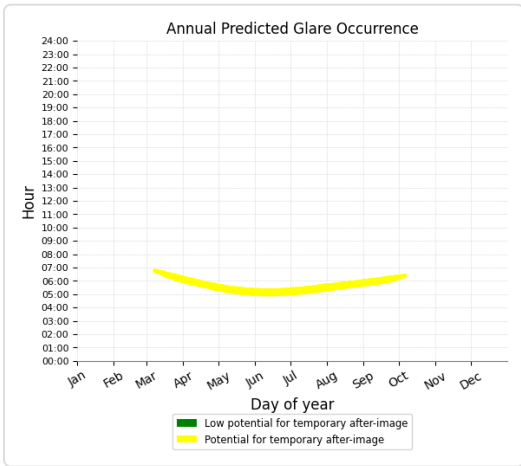
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,468 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 47)

PV array is expected to produce the following glare for receptors at this location:

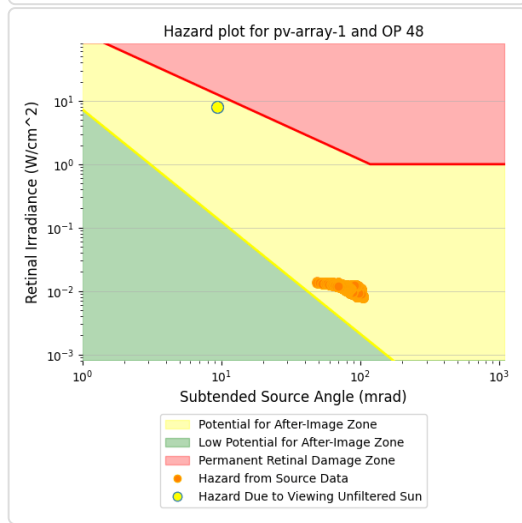
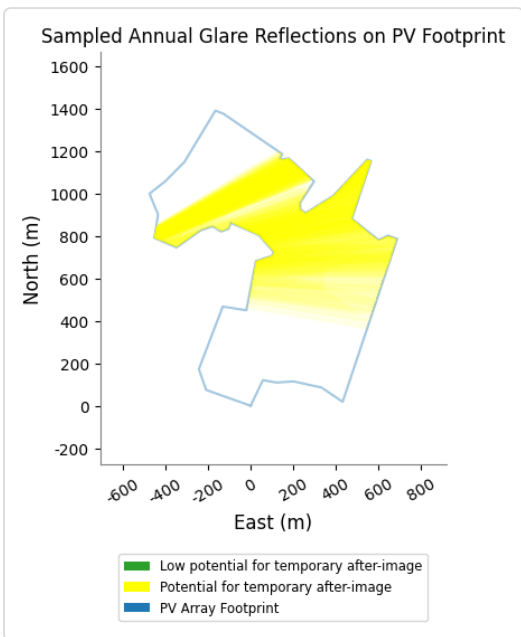
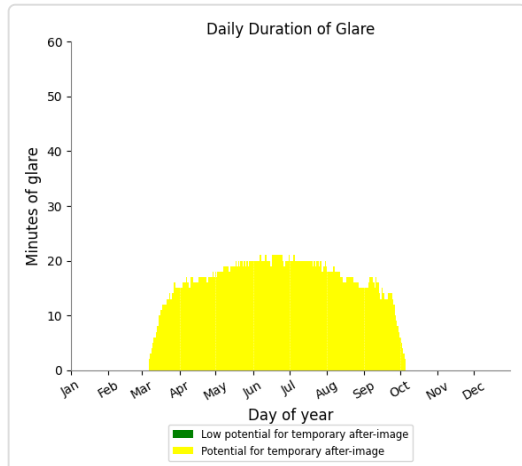
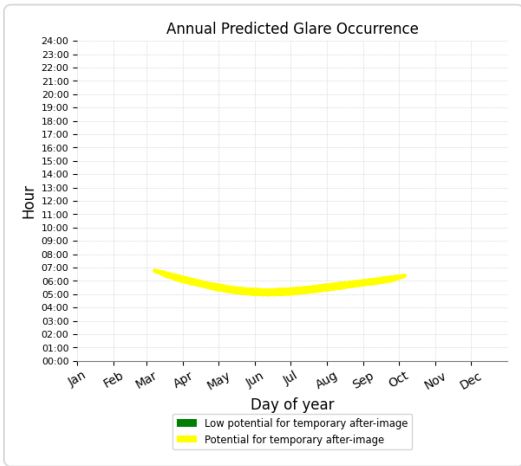
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,314 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 48)

PV array is expected to produce the following glare for receptors at this location:

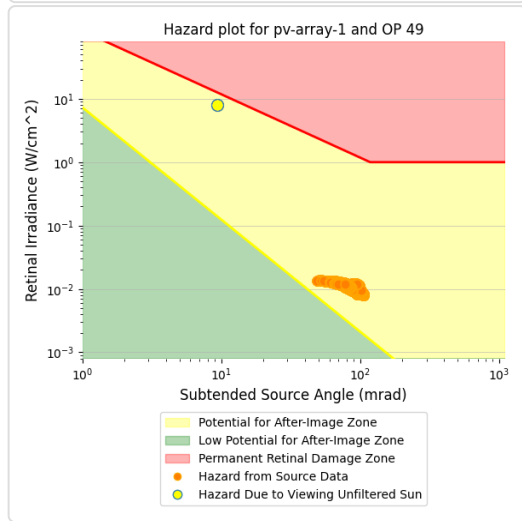
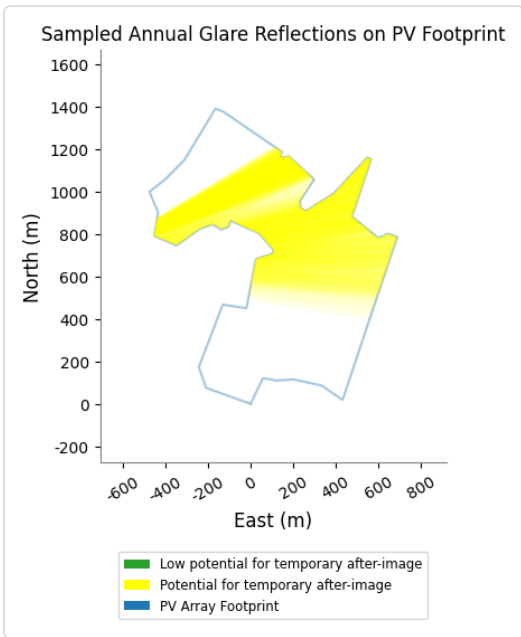
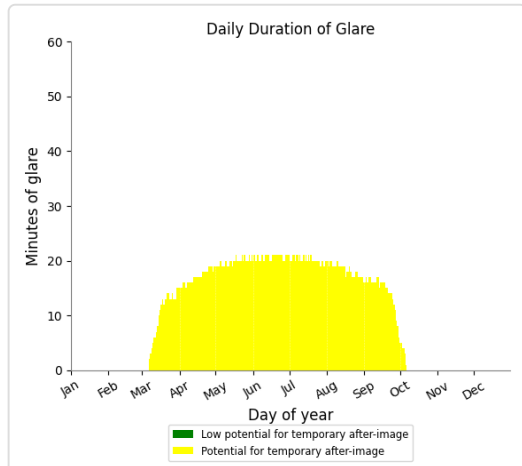
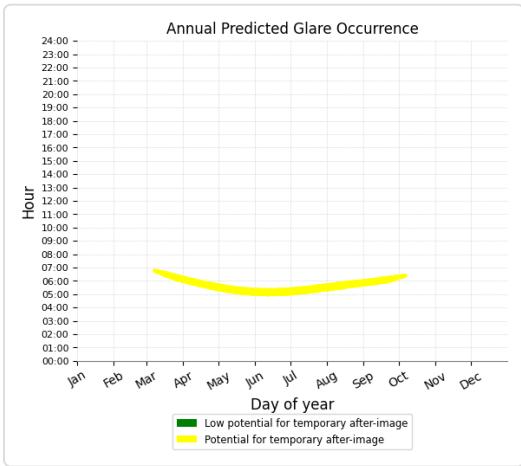
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,529 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 49)

PV array is expected to produce the following glare for receptors at this location:

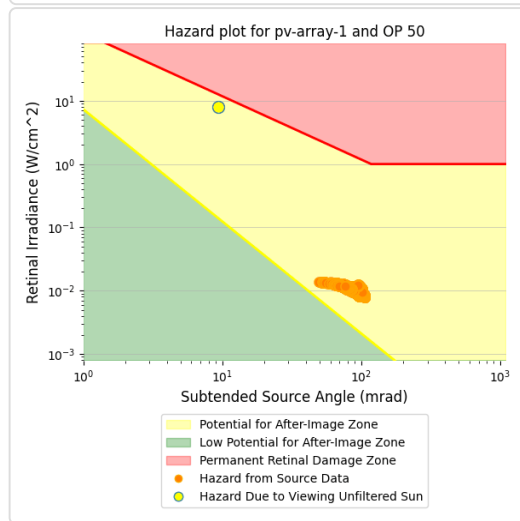
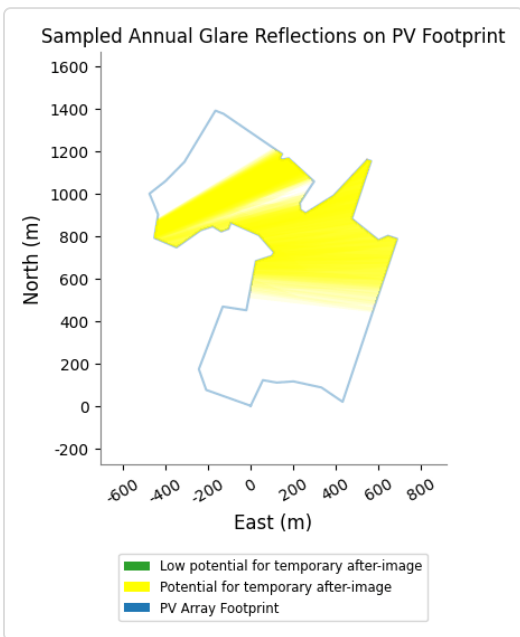
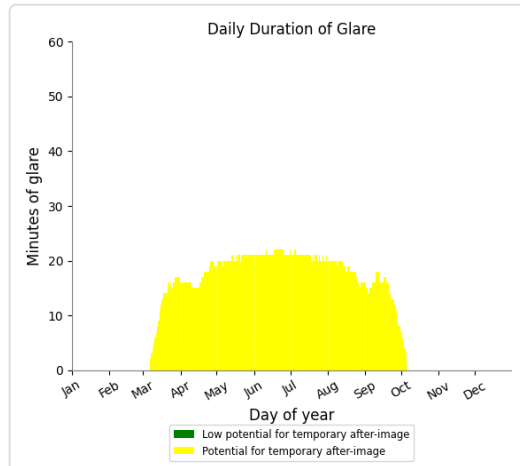
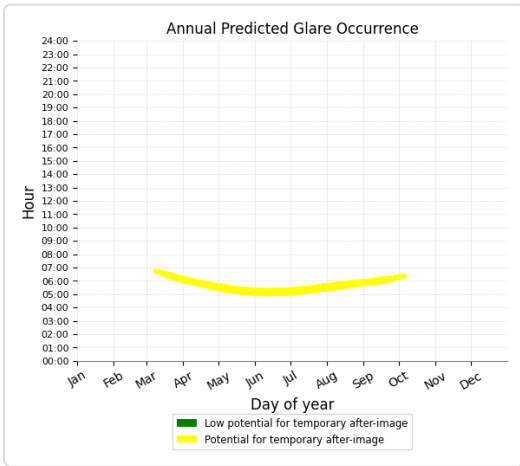
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,664 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 50)

PV array is expected to produce the following glare for receptors at this location:

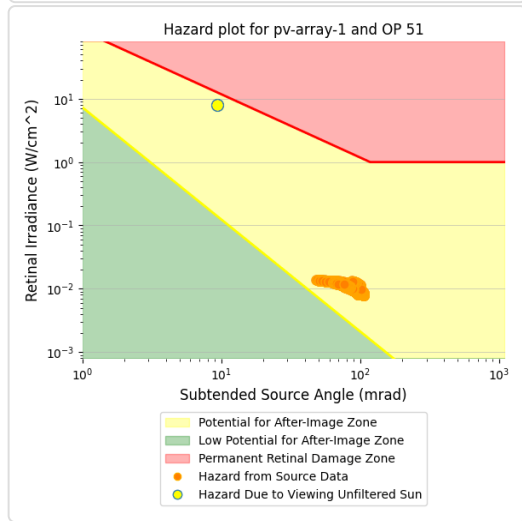
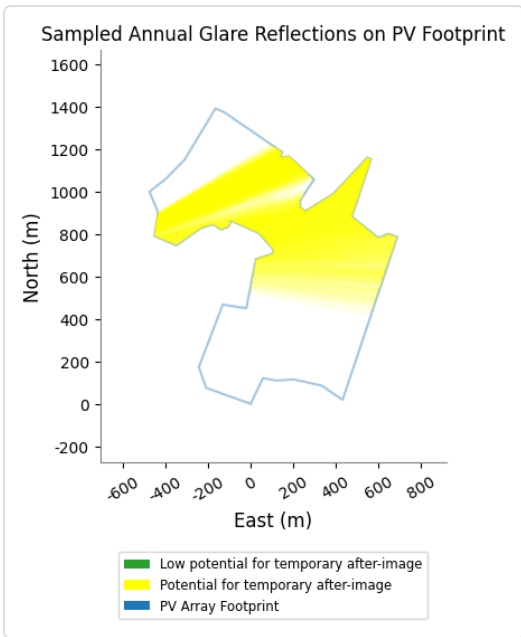
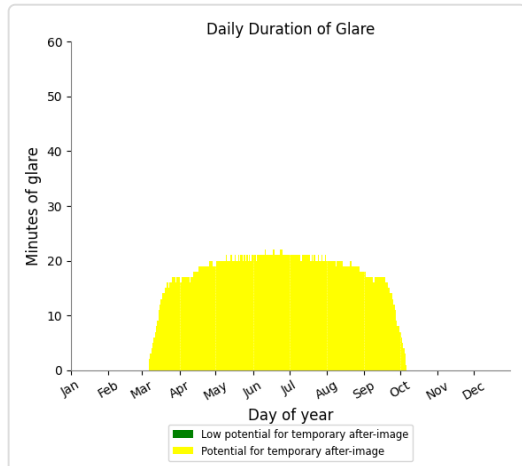
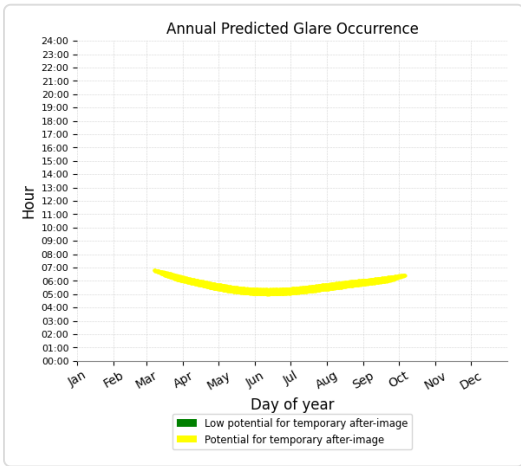
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,755 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 51)

PV array is expected to produce the following glare for receptors at this location:

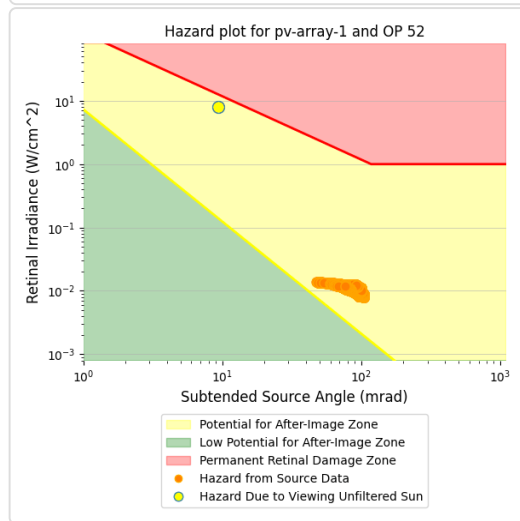
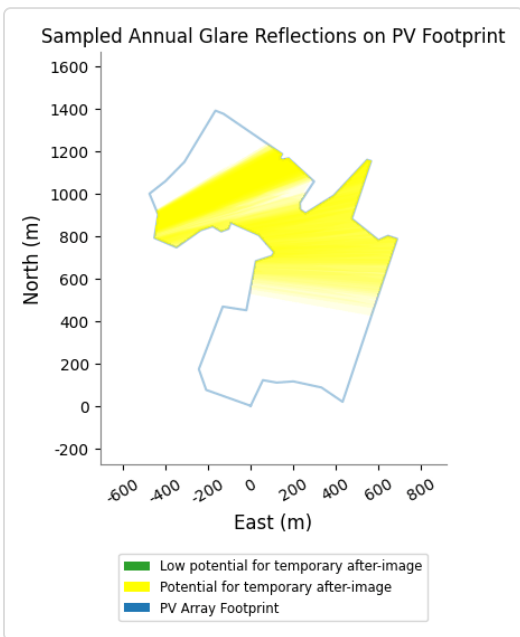
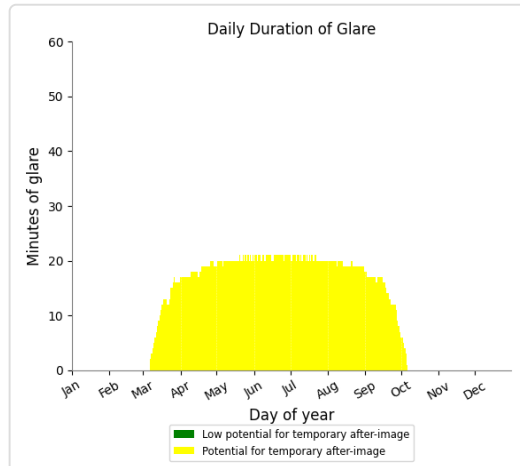
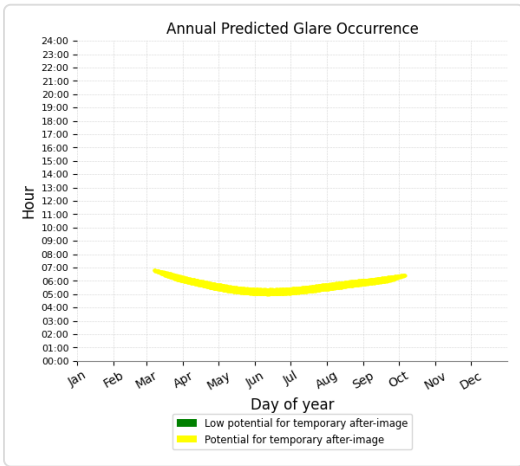
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,833 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 52)

PV array is expected to produce the following glare for receptors at this location:

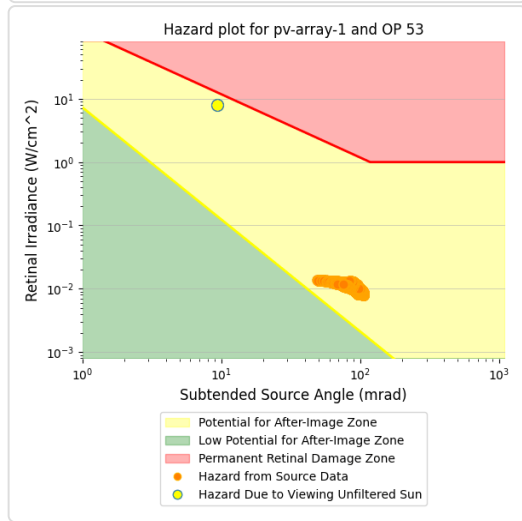
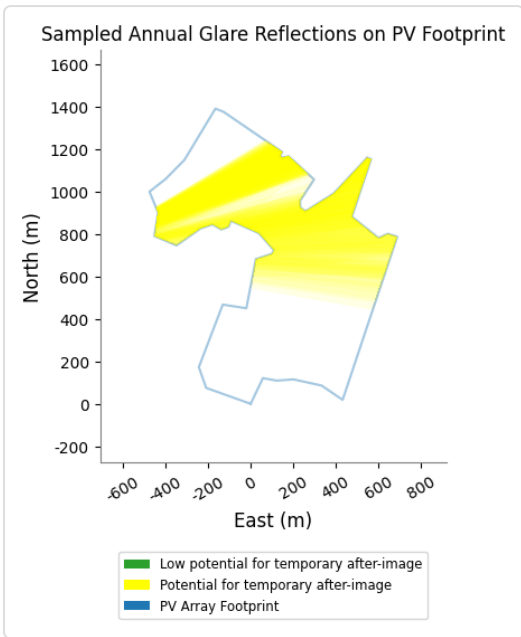
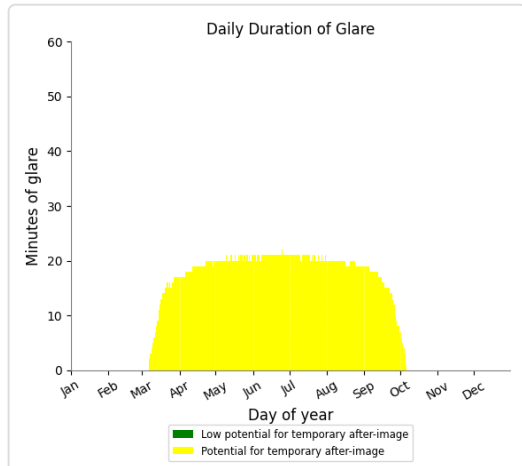
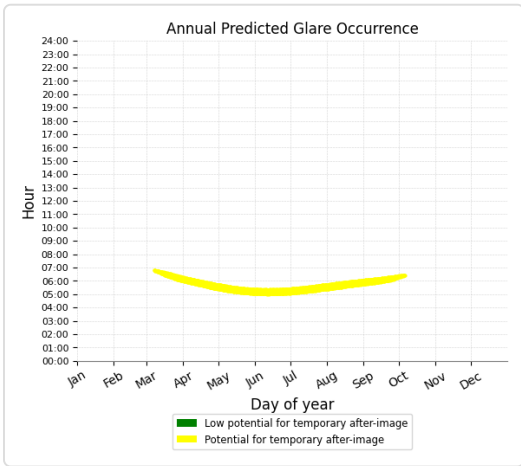
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,771 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 53)

PV array is expected to produce the following glare for receptors at this location:

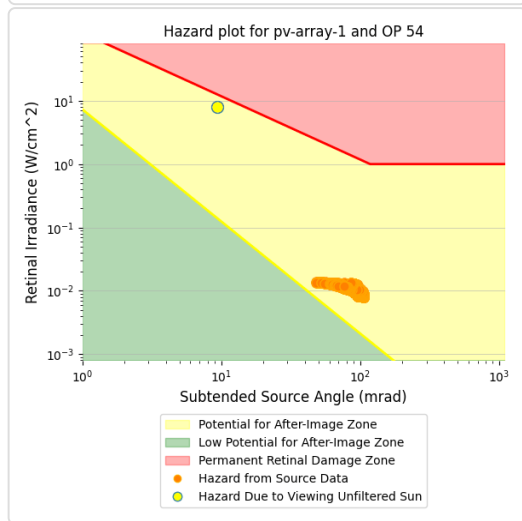
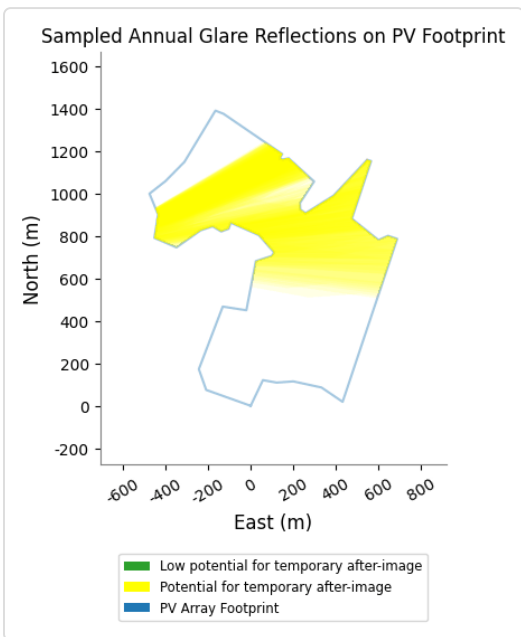
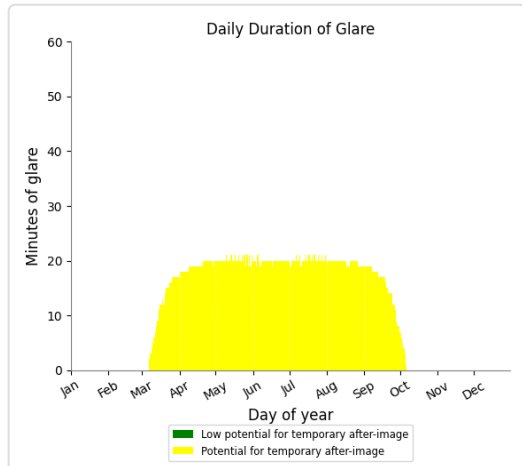
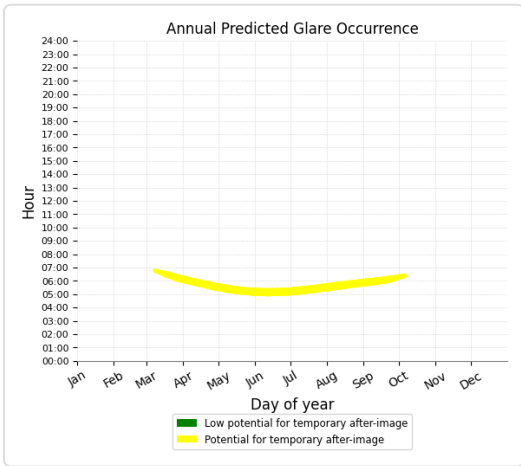
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,864 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 54)

PV array is expected to produce the following glare for receptors at this location:

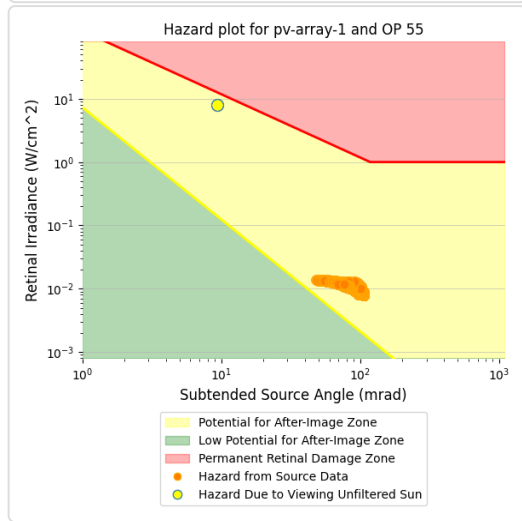
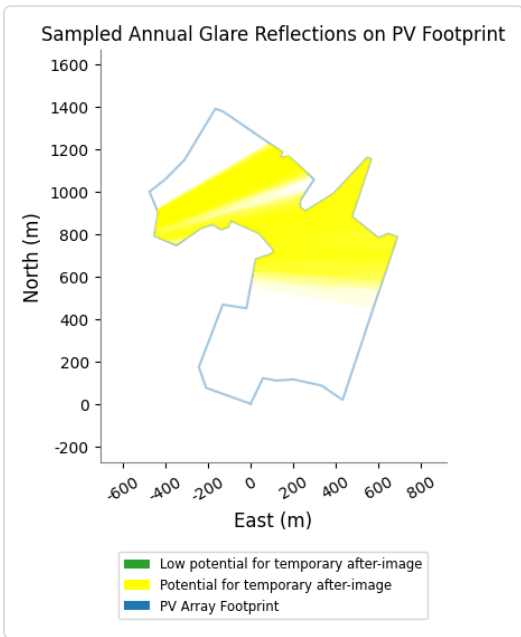
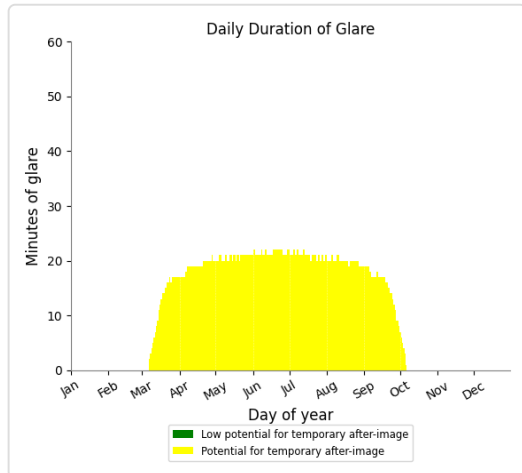
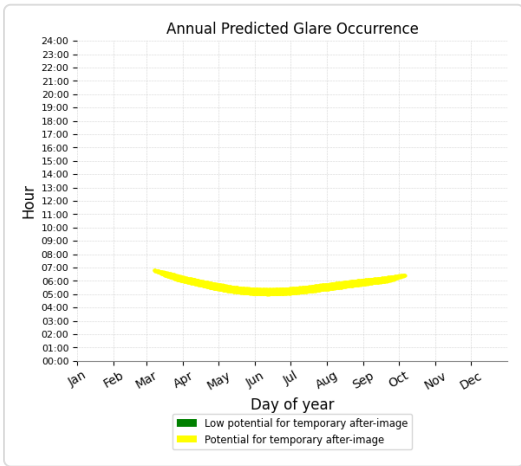
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,829 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 55)

PV array is expected to produce the following glare for receptors at this location:

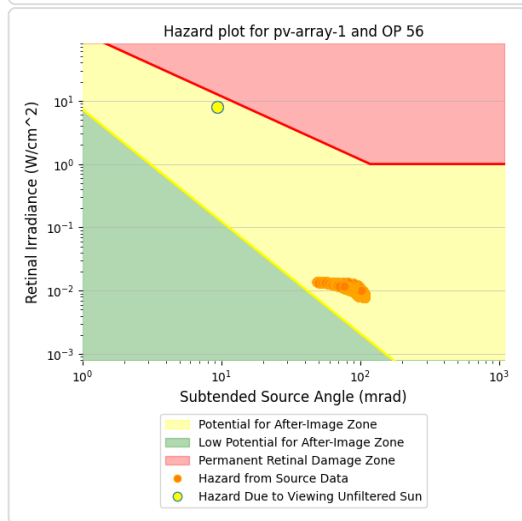
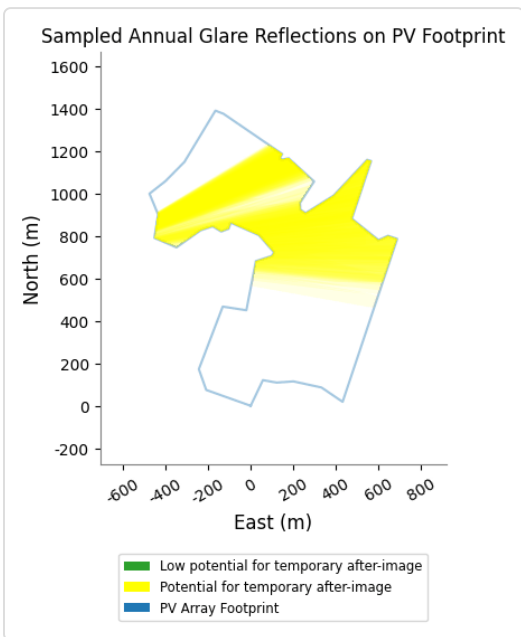
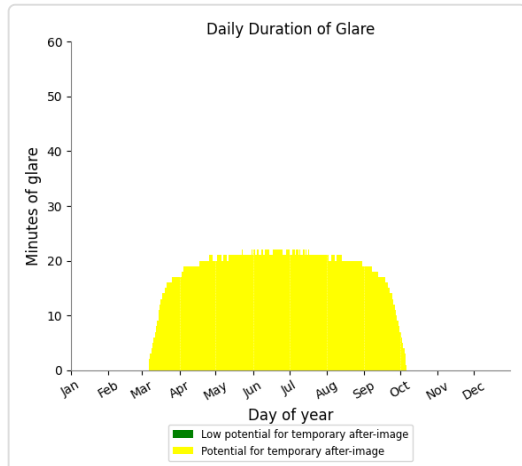
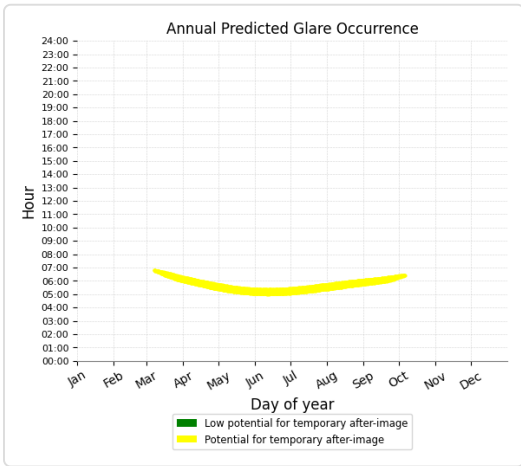
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,923 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 56)

PV array is expected to produce the following glare for receptors at this location:

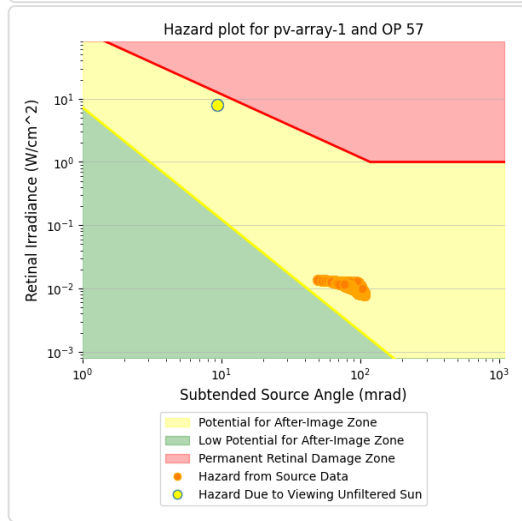
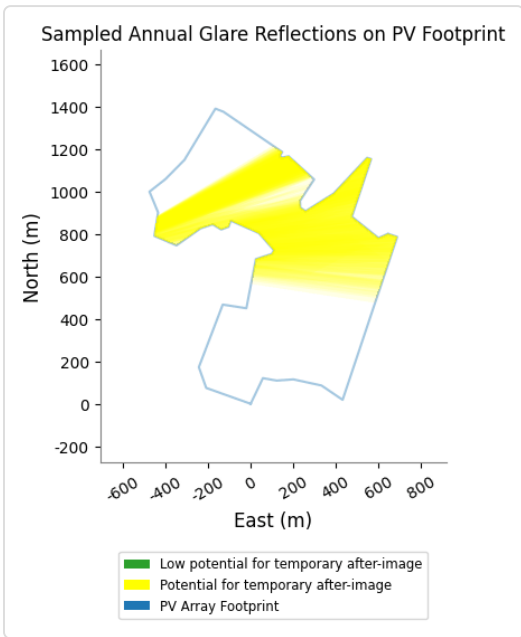
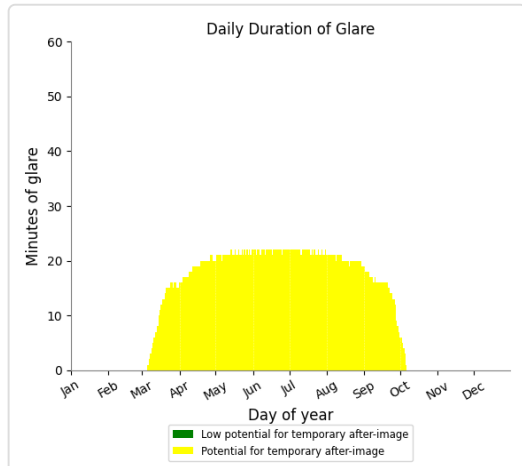
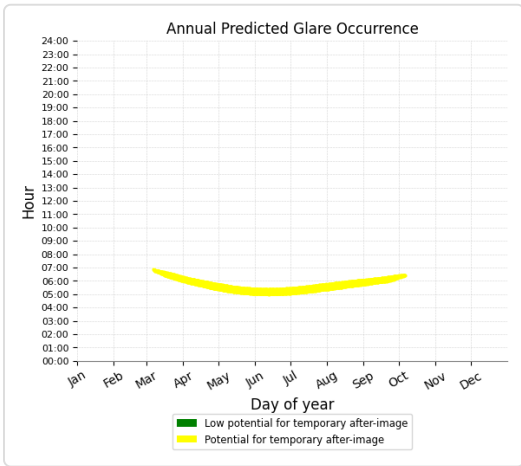
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,972 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 57)

PV array is expected to produce the following glare for receptors at this location:

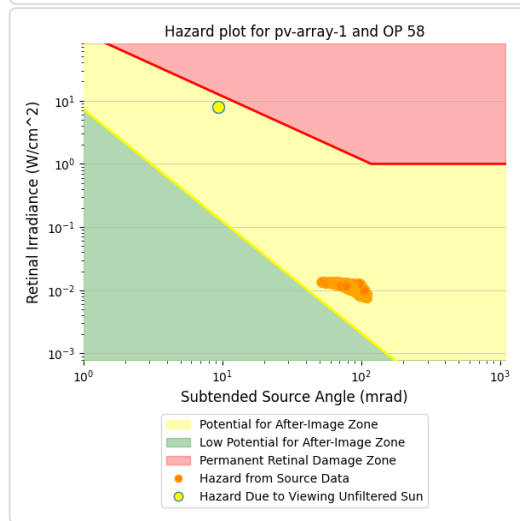
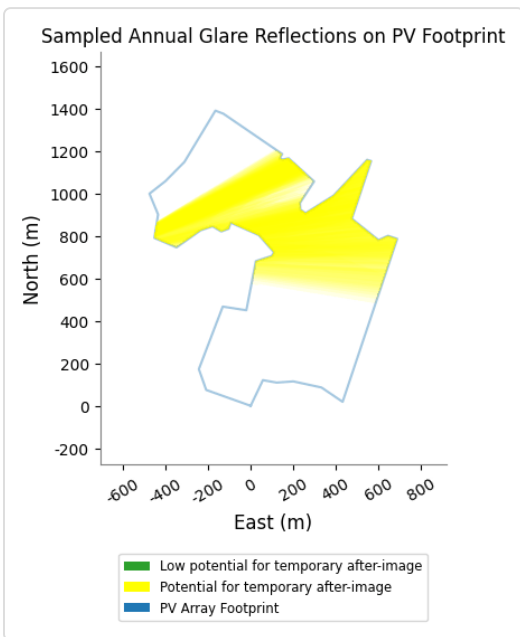
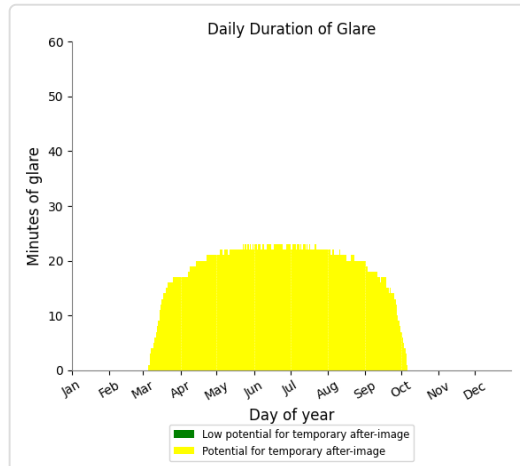
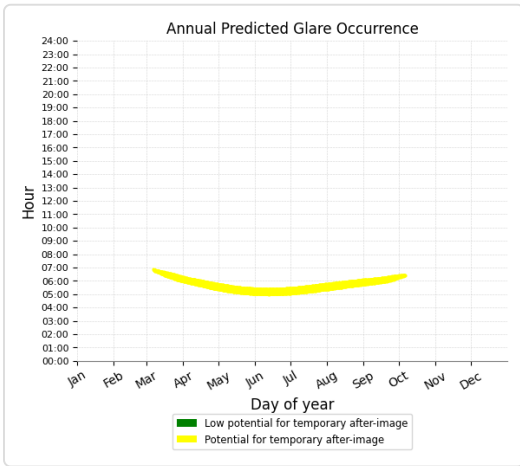
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,941 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 58)

PV array is expected to produce the following glare for receptors at this location:

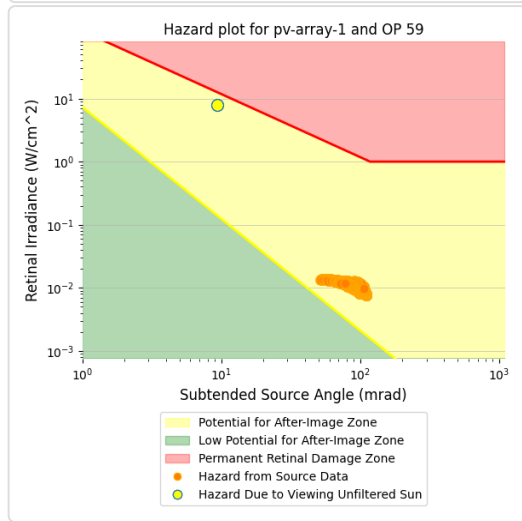
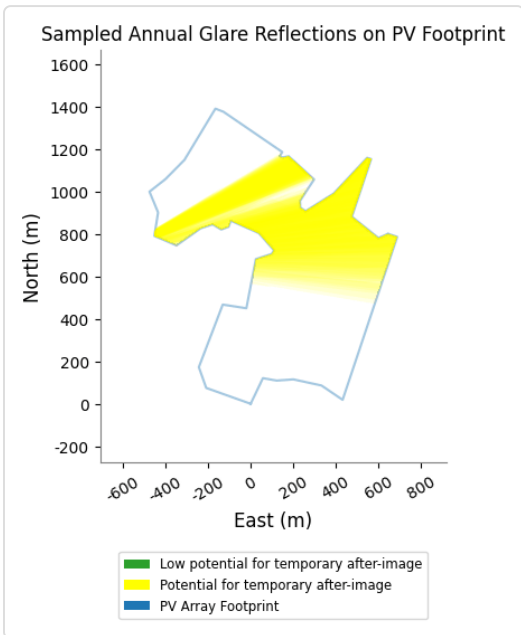
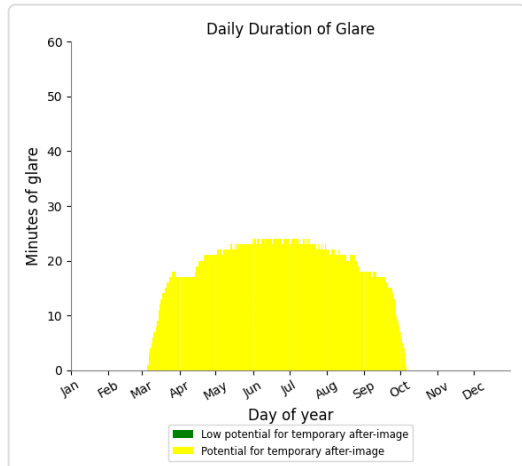
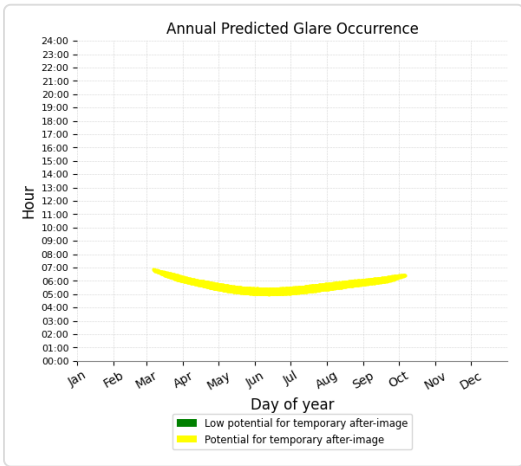
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,086 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 59)

PV array is expected to produce the following glare for receptors at this location:

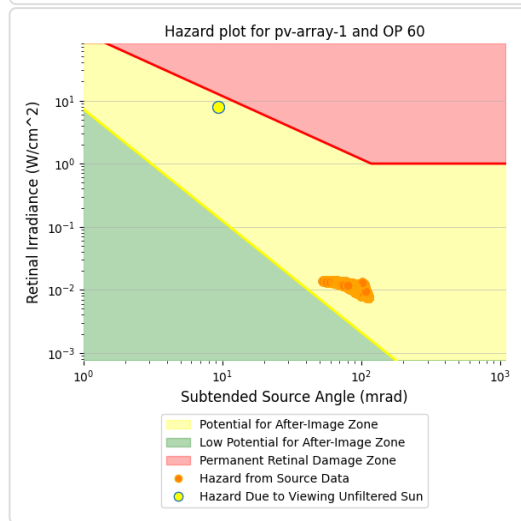
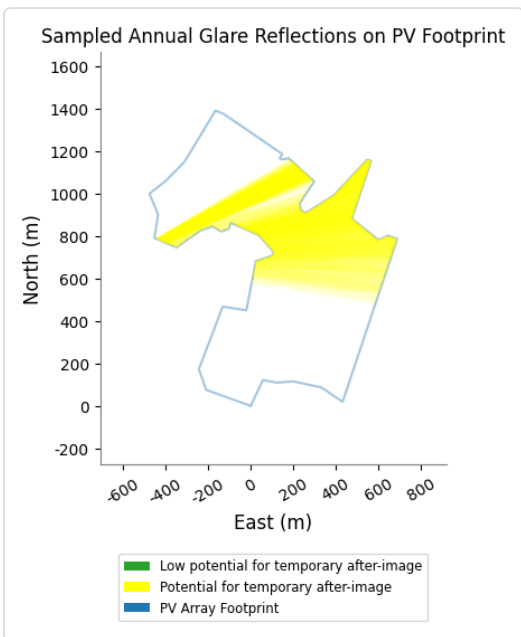
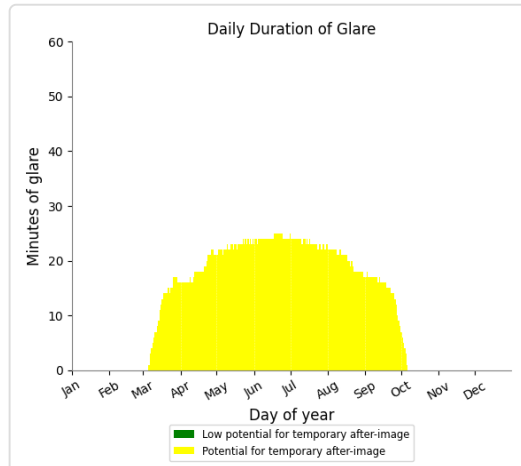
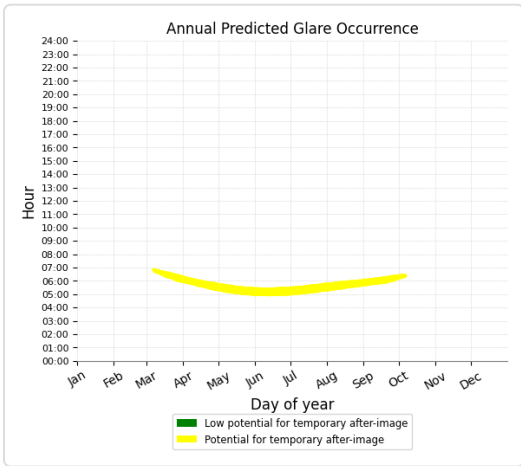
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,144 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 60)

PV array is expected to produce the following glare for receptors at this location:

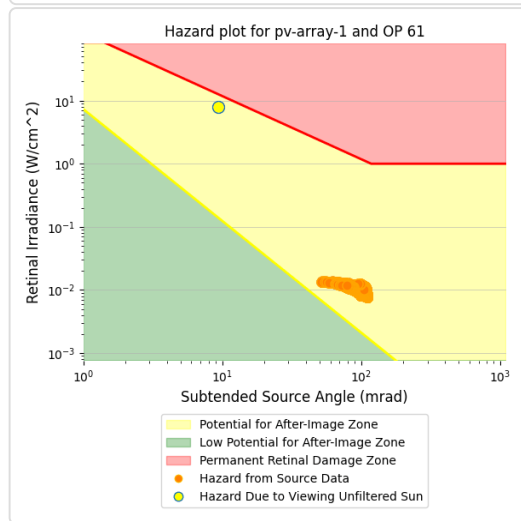
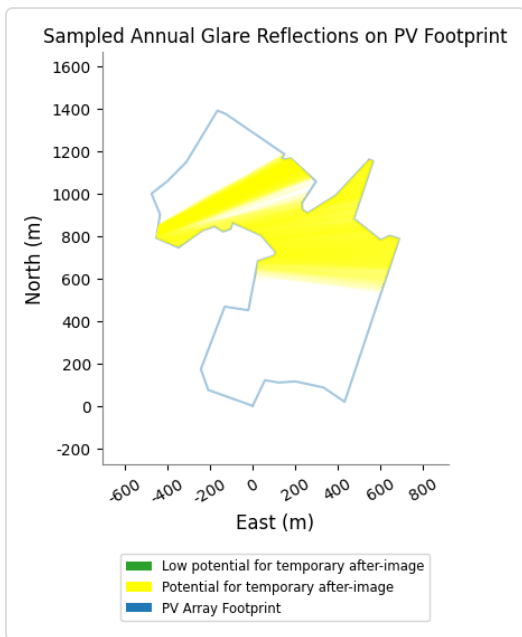
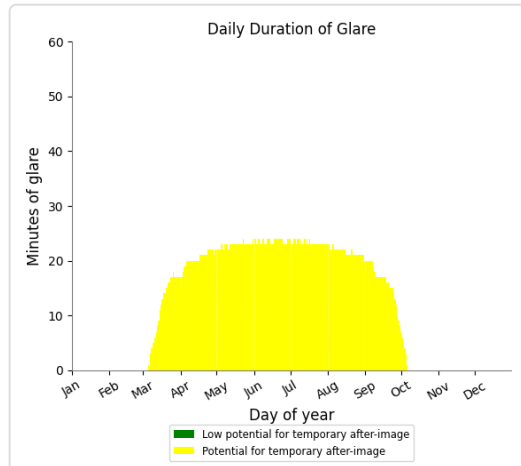
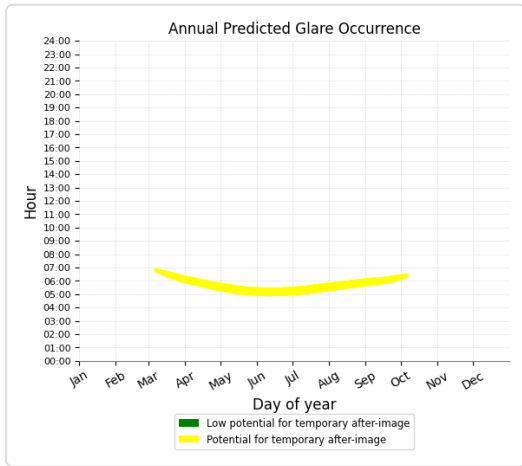
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,106 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 61)

PV array is expected to produce the following glare for receptors at this location:

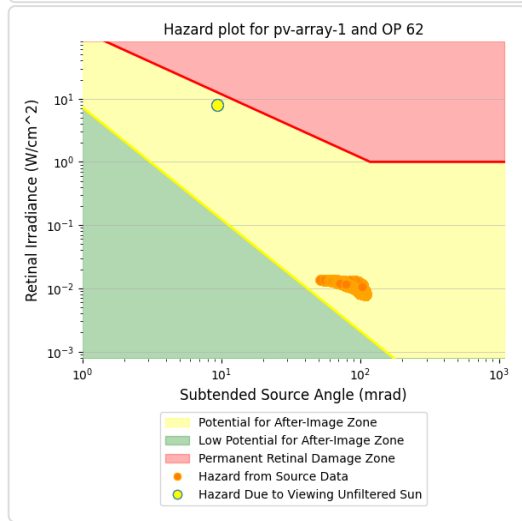
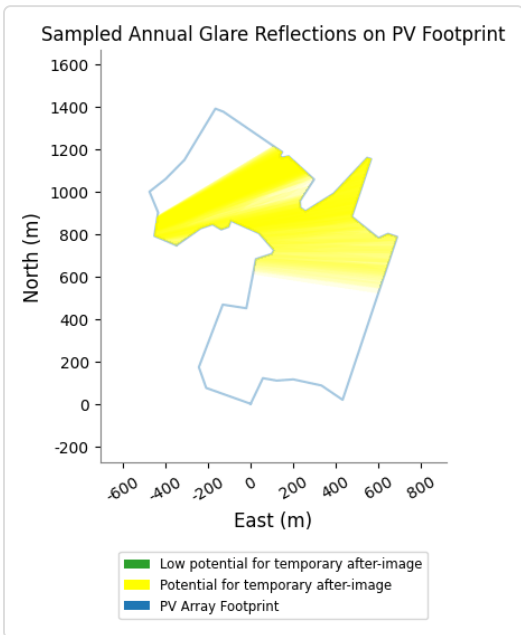
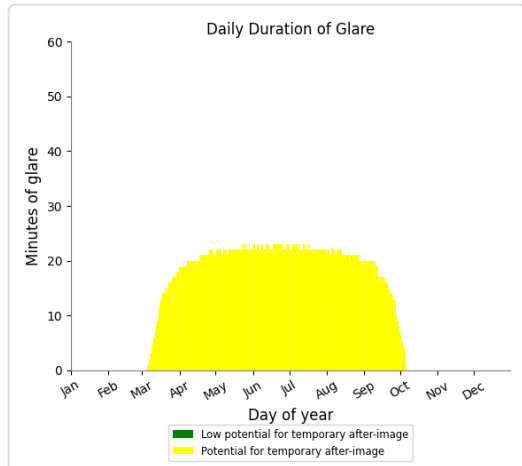
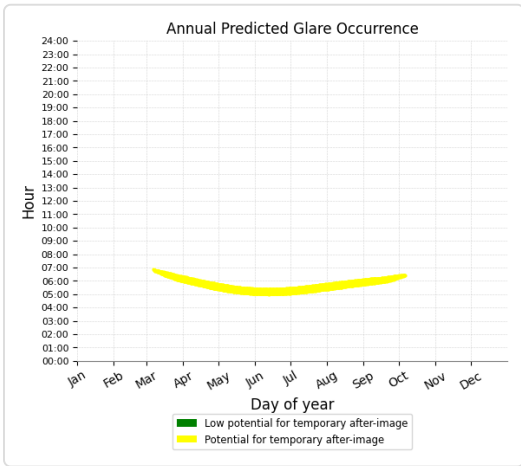
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,242 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 62)

PV array is expected to produce the following glare for receptors at this location:

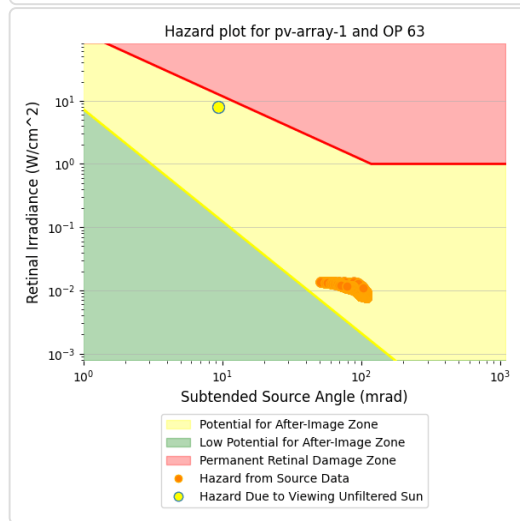
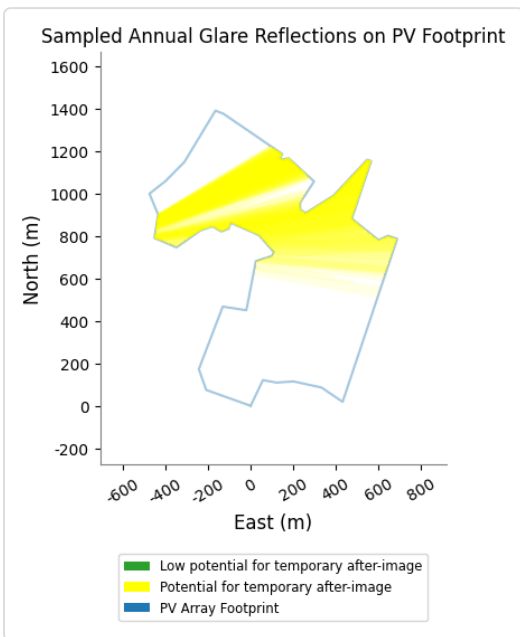
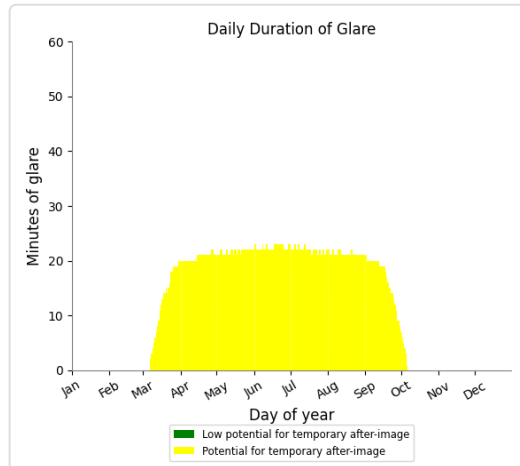
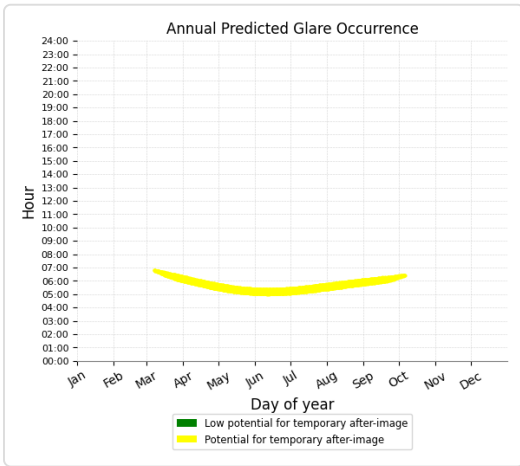
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,141 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 63)

PV array is expected to produce the following glare for receptors at this location:

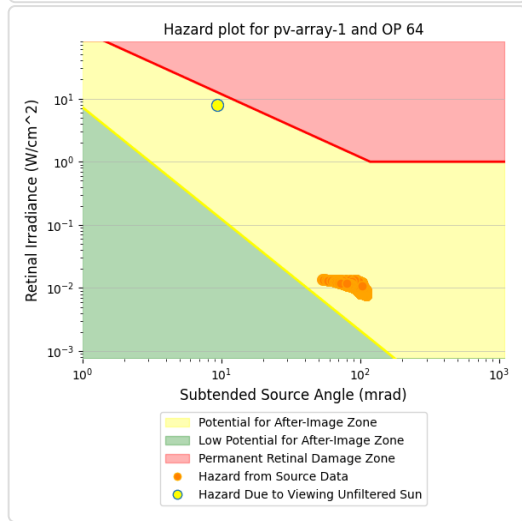
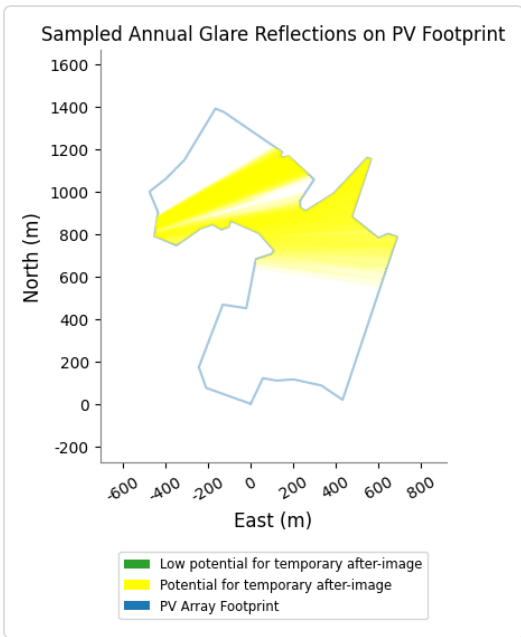
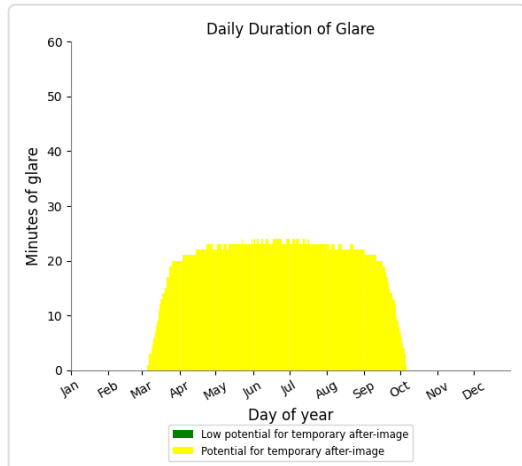
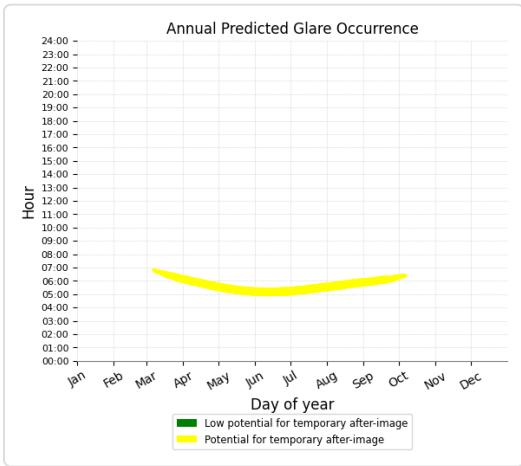
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,156 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 64)

PV array is expected to produce the following glare for receptors at this location:

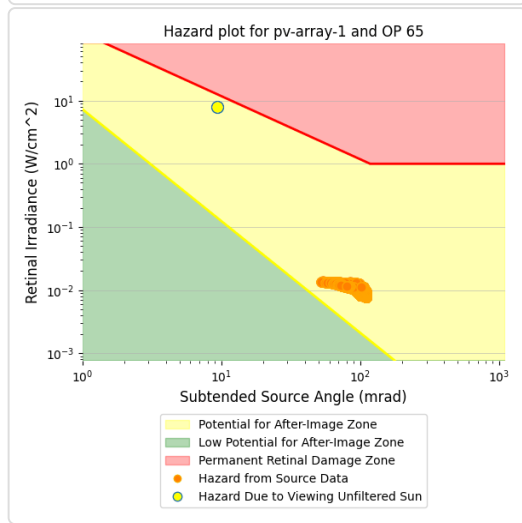
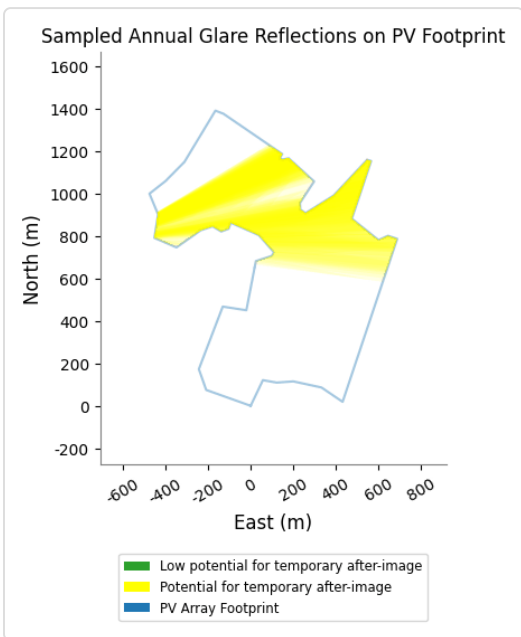
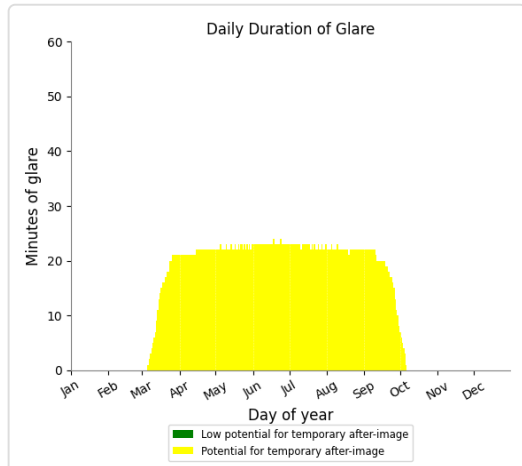
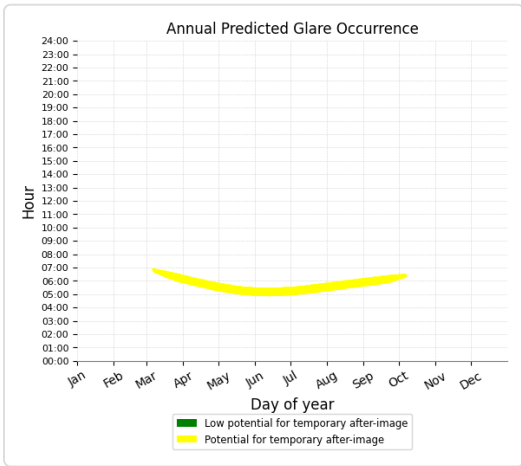
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,366 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 65)

PV array is expected to produce the following glare for receptors at this location:

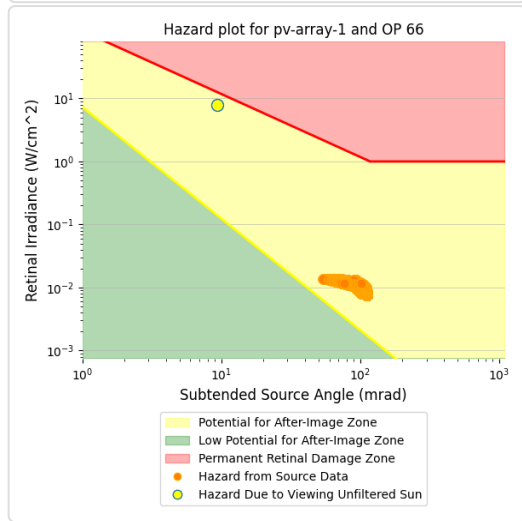
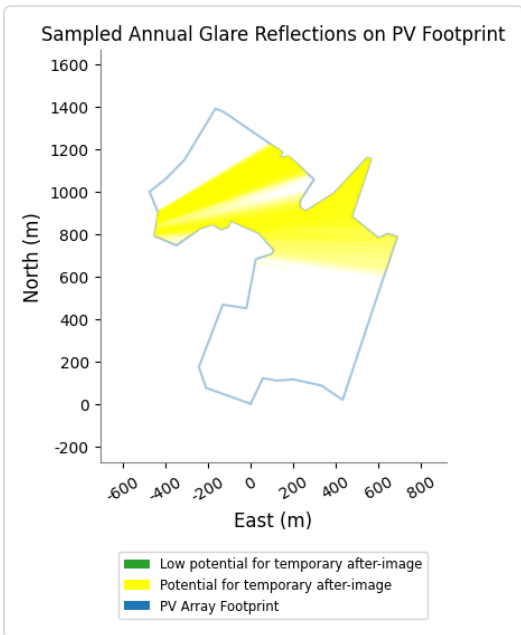
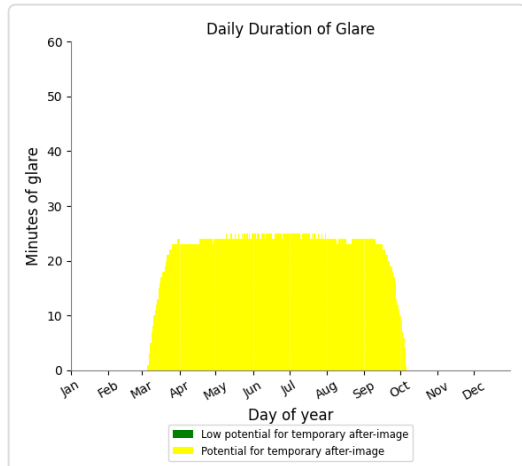
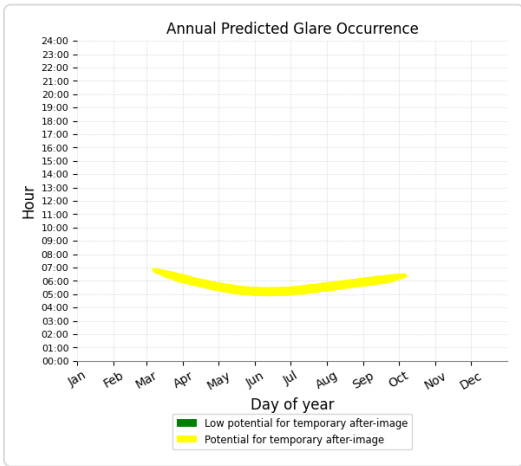
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,364 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 66)

PV array is expected to produce the following glare for receptors at this location:

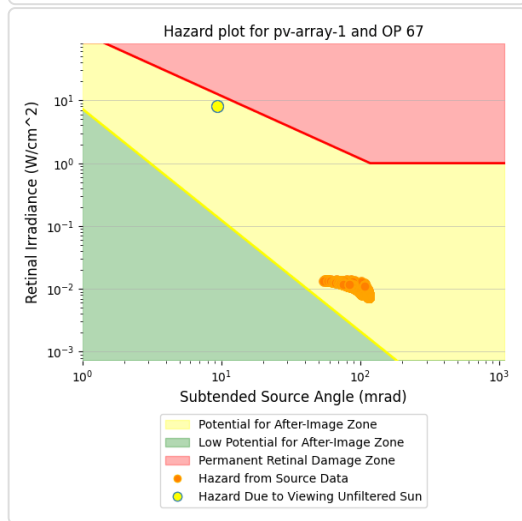
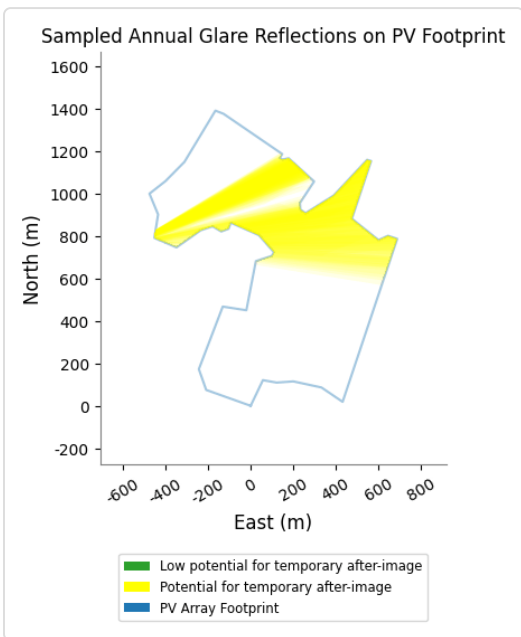
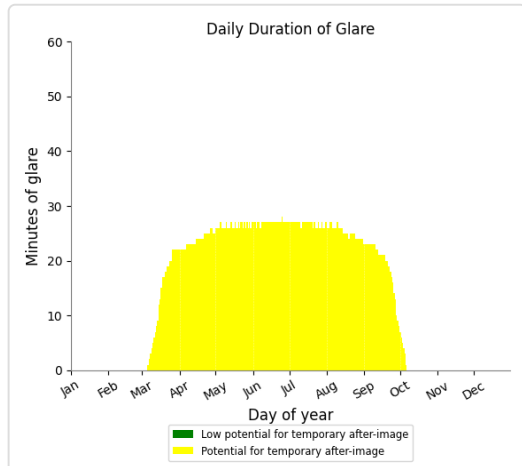
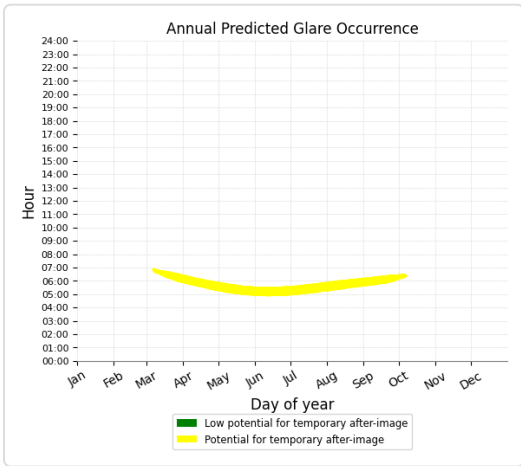
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,789 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 67)

PV array is expected to produce the following glare for receptors at this location:

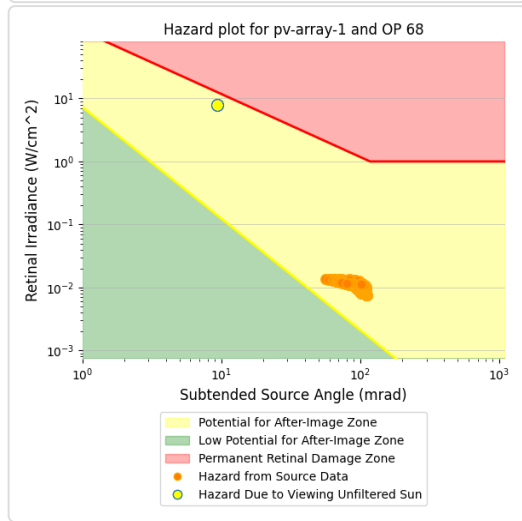
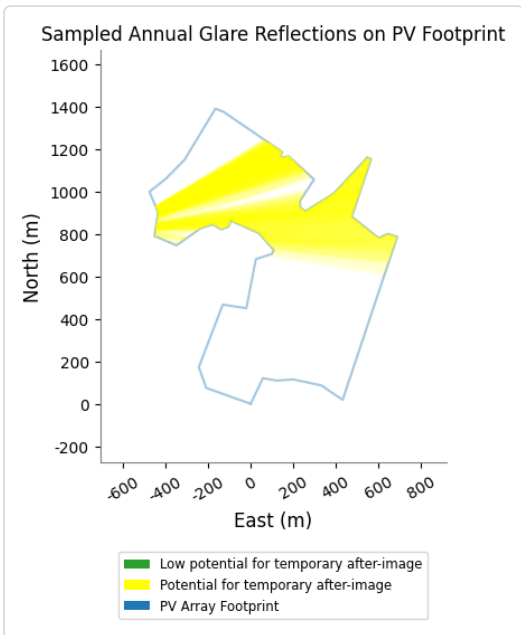
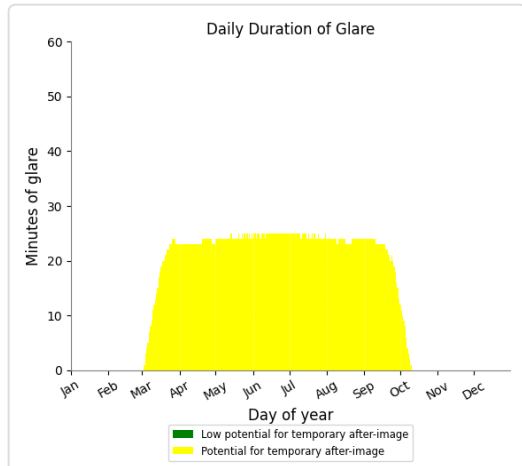
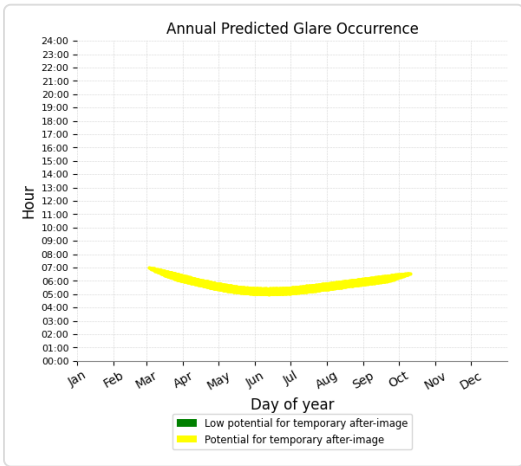
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,924 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 68)

PV array is expected to produce the following glare for receptors at this location:

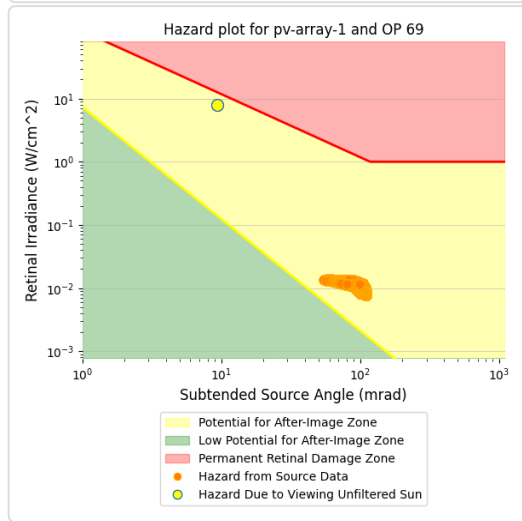
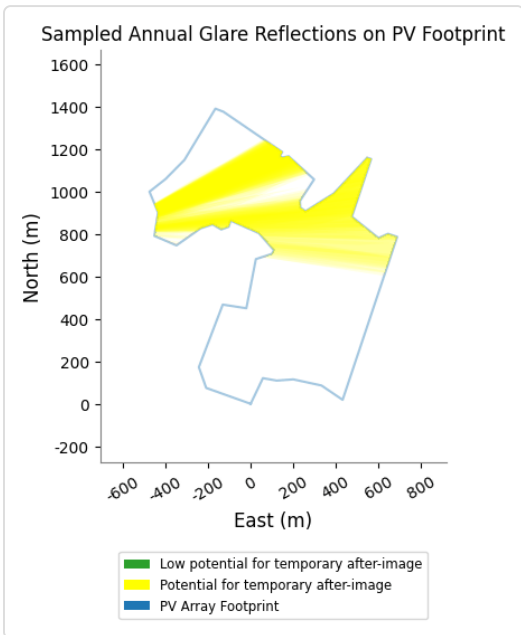
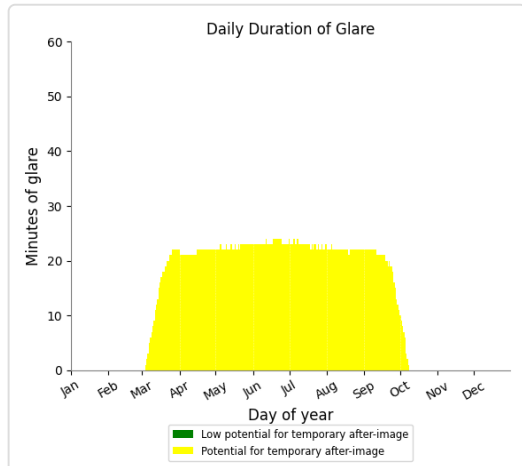
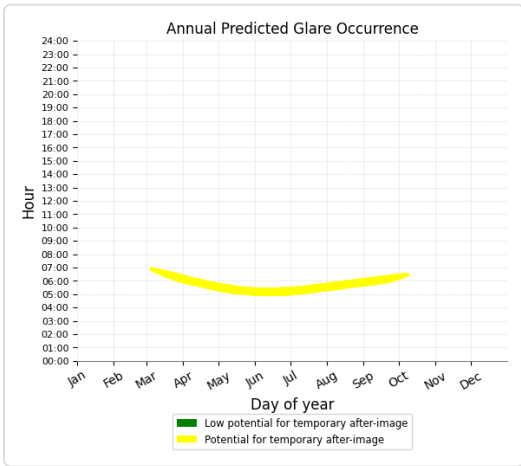
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,883 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 69)

PV array is expected to produce the following glare for receptors at this location:

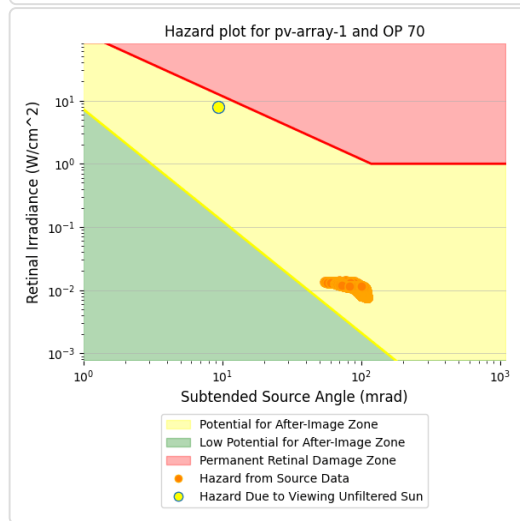
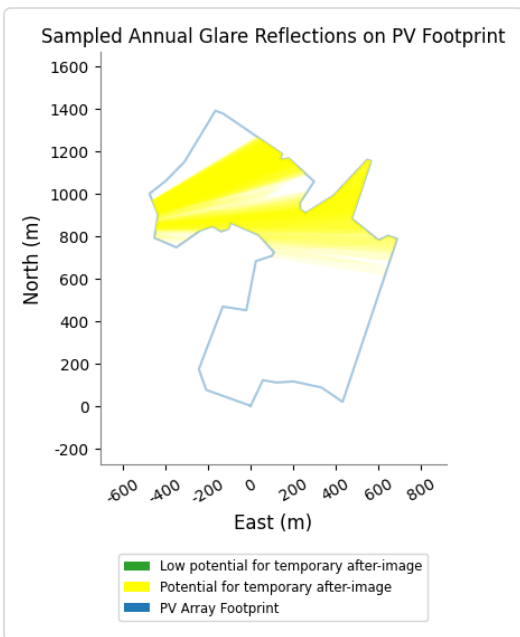
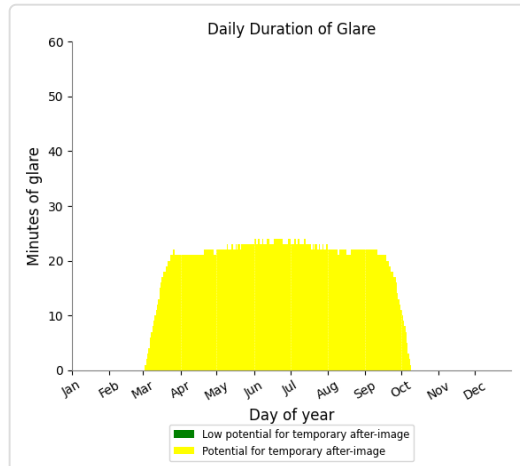
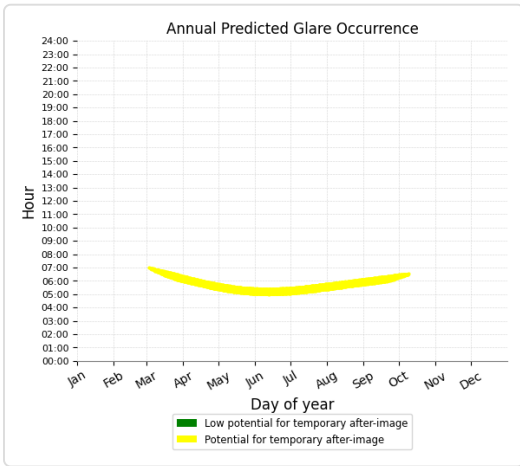
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,482 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 70)

PV array is expected to produce the following glare for receptors at this location:

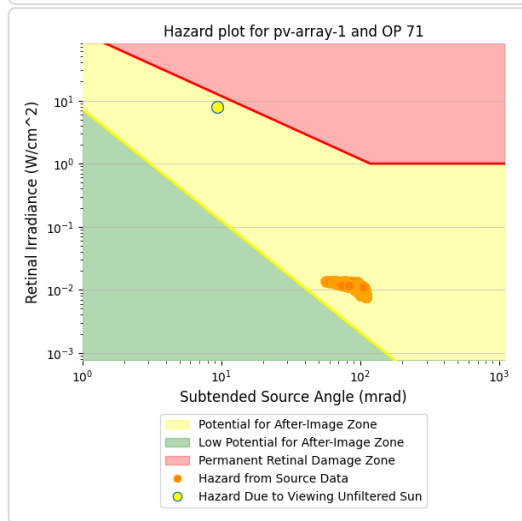
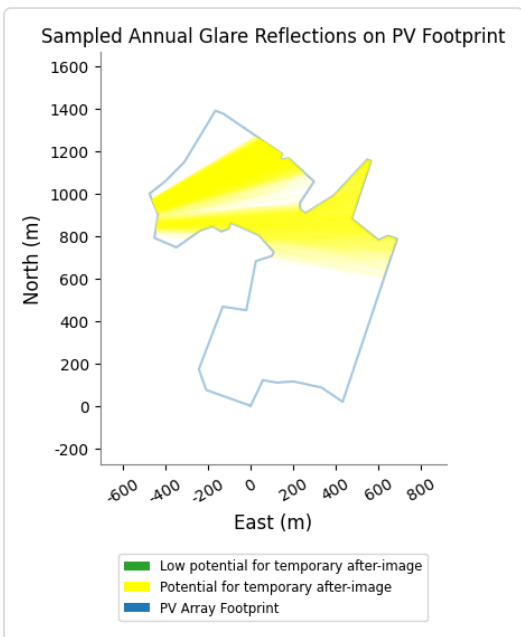
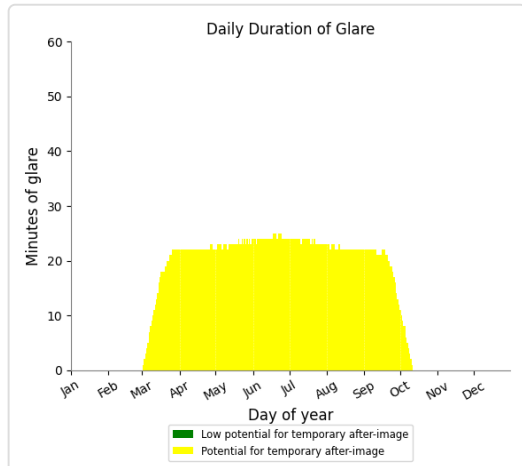
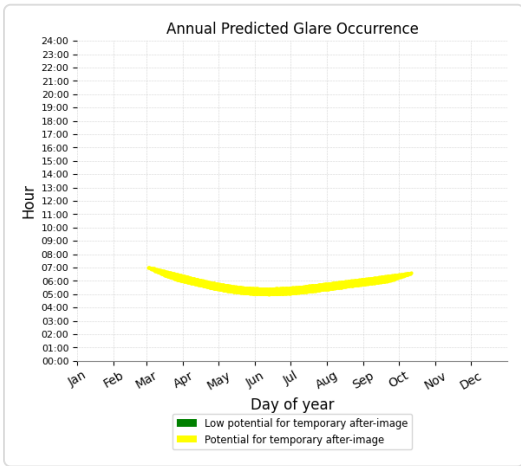
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,492 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 71)

PV array is expected to produce the following glare for receptors at this location:

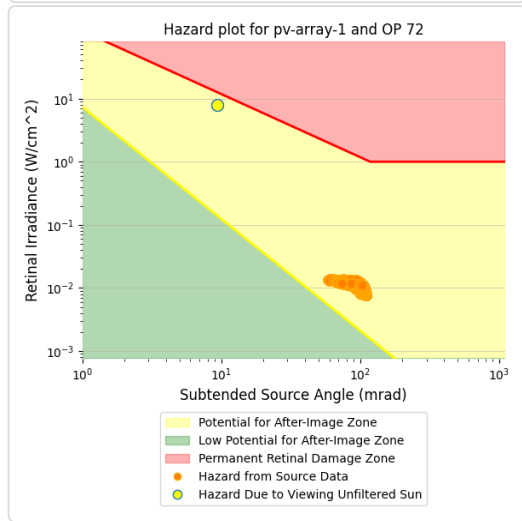
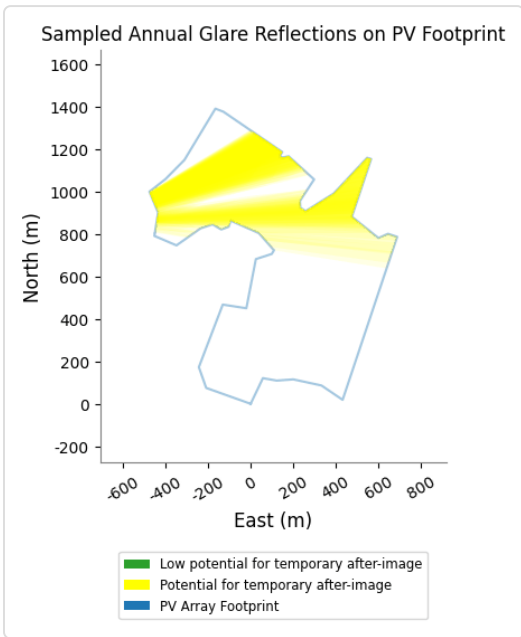
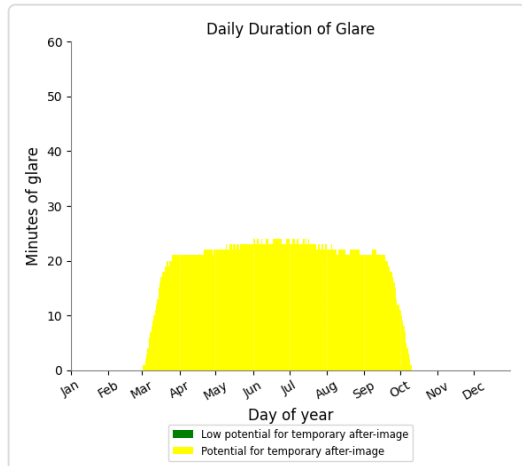
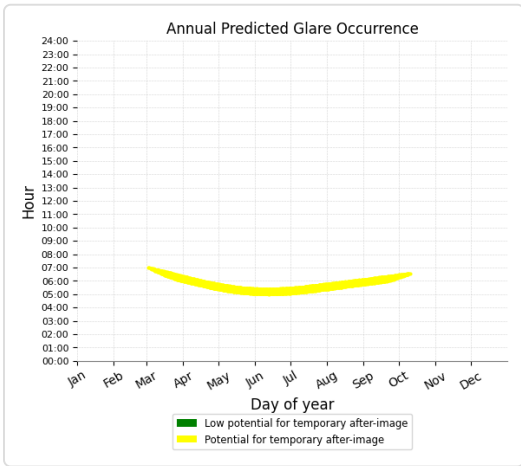
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,630 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 72)

PV array is expected to produce the following glare for receptors at this location:

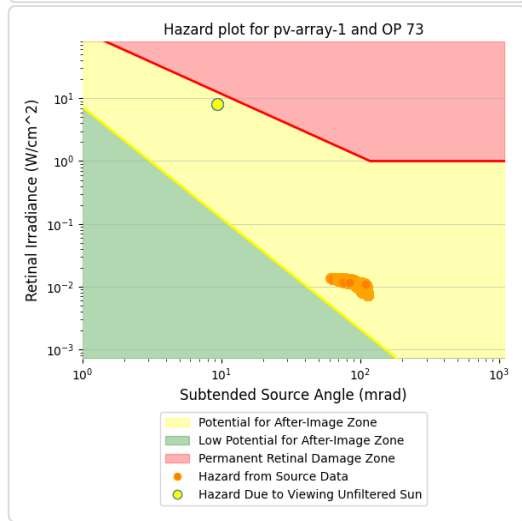
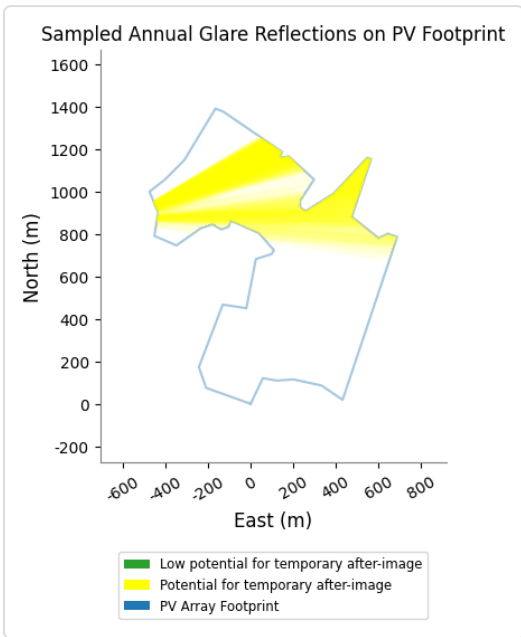
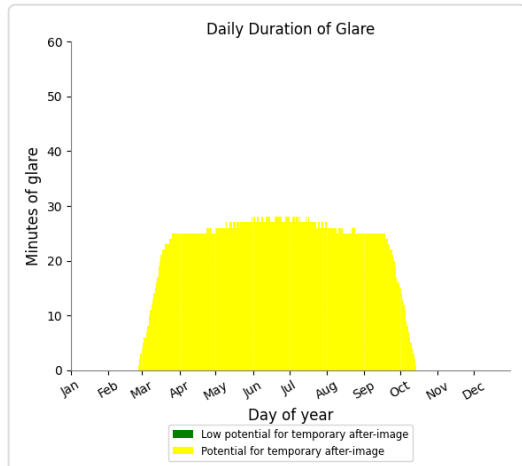
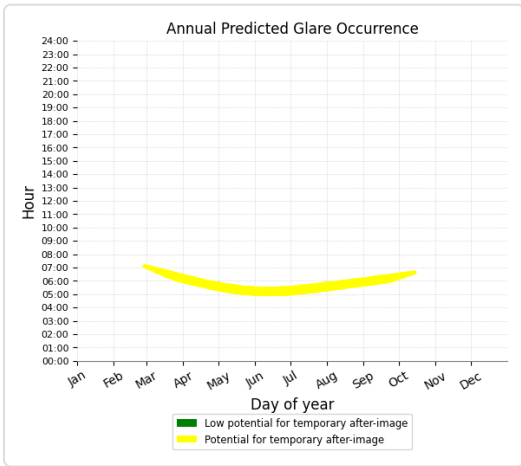
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,489 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 73)

PV array is expected to produce the following glare for receptors at this location:

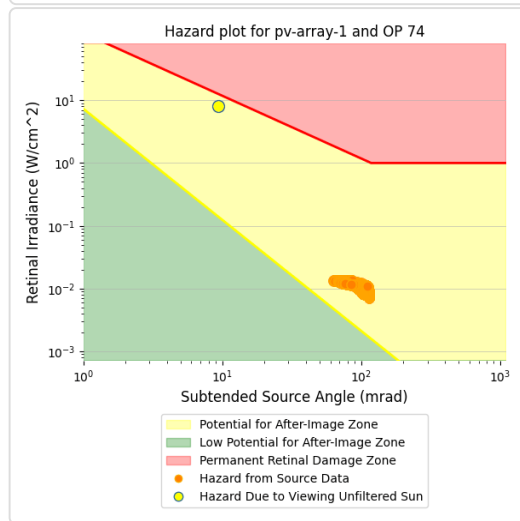
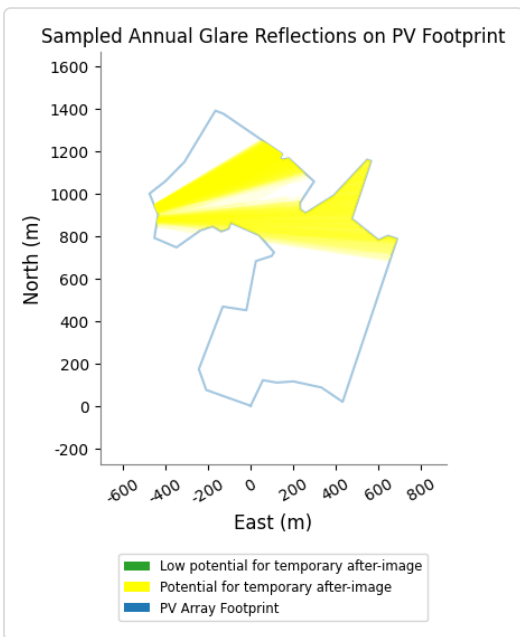
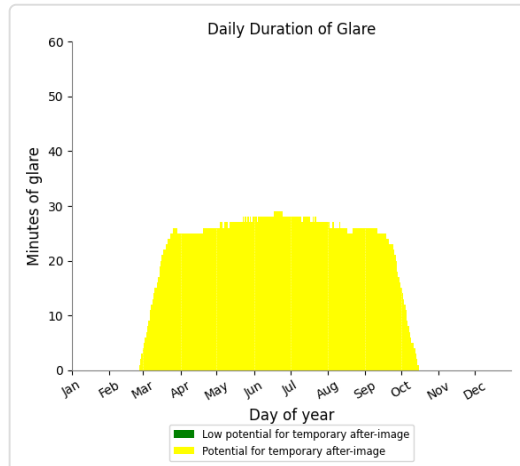
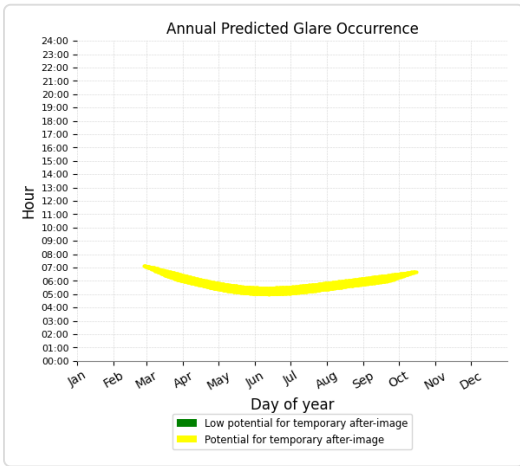
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,390 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 74)

PV array is expected to produce the following glare for receptors at this location:

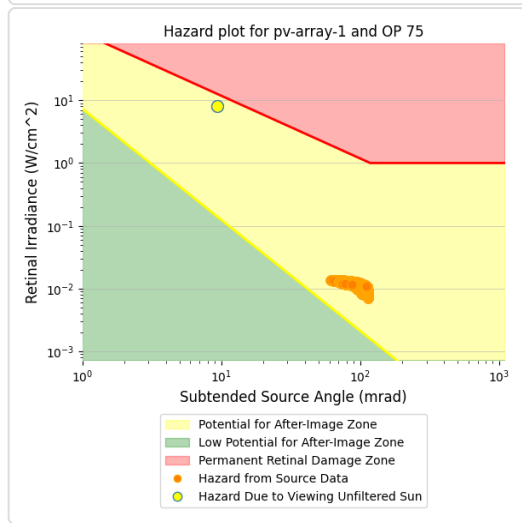
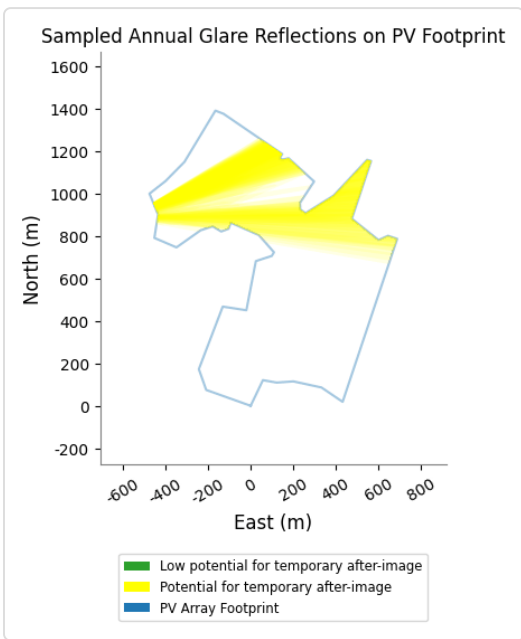
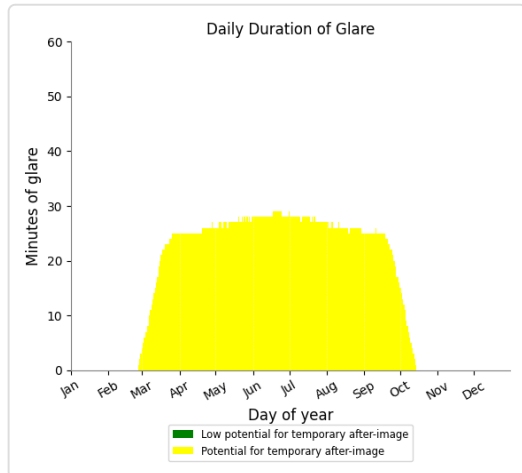
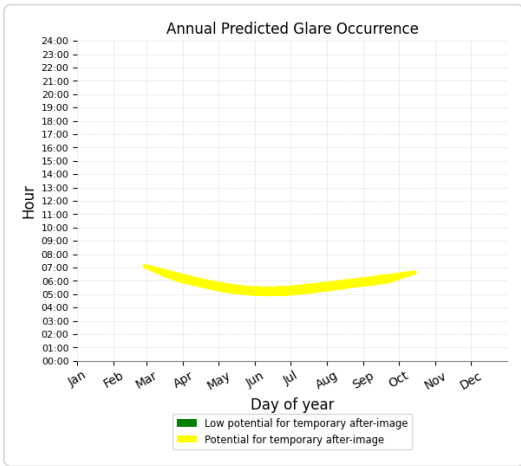
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,495 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 75)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,464 minutes of "yellow" glare with potential to cause temporary after-image.



Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6C - Residential Receptor Glare Results (30 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Residential Receptors 30deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 73007.12854

Project type Advanced
 Project status: active
 Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

Summary of Results Glare with potential for temporary after-image predicted

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced |
|------------|------|-------------|---------------|----------------|-----------------|
| | deg | deg | min | min | kWh |
| PV array 1 | 30.0 | 180.0 | 0 | 182,956 | - |

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 30.0 deg
Orientation: 180.0 deg
Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



| Vertex | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| 1 | 52.977416 | -0.868813 | 20.30 | 2.80 | 23.10 |
| 2 | 52.978501 | -0.867955 | 20.00 | 2.80 | 22.80 |
| 3 | 52.978398 | -0.866989 | 20.39 | 2.80 | 23.19 |
| 4 | 52.978450 | -0.865830 | 20.46 | 2.80 | 23.26 |
| 5 | 52.978191 | -0.863856 | 20.00 | 2.80 | 22.80 |
| 6 | 52.977584 | -0.862376 | 19.95 | 2.80 | 22.75 |
| 7 | 52.984483 | -0.858556 | 24.76 | 2.80 | 27.56 |
| 8 | 52.984612 | -0.859200 | 25.60 | 2.80 | 28.40 |
| 9 | 52.984431 | -0.859865 | 26.00 | 2.80 | 28.80 |
| 10 | 52.985335 | -0.861732 | 25.02 | 2.80 | 27.82 |
| 11 | 52.987777 | -0.860380 | 19.95 | 2.80 | 22.75 |
| 12 | 52.987828 | -0.860659 | 19.88 | 2.80 | 22.68 |
| 13 | 52.986317 | -0.862998 | 21.01 | 2.80 | 23.81 |
| 14 | 52.985568 | -0.864972 | 20.25 | 2.80 | 23.05 |
| 15 | 52.985723 | -0.865337 | 19.79 | 2.80 | 22.59 |
| 16 | 52.986007 | -0.865358 | 20.07 | 2.80 | 22.87 |
| 17 | 52.986911 | -0.864371 | 20.22 | 2.80 | 23.02 |
| 18 | 52.987893 | -0.866152 | 18.00 | 2.80 | 20.80 |
| 19 | 52.987841 | -0.866581 | 18.05 | 2.80 | 20.85 |
| 20 | 52.987893 | -0.866774 | 18.33 | 2.80 | 21.13 |
| 21 | 52.988074 | -0.866603 | 18.08 | 2.80 | 20.88 |
| 22 | 52.989779 | -0.870723 | 22.00 | 2.80 | 24.80 |
| 23 | 52.989908 | -0.871280 | 22.00 | 2.80 | 24.80 |
| 24 | 52.987738 | -0.873448 | 22.05 | 2.80 | 24.85 |
| 25 | 52.986924 | -0.874778 | 22.79 | 2.80 | 25.59 |
| 26 | 52.986395 | -0.875894 | 22.62 | 2.80 | 25.42 |
| 27 | 52.985516 | -0.875293 | 21.94 | 2.80 | 24.74 |
| 28 | 52.984522 | -0.875551 | 21.38 | 2.80 | 24.18 |
| 29 | 52.984121 | -0.874006 | 20.15 | 2.80 | 22.95 |
| 30 | 52.984845 | -0.872310 | 20.21 | 2.80 | 23.01 |
| 31 | 52.985012 | -0.871474 | 20.01 | 2.80 | 22.81 |
| 32 | 52.984793 | -0.870873 | 20.22 | 2.80 | 23.02 |
| 33 | 52.984909 | -0.870358 | 20.19 | 2.80 | 22.99 |
| 34 | 52.985167 | -0.870208 | 19.84 | 2.80 | 22.64 |
| 35 | 52.984638 | -0.868233 | 20.05 | 2.80 | 22.85 |
| 36 | 52.983914 | -0.867182 | 19.95 | 2.80 | 22.75 |
| 37 | 52.983759 | -0.867332 | 20.03 | 2.80 | 22.83 |
| 38 | 52.983540 | -0.868448 | 20.67 | 2.80 | 23.47 |
| 39 | 52.981460 | -0.869113 | 21.77 | 2.80 | 24.57 |
| 40 | 52.981615 | -0.870765 | 23.94 | 2.80 | 26.74 |
| 41 | 52.978966 | -0.872439 | 24.87 | 2.80 | 27.67 |
| 42 | 52.978088 | -0.871924 | 23.83 | 2.80 | 26.63 |

Discrete Observation Receptors

| Number | Latitude | Longitude | Ground elevation | Height above ground | Total Elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| OP 1 | 52.991878 | -0.860633 | 18.00 | 2.00 | 20.00 |
| OP 2 | 52.989789 | -0.847463 | 22.03 | 2.00 | 24.03 |
| OP 3 | 52.989172 | -0.848995 | 23.42 | 2.00 | 25.42 |
| OP 4 | 52.989028 | -0.848850 | 23.70 | 2.00 | 25.70 |
| OP 5 | 52.989004 | -0.849217 | 23.33 | 2.00 | 25.33 |
| OP 6 | 52.988773 | -0.850092 | 22.99 | 2.00 | 24.99 |
| OP 7 | 52.988676 | -0.850427 | 22.75 | 2.00 | 24.75 |
| OP 8 | 52.987971 | -0.852160 | 22.68 | 2.00 | 24.68 |
| OP 9 | 52.981609 | -0.852149 | 20.00 | 2.00 | 22.00 |
| OP 10 | 52.980817 | -0.851548 | 21.77 | 2.00 | 23.77 |
| OP 11 | 52.980685 | -0.851822 | 21.32 | 2.00 | 23.32 |
| OP 12 | 52.980591 | -0.851666 | 21.38 | 2.00 | 23.38 |
| OP 13 | 52.976479 | -0.862465 | 22.41 | 2.00 | 24.41 |
| OP 14 | 52.976388 | -0.862516 | 22.54 | 2.00 | 24.54 |
| OP 15 | 52.975518 | -0.861988 | 22.36 | 2.00 | 24.36 |
| OP 16 | 52.975783 | -0.862733 | 23.00 | 2.00 | 25.00 |
| OP 17 | 52.975881 | -0.863506 | 23.16 | 2.00 | 25.16 |
| OP 18 | 52.975411 | -0.863812 | 23.97 | 2.00 | 25.97 |
| OP 19 | 52.975096 | -0.864166 | 24.00 | 2.00 | 26.00 |
| OP 20 | 52.975274 | -0.865689 | 23.25 | 2.00 | 25.25 |
| OP 21 | 52.979075 | -0.884707 | 23.36 | 2.00 | 25.36 |
| OP 22 | 52.979295 | -0.885147 | 23.62 | 2.00 | 25.62 |
| OP 23 | 52.979734 | -0.884481 | 23.96 | 2.00 | 25.96 |
| OP 24 | 52.979979 | -0.883854 | 24.55 | 2.00 | 26.55 |
| OP 25 | 52.980118 | -0.882336 | 23.89 | 2.00 | 25.89 |
| OP 26 | 52.981507 | -0.881847 | 23.29 | 2.00 | 25.29 |
| OP 27 | 52.981919 | -0.877057 | 23.15 | 2.00 | 25.15 |
| OP 28 | 52.982271 | -0.877234 | 23.01 | 2.00 | 25.01 |
| OP 29 | 52.982653 | -0.877186 | 23.29 | 2.00 | 25.29 |
| OP 30 | 52.982552 | -0.877578 | 23.43 | 2.00 | 25.43 |
| OP 31 | 52.982643 | -0.878264 | 23.62 | 2.00 | 25.62 |
| OP 32 | 52.982323 | -0.878071 | 23.10 | 2.00 | 25.10 |
| OP 33 | 52.982019 | -0.878007 | 23.34 | 2.00 | 25.34 |
| OP 34 | 52.981971 | -0.878275 | 23.46 | 2.00 | 25.46 |
| OP 35 | 52.982191 | -0.878329 | 23.24 | 2.00 | 25.24 |
| OP 36 | 52.982268 | -0.878559 | 23.52 | 2.00 | 25.52 |
| OP 37 | 52.982326 | -0.878817 | 23.99 | 2.00 | 25.99 |
| OP 38 | 52.982229 | -0.879144 | 24.00 | 2.00 | 26.00 |
| OP 39 | 52.982401 | -0.879149 | 24.21 | 2.00 | 26.21 |
| OP 40 | 52.982785 | -0.879772 | 24.77 | 2.00 | 26.77 |
| OP 41 | 52.982966 | -0.879836 | 25.00 | 2.00 | 27.00 |
| OP 42 | 52.982753 | -0.880292 | 24.71 | 2.00 | 26.71 |
| OP 43 | 52.982414 | -0.880163 | 24.23 | 2.00 | 26.23 |
| OP 44 | 52.982556 | -0.880780 | 24.12 | 2.00 | 26.12 |
| OP 45 | 52.982388 | -0.881129 | 24.00 | 2.00 | 26.00 |
| OP 46 | 52.982591 | -0.881746 | 24.00 | 2.00 | 26.00 |
| OP 47 | 52.982653 | -0.881392 | 24.00 | 2.00 | 26.00 |
| OP 48 | 52.982921 | -0.881349 | 24.00 | 2.00 | 26.00 |
| OP 49 | 52.983221 | -0.881070 | 24.35 | 2.00 | 26.35 |
| OP 50 | 52.983363 | -0.880737 | 24.74 | 2.00 | 26.74 |
| OP 51 | 52.983470 | -0.880962 | 24.77 | 2.00 | 26.77 |
| OP 52 | 52.983579 | -0.881193 | 24.63 | 2.00 | 26.63 |
| OP 53 | 52.983731 | -0.881038 | 24.76 | 2.00 | 26.76 |
| OP 54 | 52.983851 | -0.880866 | 24.68 | 2.00 | 26.68 |
| OP 55 | 52.983744 | -0.880641 | 24.84 | 2.00 | 26.84 |
| OP 56 | 52.983831 | -0.880244 | 24.70 | 2.00 | 26.70 |
| OP 57 | 52.983644 | -0.880136 | 24.98 | 2.00 | 26.98 |
| OP 58 | 52.983744 | -0.879391 | 24.84 | 2.00 | 26.84 |
| OP 59 | 52.983612 | -0.878854 | 25.00 | 2.00 | 27.00 |
| OP 60 | 52.983570 | -0.878007 | 24.64 | 2.00 | 26.64 |
| OP 61 | 52.983886 | -0.878779 | 24.69 | 2.00 | 26.69 |
| OP 62 | 52.983967 | -0.879198 | 24.50 | 2.00 | 26.50 |
| OP 63 | 52.984161 | -0.879149 | 24.22 | 2.00 | 26.22 |
| OP 64 | 52.984177 | -0.878650 | 24.50 | 2.00 | 26.50 |

| | | | | | |
|-------|-----------|-----------|-------|------|-------|
| OP 65 | 52.984393 | -0.878726 | 24.37 | 2.00 | 26.37 |
| OP 66 | 52.984487 | -0.878345 | 25.08 | 2.00 | 27.08 |
| OP 67 | 52.984258 | -0.877170 | 23.47 | 2.00 | 25.47 |
| OP 68 | 52.984736 | -0.878473 | 25.26 | 2.00 | 27.26 |
| OP 69 | 52.984681 | -0.878903 | 24.54 | 2.00 | 26.54 |
| OP 70 | 52.984871 | -0.879198 | 24.81 | 2.00 | 26.81 |
| OP 71 | 52.985004 | -0.879026 | 25.00 | 2.00 | 27.00 |
| OP 72 | 52.985143 | -0.879332 | 24.80 | 2.00 | 26.80 |
| OP 73 | 52.985236 | -0.877819 | 25.07 | 2.00 | 27.07 |
| OP 74 | 52.985272 | -0.877497 | 24.53 | 2.00 | 26.53 |
| OP 75 | 52.985391 | -0.877427 | 24.22 | 2.00 | 26.22 |

Summary of PV Glare Analysis

PV configuration and total predicted glare

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced | Data File |
|------------|------|-------------|---------------|----------------|-----------------|-----------|
| | deg | deg | min | min | kWh | |
| PV array 1 | 30.0 | 180.0 | 0 | 182,956 | - | - |

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

| PV | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---------------------|-----|-----|-----|------|------|------|------|------|-----|-----|-----|-----|
| pv-array-1 (green) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pv-array-1 (yellow) | 0 | 0 | 495 | 1102 | 1189 | 1188 | 1205 | 1153 | 871 | 0 | 0 | 0 |

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 potential temporary after-image

| Component | Green glare (min) | Yellow glare (min) |
|-----------|-------------------|--------------------|
| OP: OP 1 | 0 | 0 |
| OP: OP 2 | 0 | 236 |
| OP: OP 3 | 0 | 401 |
| OP: OP 4 | 0 | 470 |
| OP: OP 5 | 0 | 470 |
| OP: OP 6 | 0 | 565 |
| OP: OP 7 | 0 | 516 |
| OP: OP 8 | 0 | 854 |
| OP: OP 9 | 0 | 1870 |
| OP: OP 10 | 0 | 2627 |
| OP: OP 11 | 0 | 2236 |
| OP: OP 12 | 0 | 2525 |
| OP: OP 13 | 0 | 1620 |
| OP: OP 14 | 0 | 1454 |
| OP: OP 15 | 0 | 471 |
| OP: OP 16 | 0 | 696 |
| OP: OP 17 | 0 | 740 |
| OP: OP 18 | 0 | 0 |
| OP: OP 19 | 0 | 0 |
| OP: OP 20 | 0 | 0 |
| OP: OP 21 | 0 | 2039 |
| OP: OP 22 | 0 | 1821 |
| OP: OP 23 | 0 | 2126 |
| OP: OP 24 | 0 | 2186 |
| OP: OP 25 | 0 | 2327 |
| OP: OP 26 | 0 | 2032 |
| OP: OP 27 | 0 | 2567 |
| OP: OP 28 | 0 | 2514 |
| OP: OP 29 | 0 | 2605 |

| | | |
|-----------|---|------|
| OP: OP 30 | 0 | 2712 |
| OP: OP 31 | 0 | 2626 |
| OP: OP 32 | 0 | 2436 |
| OP: OP 33 | 0 | 2499 |
| OP: OP 34 | 0 | 2635 |
| OP: OP 35 | 0 | 2511 |
| OP: OP 36 | 0 | 2590 |
| OP: OP 37 | 0 | 2675 |
| OP: OP 38 | 0 | 2680 |
| OP: OP 39 | 0 | 2810 |
| OP: OP 40 | 0 | 2766 |
| OP: OP 41 | 0 | 3011 |
| OP: OP 42 | 0 | 2890 |
| OP: OP 43 | 0 | 2803 |
| OP: OP 44 | 0 | 2737 |
| OP: OP 45 | 0 | 2617 |
| OP: OP 46 | 0 | 2777 |
| OP: OP 47 | 0 | 2623 |
| OP: OP 48 | 0 | 2795 |
| OP: OP 49 | 0 | 2931 |
| OP: OP 50 | 0 | 2992 |
| OP: OP 51 | 0 | 3077 |
| OP: OP 52 | 0 | 3050 |
| OP: OP 53 | 0 | 3105 |
| OP: OP 54 | 0 | 3125 |
| OP: OP 55 | 0 | 3144 |
| OP: OP 56 | 0 | 3204 |
| OP: OP 57 | 0 | 3178 |
| OP: OP 58 | 0 | 3298 |
| OP: OP 59 | 0 | 3344 |
| OP: OP 60 | 0 | 3299 |
| OP: OP 61 | 0 | 3437 |
| OP: OP 62 | 0 | 3355 |
| OP: OP 63 | 0 | 3375 |
| OP: OP 64 | 0 | 3560 |
| OP: OP 65 | 0 | 3534 |
| OP: OP 66 | 0 | 3850 |
| OP: OP 67 | 0 | 4039 |
| OP: OP 68 | 0 | 3848 |
| OP: OP 69 | 0 | 3559 |
| OP: OP 70 | 0 | 3546 |
| OP: OP 71 | 0 | 3643 |
| OP: OP 72 | 0 | 3541 |
| OP: OP 73 | 0 | 4211 |
| OP: OP 74 | 0 | 4283 |
| OP: OP 75 | 0 | 4267 |

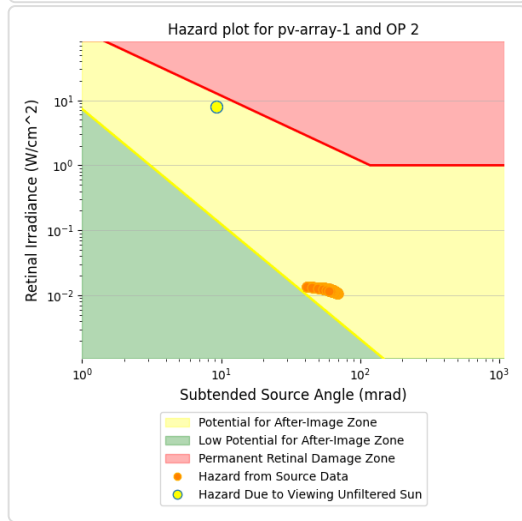
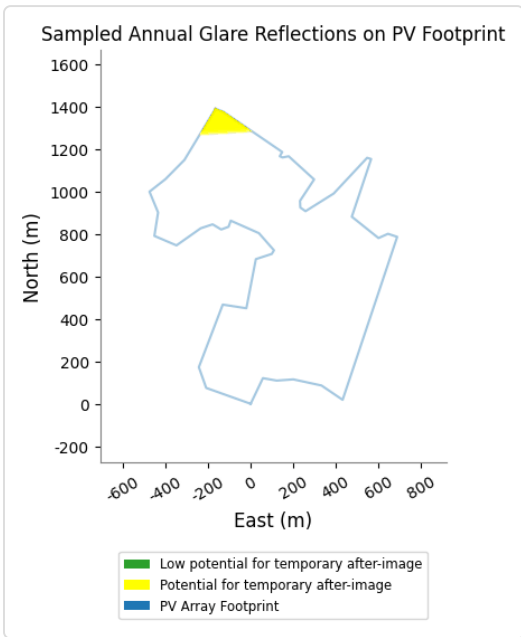
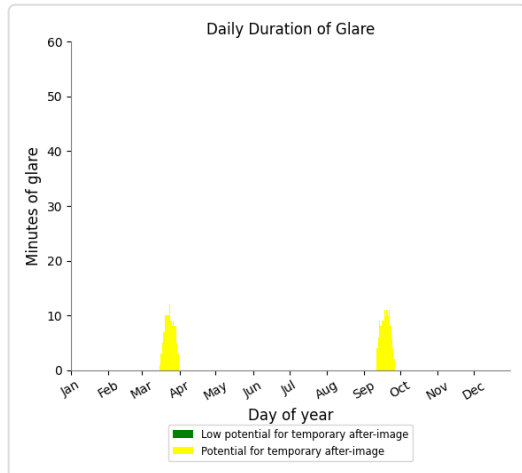
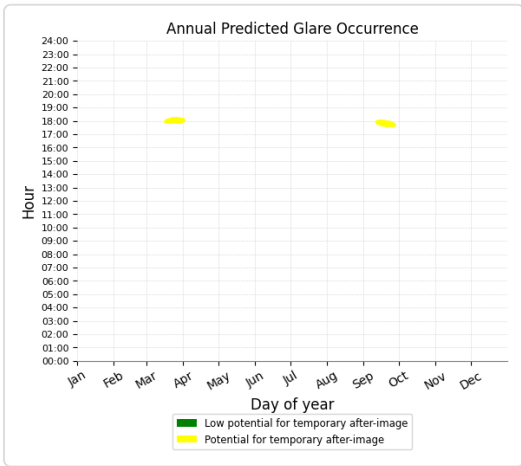
PV array 1 - OP Receptor (OP 1)

No glare found

PV array 1 - OP Receptor (OP 2)

PV array is expected to produce the following glare for receptors at this location:

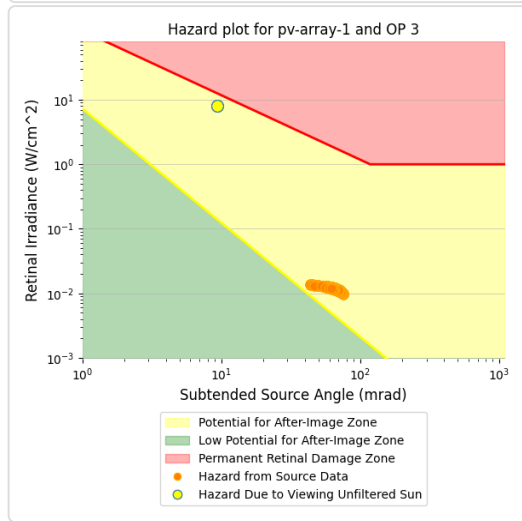
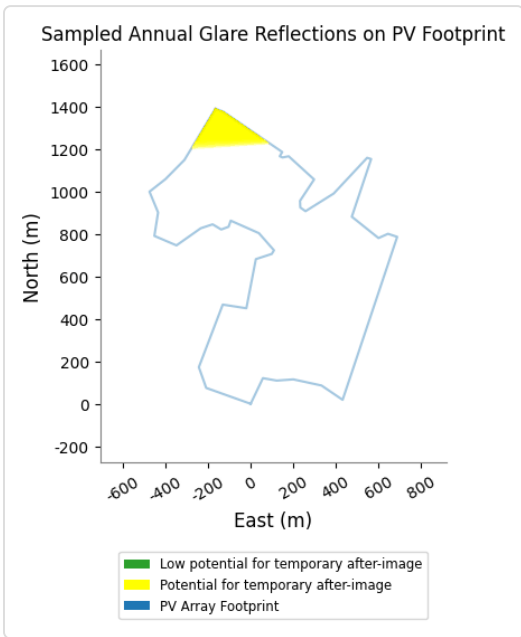
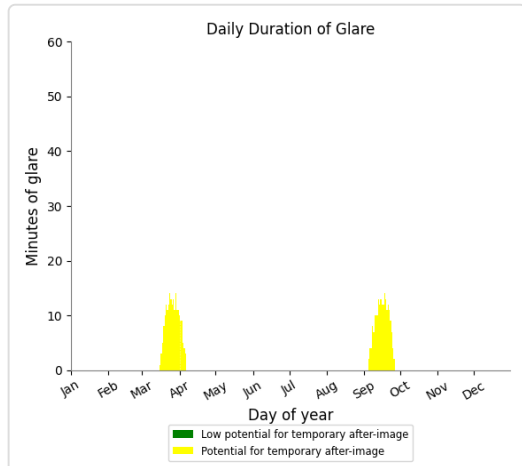
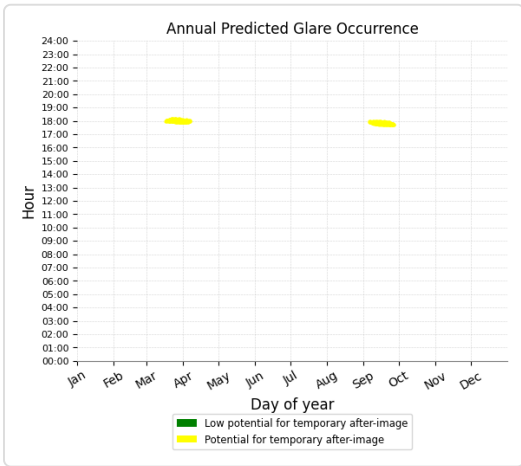
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 236 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:

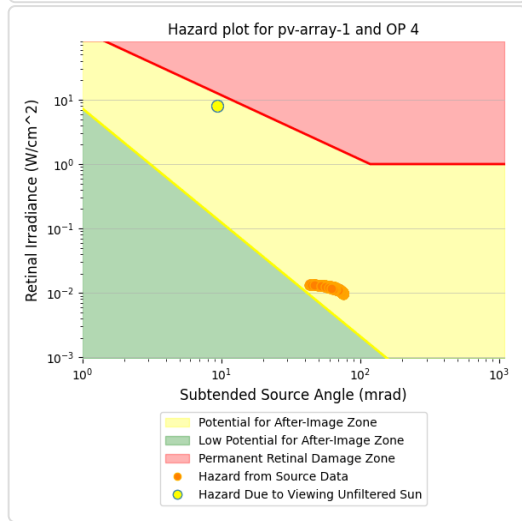
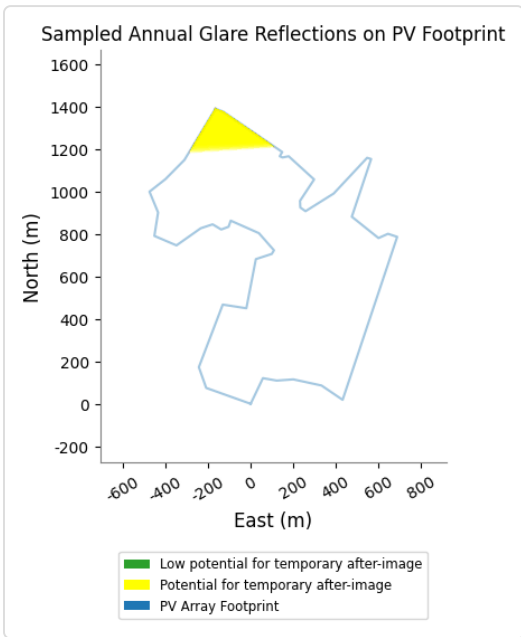
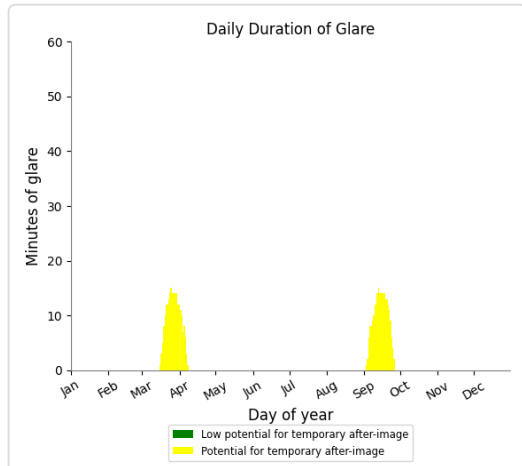
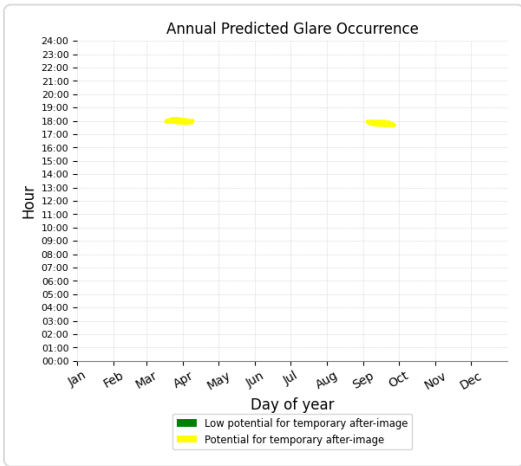
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 401 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 4)

PV array is expected to produce the following glare for receptors at this location:

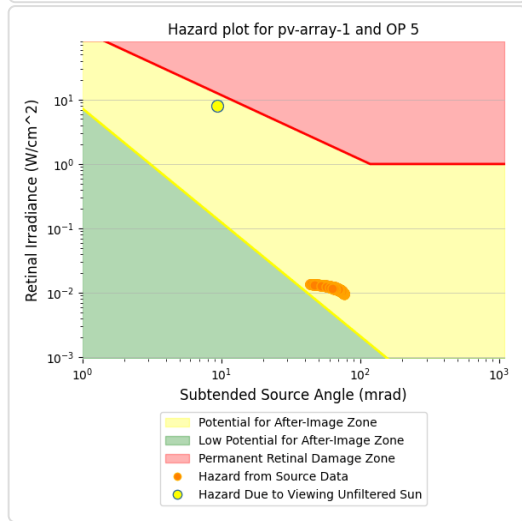
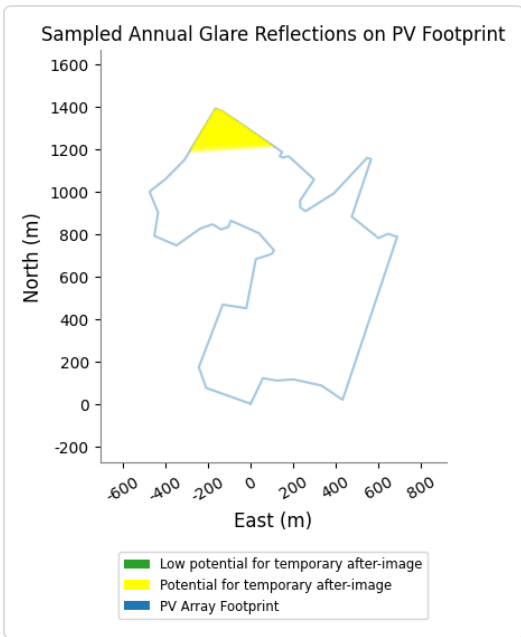
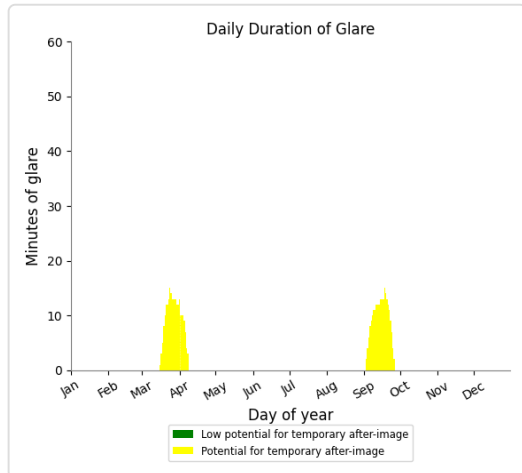
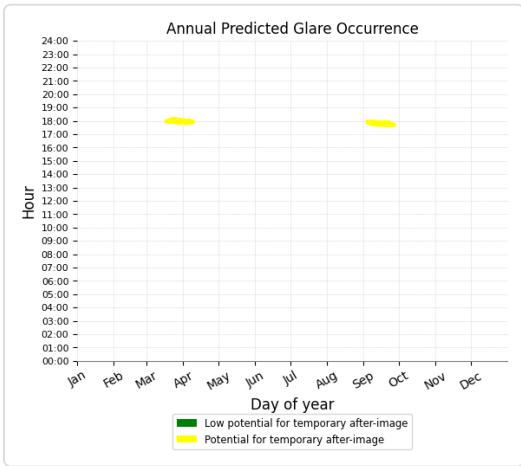
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 470 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:

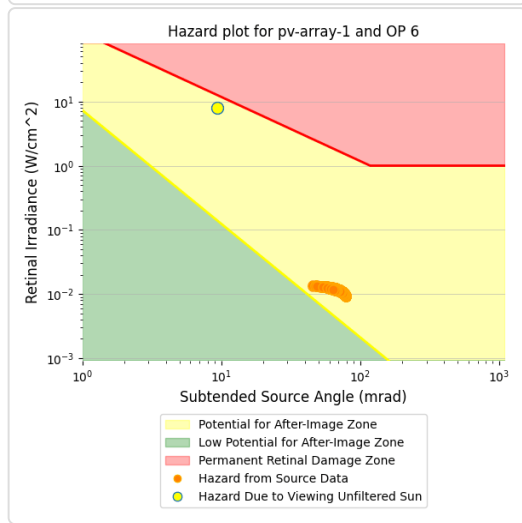
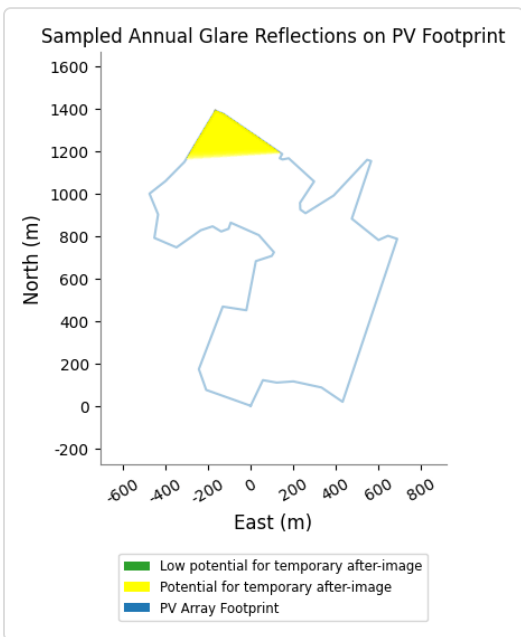
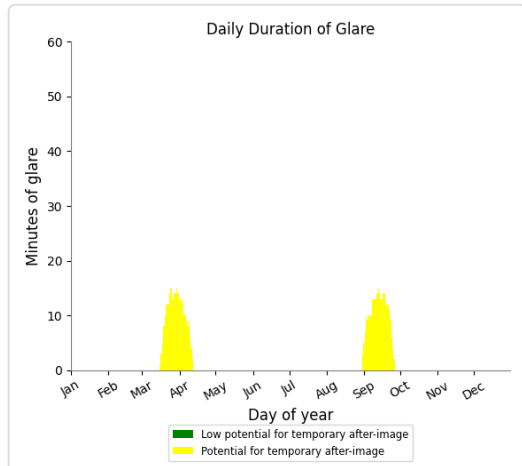
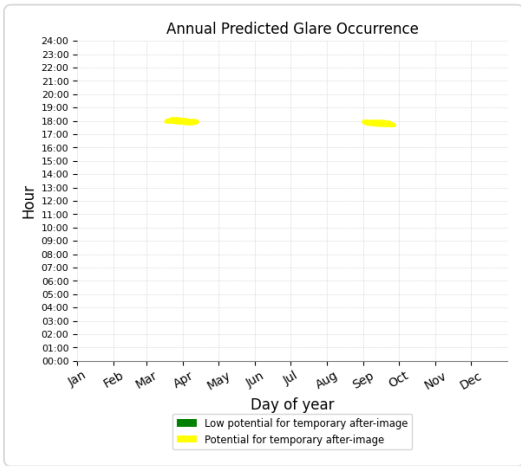
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 470 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 6)

PV array is expected to produce the following glare for receptors at this location:

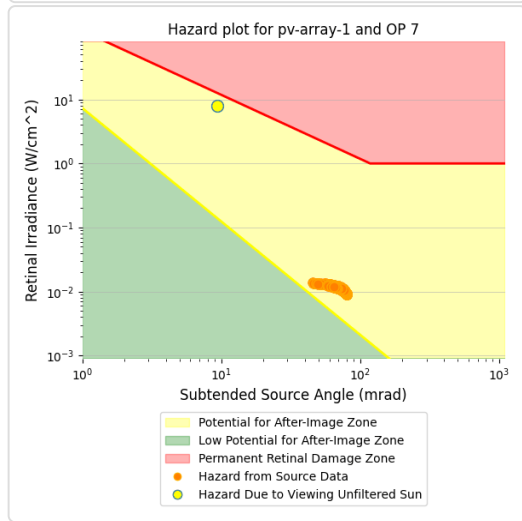
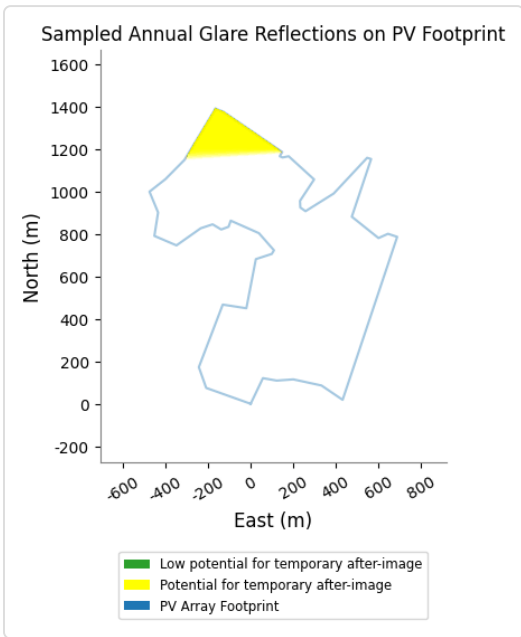
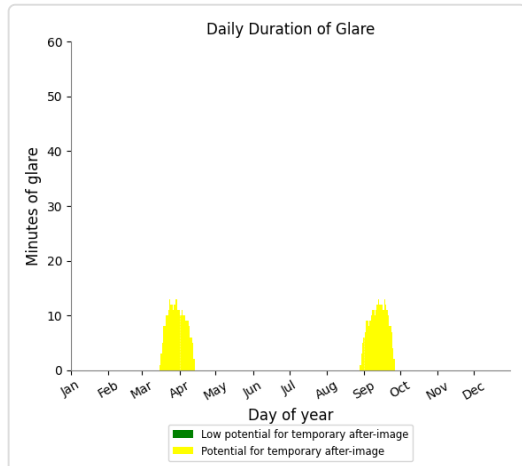
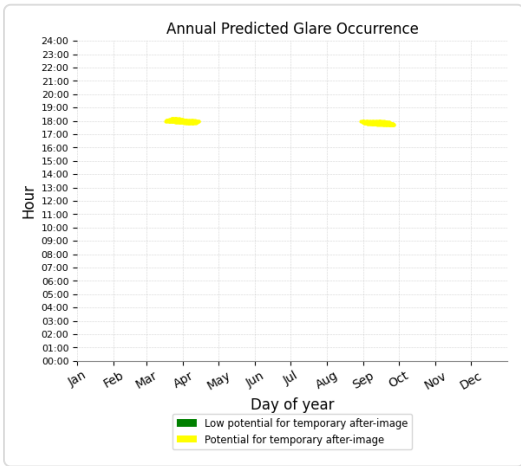
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 565 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 7)

PV array is expected to produce the following glare for receptors at this location:

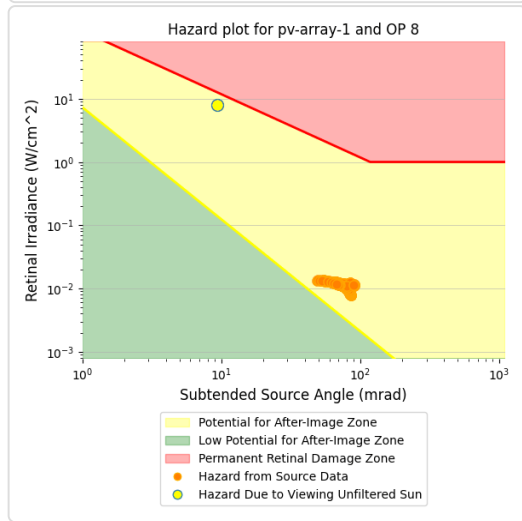
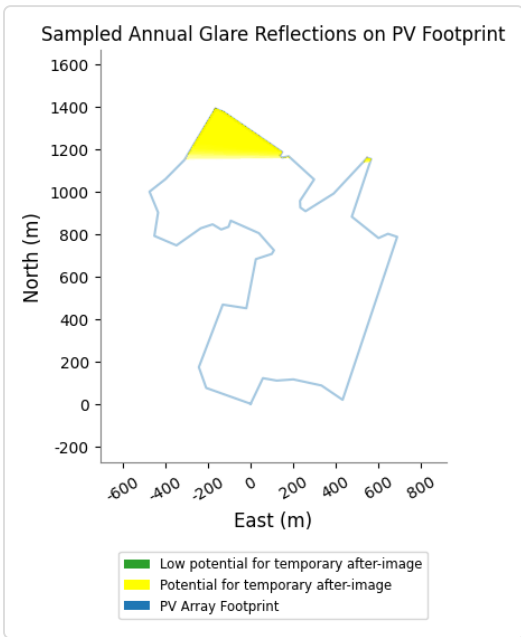
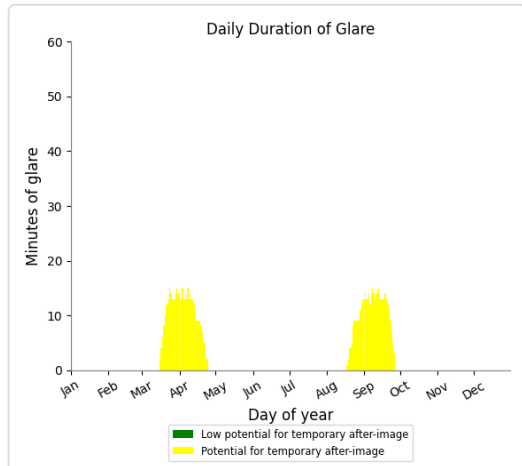
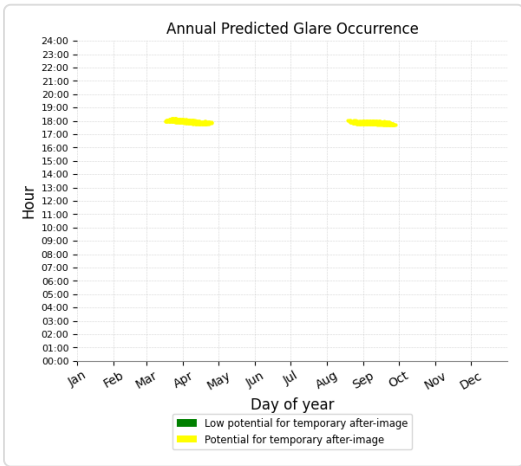
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 516 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 8)

PV array is expected to produce the following glare for receptors at this location:

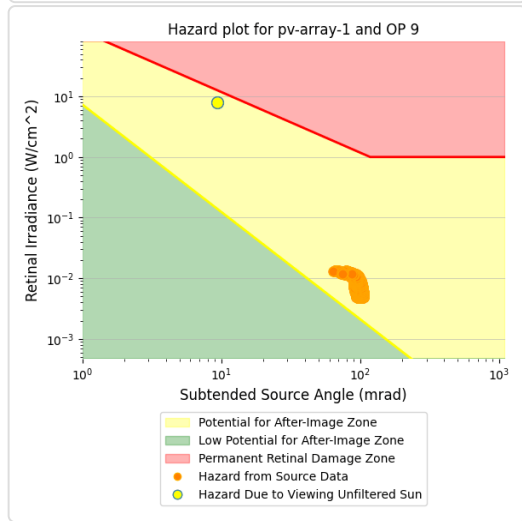
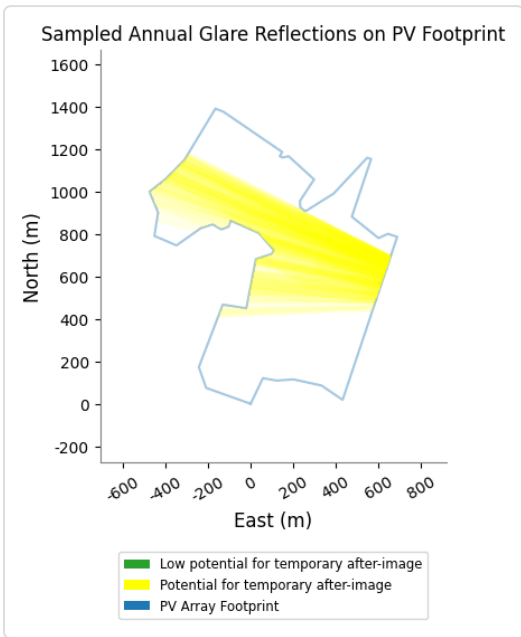
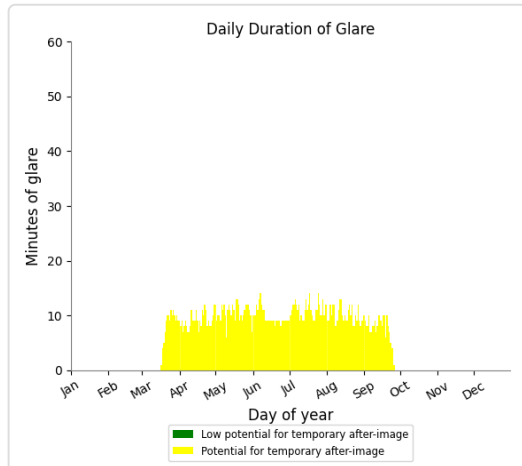
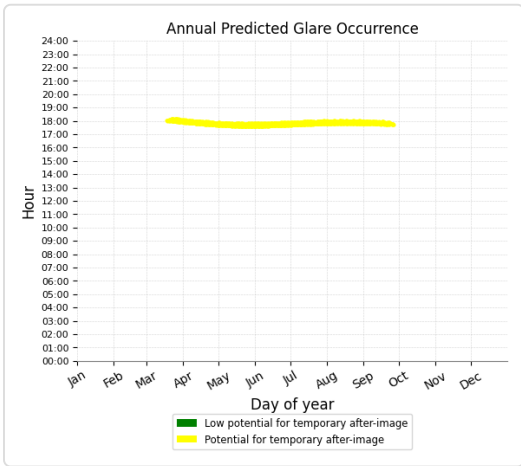
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 854 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 9)

PV array is expected to produce the following glare for receptors at this location:

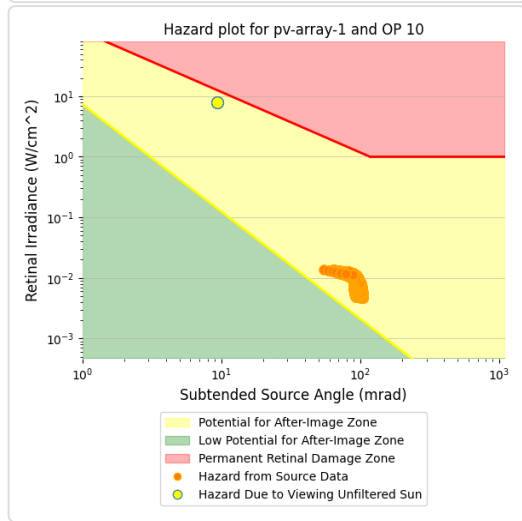
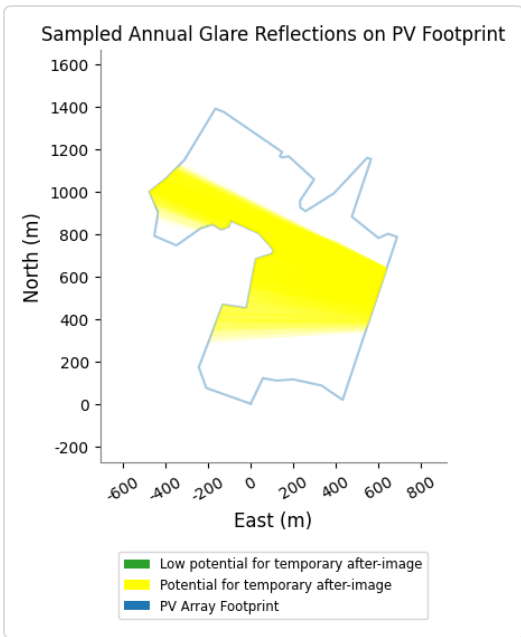
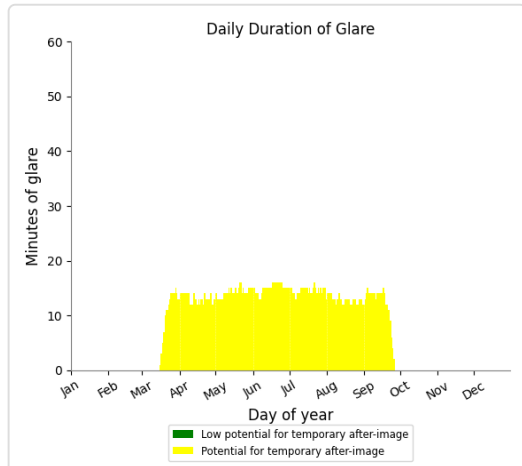
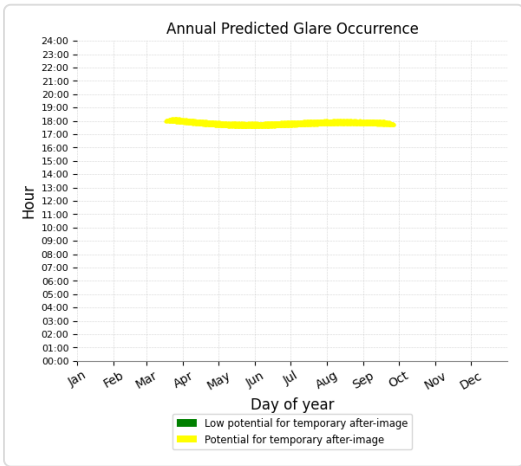
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,870 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 10)

PV array is expected to produce the following glare for receptors at this location:

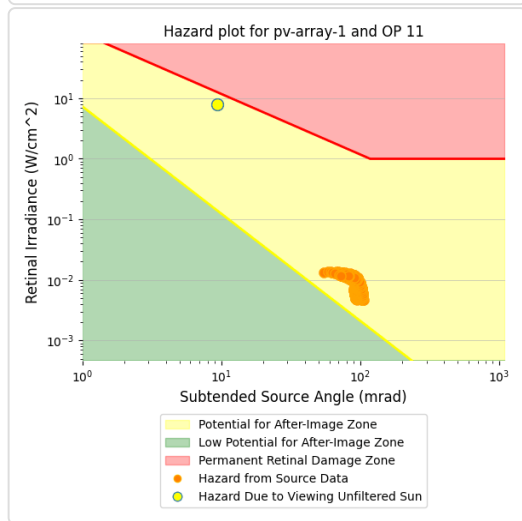
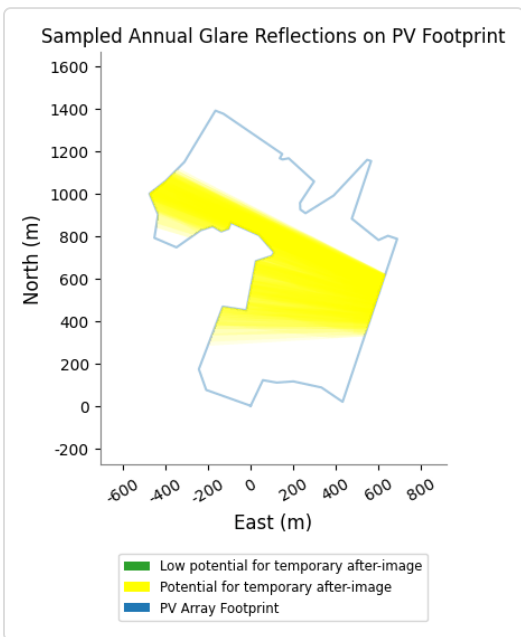
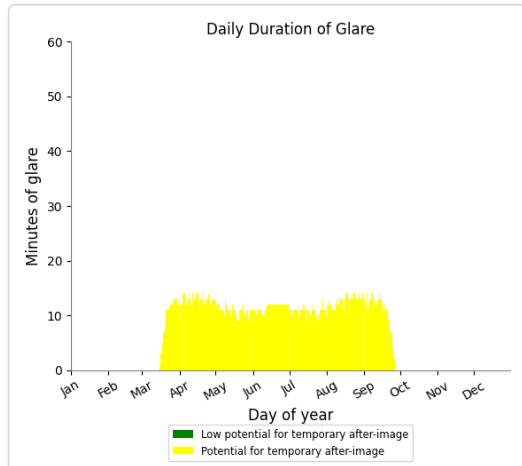
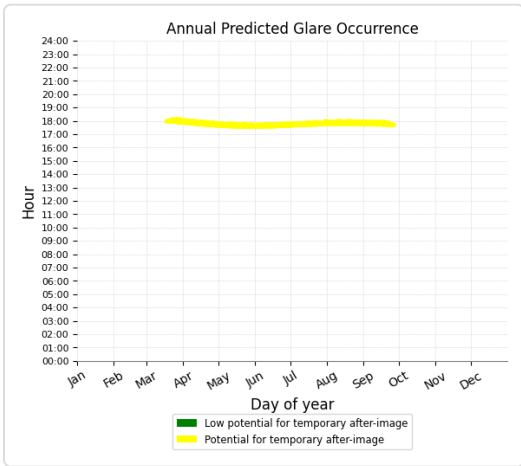
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,627 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 11)

PV array is expected to produce the following glare for receptors at this location:

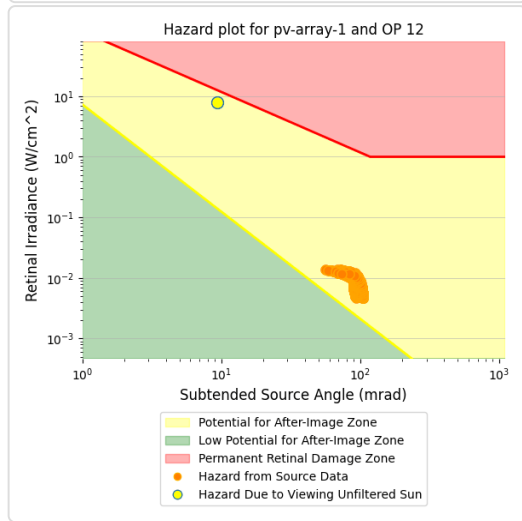
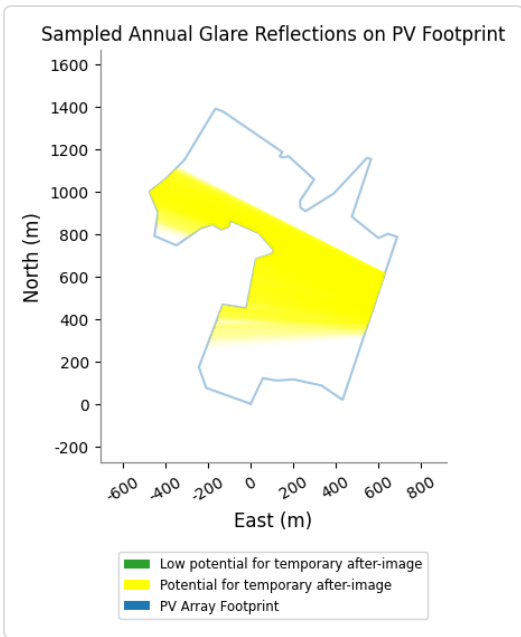
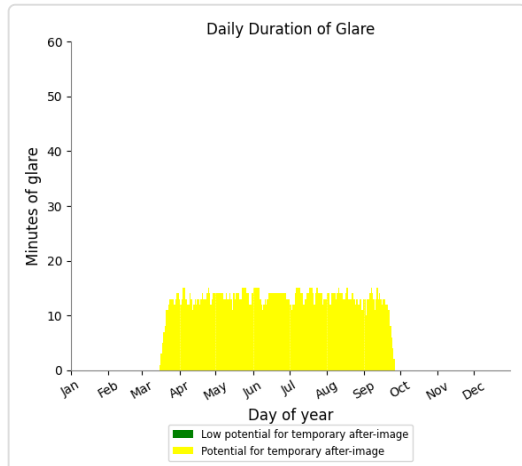
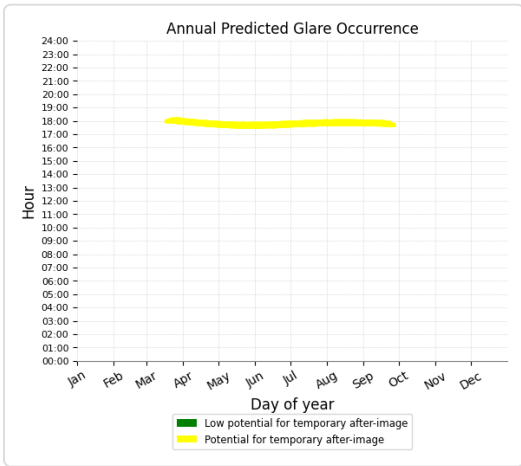
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,236 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 12)

PV array is expected to produce the following glare for receptors at this location:

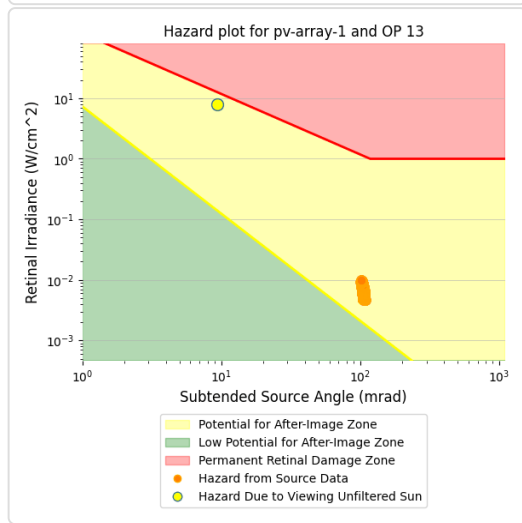
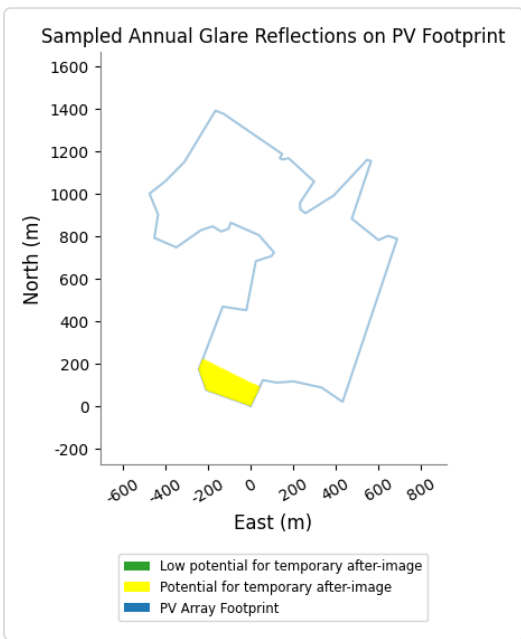
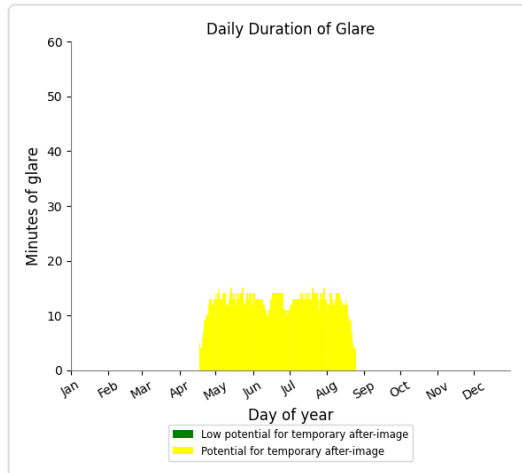
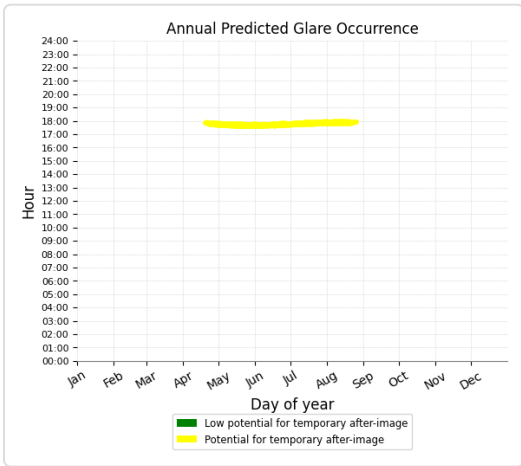
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,525 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 13)

PV array is expected to produce the following glare for receptors at this location:

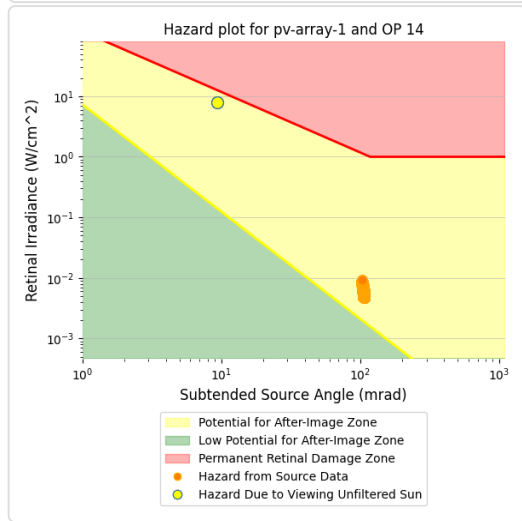
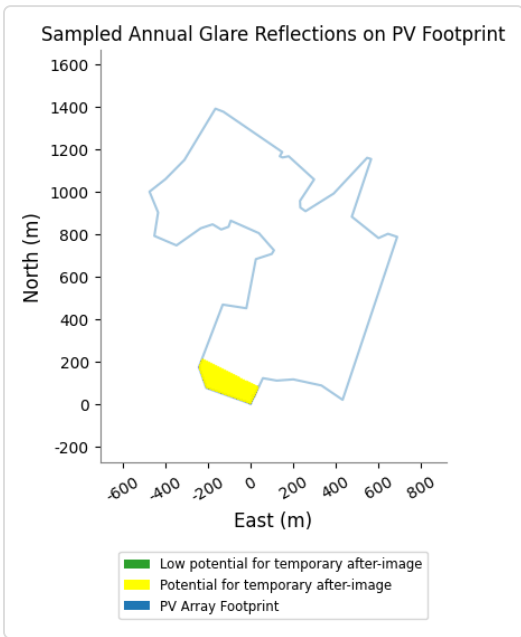
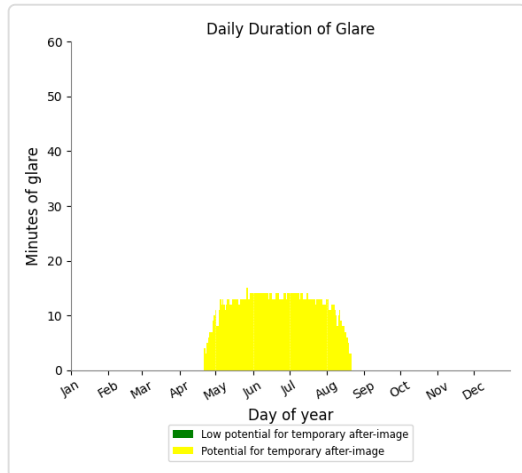
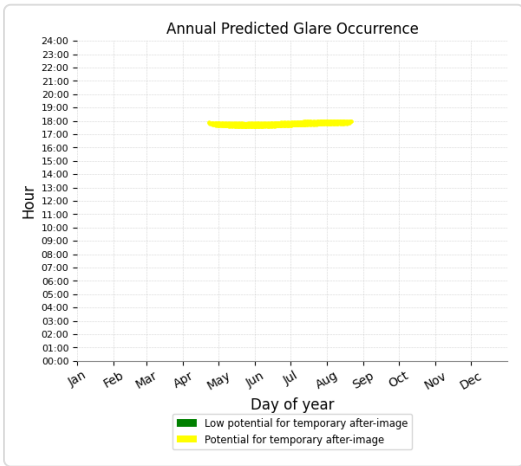
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,620 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 14)

PV array is expected to produce the following glare for receptors at this location:

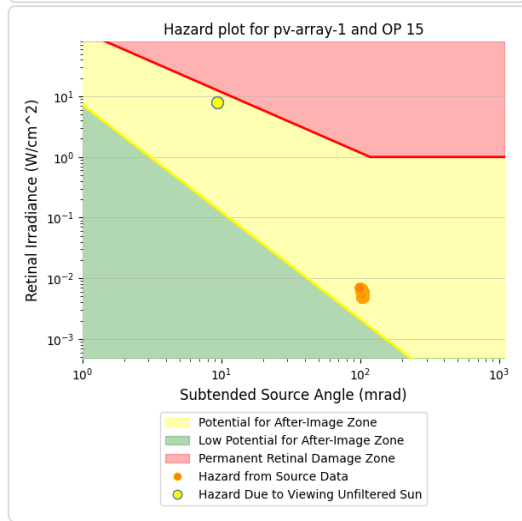
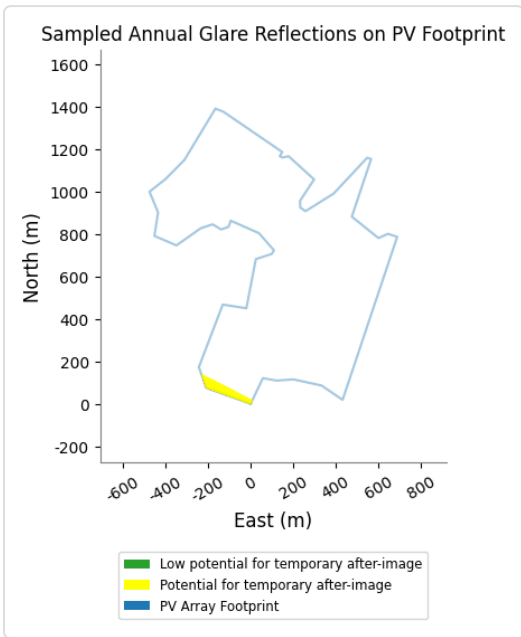
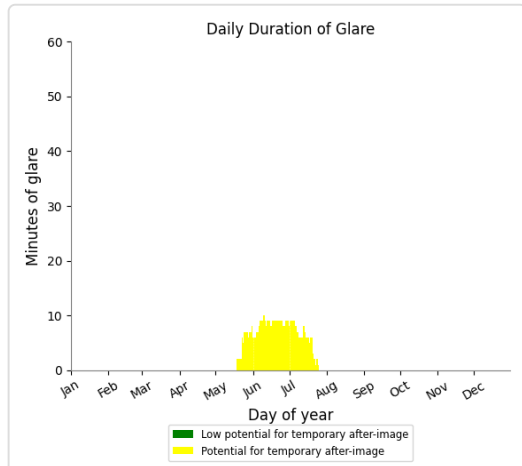
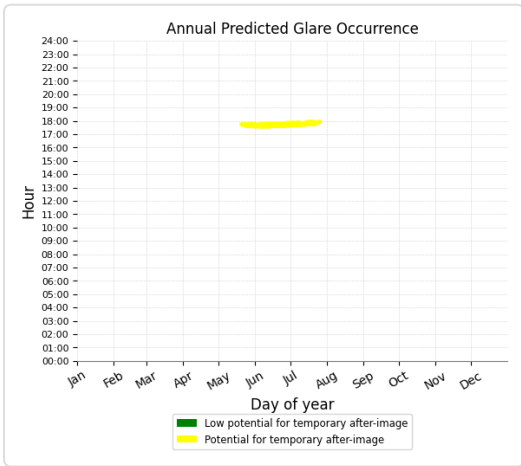
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,454 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:

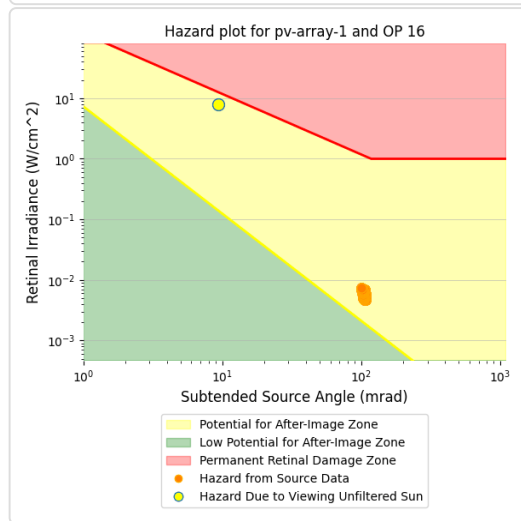
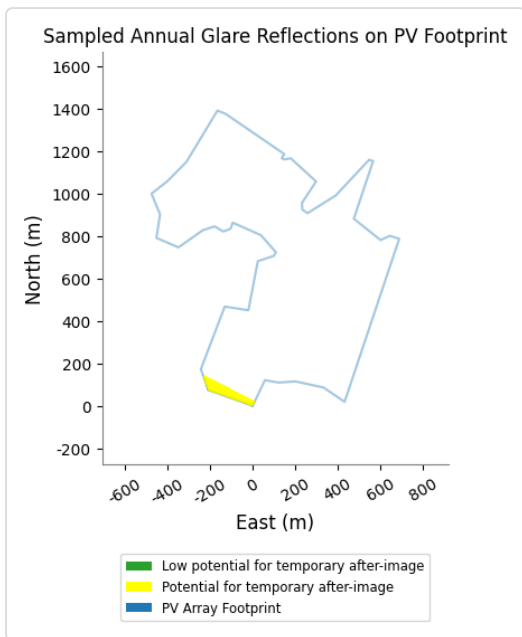
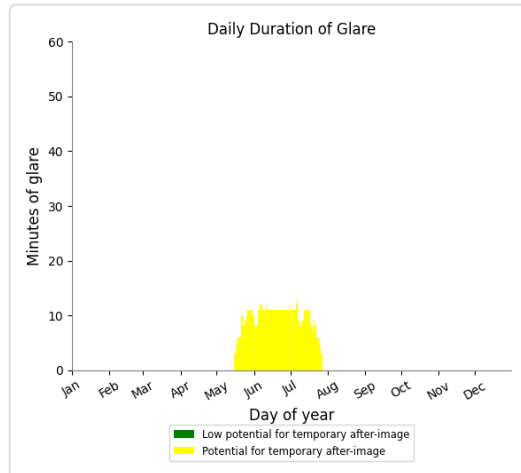
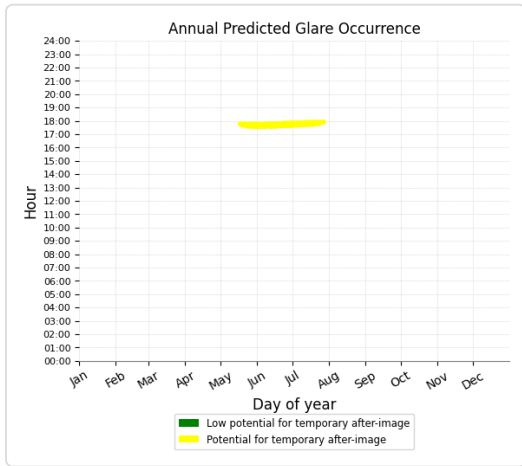
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 471 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 16)

PV array is expected to produce the following glare for receptors at this location:

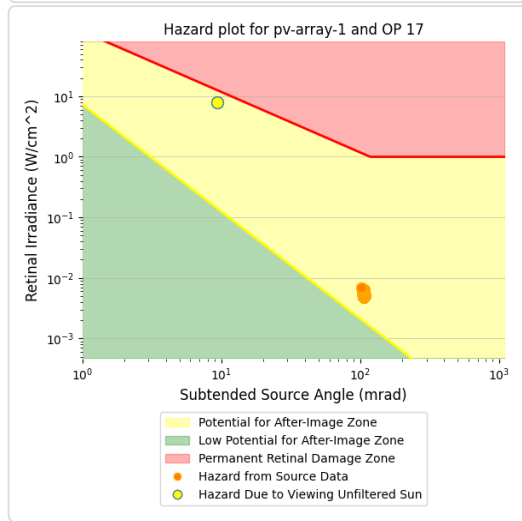
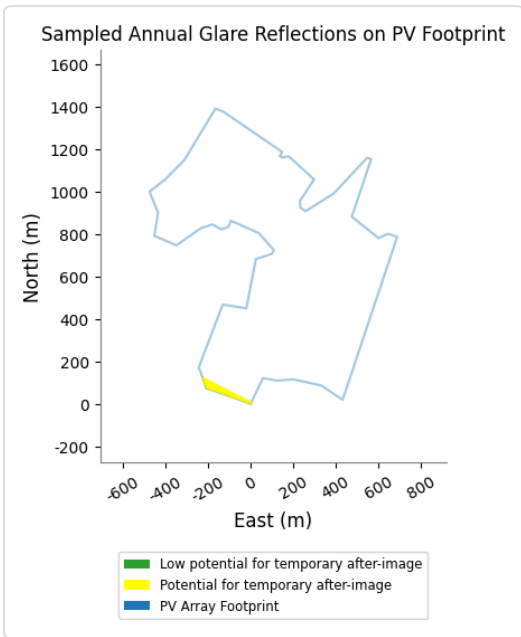
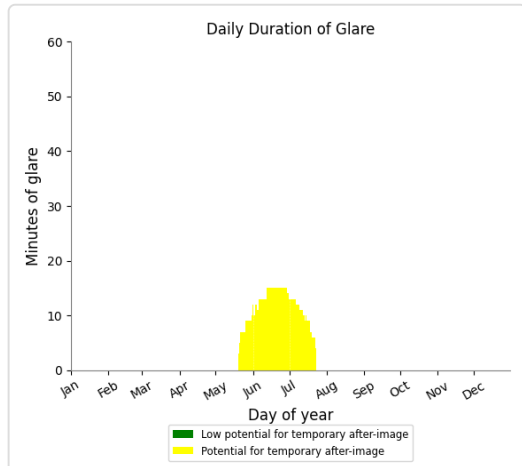
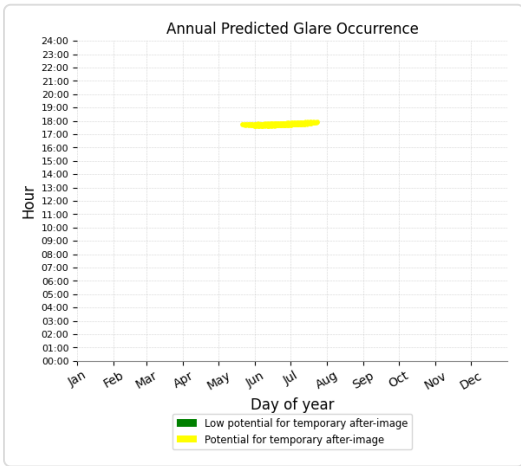
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 696 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 17)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 740 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 18)

No glare found

PV array 1 - OP Receptor (OP 19)

No glare found

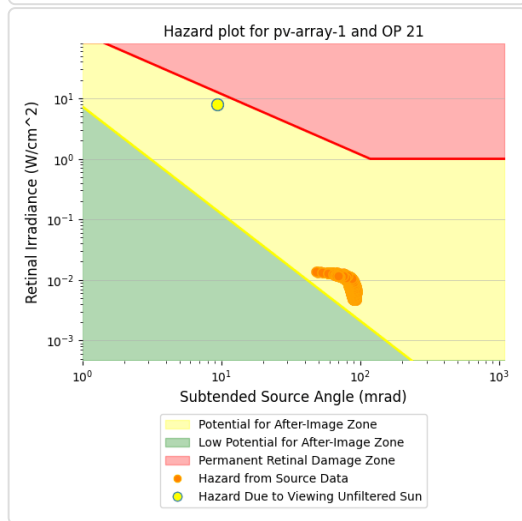
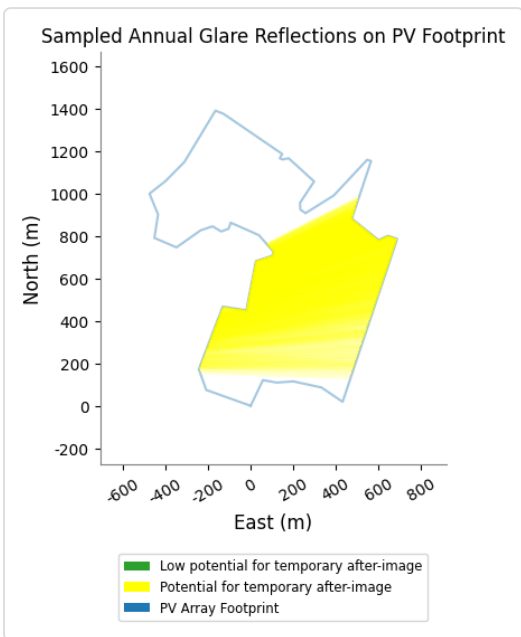
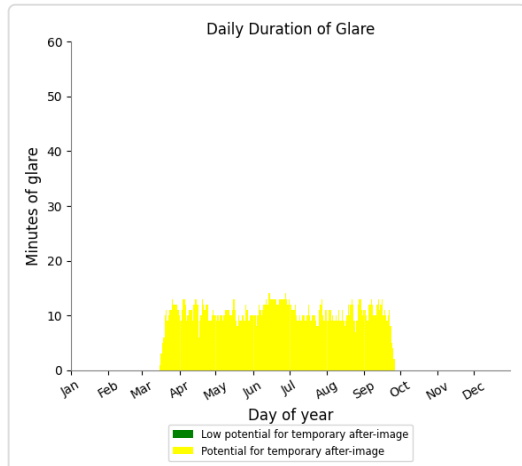
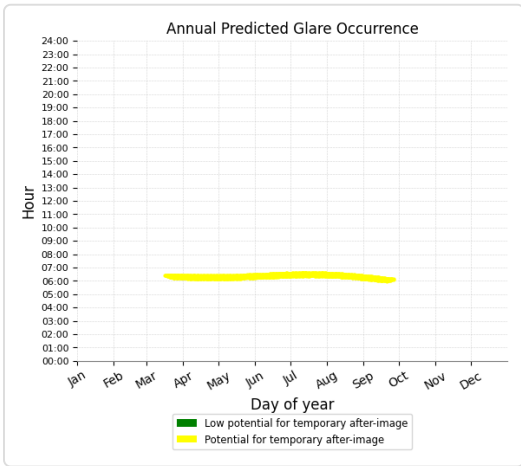
PV array 1 - OP Receptor (OP 20)

No glare found

PV array 1 - OP Receptor (OP 21)

PV array is expected to produce the following glare for receptors at this location:

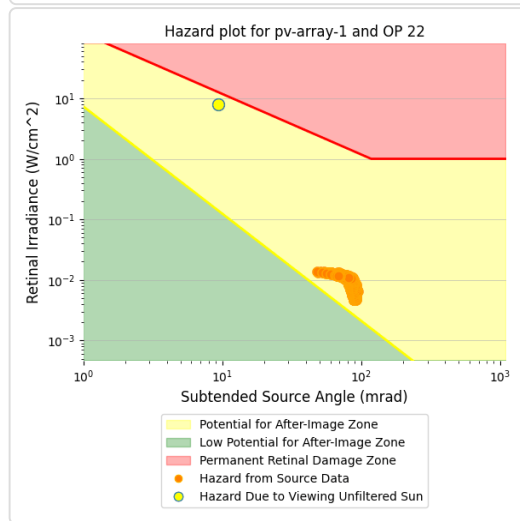
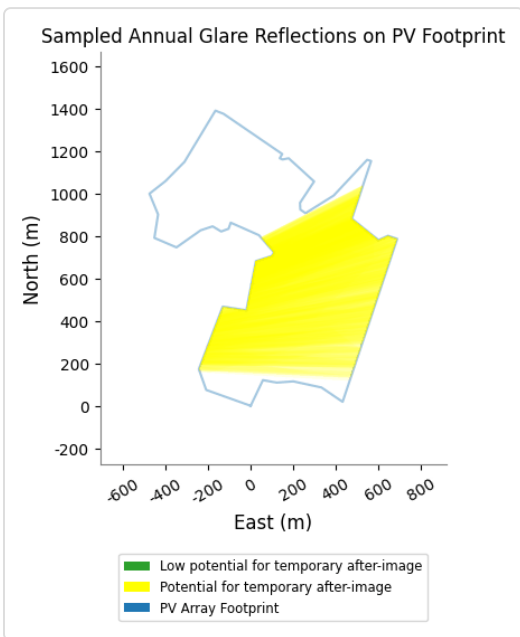
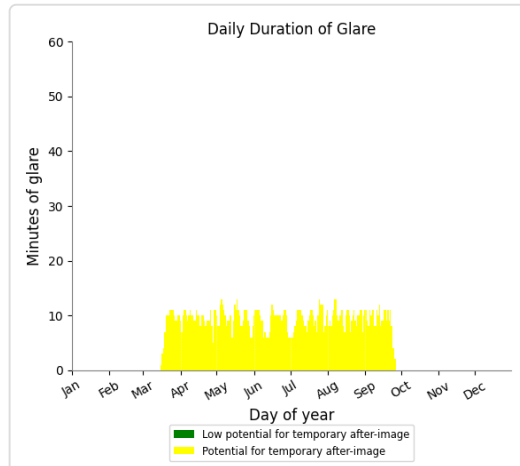
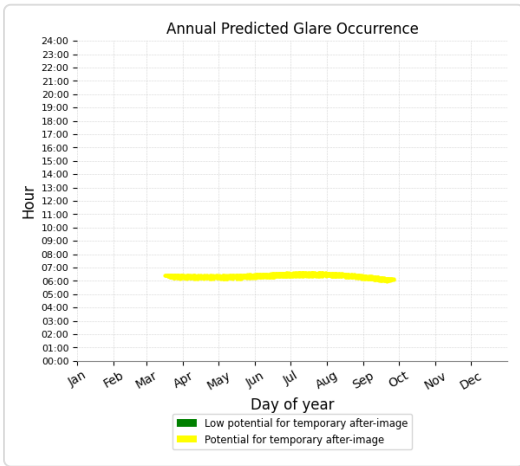
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,039 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 22)

PV array is expected to produce the following glare for receptors at this location:

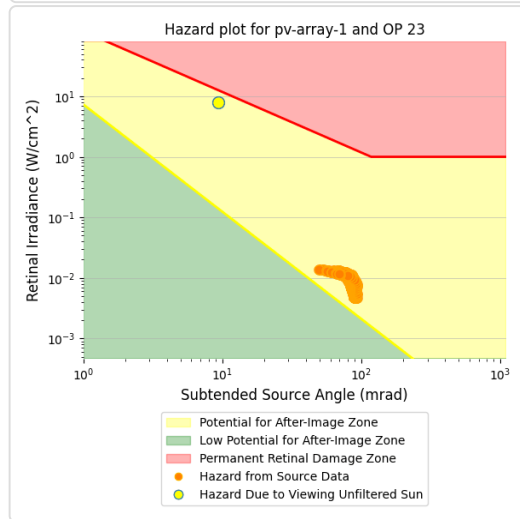
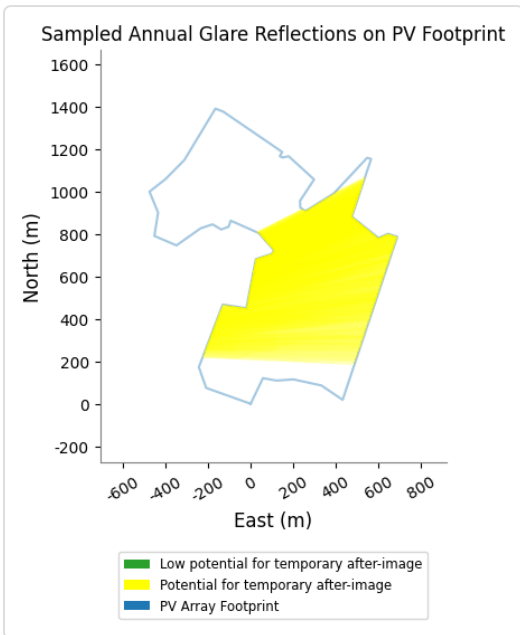
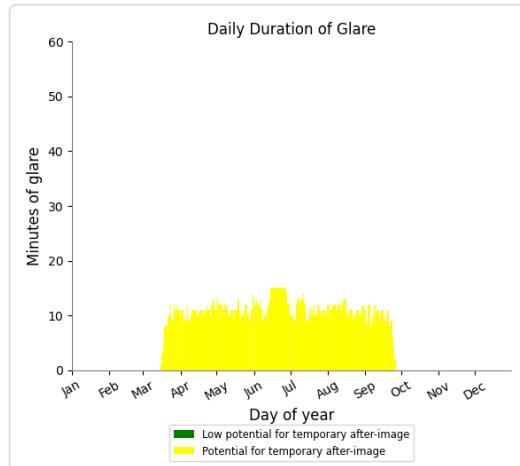
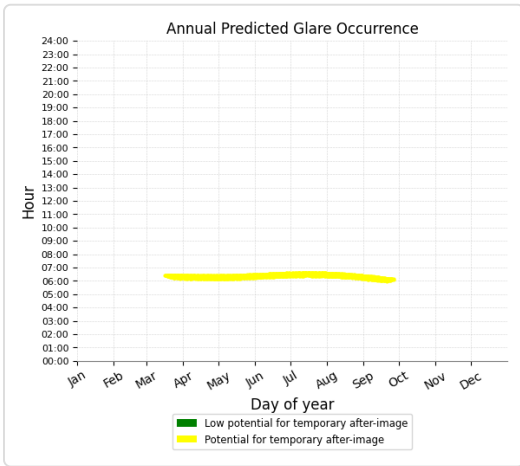
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,821 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:

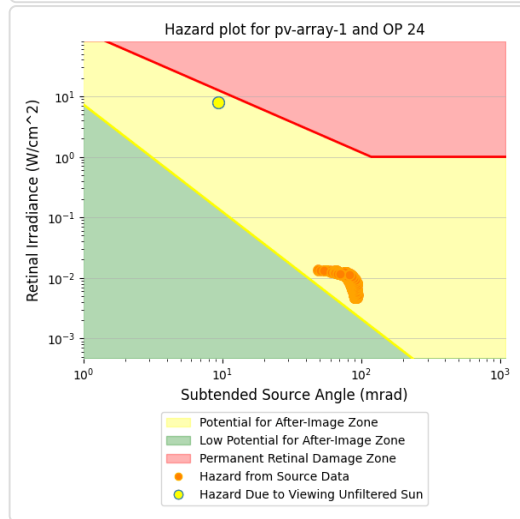
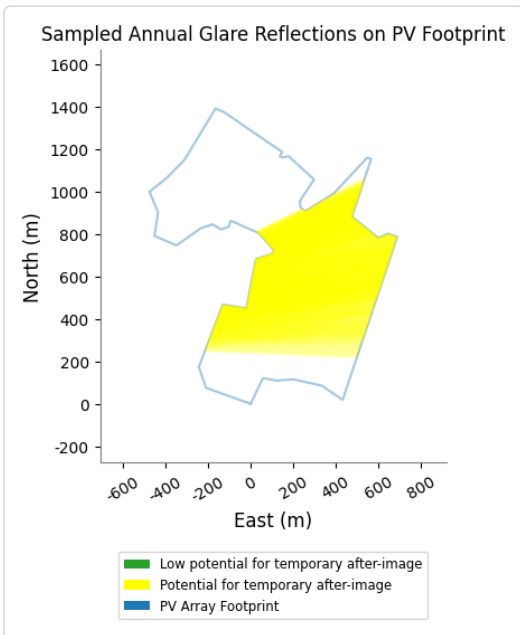
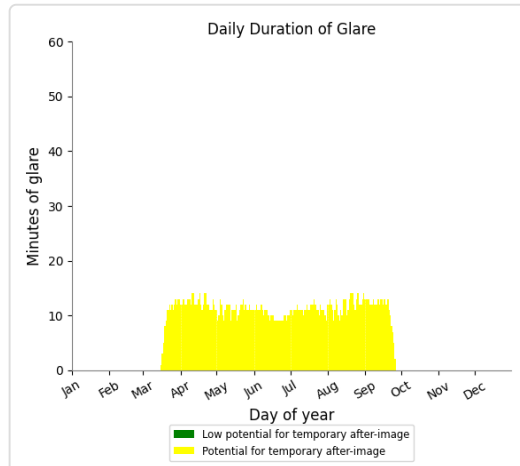
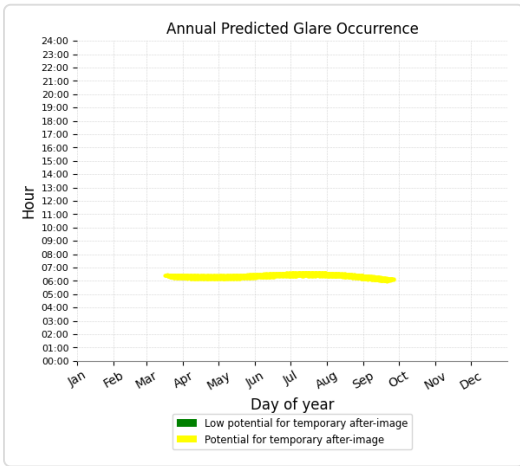
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,126 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 24)

PV array is expected to produce the following glare for receptors at this location:

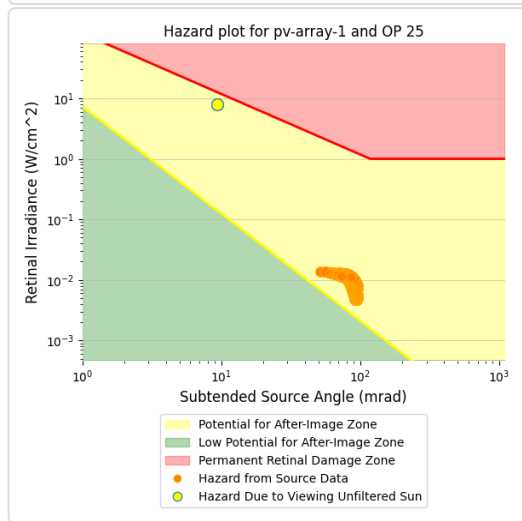
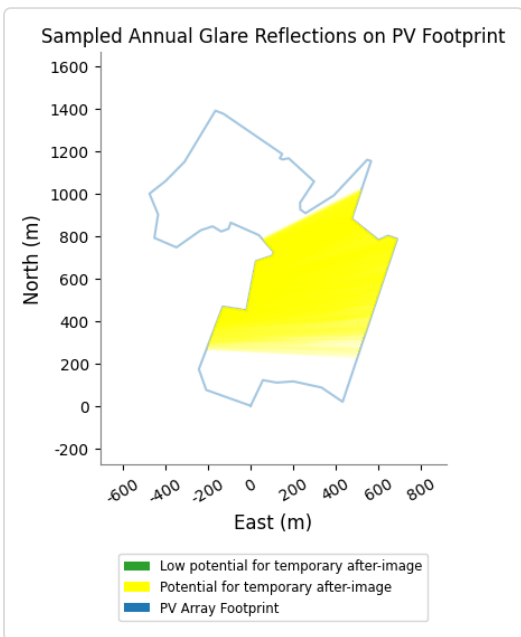
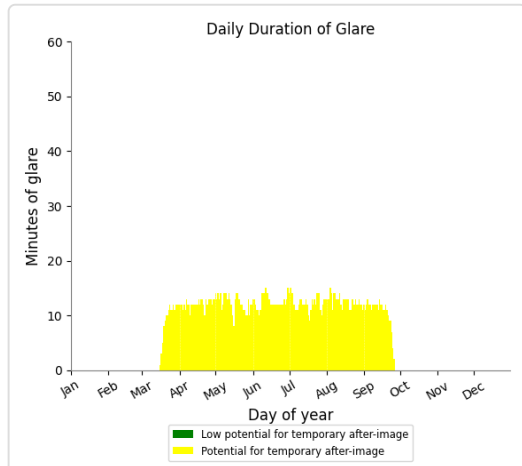
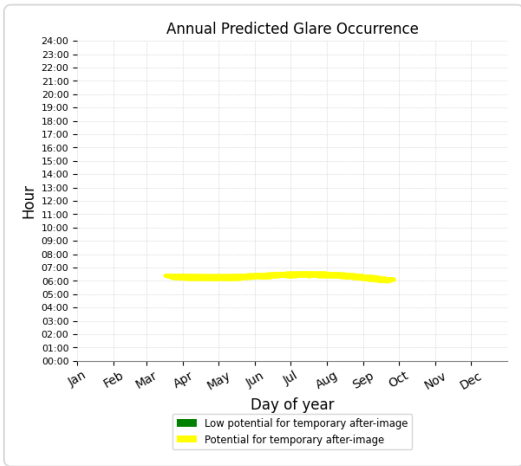
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,186 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 25)

PV array is expected to produce the following glare for receptors at this location:

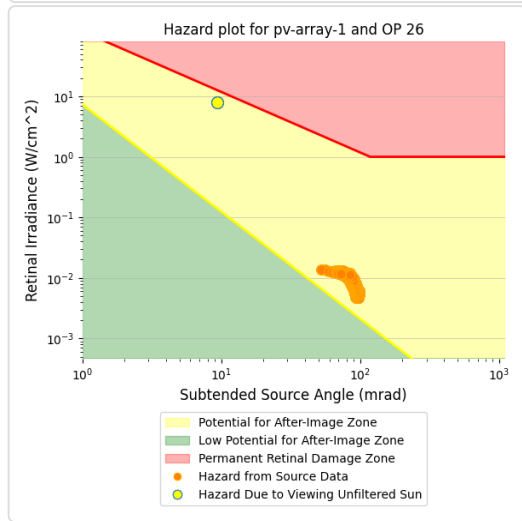
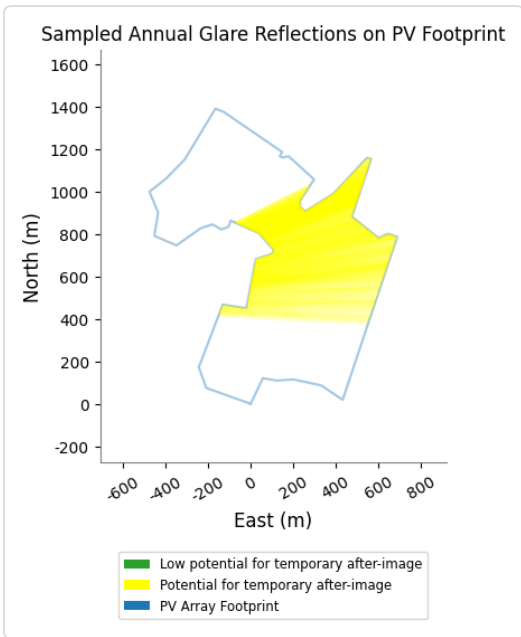
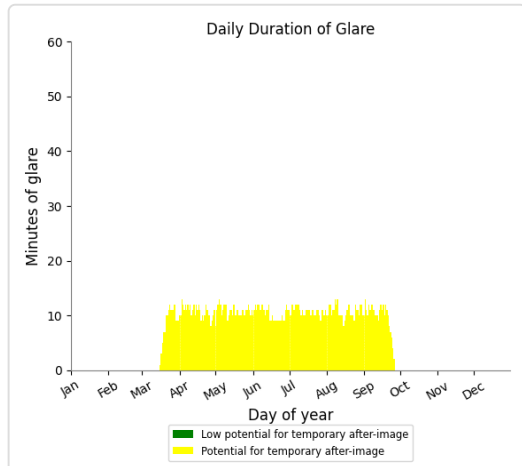
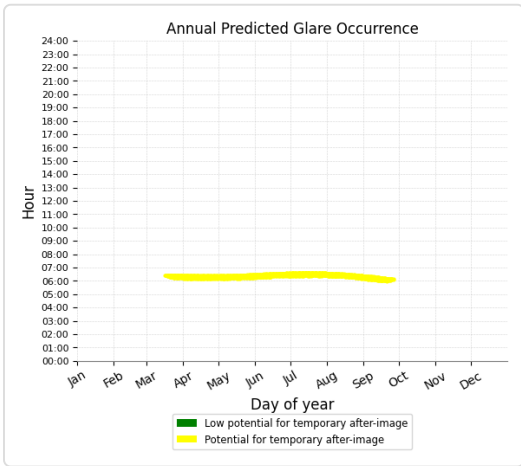
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,327 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 26)

PV array is expected to produce the following glare for receptors at this location:

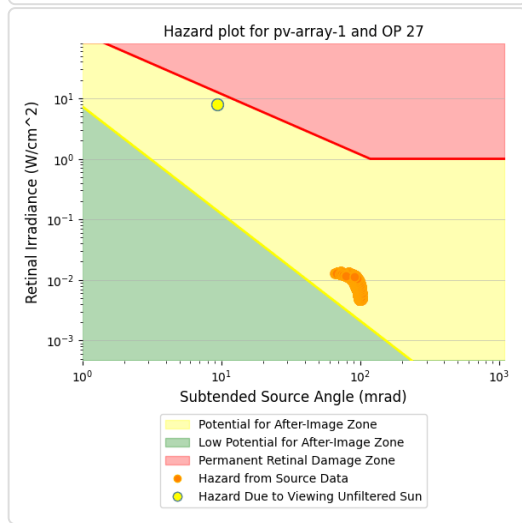
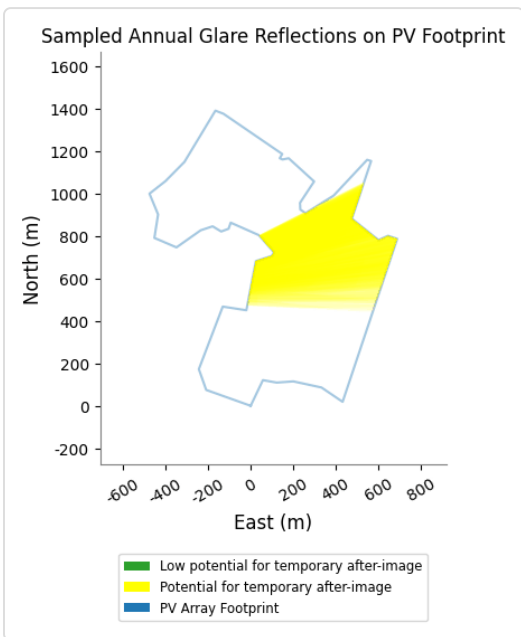
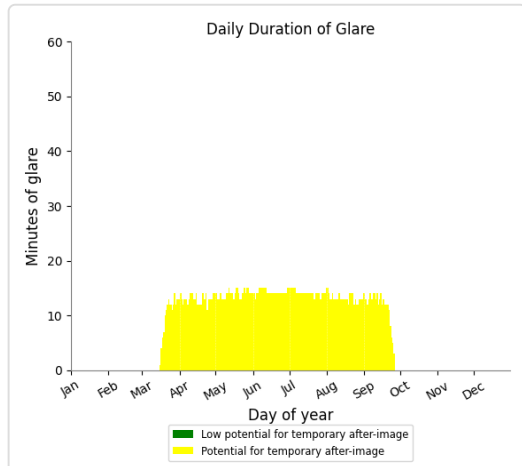
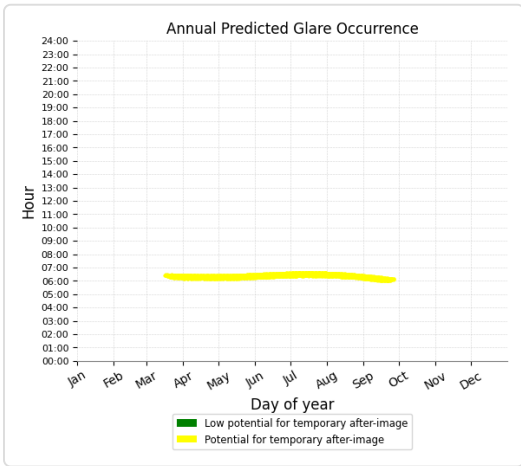
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,032 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:

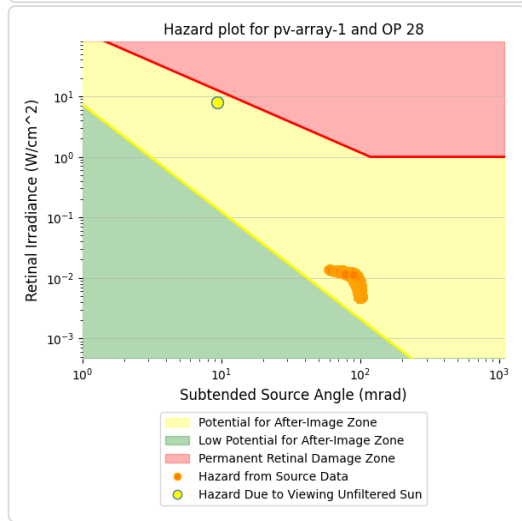
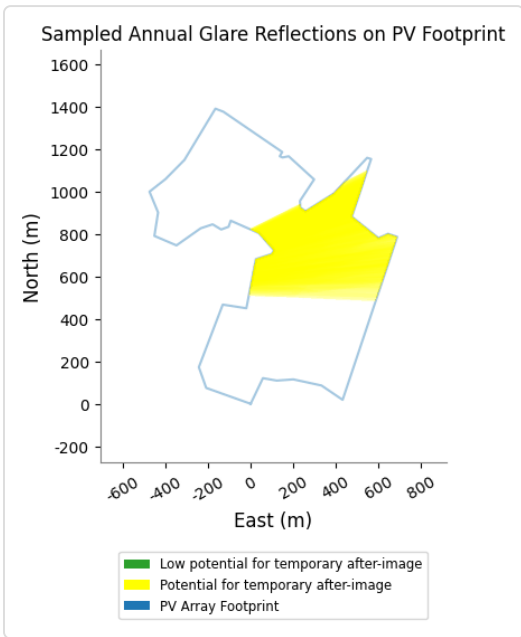
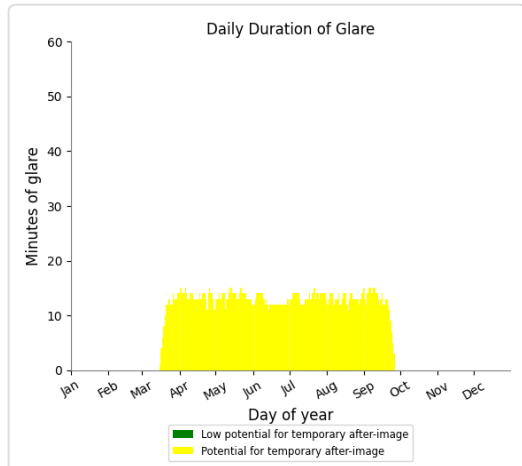
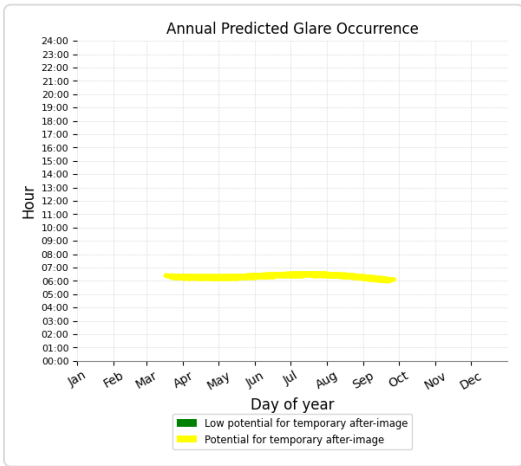
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,567 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:

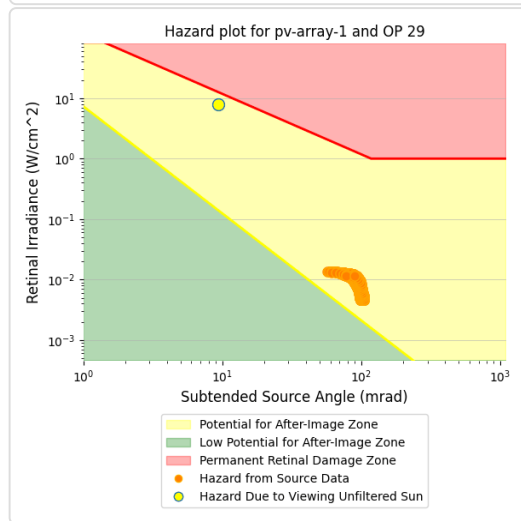
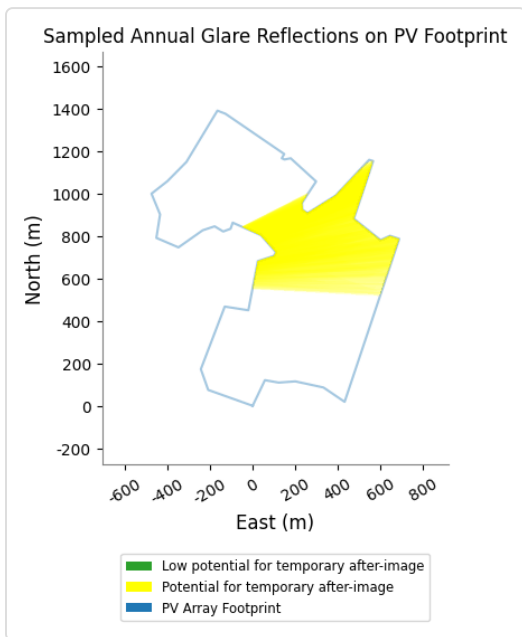
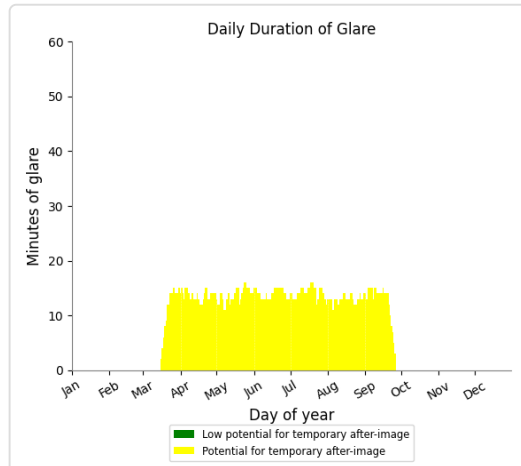
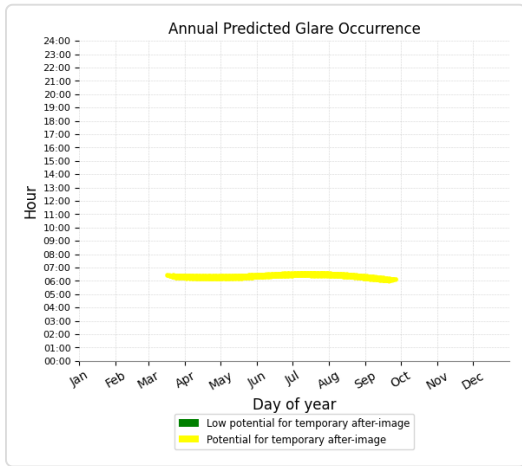
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,514 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 29)

PV array is expected to produce the following glare for receptors at this location:

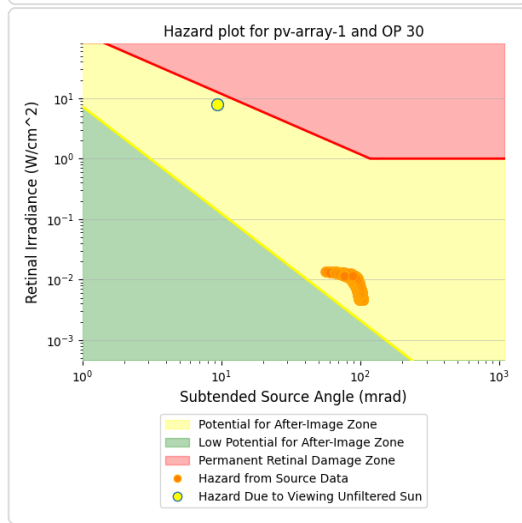
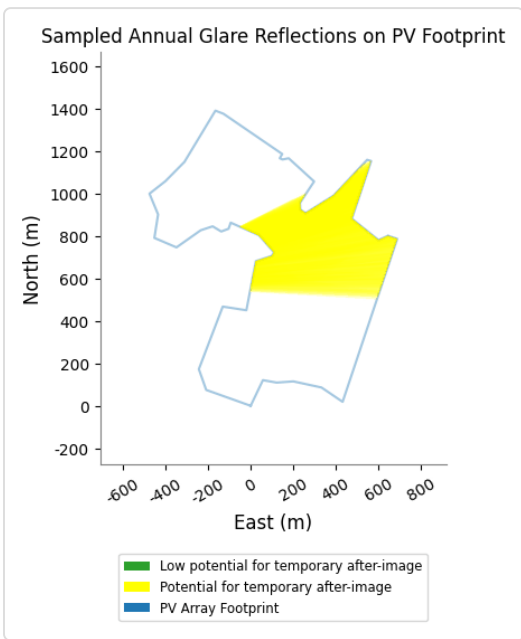
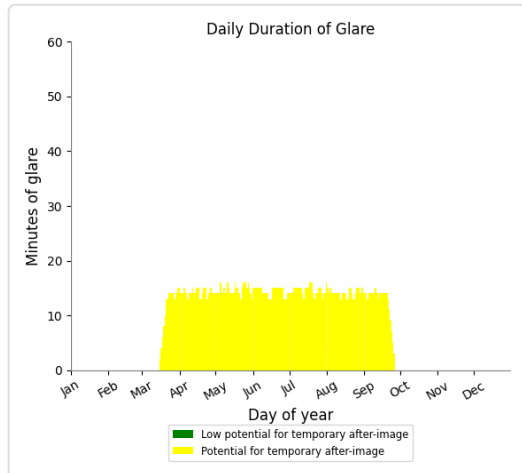
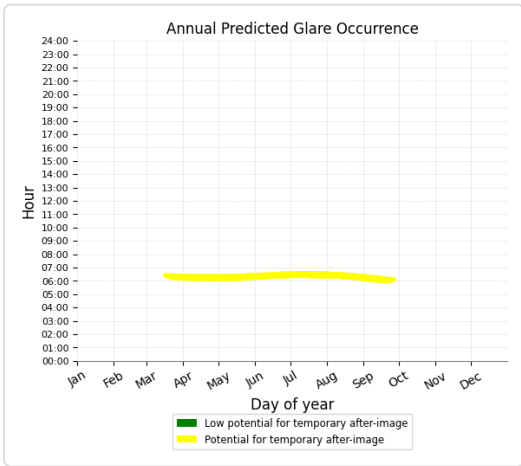
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,605 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:

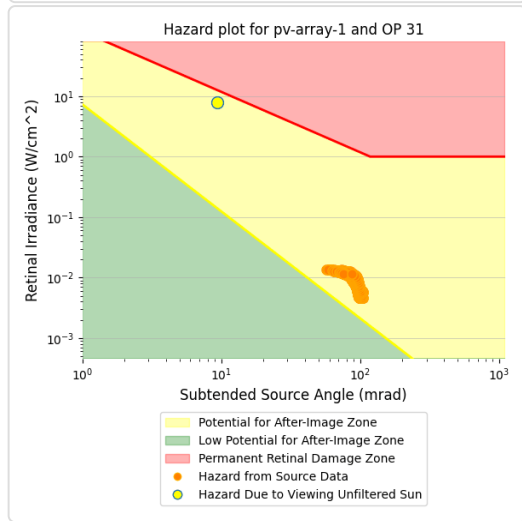
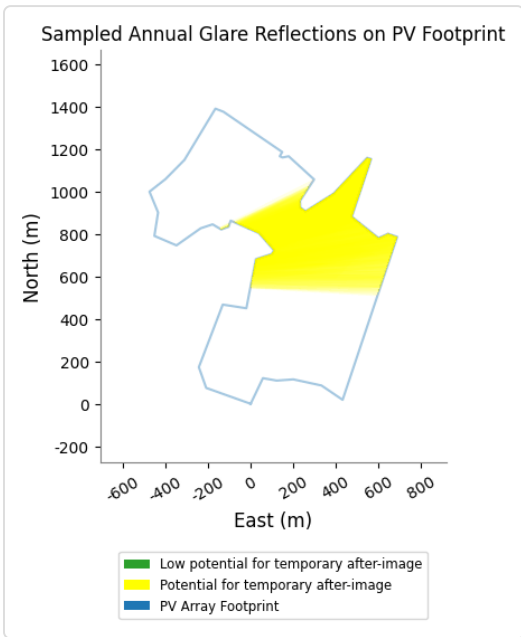
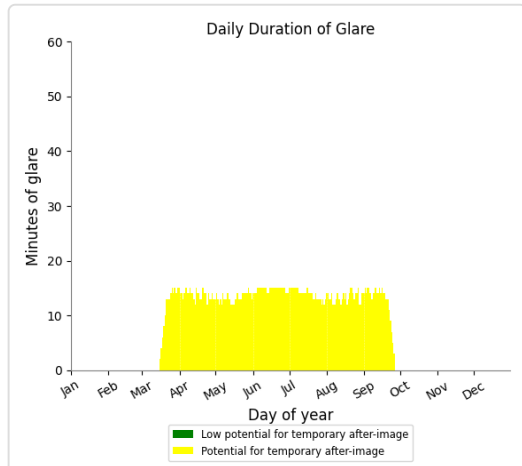
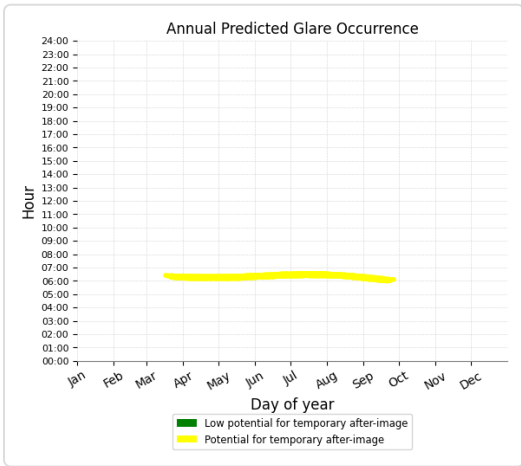
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,712 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 31)

PV array is expected to produce the following glare for receptors at this location:

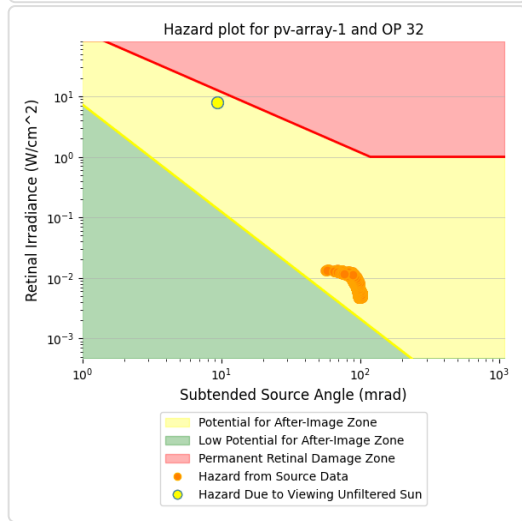
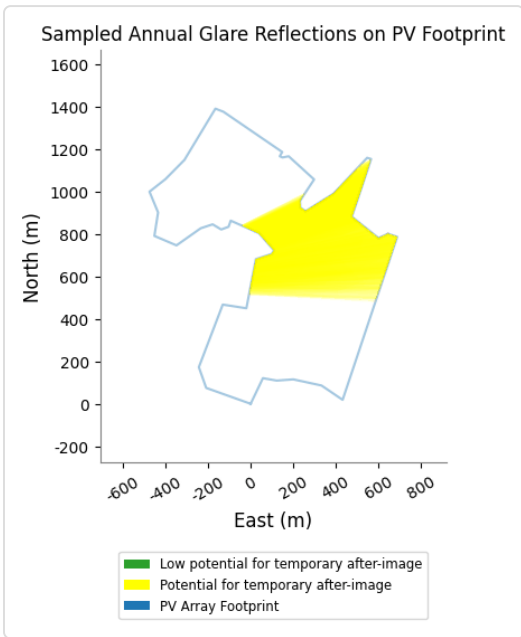
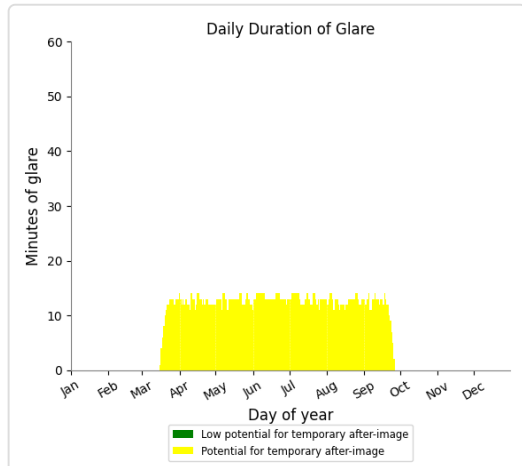
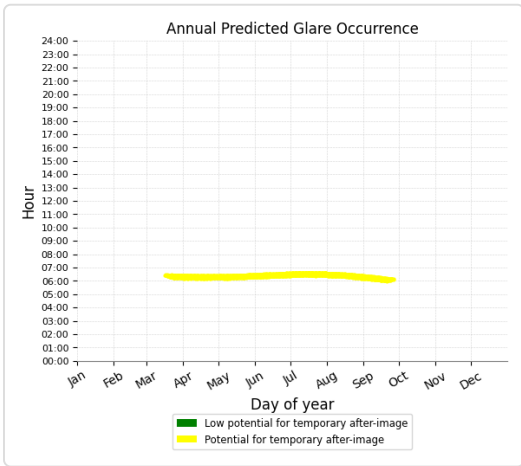
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,626 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 32)

PV array is expected to produce the following glare for receptors at this location:

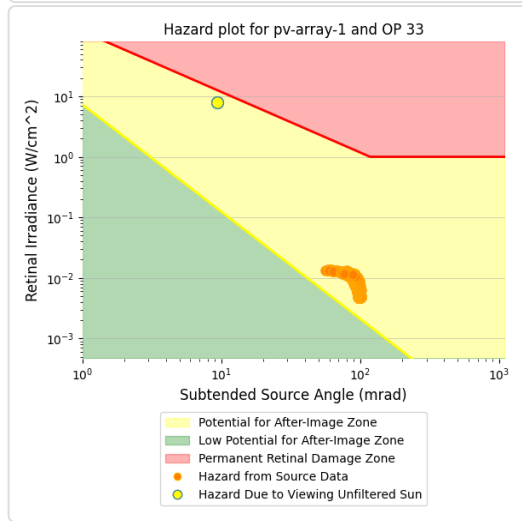
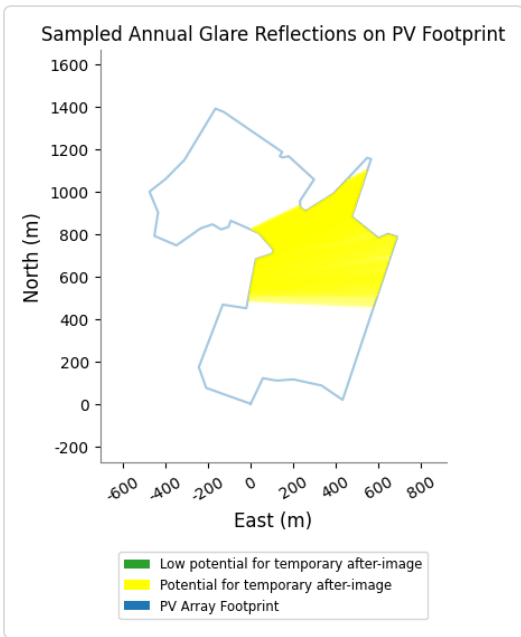
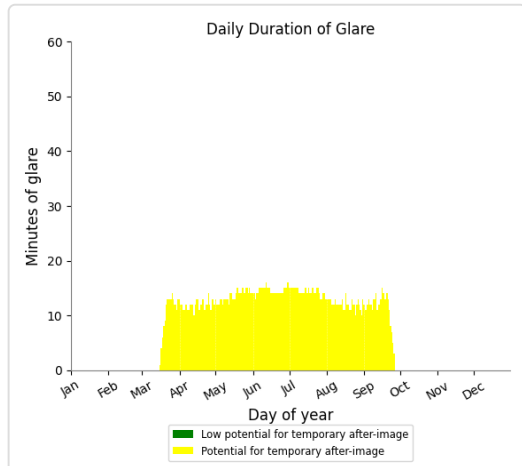
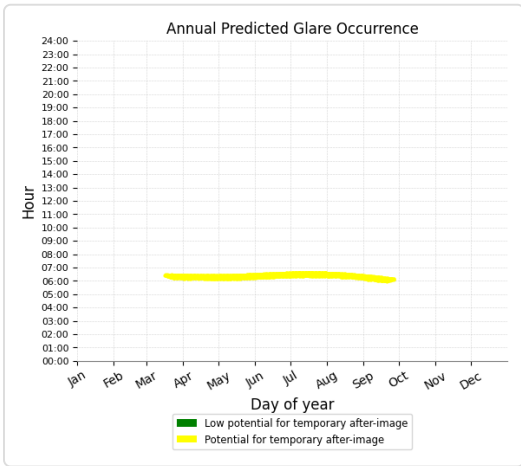
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,436 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 33)

PV array is expected to produce the following glare for receptors at this location:

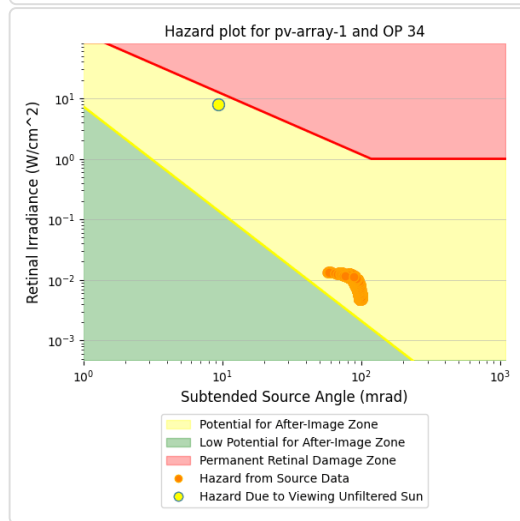
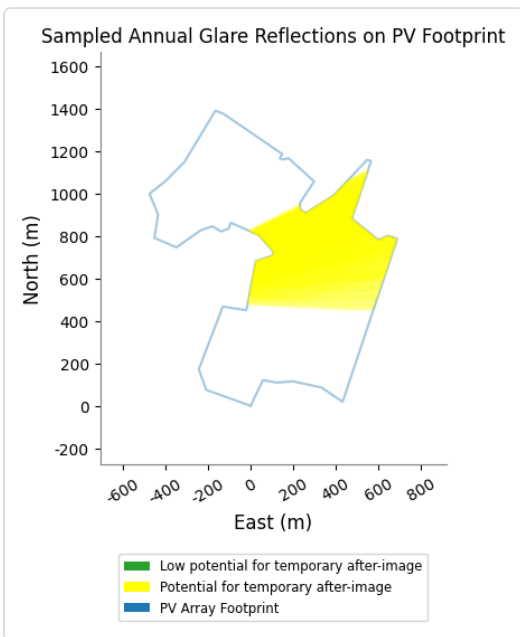
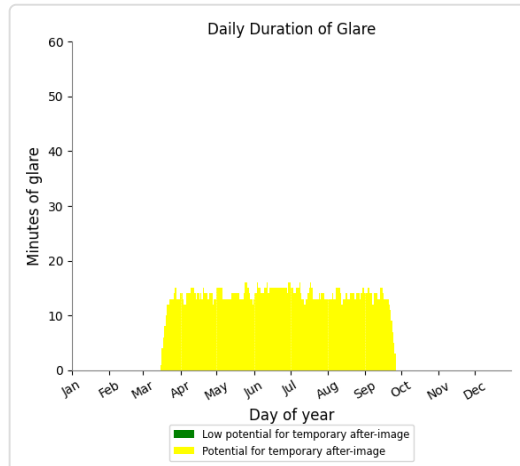
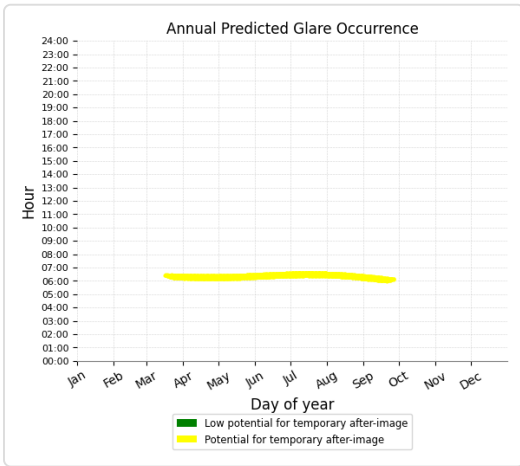
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,499 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 34)

PV array is expected to produce the following glare for receptors at this location:

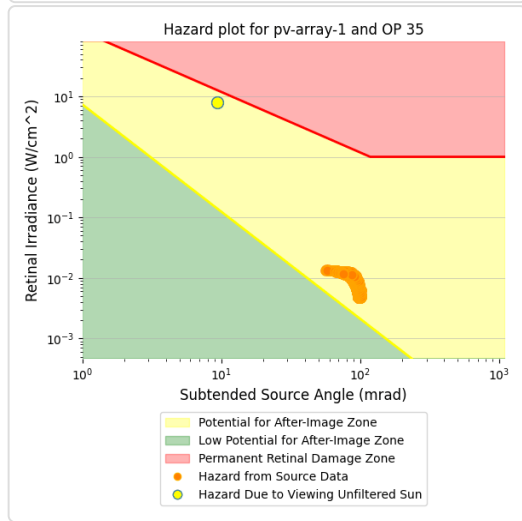
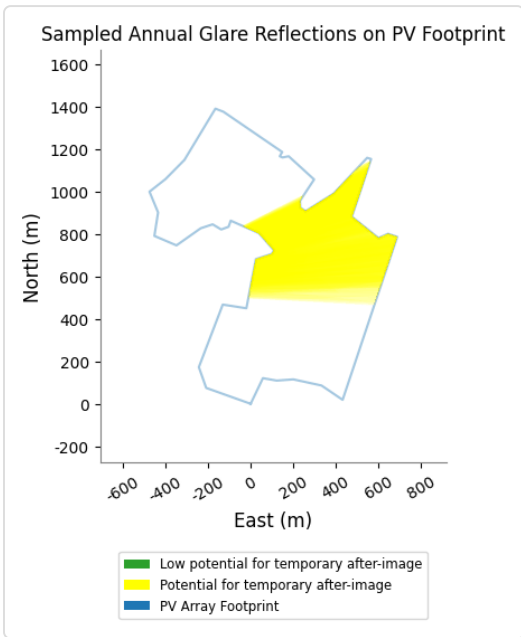
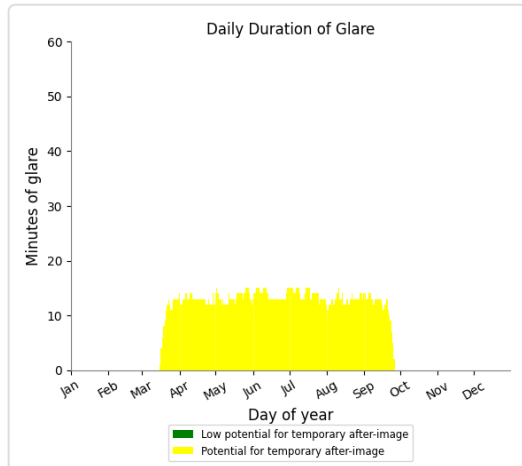
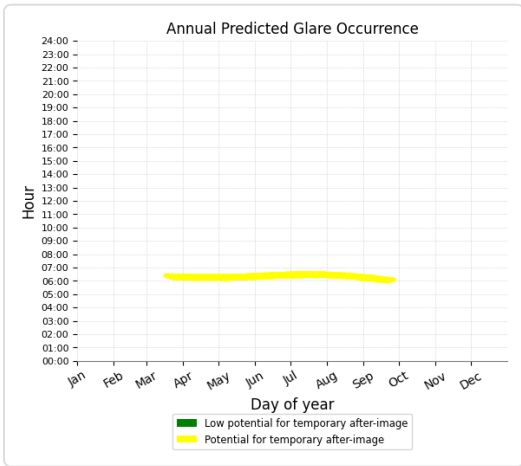
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,635 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 35)

PV array is expected to produce the following glare for receptors at this location:

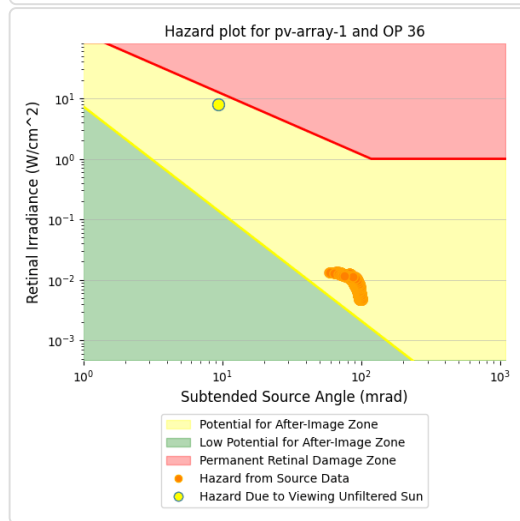
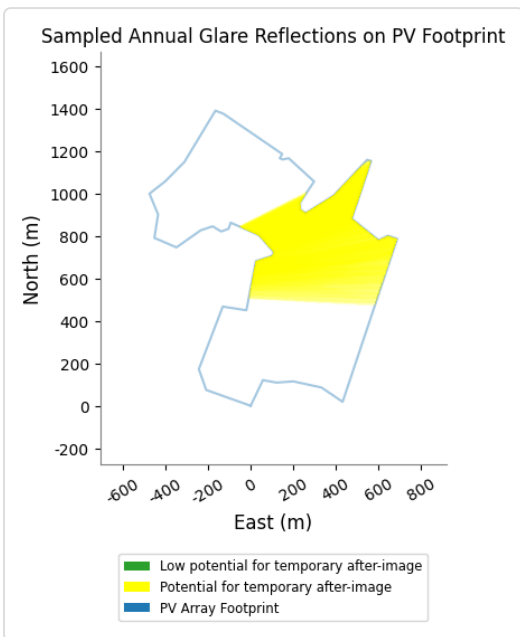
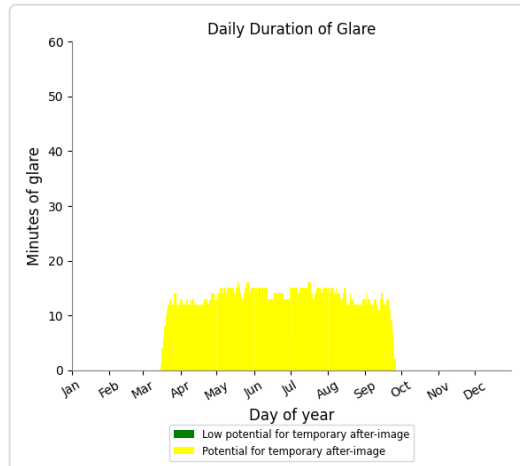
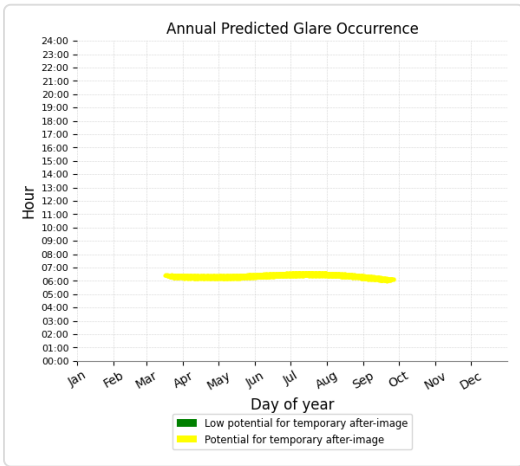
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,511 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 36)

PV array is expected to produce the following glare for receptors at this location:

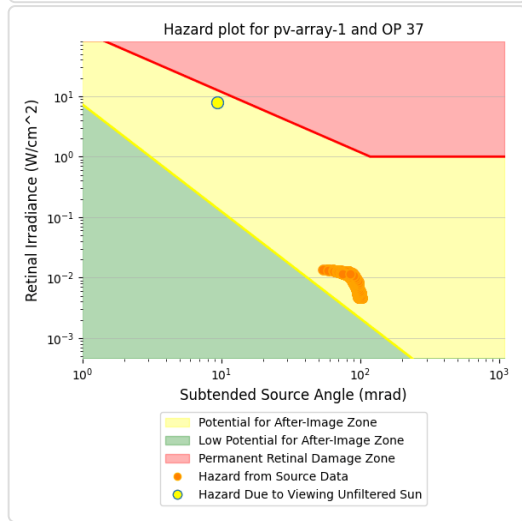
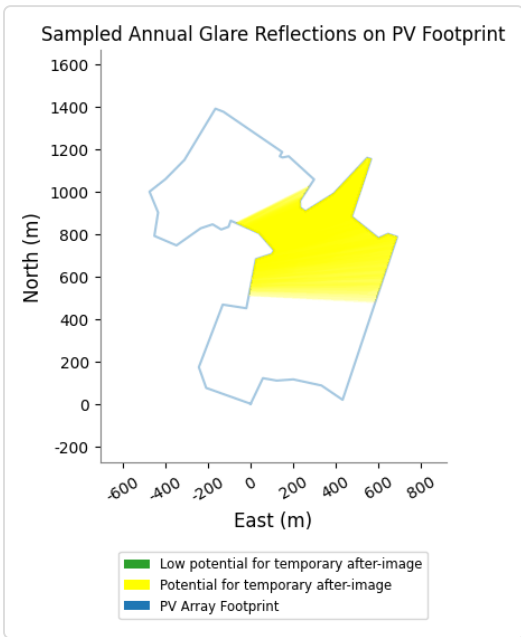
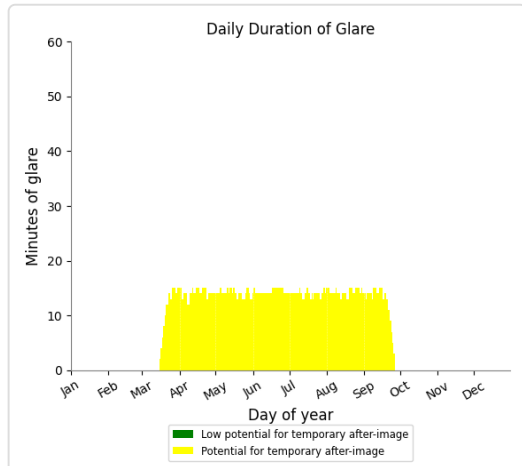
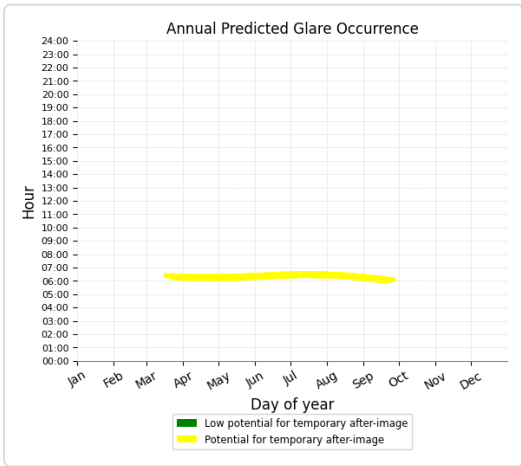
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,590 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 37)

PV array is expected to produce the following glare for receptors at this location:

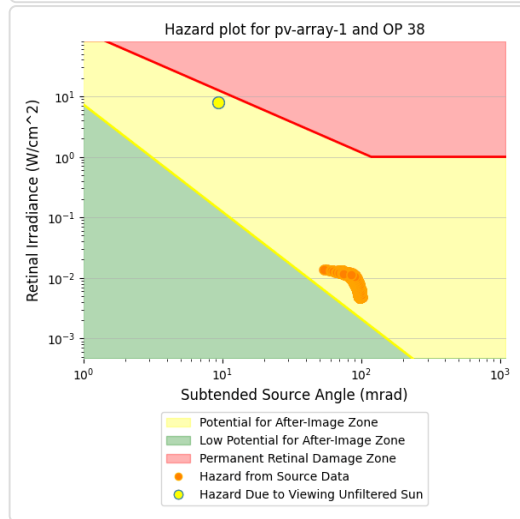
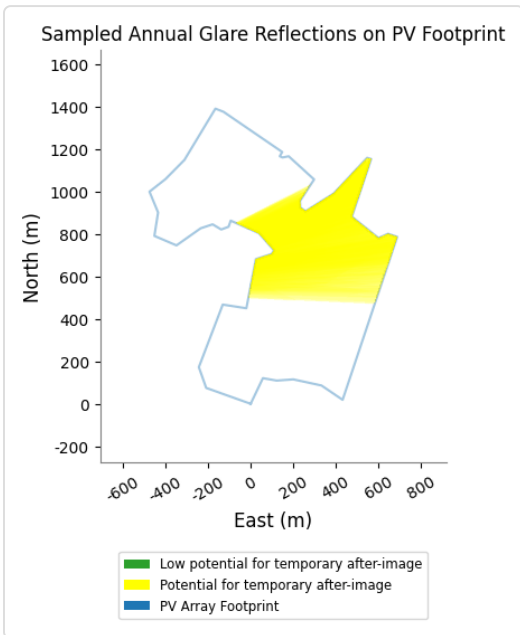
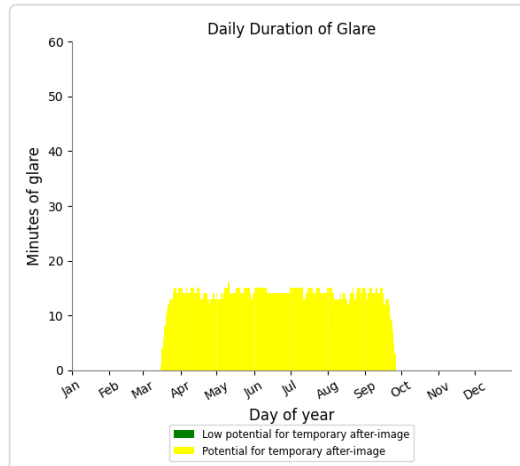
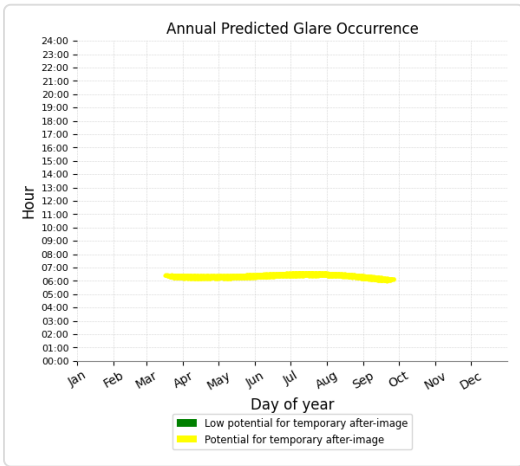
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,675 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 38)

PV array is expected to produce the following glare for receptors at this location:

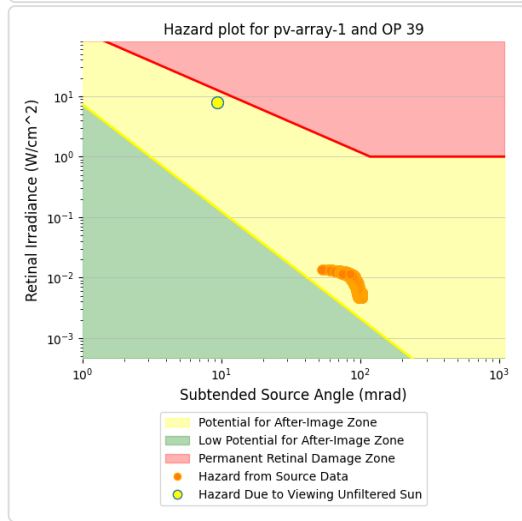
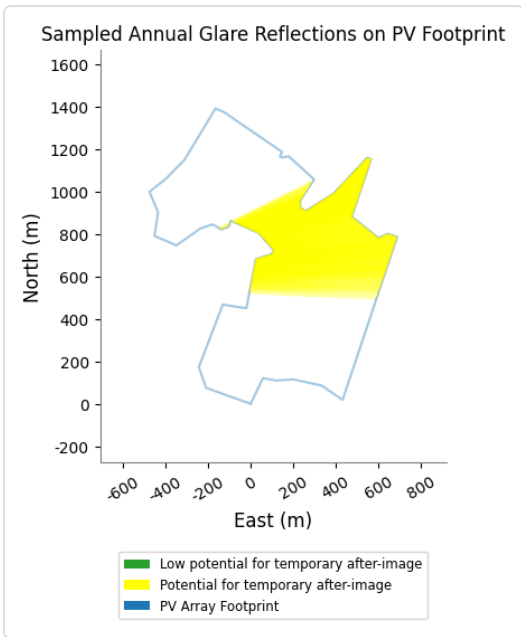
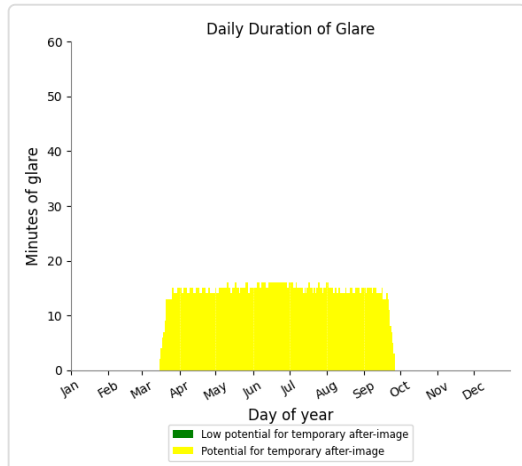
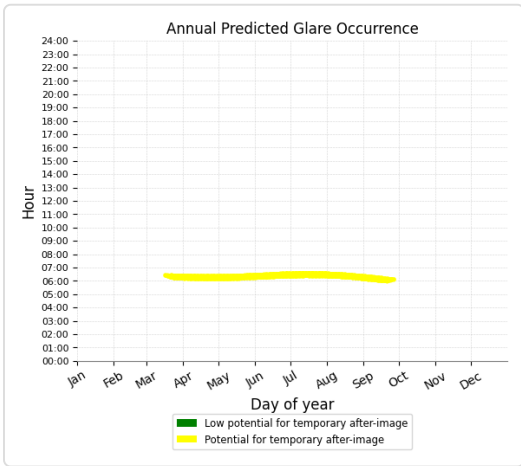
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,680 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 39)

PV array is expected to produce the following glare for receptors at this location:

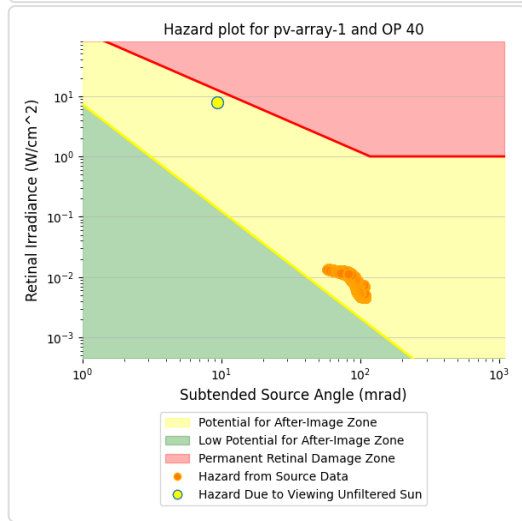
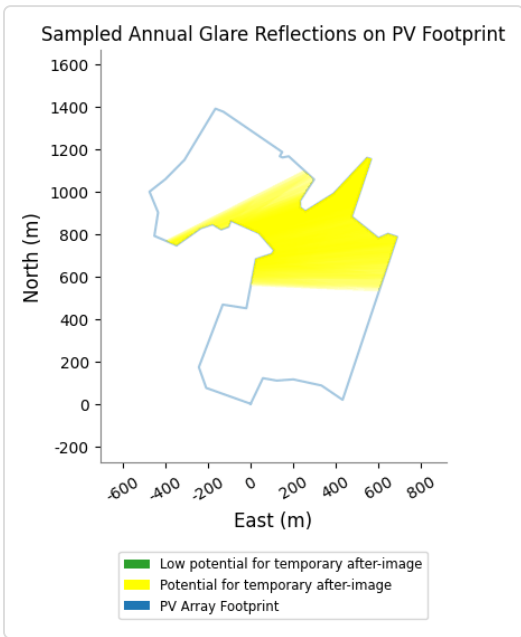
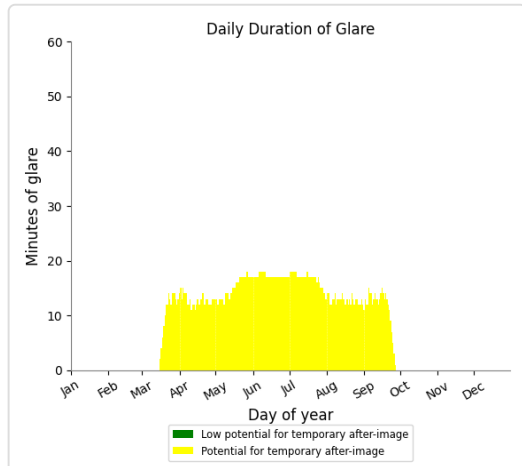
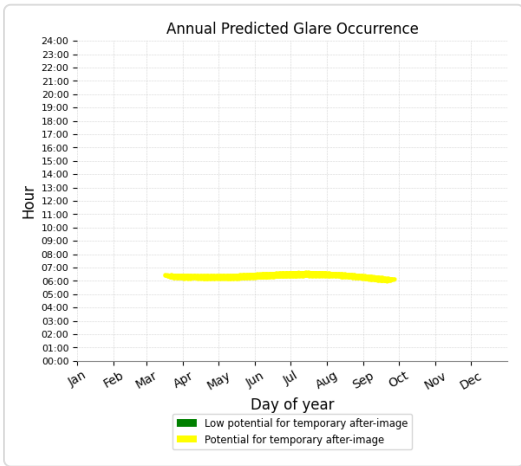
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,810 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 40)

PV array is expected to produce the following glare for receptors at this location:

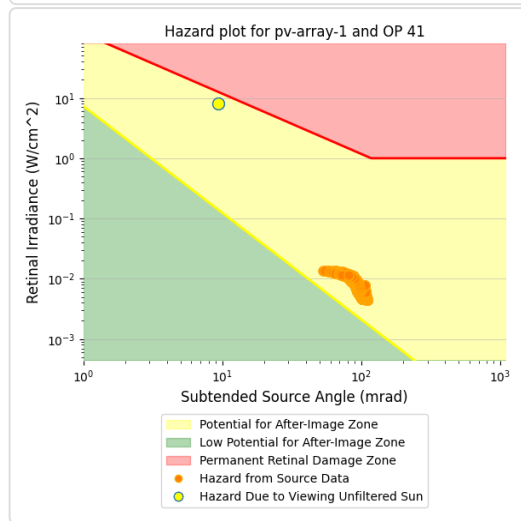
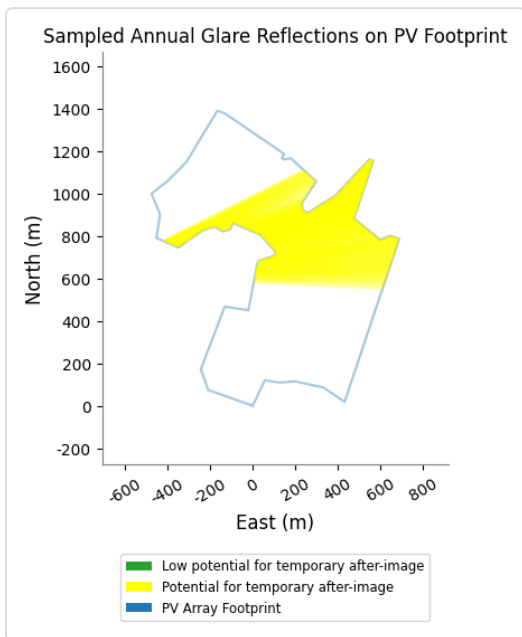
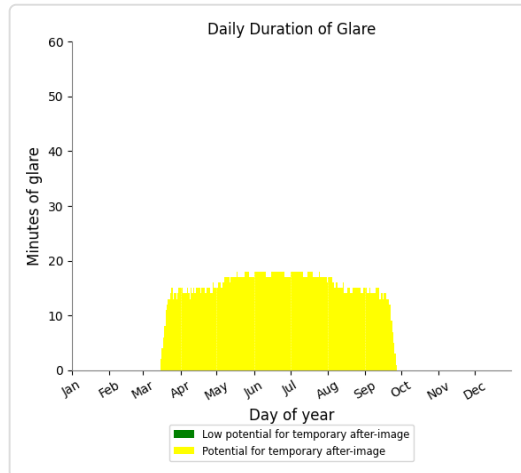
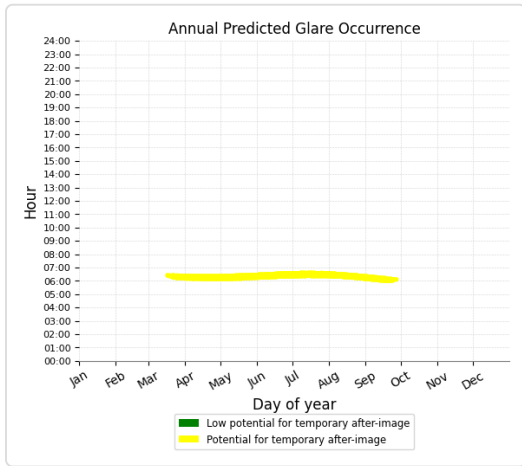
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,766 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 41)

PV array is expected to produce the following glare for receptors at this location:

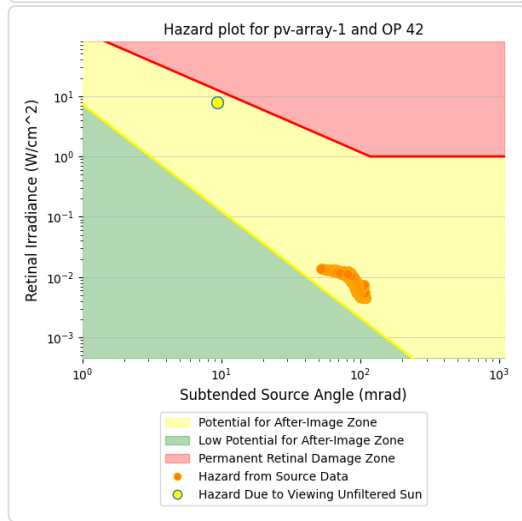
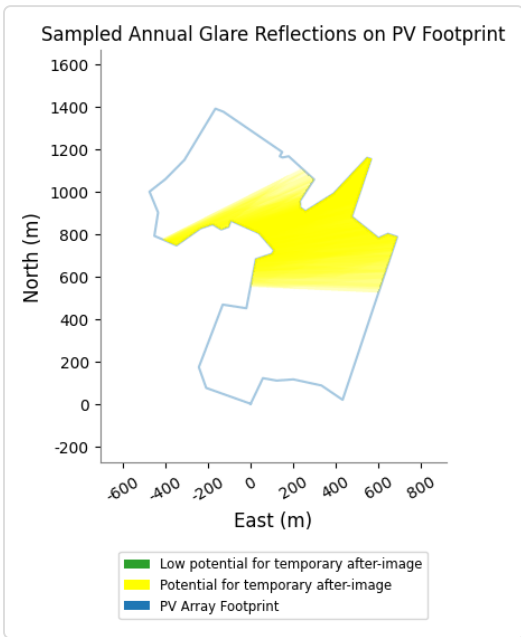
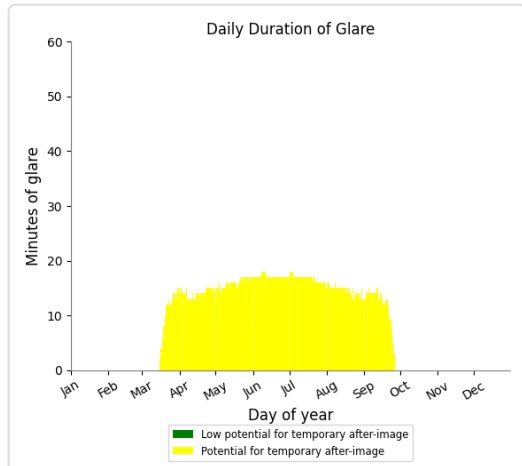
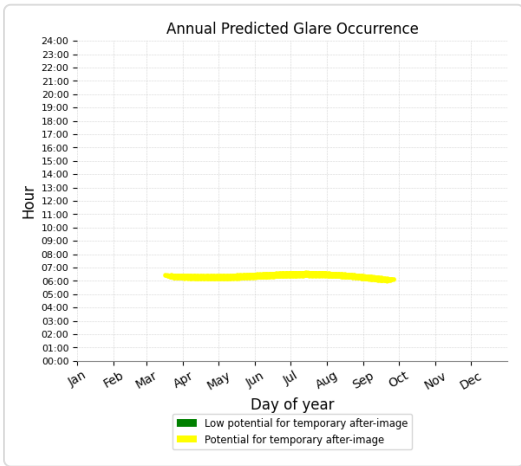
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,011 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 42)

PV array is expected to produce the following glare for receptors at this location:

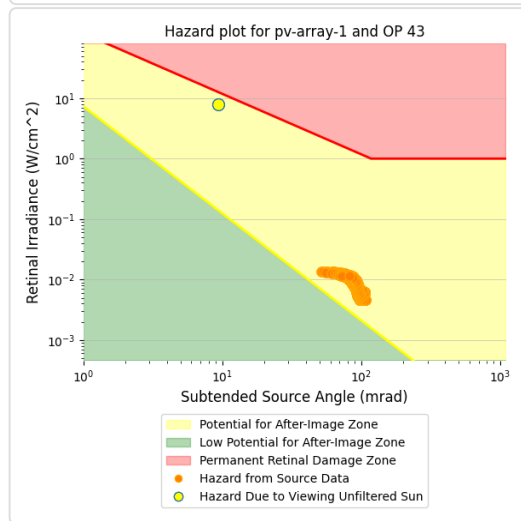
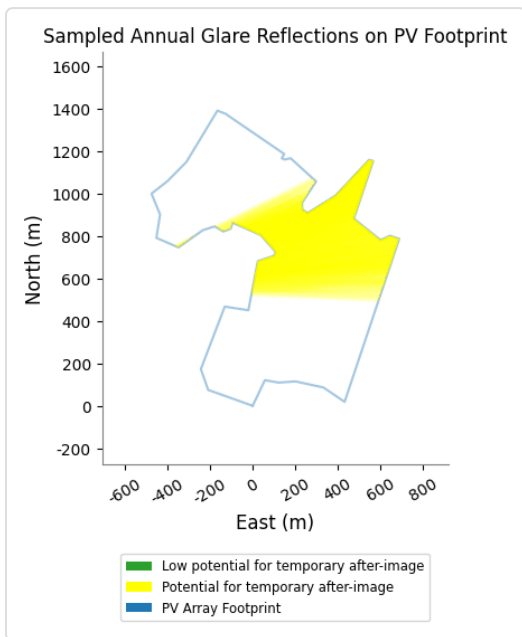
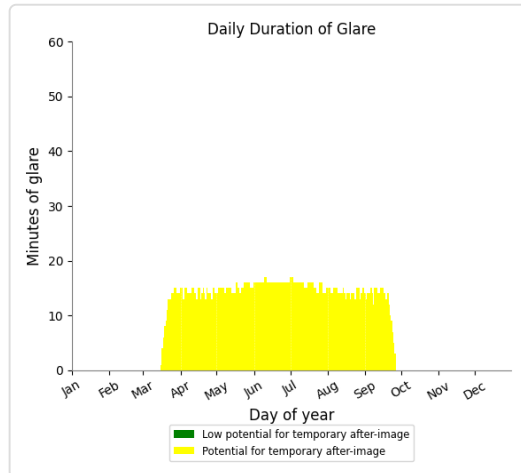
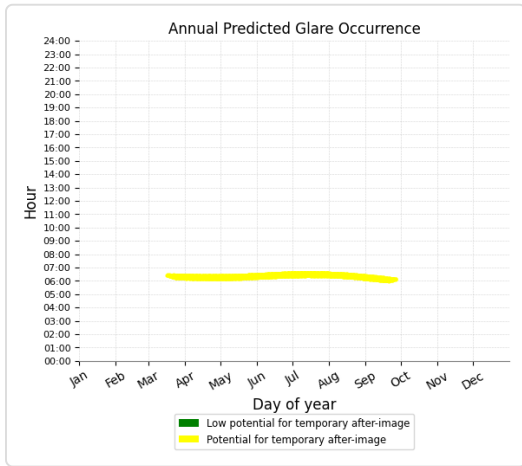
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,890 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 43)

PV array is expected to produce the following glare for receptors at this location:

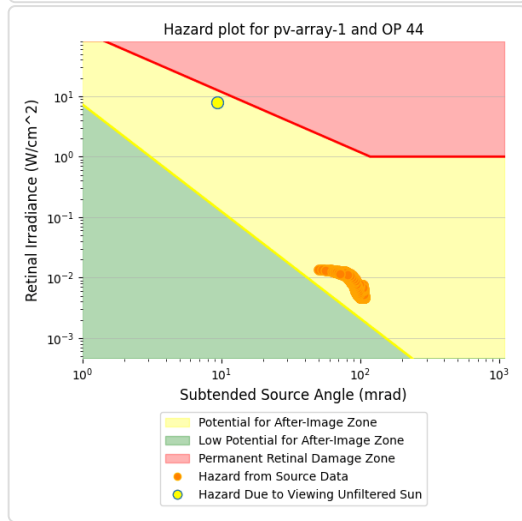
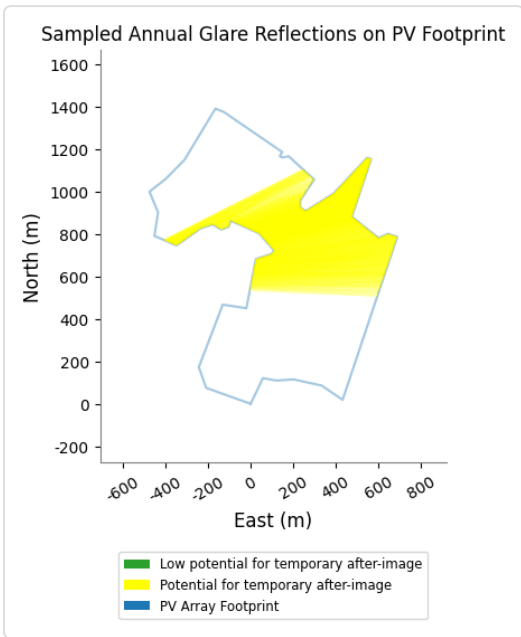
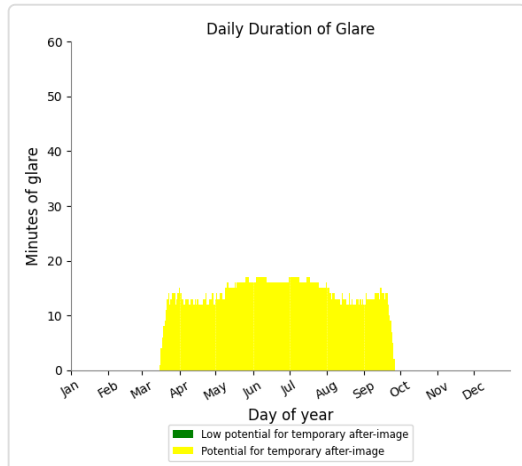
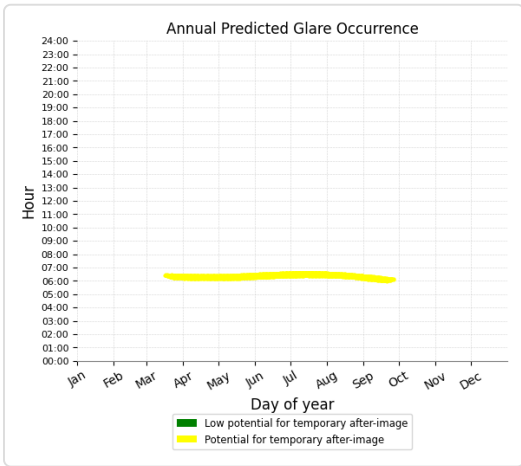
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,803 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 44)

PV array is expected to produce the following glare for receptors at this location:

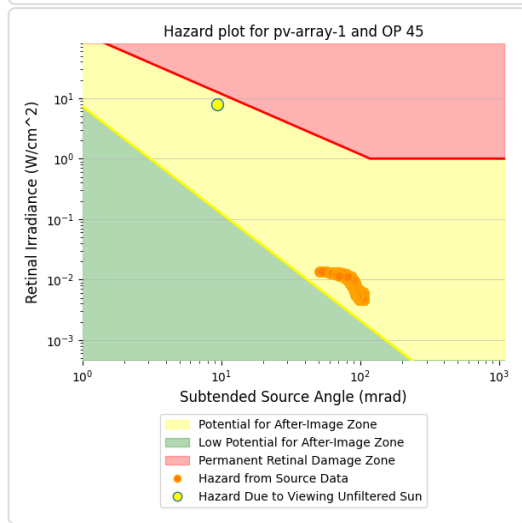
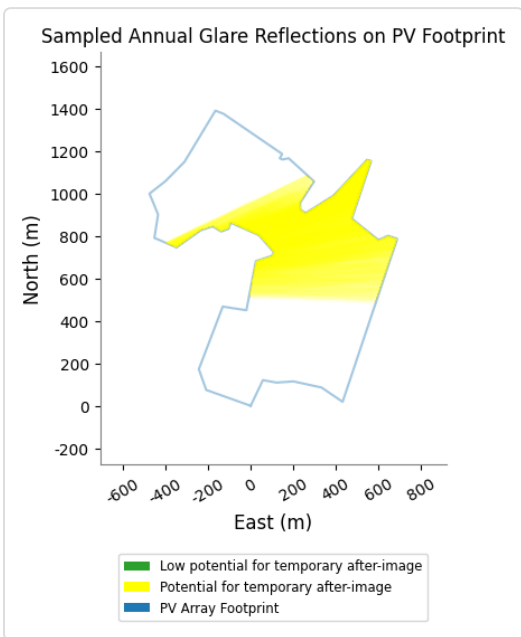
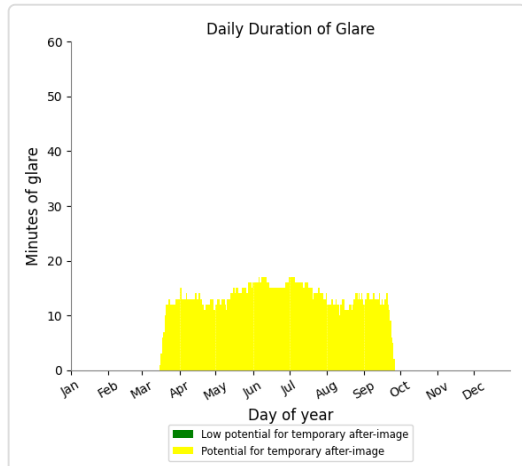
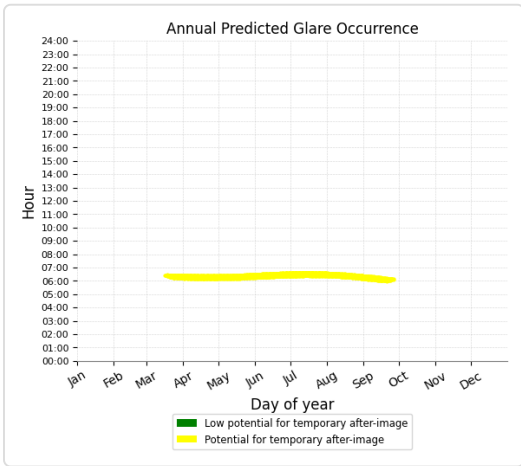
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,737 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 45)

PV array is expected to produce the following glare for receptors at this location:

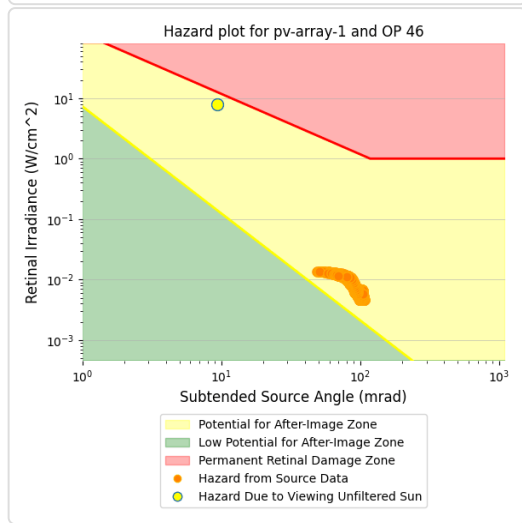
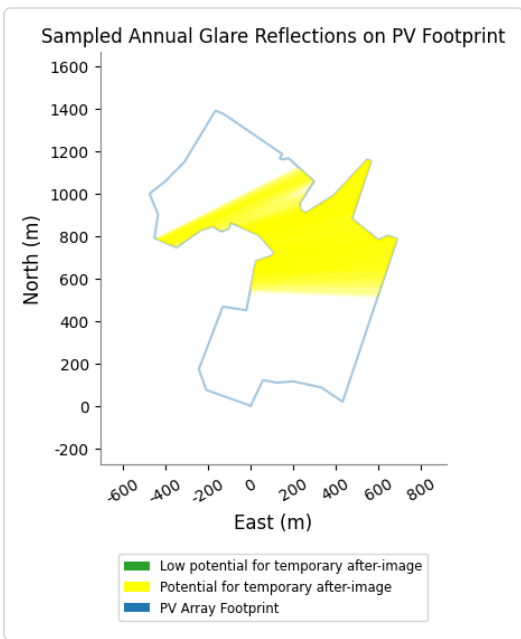
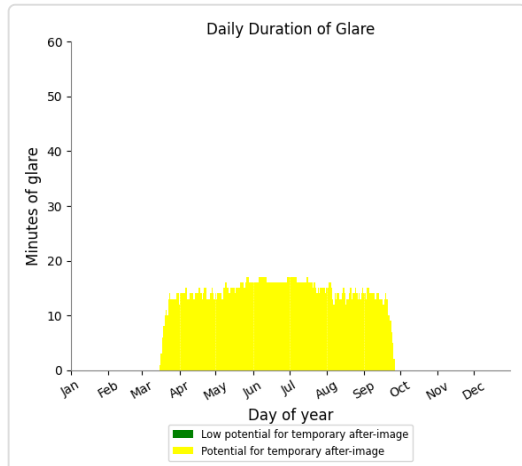
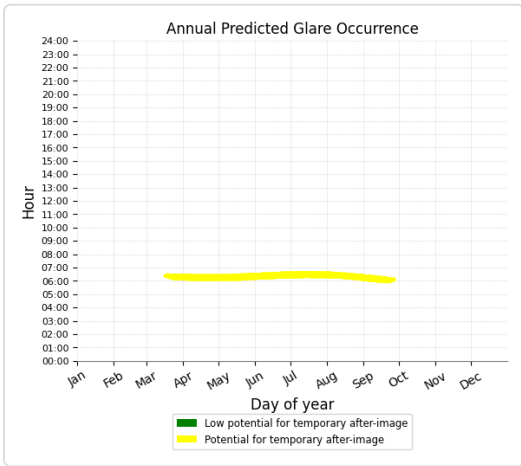
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,617 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 46)

PV array is expected to produce the following glare for receptors at this location:

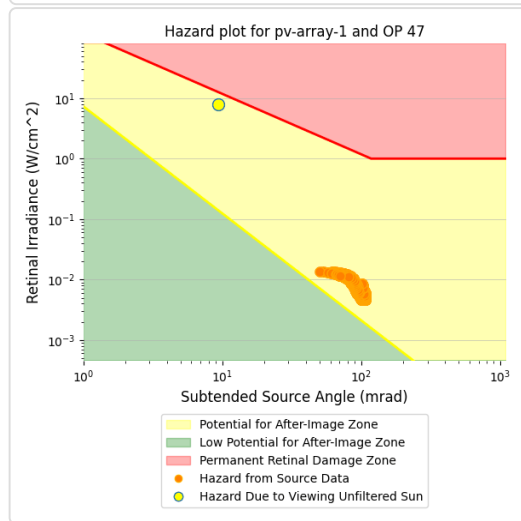
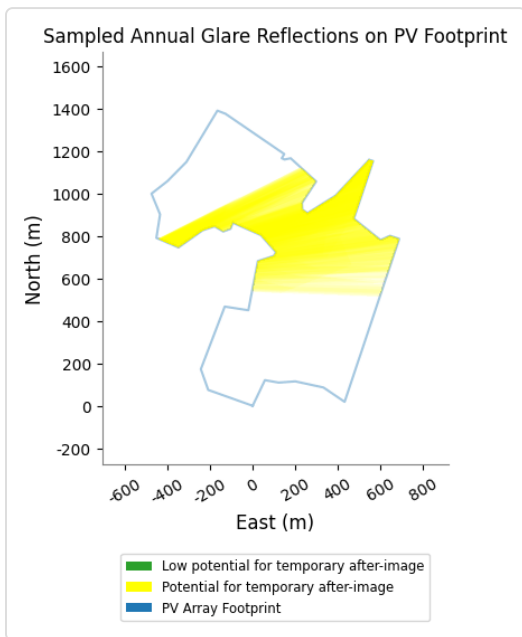
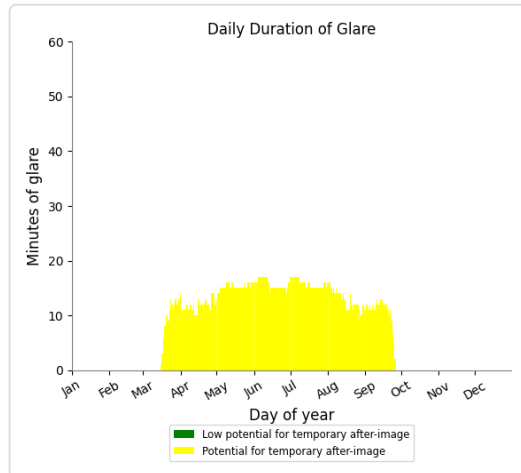
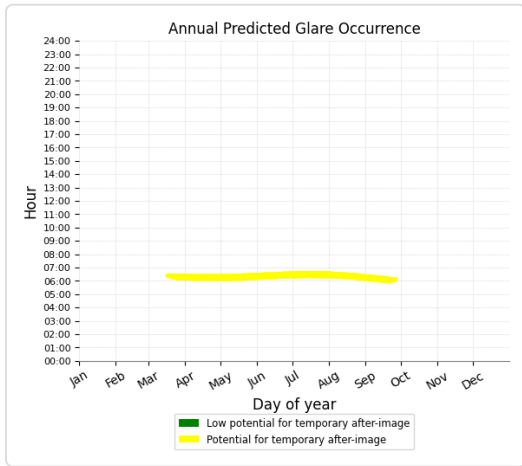
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,777 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 47)

PV array is expected to produce the following glare for receptors at this location:

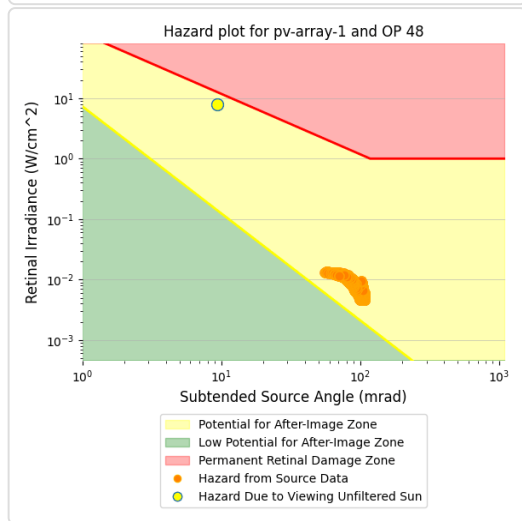
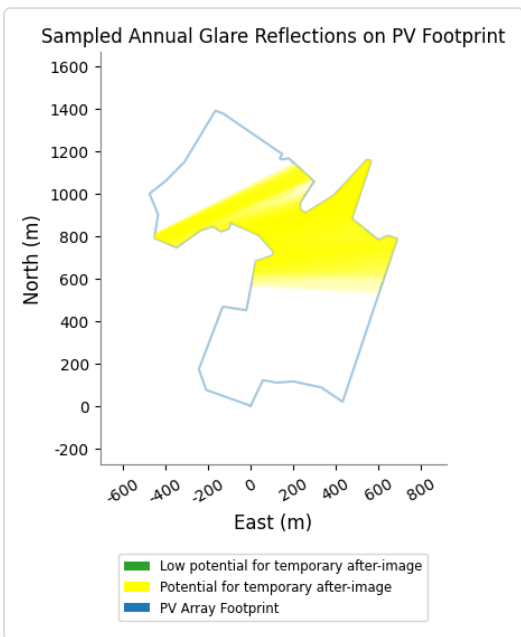
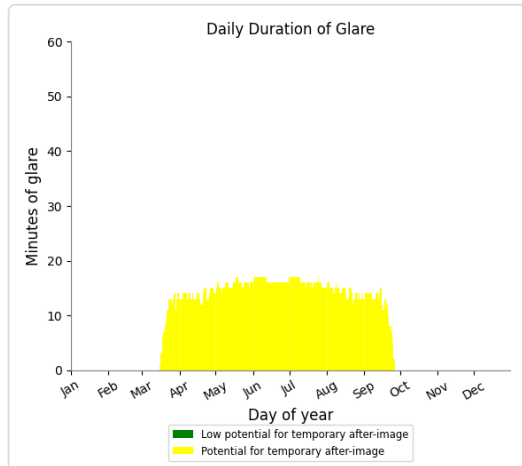
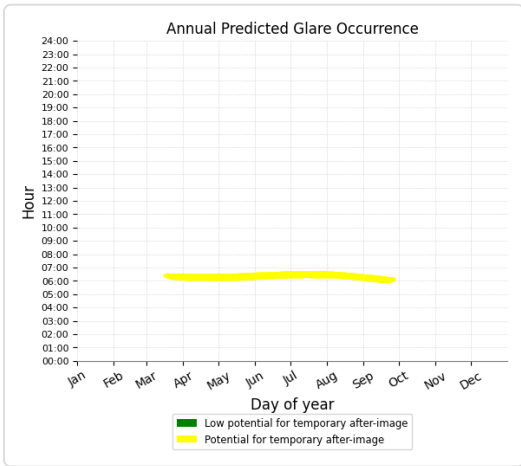
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,623 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 48)

PV array is expected to produce the following glare for receptors at this location:

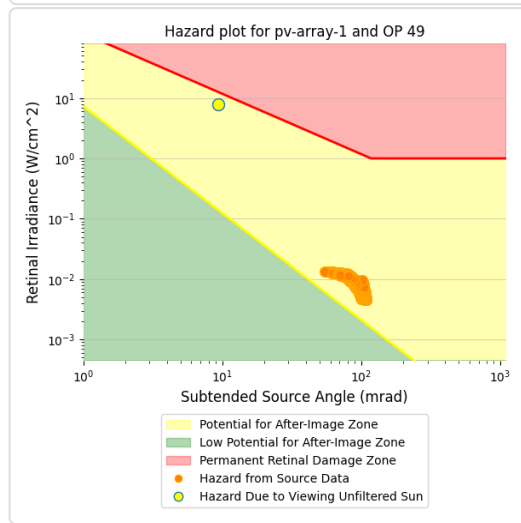
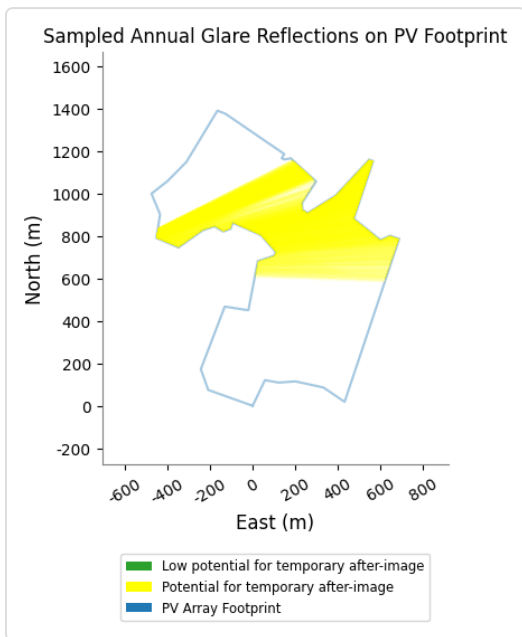
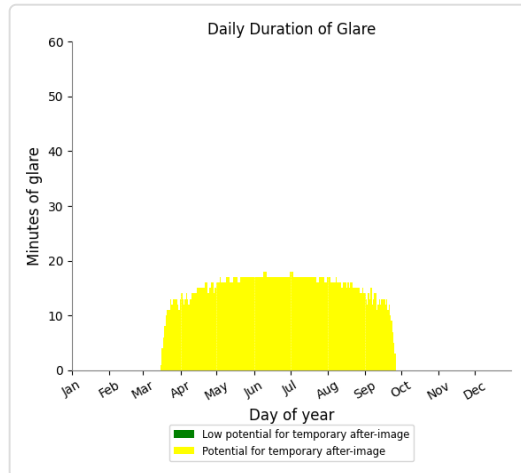
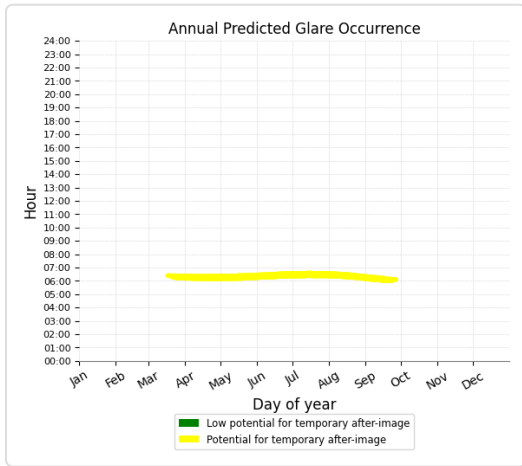
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,795 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 49)

PV array is expected to produce the following glare for receptors at this location:

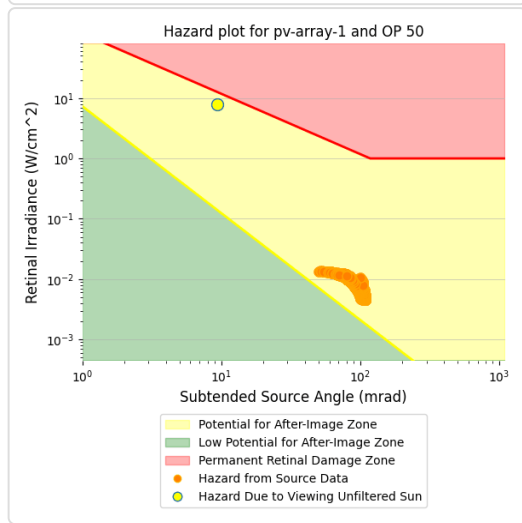
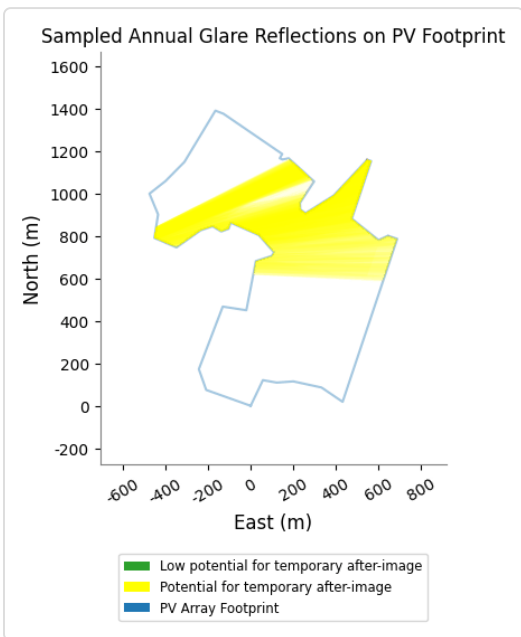
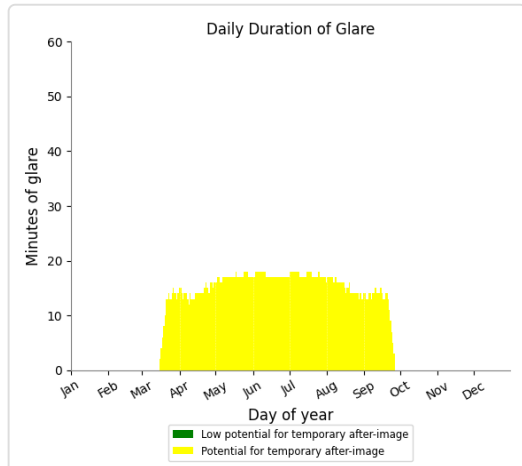
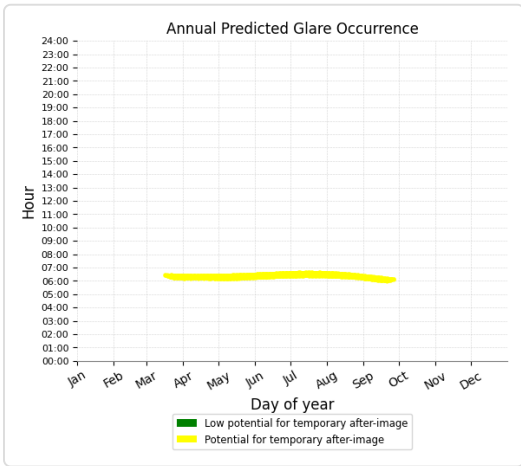
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,931 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 50)

PV array is expected to produce the following glare for receptors at this location:

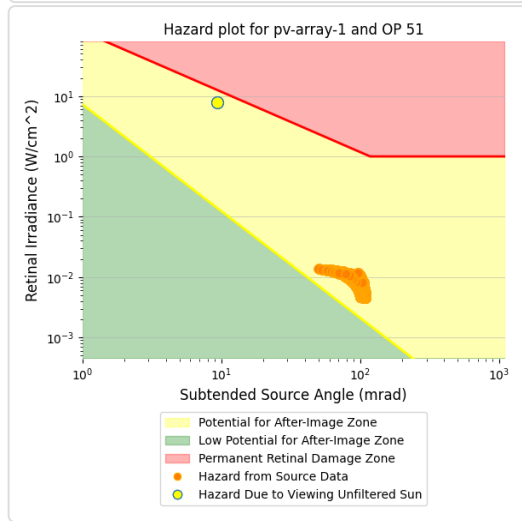
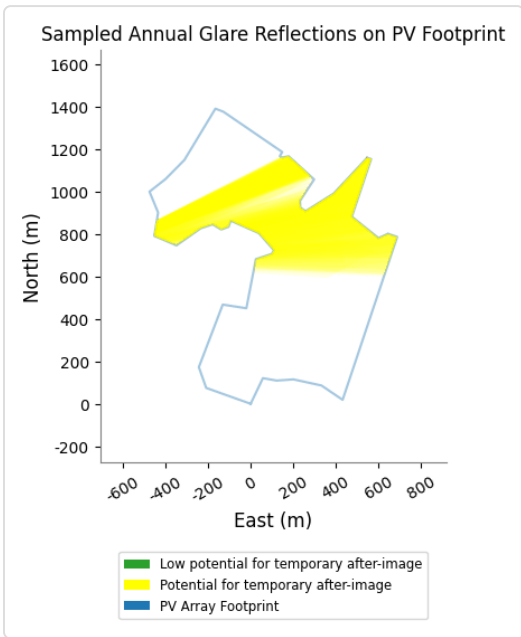
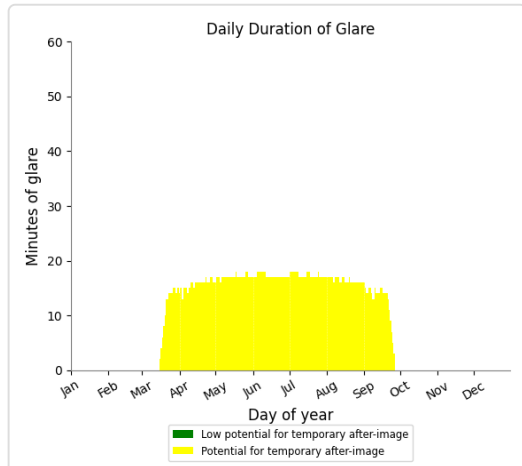
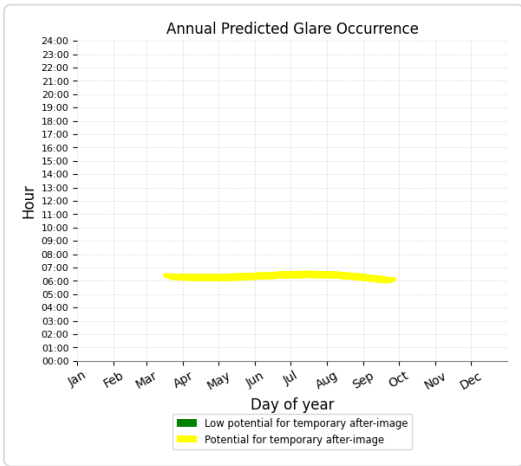
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,992 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 51)

PV array is expected to produce the following glare for receptors at this location:

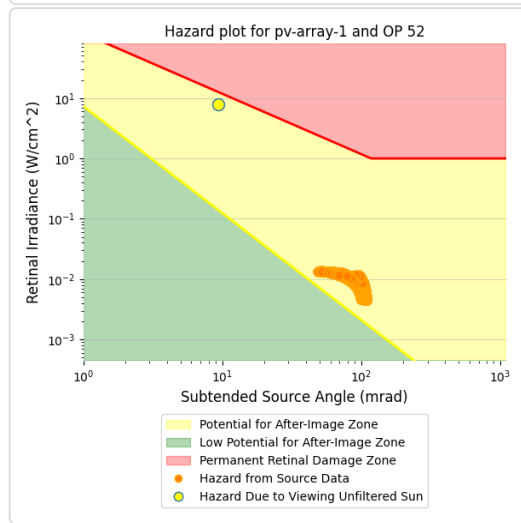
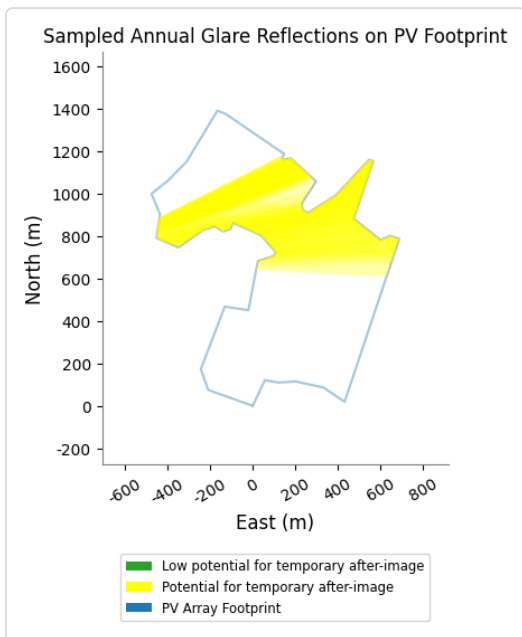
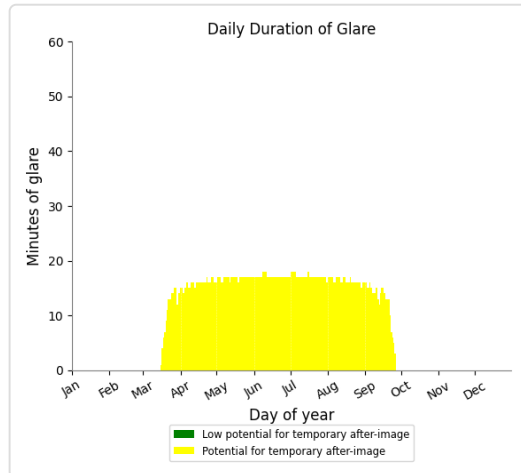
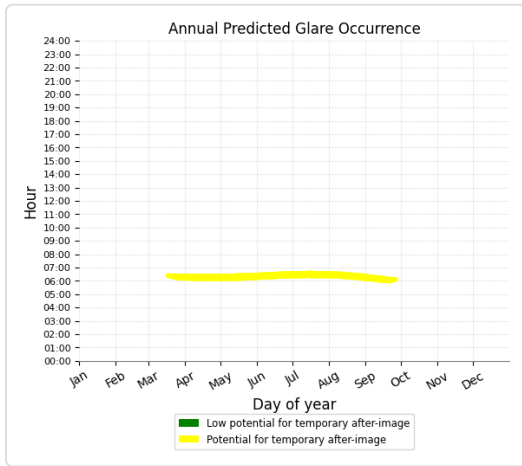
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,077 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 52)

PV array is expected to produce the following glare for receptors at this location:

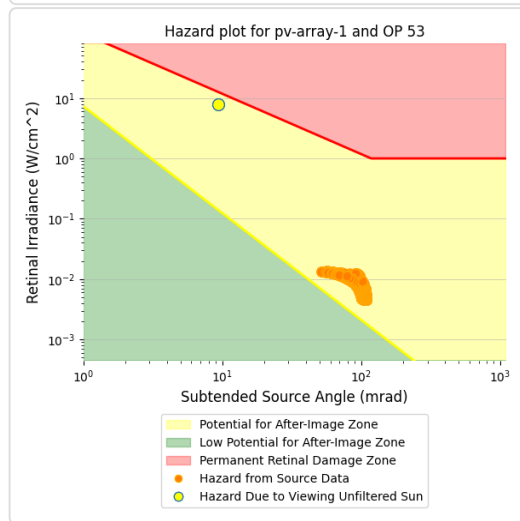
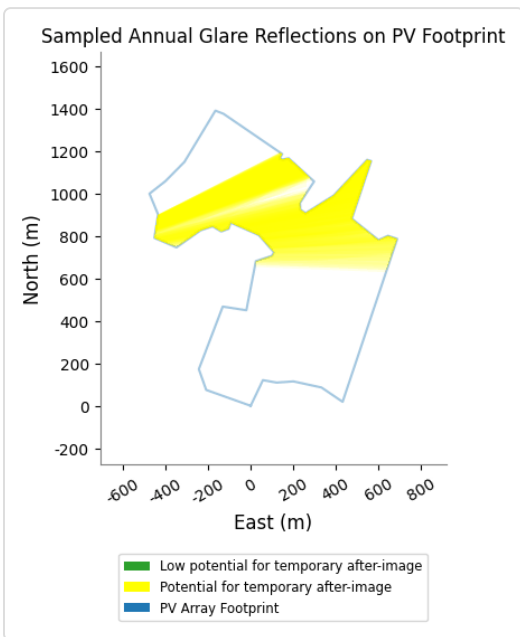
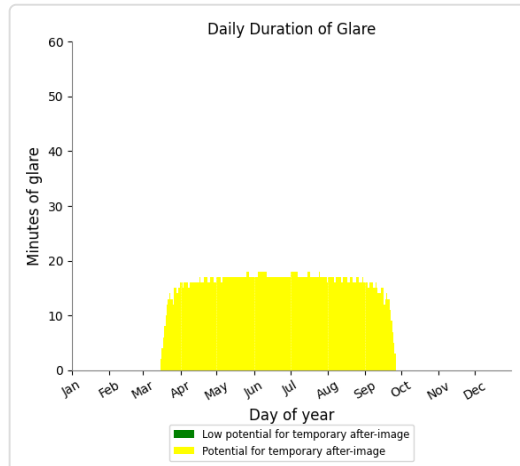
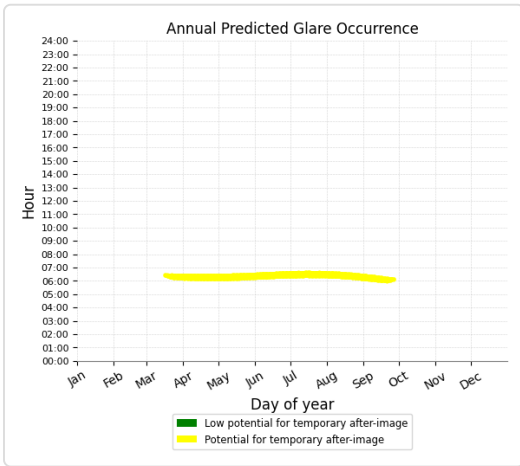
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,050 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 53)

PV array is expected to produce the following glare for receptors at this location:

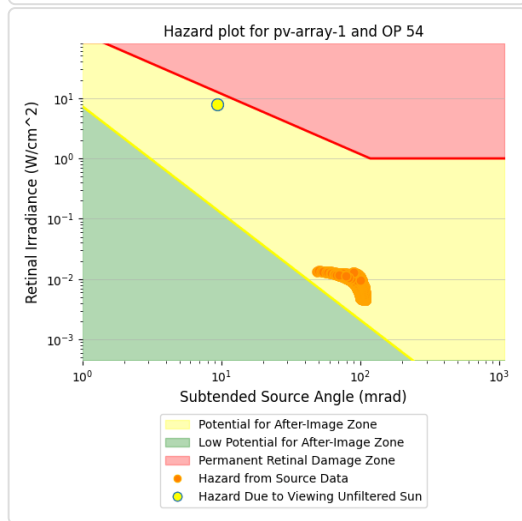
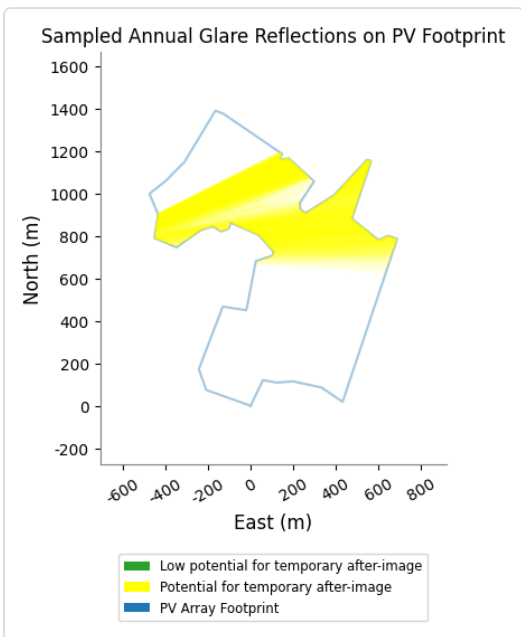
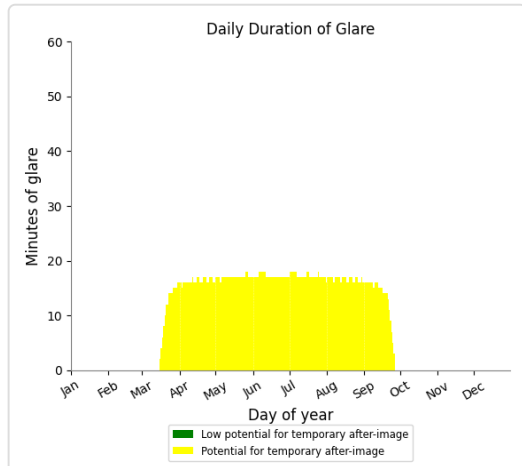
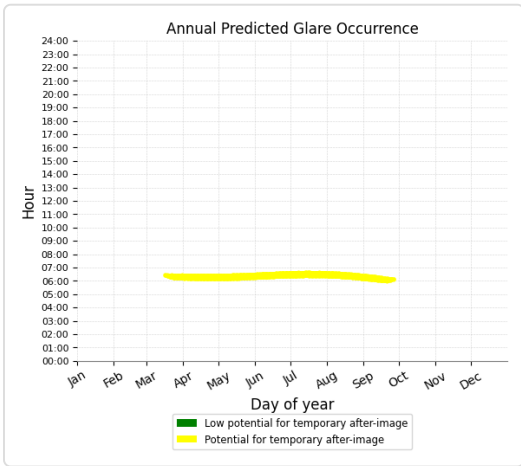
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,105 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 54)

PV array is expected to produce the following glare for receptors at this location:

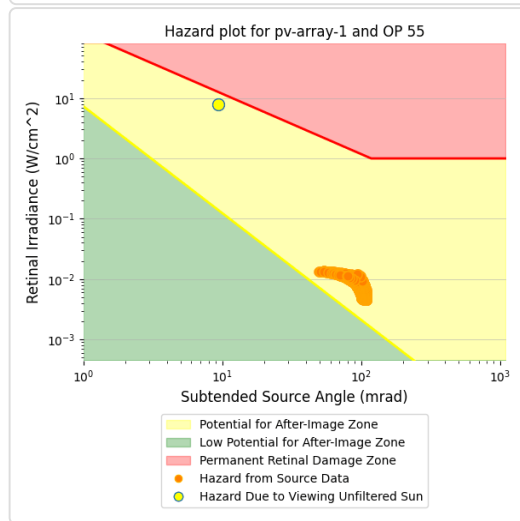
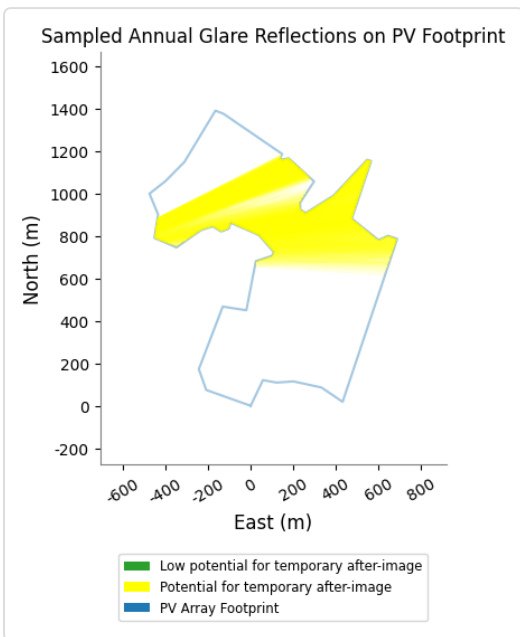
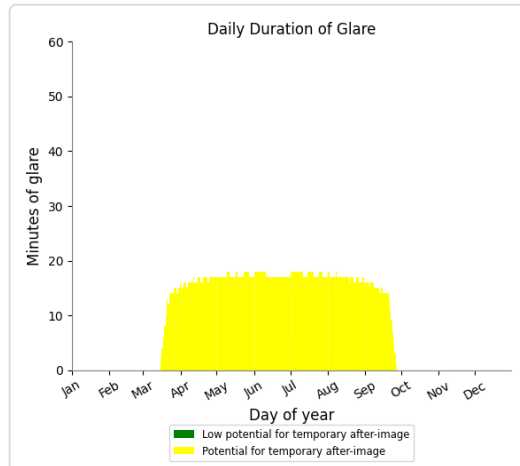
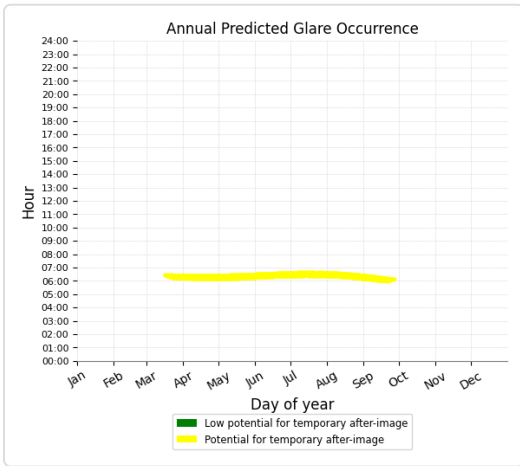
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,125 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 55)

PV array is expected to produce the following glare for receptors at this location:

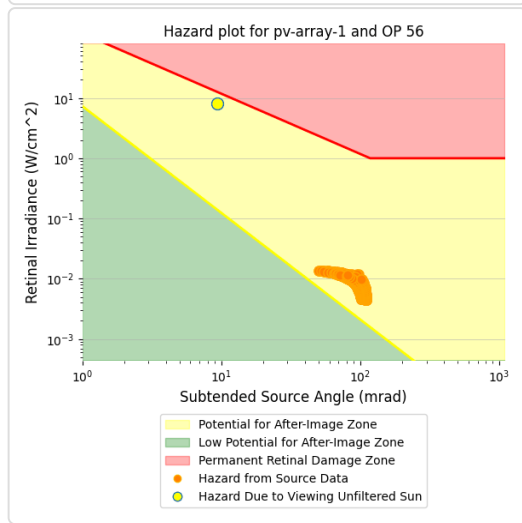
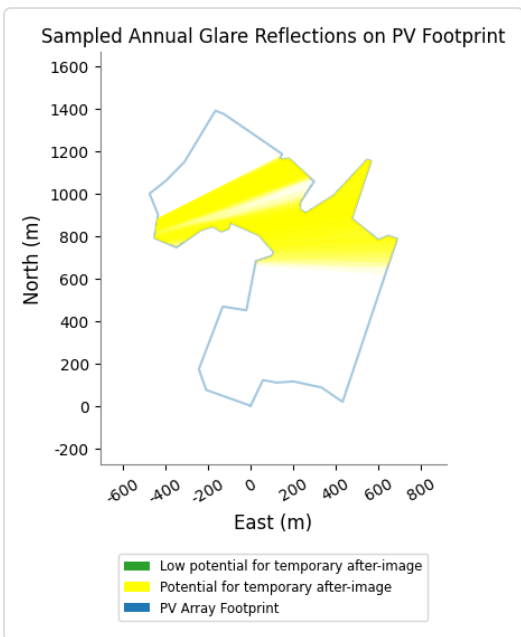
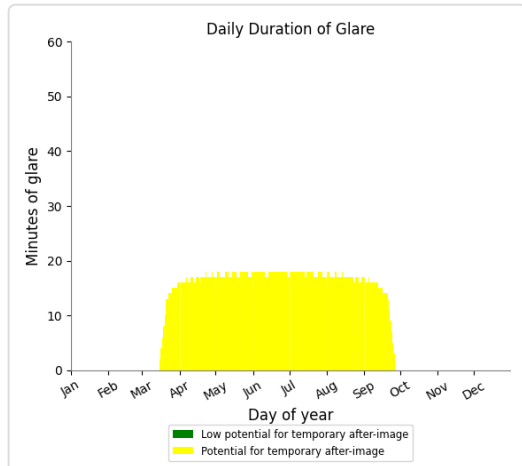
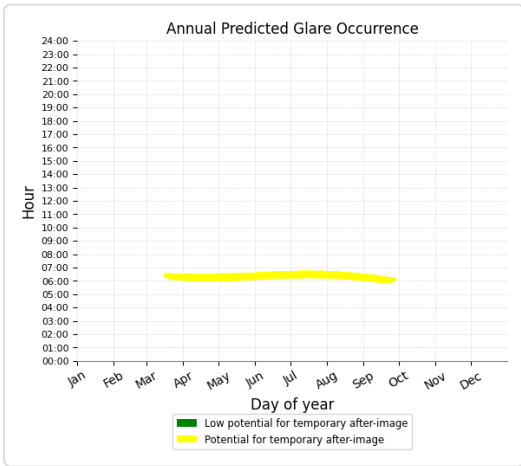
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,144 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 56)

PV array is expected to produce the following glare for receptors at this location:

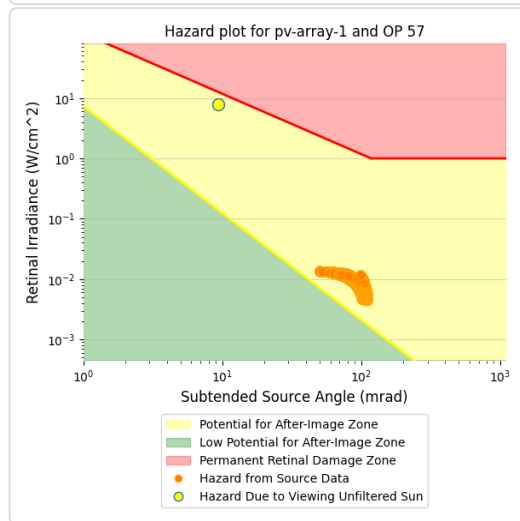
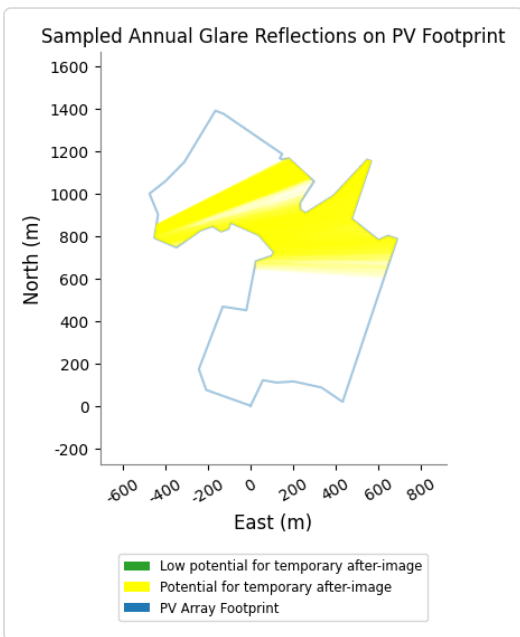
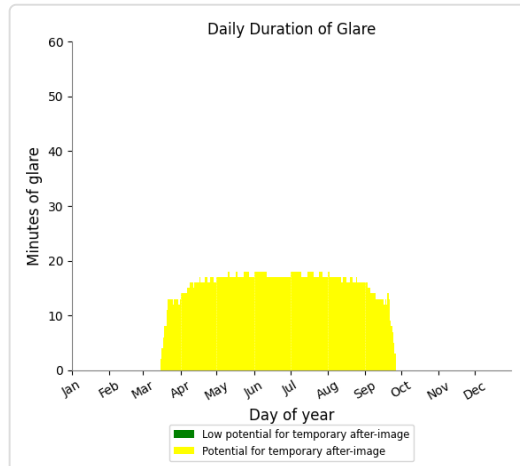
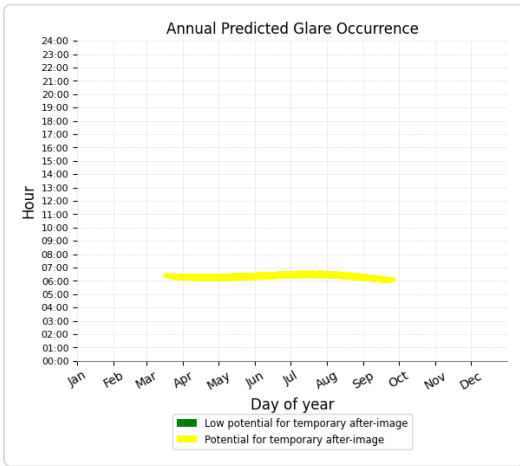
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,204 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 57)

PV array is expected to produce the following glare for receptors at this location:

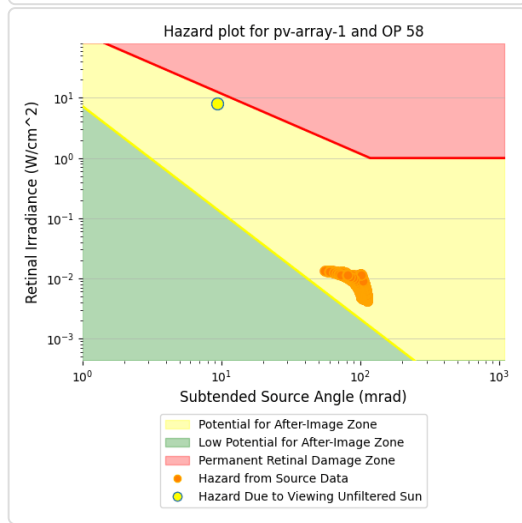
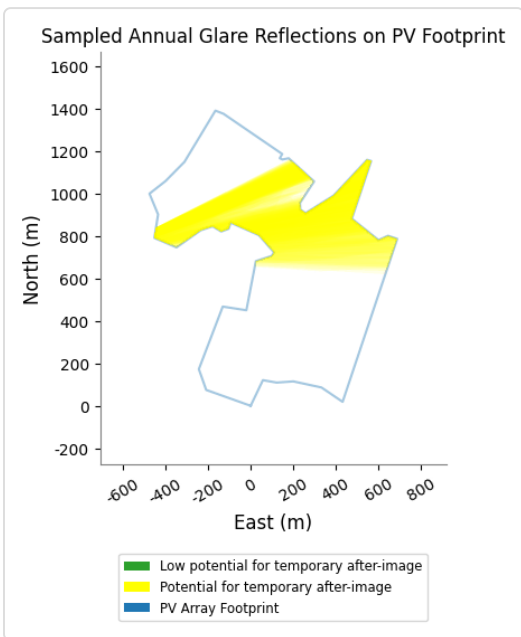
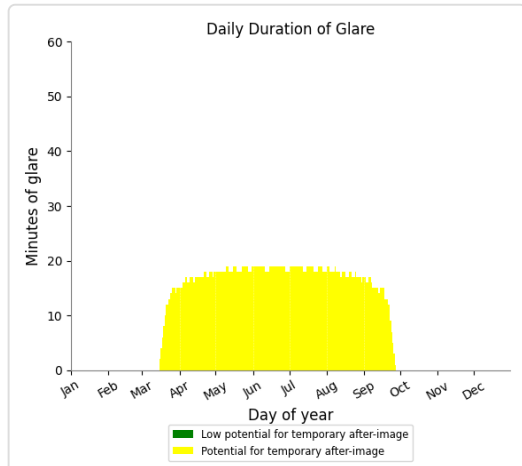
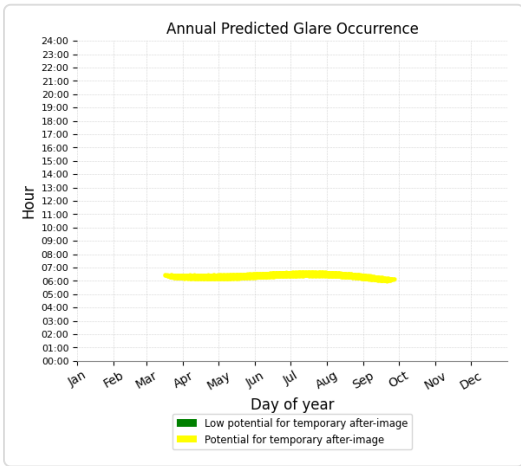
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,178 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 58)

PV array is expected to produce the following glare for receptors at this location:

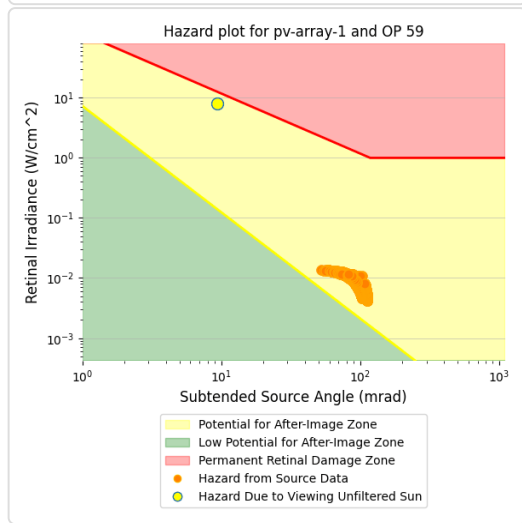
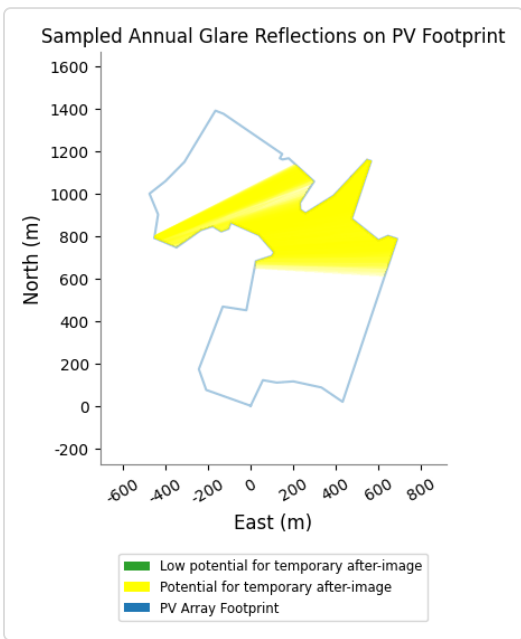
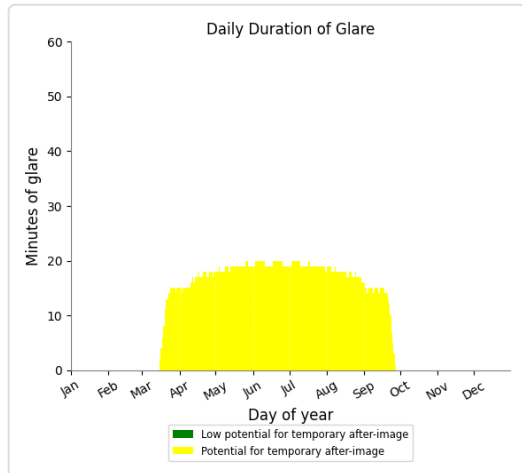
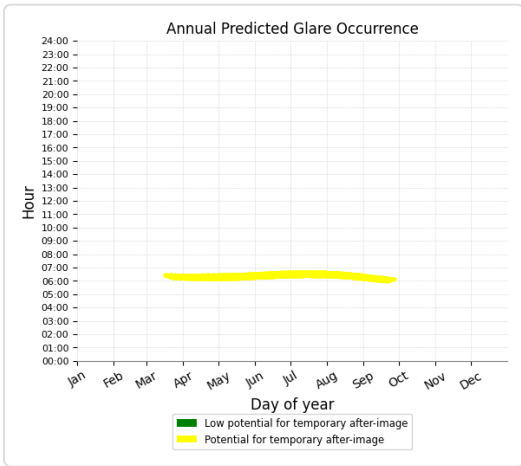
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,298 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 59)

PV array is expected to produce the following glare for receptors at this location:

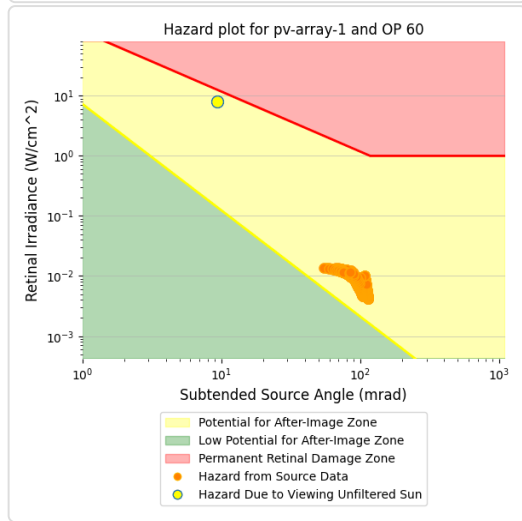
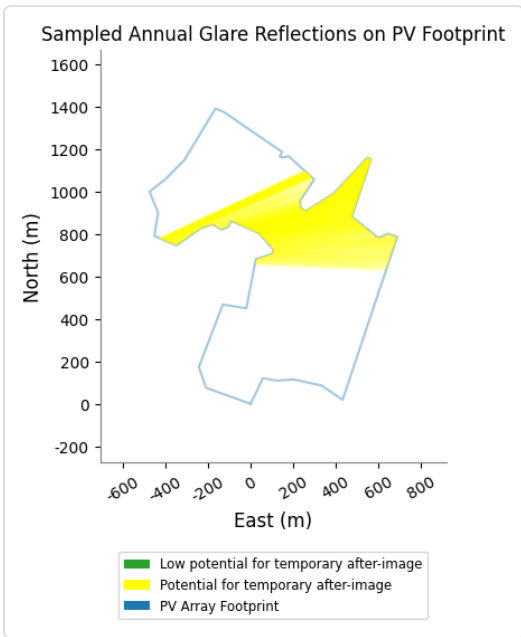
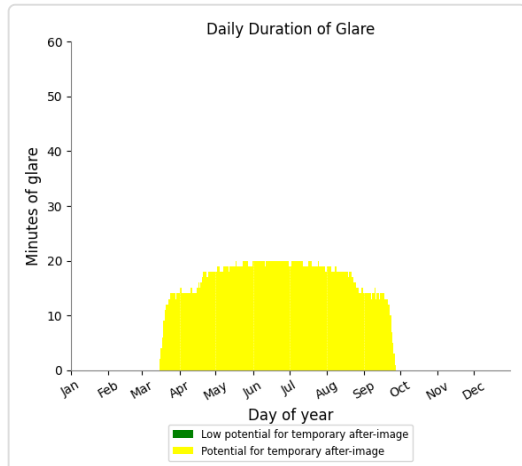
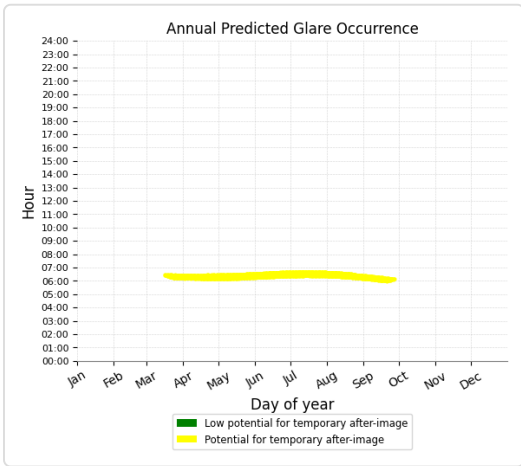
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,344 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 60)

PV array is expected to produce the following glare for receptors at this location:

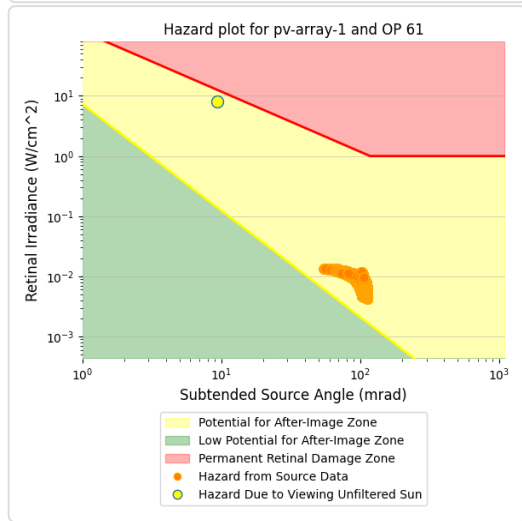
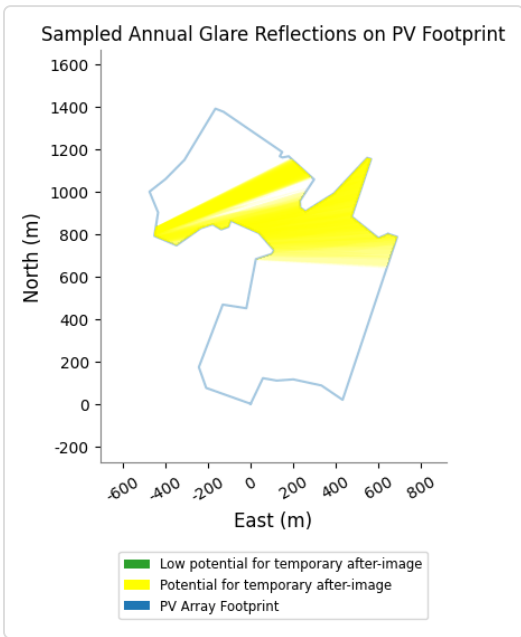
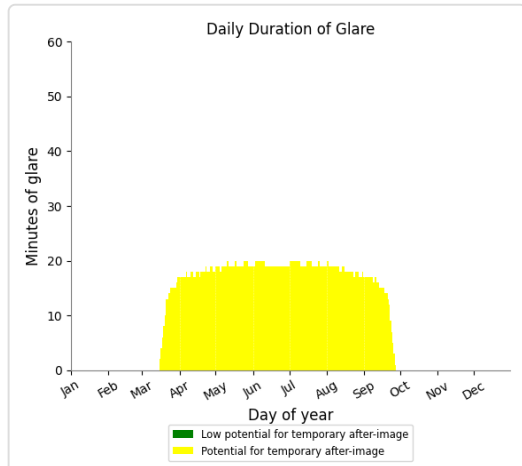
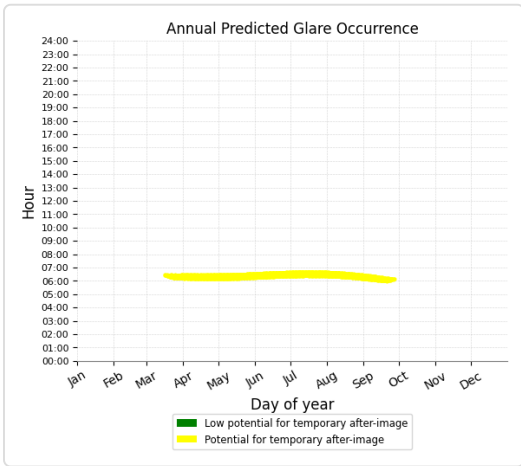
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,299 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 61)

PV array is expected to produce the following glare for receptors at this location:

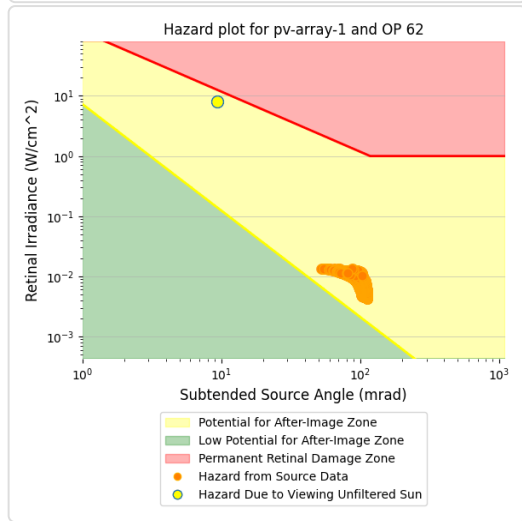
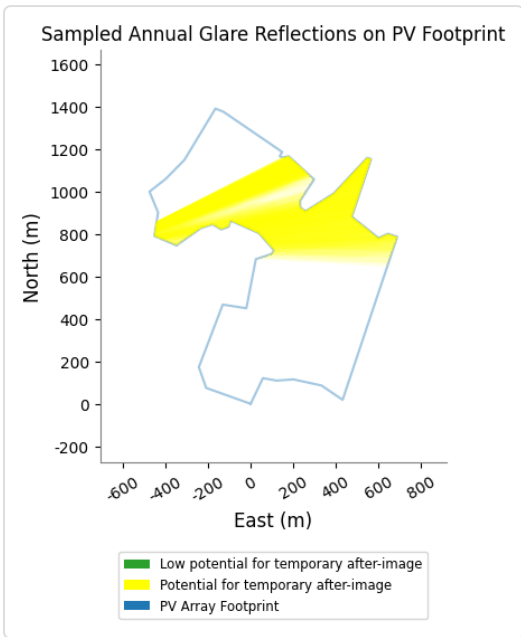
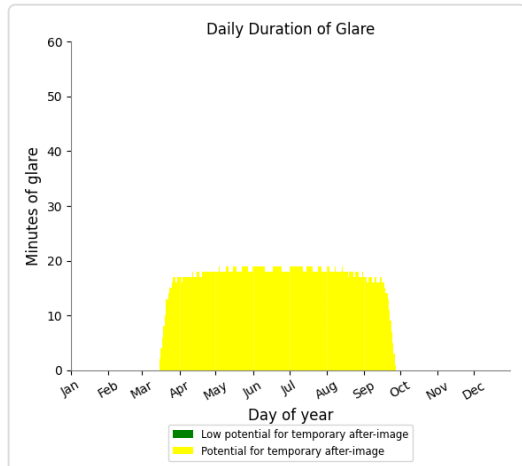
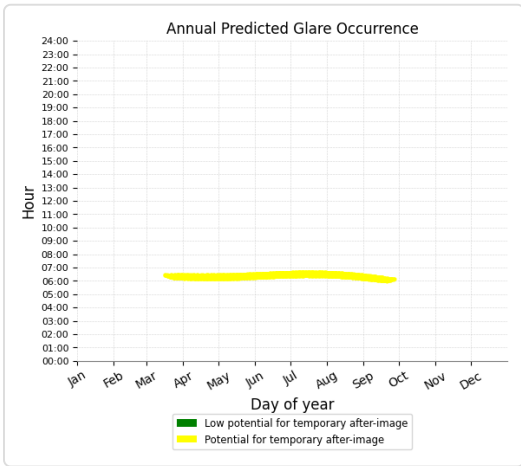
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,437 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 62)

PV array is expected to produce the following glare for receptors at this location:

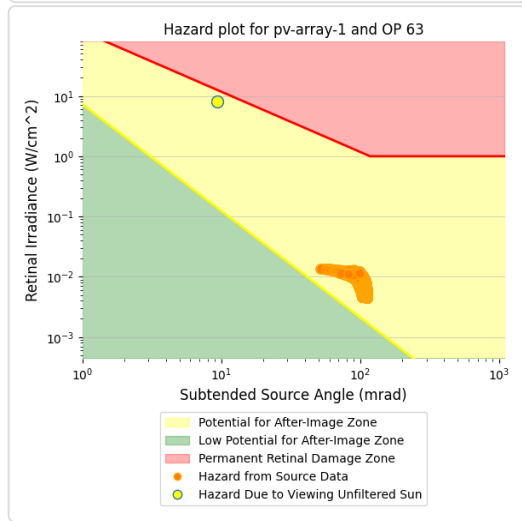
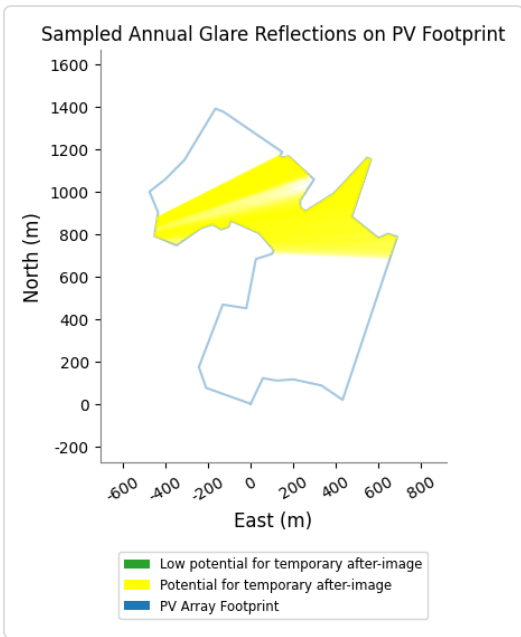
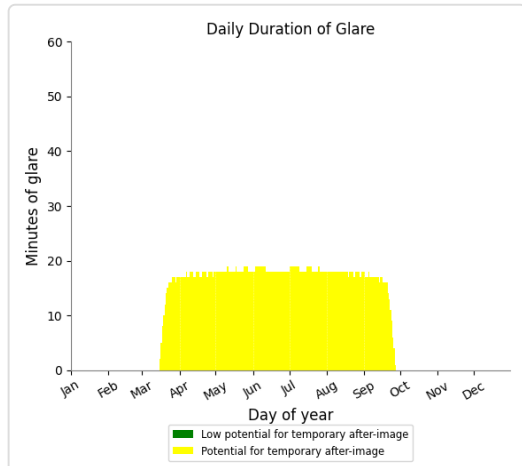
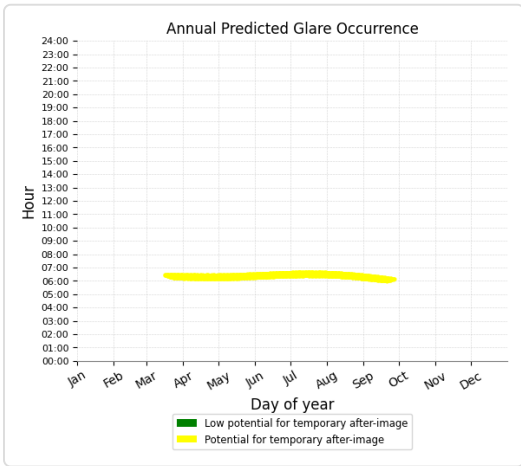
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,355 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 63)

PV array is expected to produce the following glare for receptors at this location:

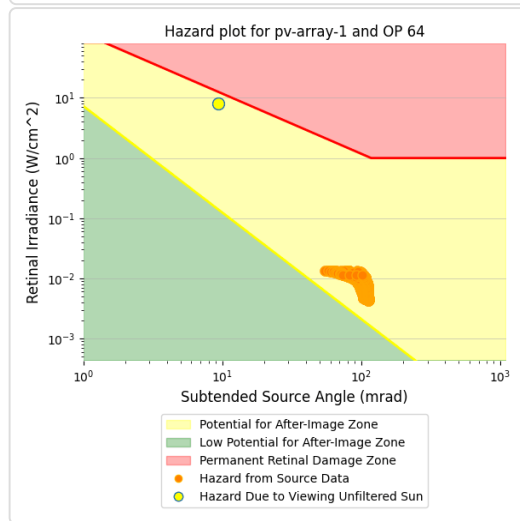
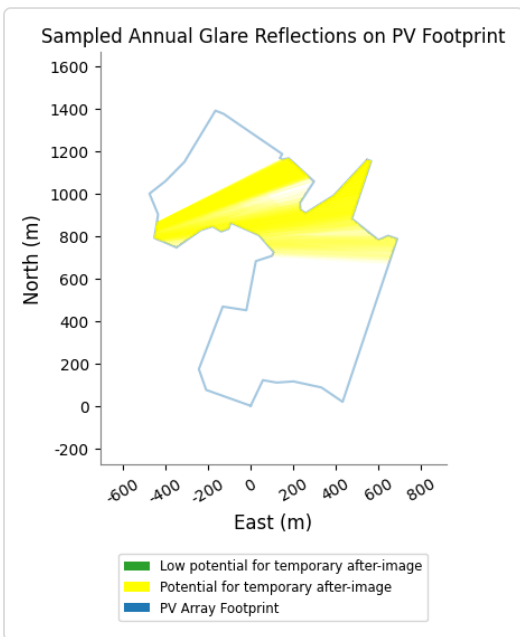
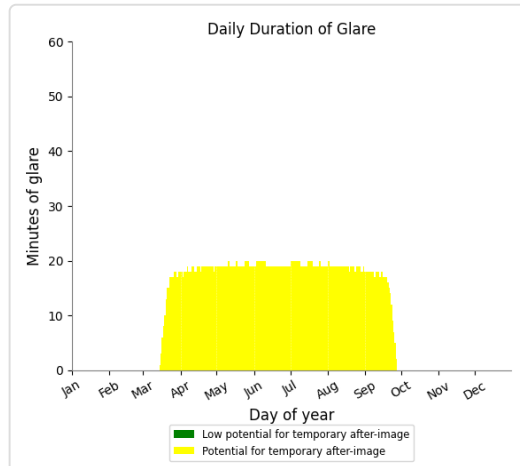
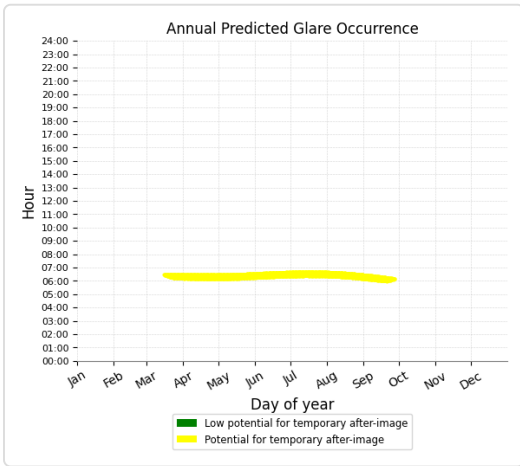
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,375 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 64)

PV array is expected to produce the following glare for receptors at this location:

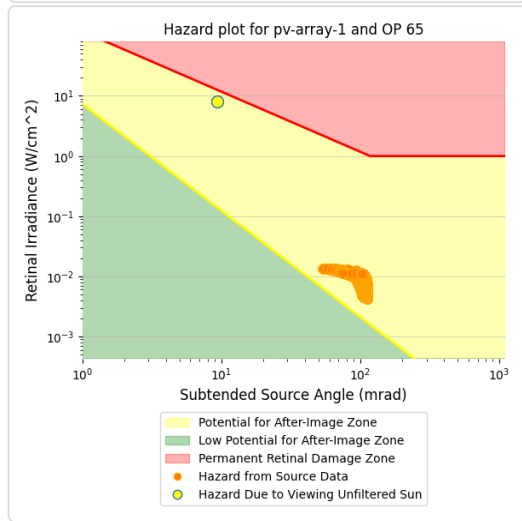
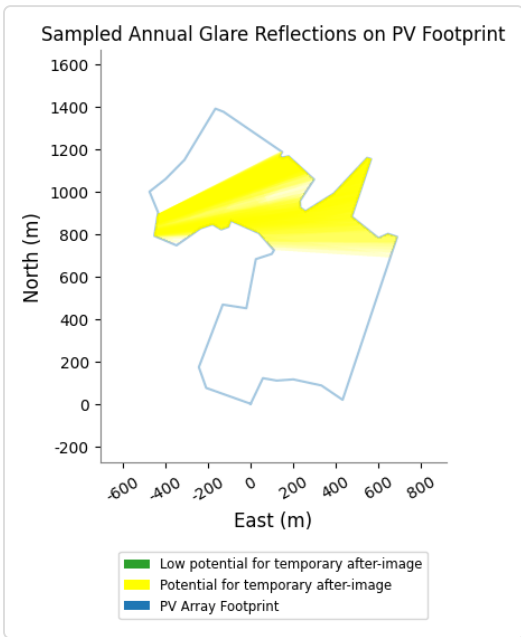
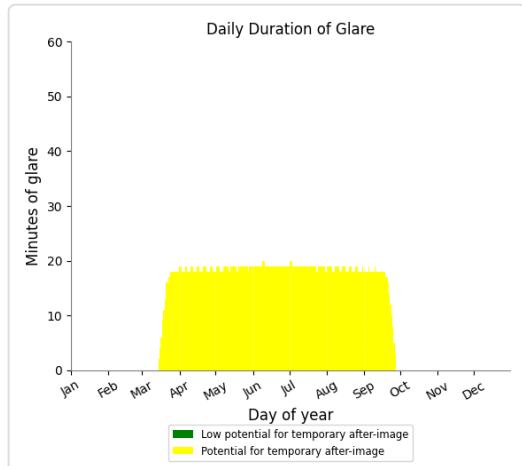
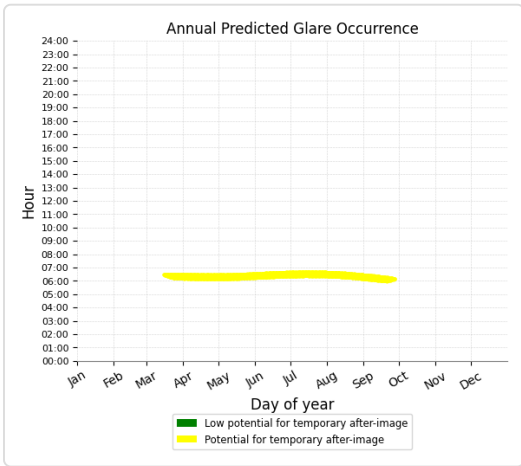
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,560 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 65)

PV array is expected to produce the following glare for receptors at this location:

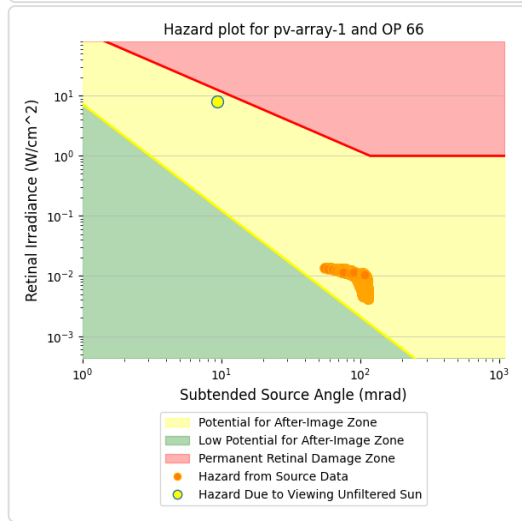
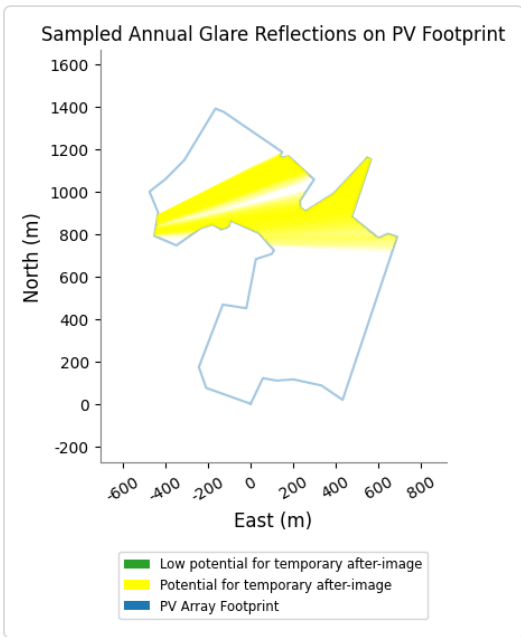
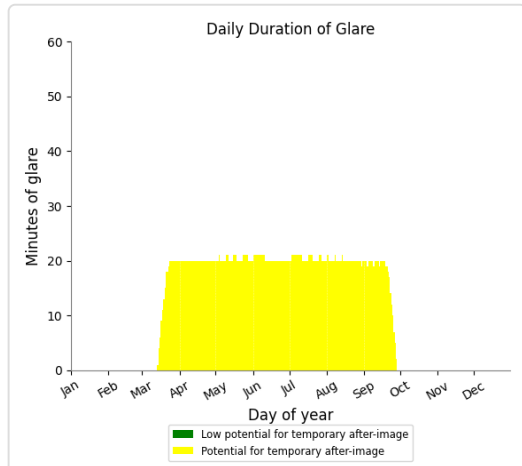
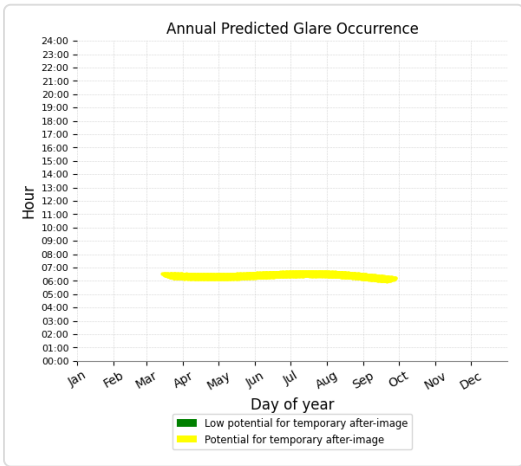
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,534 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 66)

PV array is expected to produce the following glare for receptors at this location:

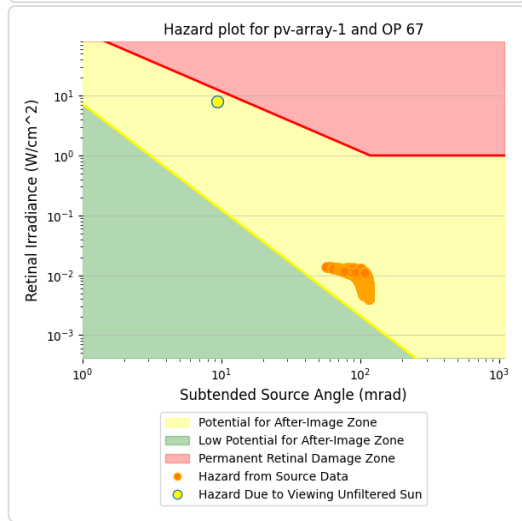
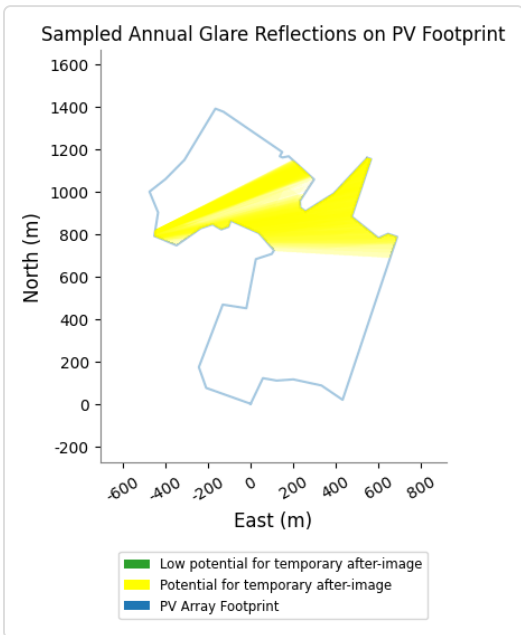
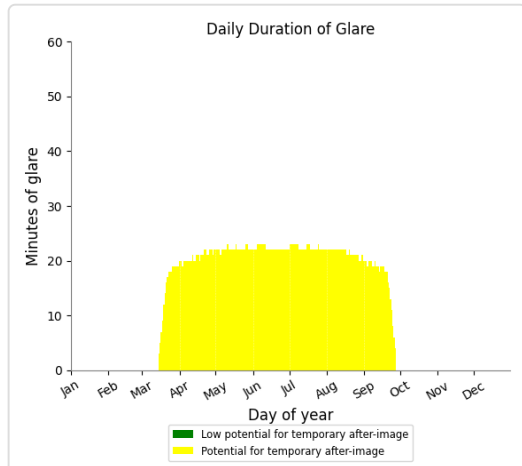
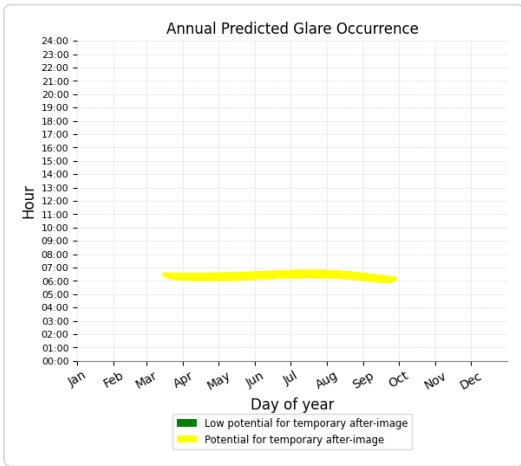
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,850 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 67)

PV array is expected to produce the following glare for receptors at this location:

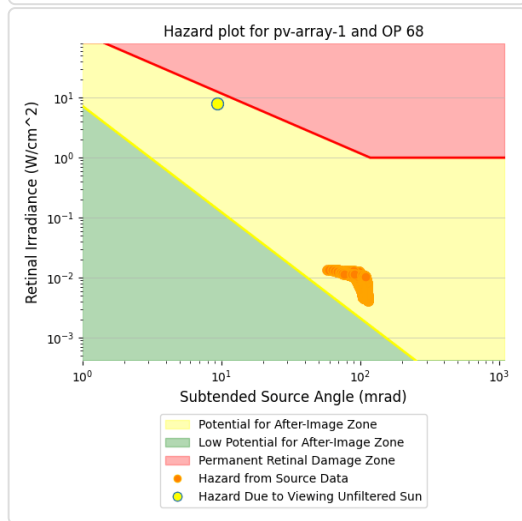
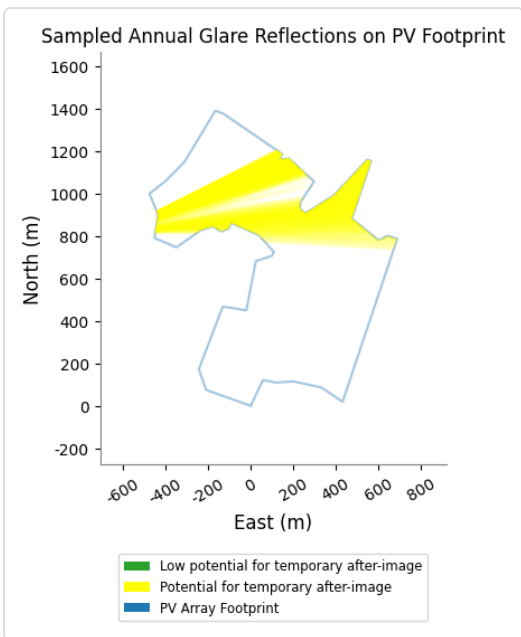
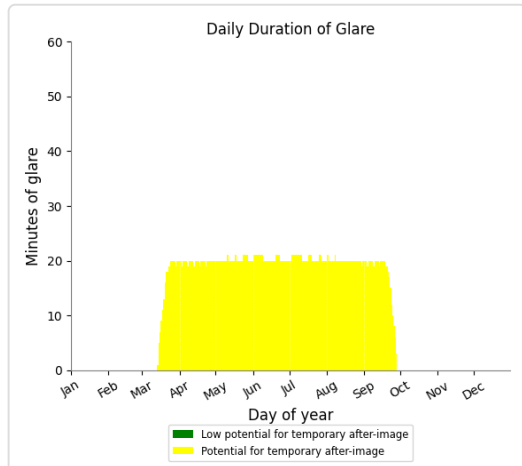
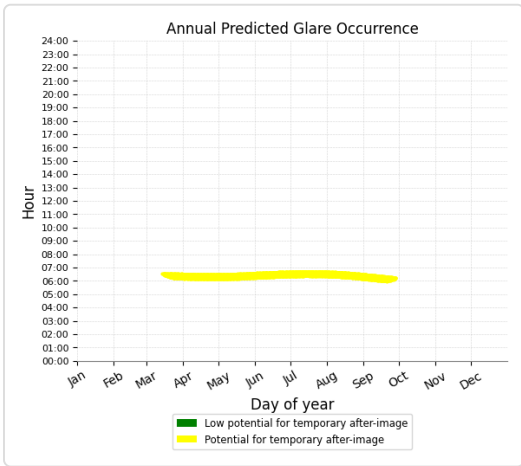
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,039 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 68)

PV array is expected to produce the following glare for receptors at this location:

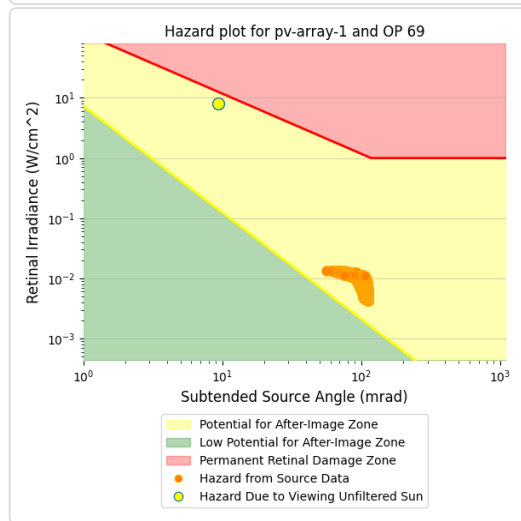
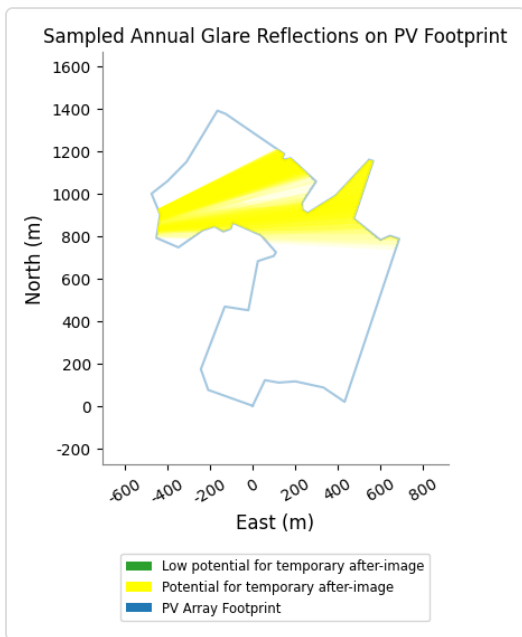
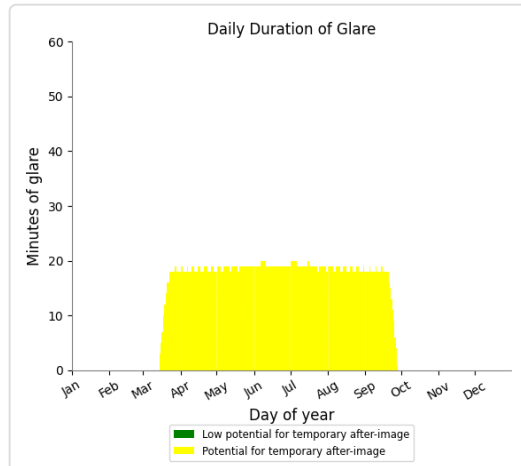
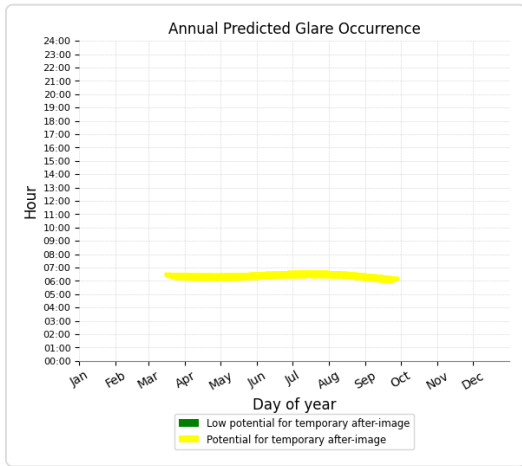
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,848 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 69)

PV array is expected to produce the following glare for receptors at this location:

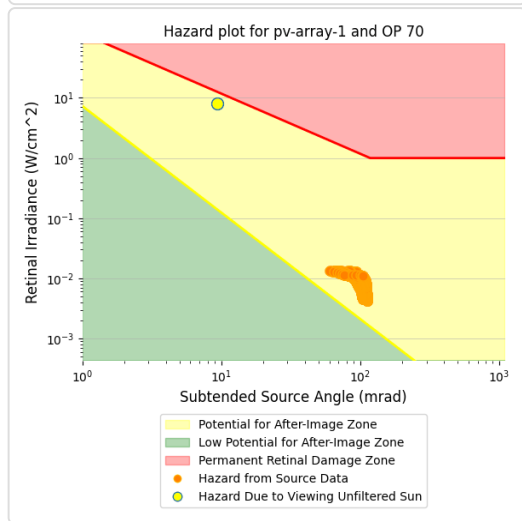
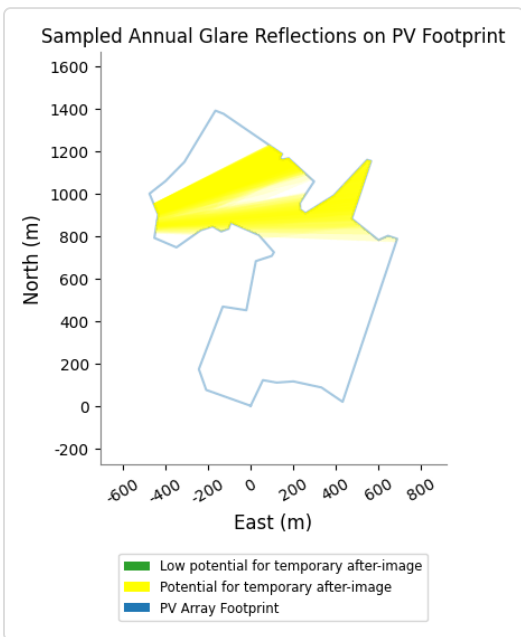
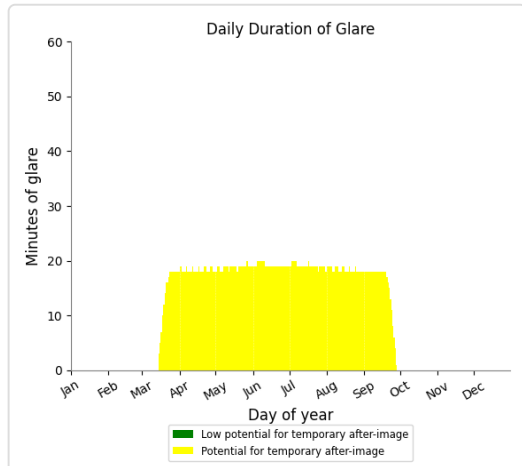
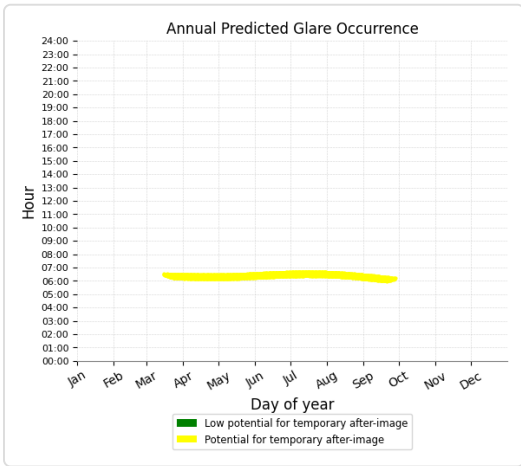
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,559 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 70)

PV array is expected to produce the following glare for receptors at this location:

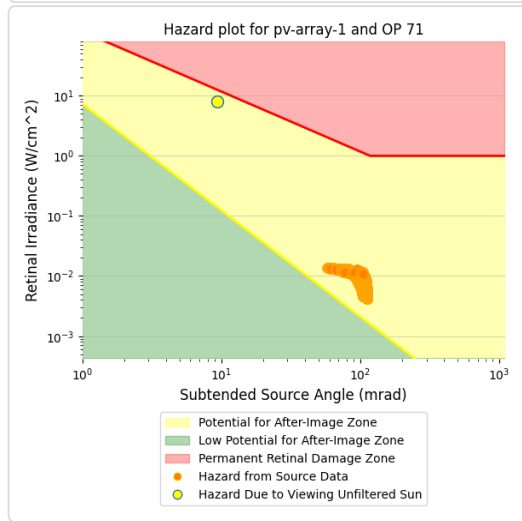
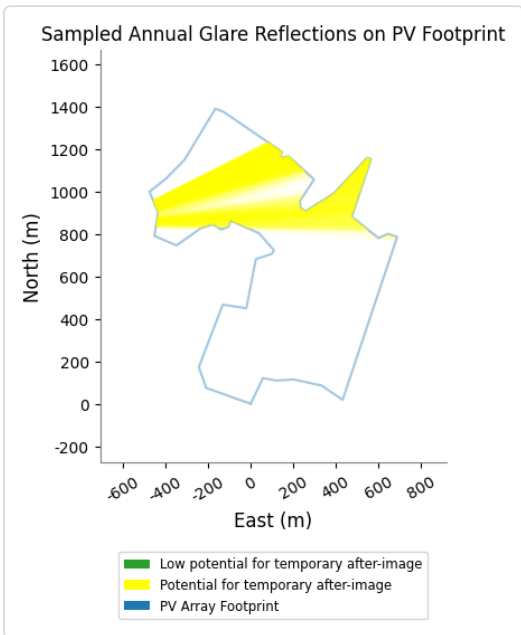
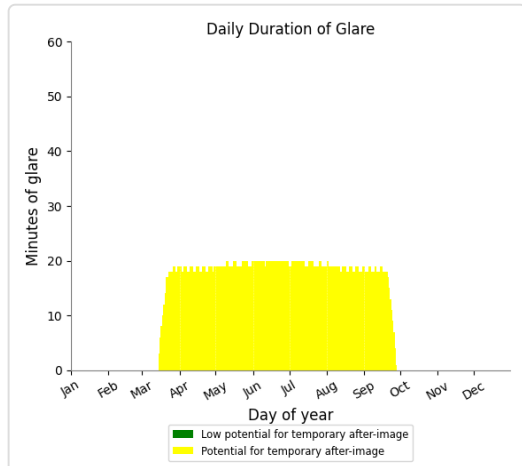
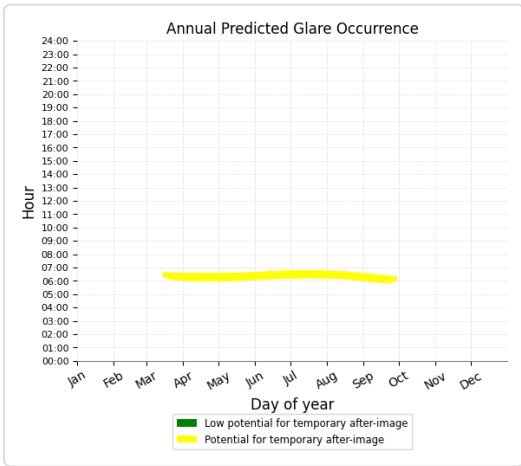
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,546 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 71)

PV array is expected to produce the following glare for receptors at this location:

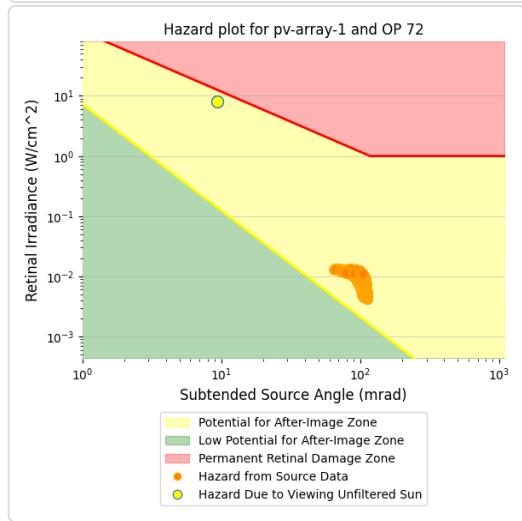
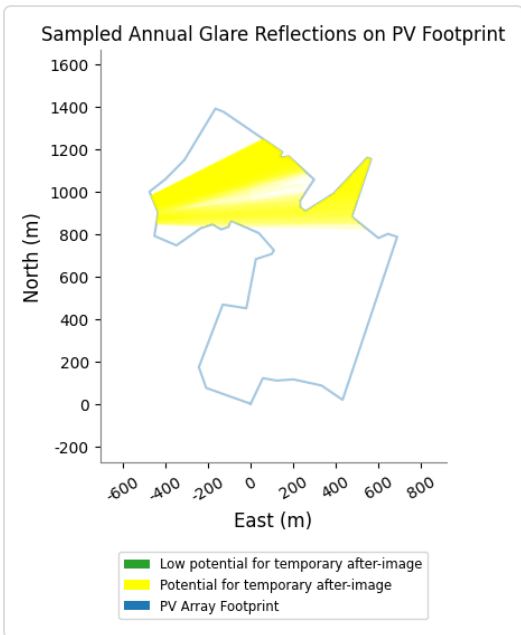
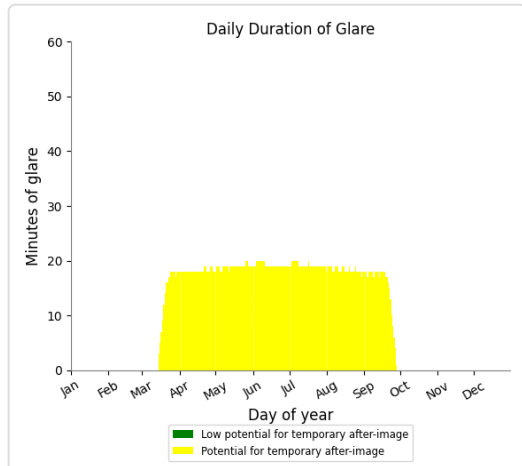
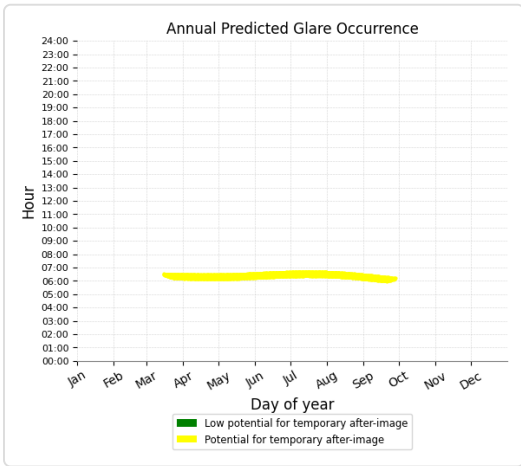
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,643 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 72)

PV array is expected to produce the following glare for receptors at this location:

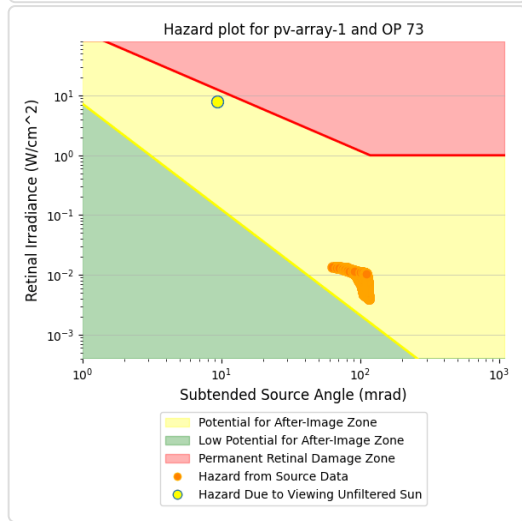
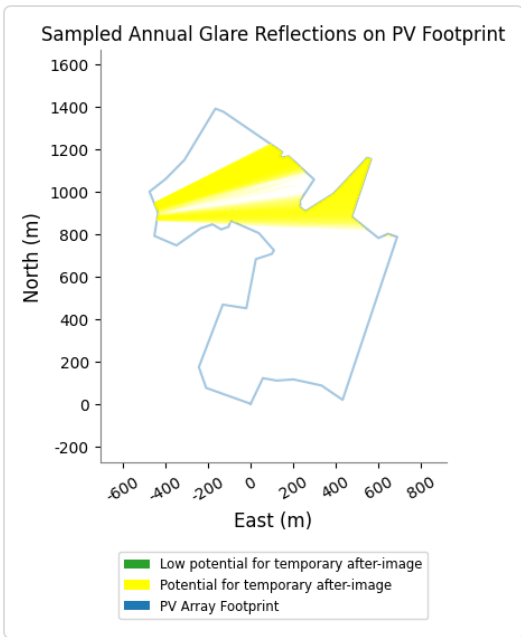
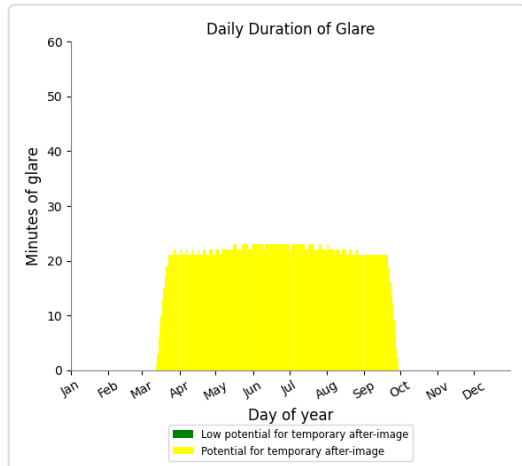
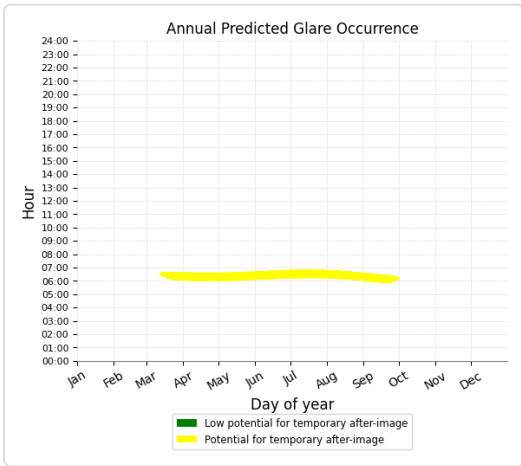
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,541 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 73)

PV array is expected to produce the following glare for receptors at this location:

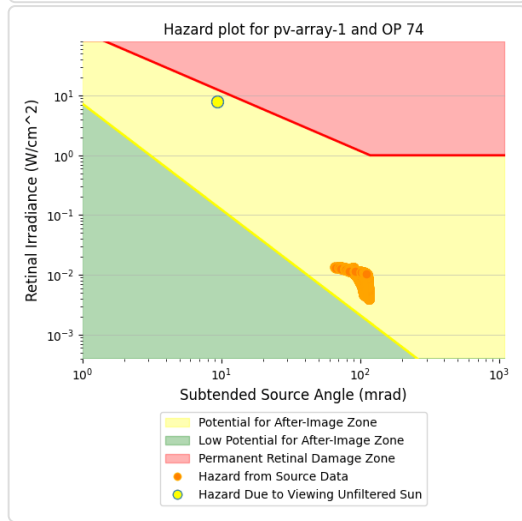
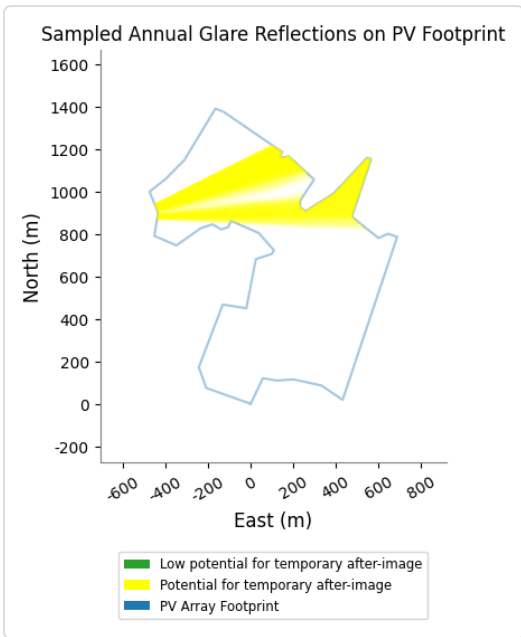
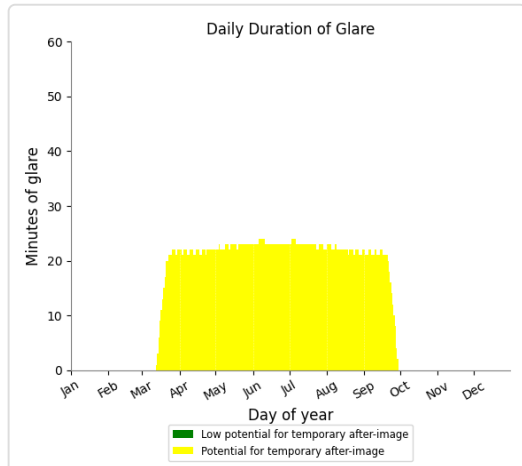
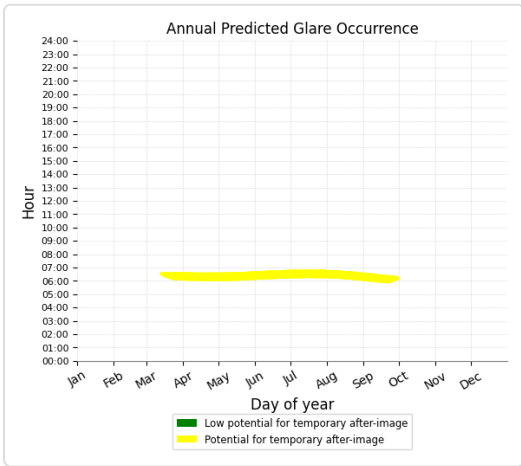
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,211 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 74)

PV array is expected to produce the following glare for receptors at this location:

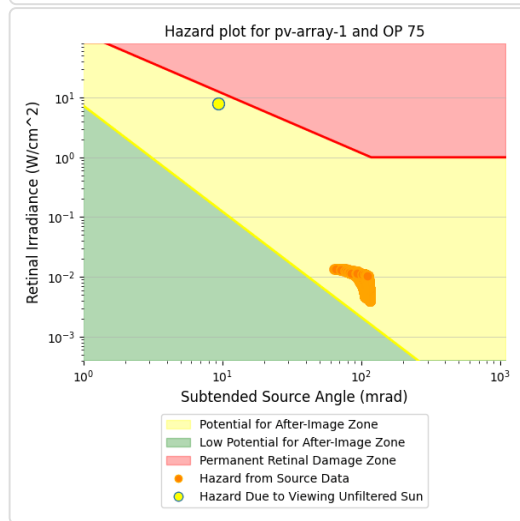
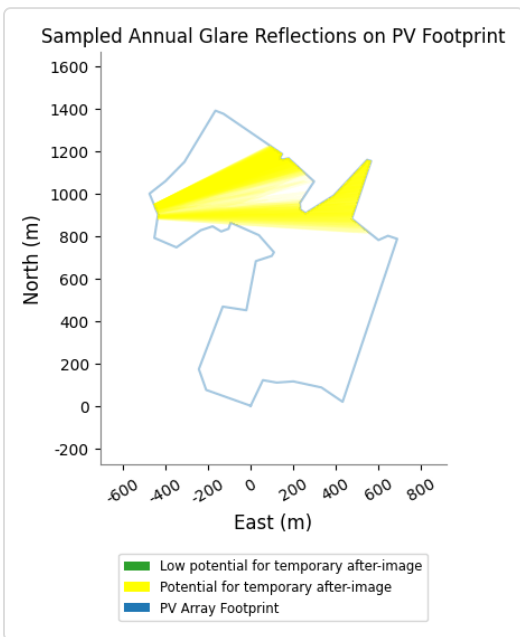
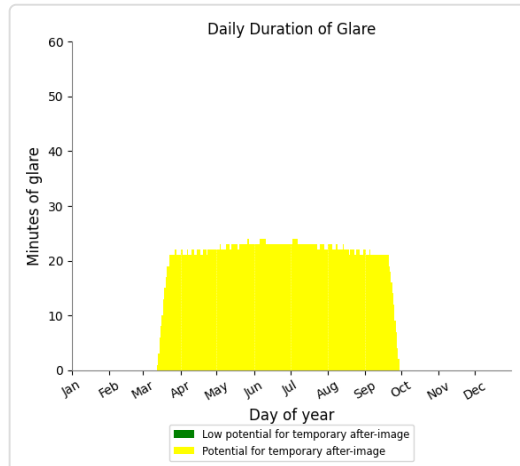
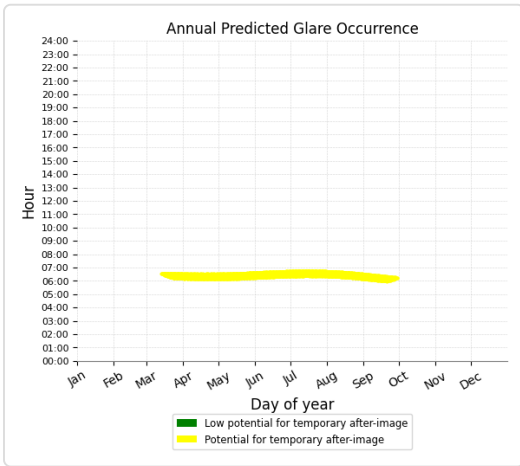
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,283 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 75)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,267 minutes of "yellow" glare with potential to cause temporary after-image.



Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6D - Road Receptor Glare Results (10 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Road Receptors 10deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 72998.12854

Project type Advanced
 Project status: active
 Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

Summary of Results Glare with potential for temporary after-image predicted

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced |
|------------|------|-------------|---------------|----------------|-----------------|
| | deg | deg | min | min | kWh |
| PV array 1 | 10.0 | 180.0 | 0 | 130,392 | - |

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 10.0 deg
Orientation: 180.0 deg
Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



| Vertex | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| 1 | 52.977416 | -0.868813 | 20.30 | 2.80 | 23.10 |
| 2 | 52.978501 | -0.867955 | 20.00 | 2.80 | 22.80 |
| 3 | 52.978398 | -0.866989 | 20.39 | 2.80 | 23.19 |
| 4 | 52.978450 | -0.865830 | 20.46 | 2.80 | 23.26 |
| 5 | 52.978191 | -0.863856 | 20.00 | 2.80 | 22.80 |
| 6 | 52.977584 | -0.862376 | 19.95 | 2.80 | 22.75 |
| 7 | 52.984483 | -0.858556 | 24.76 | 2.80 | 27.56 |
| 8 | 52.984612 | -0.859200 | 25.60 | 2.80 | 28.40 |
| 9 | 52.984431 | -0.859865 | 26.00 | 2.80 | 28.80 |
| 10 | 52.985335 | -0.861732 | 25.02 | 2.80 | 27.82 |
| 11 | 52.987777 | -0.860380 | 19.95 | 2.80 | 22.75 |
| 12 | 52.987828 | -0.860659 | 19.88 | 2.80 | 22.68 |
| 13 | 52.986317 | -0.862998 | 21.01 | 2.80 | 23.81 |
| 14 | 52.985568 | -0.864972 | 20.25 | 2.80 | 23.05 |
| 15 | 52.985723 | -0.865337 | 19.79 | 2.80 | 22.59 |
| 16 | 52.986007 | -0.865358 | 20.07 | 2.80 | 22.87 |
| 17 | 52.986911 | -0.864371 | 20.22 | 2.80 | 23.02 |
| 18 | 52.987893 | -0.866152 | 18.00 | 2.80 | 20.80 |
| 19 | 52.987841 | -0.866581 | 18.05 | 2.80 | 20.85 |
| 20 | 52.987893 | -0.866774 | 18.33 | 2.80 | 21.13 |
| 21 | 52.988074 | -0.866603 | 18.08 | 2.80 | 20.88 |
| 22 | 52.989779 | -0.870723 | 22.00 | 2.80 | 24.80 |
| 23 | 52.989908 | -0.871280 | 22.00 | 2.80 | 24.80 |
| 24 | 52.987738 | -0.873448 | 22.05 | 2.80 | 24.85 |
| 25 | 52.986924 | -0.874778 | 22.79 | 2.80 | 25.59 |
| 26 | 52.986395 | -0.875894 | 22.62 | 2.80 | 25.42 |
| 27 | 52.985516 | -0.875293 | 21.94 | 2.80 | 24.74 |
| 28 | 52.984522 | -0.875551 | 21.38 | 2.80 | 24.18 |
| 29 | 52.984121 | -0.874006 | 20.15 | 2.80 | 22.95 |
| 30 | 52.984845 | -0.872310 | 20.21 | 2.80 | 23.01 |
| 31 | 52.985012 | -0.871474 | 20.01 | 2.80 | 22.81 |
| 32 | 52.984793 | -0.870873 | 20.22 | 2.80 | 23.02 |
| 33 | 52.984909 | -0.870358 | 20.19 | 2.80 | 22.99 |
| 34 | 52.985167 | -0.870208 | 19.84 | 2.80 | 22.64 |
| 35 | 52.984638 | -0.868233 | 20.05 | 2.80 | 22.85 |
| 36 | 52.983914 | -0.867182 | 19.95 | 2.80 | 22.75 |
| 37 | 52.983759 | -0.867332 | 20.03 | 2.80 | 22.83 |
| 38 | 52.983540 | -0.868448 | 20.67 | 2.80 | 23.47 |
| 39 | 52.981460 | -0.869113 | 21.77 | 2.80 | 24.57 |
| 40 | 52.981615 | -0.870765 | 23.94 | 2.80 | 26.74 |
| 41 | 52.978966 | -0.872439 | 24.87 | 2.80 | 27.67 |
| 42 | 52.978088 | -0.871924 | 23.83 | 2.80 | 26.63 |

Discrete Observation Receptors

| Number | Latitude | Longitude | Ground elevation | Height above ground | Total Elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| OP 1 | 52.988661 | -0.872902 | 22.84 | 1.50 | 24.34 |
| OP 2 | 52.987175 | -0.874833 | 23.17 | 1.50 | 24.67 |
| OP 3 | 52.985987 | -0.876700 | 22.88 | 1.50 | 24.38 |
| OP 4 | 52.984624 | -0.878824 | 24.57 | 1.50 | 26.07 |
| OP 5 | 52.983106 | -0.880509 | 24.75 | 1.50 | 26.25 |
| OP 6 | 52.981556 | -0.882075 | 23.62 | 1.50 | 25.12 |
| OP 7 | 52.980031 | -0.883459 | 24.67 | 1.50 | 26.17 |
| OP 8 | 52.978539 | -0.884993 | 22.18 | 1.50 | 23.68 |
| OP 9 | 52.983662 | -0.889446 | 19.00 | 1.50 | 20.50 |
| OP 10 | 52.982589 | -0.886860 | 18.00 | 1.50 | 19.50 |
| OP 11 | 52.981834 | -0.884306 | 22.42 | 1.50 | 23.92 |
| OP 12 | 52.980070 | -0.881335 | 21.82 | 1.50 | 23.32 |
| OP 13 | 52.979256 | -0.878792 | 20.70 | 1.50 | 22.20 |
| OP 14 | 52.978688 | -0.876045 | 21.32 | 1.50 | 22.82 |
| OP 15 | 52.978171 | -0.873063 | 25.95 | 1.50 | 27.45 |
| OP 16 | 52.977564 | -0.870305 | 21.40 | 1.50 | 22.90 |
| OP 17 | 52.976892 | -0.867312 | 20.72 | 1.50 | 22.22 |
| OP 18 | 52.976304 | -0.864640 | 22.67 | 1.50 | 24.17 |
| OP 19 | 52.975109 | -0.863718 | 23.93 | 1.50 | 25.43 |
| OP 20 | 52.976692 | -0.862570 | 22.10 | 1.50 | 23.60 |
| OP 21 | 52.978429 | -0.861626 | 19.57 | 1.50 | 21.07 |
| OP 22 | 52.980154 | -0.860682 | 19.00 | 1.50 | 20.50 |
| OP 23 | 52.981940 | -0.859713 | 19.52 | 1.50 | 21.02 |
| OP 24 | 52.983600 | -0.858790 | 22.92 | 1.50 | 24.42 |
| OP 25 | 52.985370 | -0.857824 | 25.29 | 1.50 | 26.79 |
| OP 26 | 52.986377 | -0.855657 | 24.00 | 1.50 | 25.50 |
| OP 27 | 52.987353 | -0.853501 | 24.00 | 1.50 | 25.50 |
| OP 28 | 52.988399 | -0.850926 | 22.79 | 1.50 | 24.29 |
| OP 29 | 52.989161 | -0.848394 | 23.88 | 1.50 | 25.38 |
| OP 30 | 52.990304 | -0.846012 | 23.00 | 1.50 | 24.50 |
| OP 31 | 52.975971 | -0.850153 | 20.00 | 1.50 | 21.50 |
| OP 32 | 52.977728 | -0.850872 | 19.41 | 1.50 | 20.91 |
| OP 33 | 52.979524 | -0.851022 | 20.39 | 1.50 | 21.89 |
| OP 34 | 52.980958 | -0.852192 | 20.80 | 1.50 | 22.30 |
| OP 35 | 52.982676 | -0.852996 | 19.62 | 1.50 | 21.12 |
| OP 36 | 52.984130 | -0.854617 | 20.00 | 1.50 | 21.50 |
| OP 37 | 52.985473 | -0.857020 | 24.13 | 1.50 | 25.63 |
| OP 38 | 52.986733 | -0.858908 | 25.03 | 1.50 | 26.53 |
| OP 39 | 52.988069 | -0.860281 | 19.60 | 1.50 | 21.10 |
| OP 40 | 52.989464 | -0.862148 | 23.09 | 1.50 | 24.59 |
| OP 41 | 52.990394 | -0.864734 | 21.00 | 1.50 | 22.50 |

Summary of PV Glare Analysis

PV configuration and total predicted glare

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced | Data File |
|------------|------|-------------|---------------|----------------|-----------------|-----------|
| | deg | deg | min | min | kWh | |
| PV array 1 | 10.0 | 180.0 | 0 | 130,392 | - | - |

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

| PV | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---------------------|-----|------|------|------|------|------|------|------|------|------|-----|-----|
| pv-array-1 (green) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pv-array-1 (yellow) | 515 | 1686 | 3628 | 4467 | 5352 | 5449 | 5518 | 4902 | 3949 | 2492 | 773 | 251 |

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 potential temporary after-image

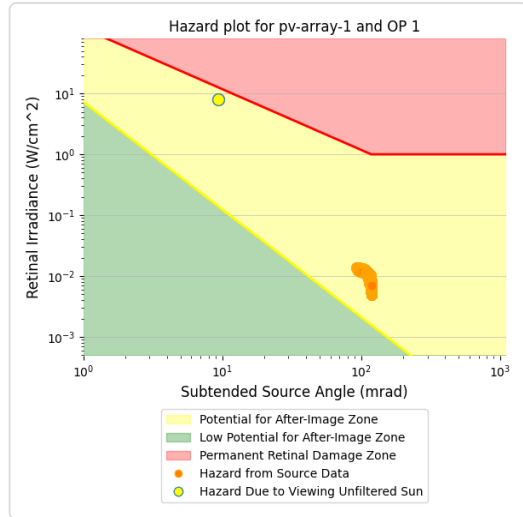
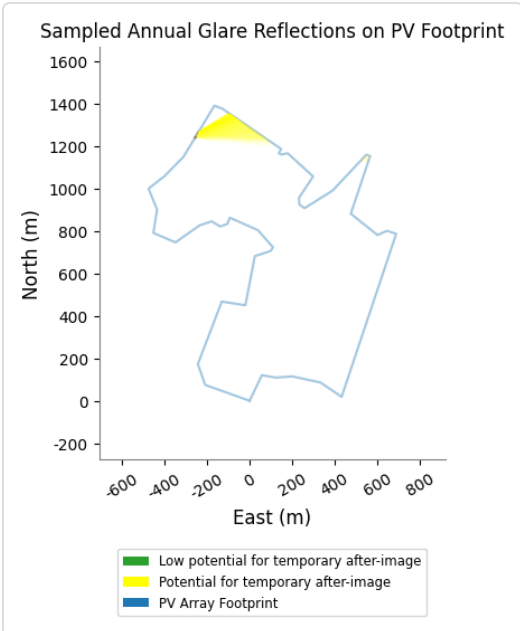
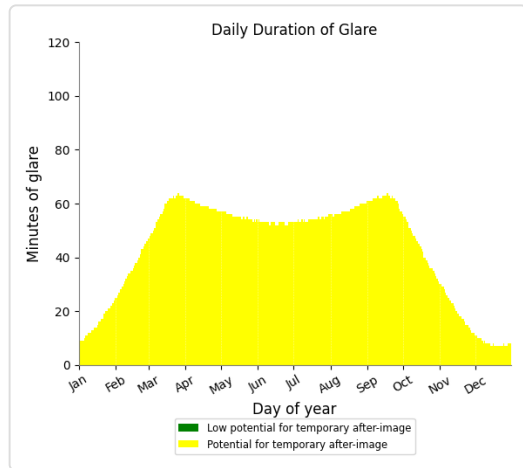
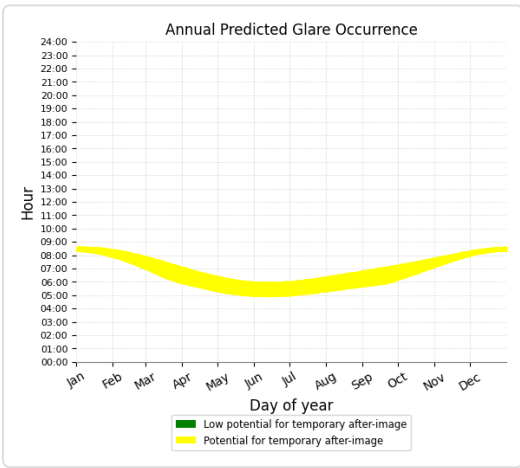
| Component | Green glare (min) | Yellow glare (min) |
|-----------|-------------------|--------------------|
| OP: OP 1 | 0 | 15844 |
| OP: OP 2 | 0 | 12400 |
| OP: OP 3 | 0 | 6209 |
| OP: OP 4 | 0 | 4374 |
| OP: OP 5 | 0 | 3671 |
| OP: OP 6 | 0 | 3003 |
| OP: OP 7 | 0 | 2591 |
| OP: OP 8 | 0 | 0 |
| OP: OP 9 | 0 | 1384 |
| OP: OP 10 | 0 | 2158 |
| OP: OP 11 | 0 | 1875 |
| OP: OP 12 | 0 | 16 |
| OP: OP 13 | 0 | 1241 |
| OP: OP 14 | 0 | 1070 |
| OP: OP 15 | 0 | 6972 |
| OP: OP 16 | 0 | 3390 |
| OP: OP 17 | 0 | 3574 |
| OP: OP 18 | 0 | 1060 |
| OP: OP 19 | 0 | 36 |
| OP: OP 20 | 0 | 1336 |
| OP: OP 21 | 0 | 2737 |
| OP: OP 22 | 0 | 2737 |
| OP: OP 23 | 0 | 2760 |
| OP: OP 24 | 0 | 17687 |
| OP: OP 25 | 0 | 4866 |
| OP: OP 26 | 0 | 4184 |
| OP: OP 27 | 0 | 1624 |
| OP: OP 28 | 0 | 813 |
| OP: OP 29 | 0 | 618 |

| | | |
|-----------|---|------|
| OP: OP 30 | 0 | 326 |
| OP: OP 31 | 0 | 23 |
| OP: OP 32 | 0 | 1150 |
| OP: OP 33 | 0 | 15 |
| OP: OP 34 | 0 | 2618 |
| OP: OP 35 | 0 | 31 |
| OP: OP 36 | 0 | 2850 |
| OP: OP 37 | 0 | 4347 |
| OP: OP 38 | 0 | 6299 |
| OP: OP 39 | 0 | 1415 |
| OP: OP 40 | 0 | 968 |
| OP: OP 41 | 0 | 120 |

PV array 1 - OP Receptor (OP 1)

PV array is expected to produce the following glare for receptors at this location:

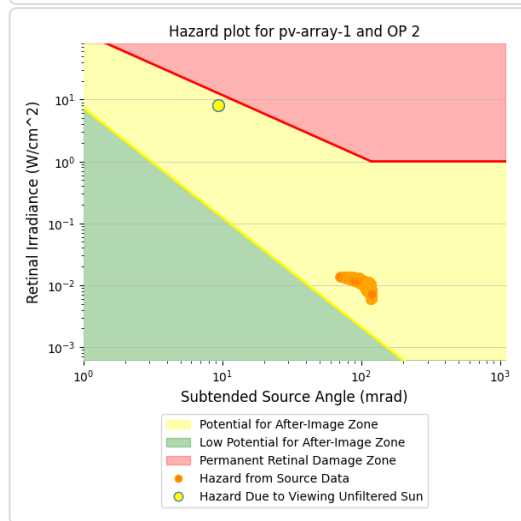
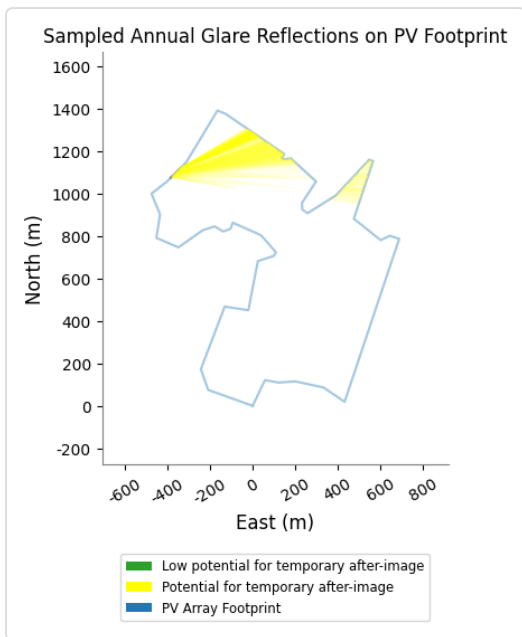
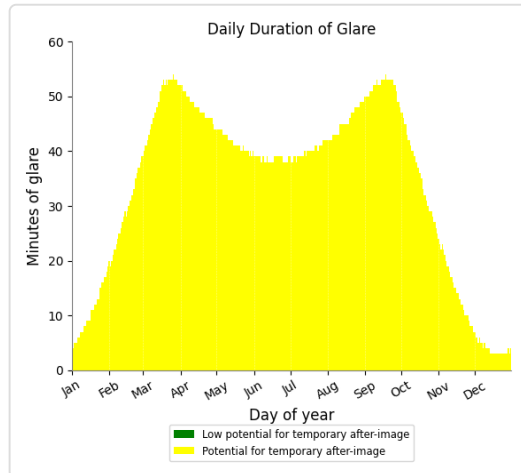
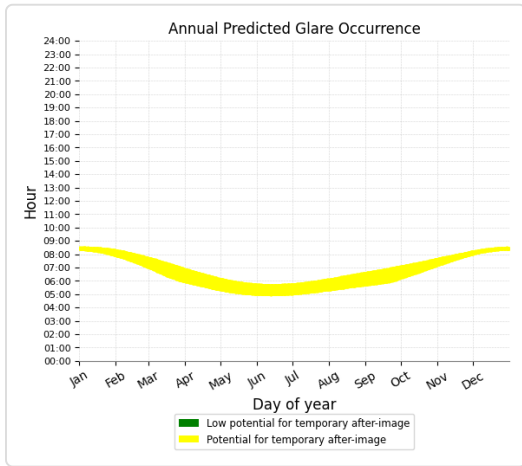
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 15,844 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 2)

PV array is expected to produce the following glare for receptors at this location:

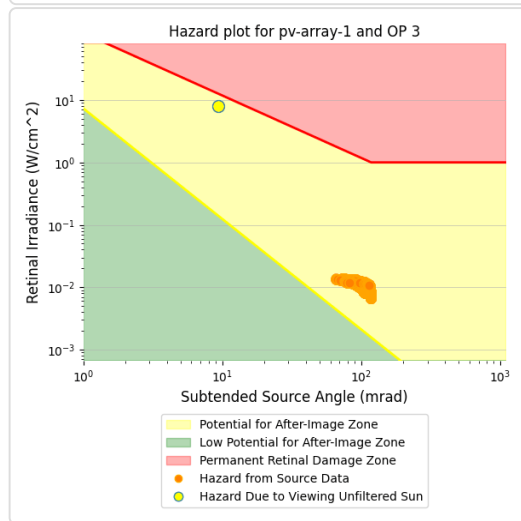
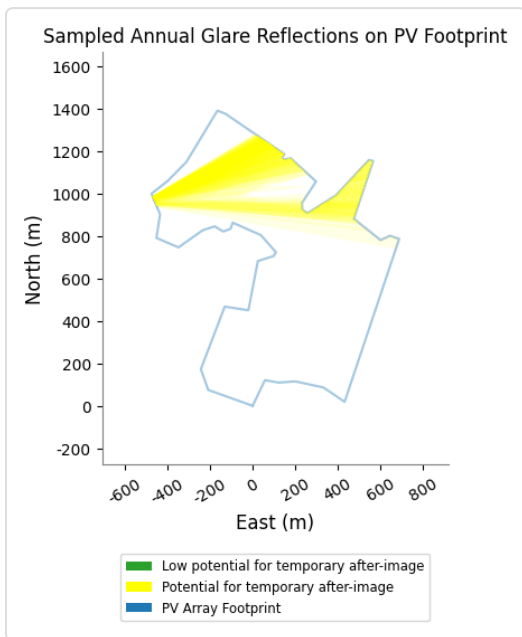
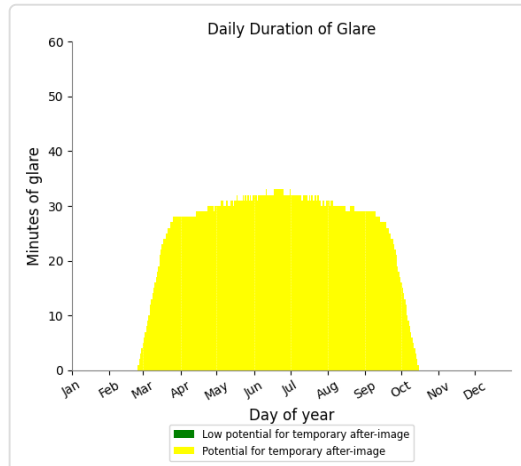
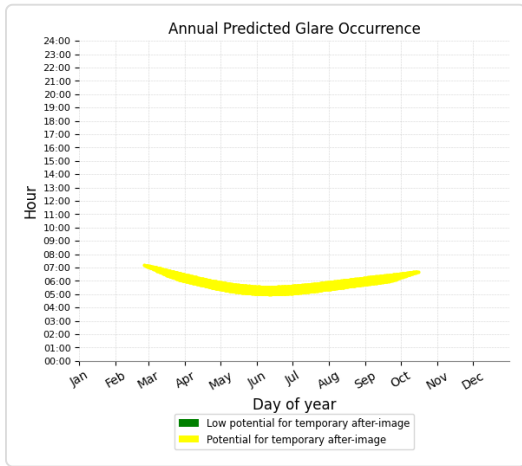
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 12,400 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:

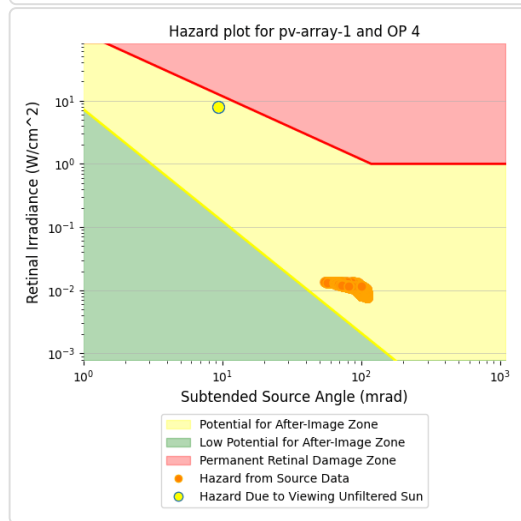
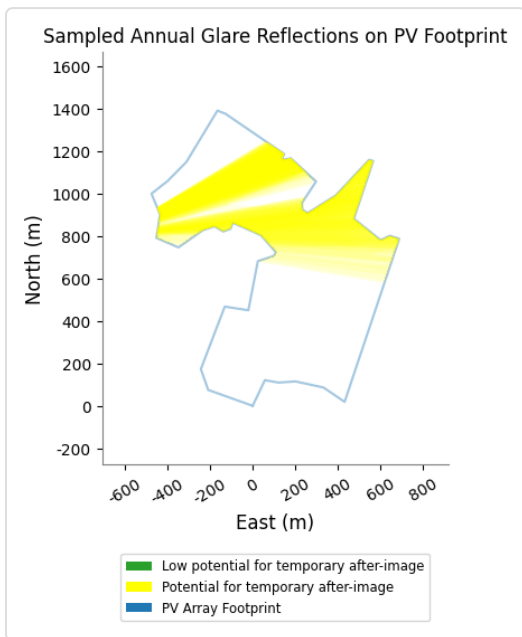
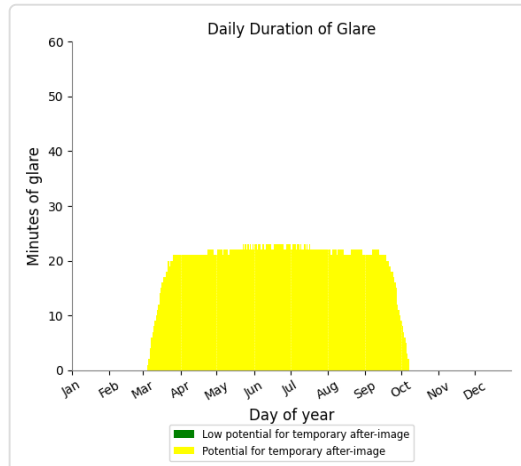
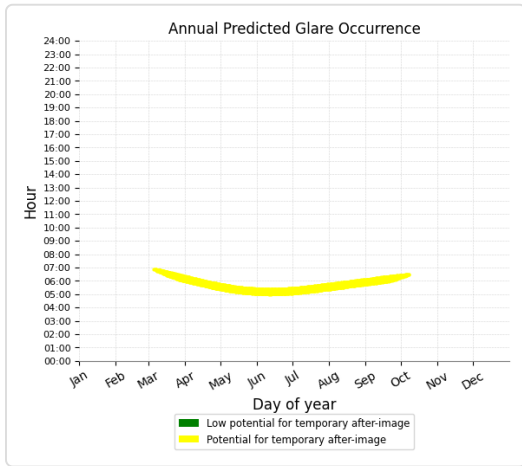
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 6,209 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 4)

PV array is expected to produce the following glare for receptors at this location:

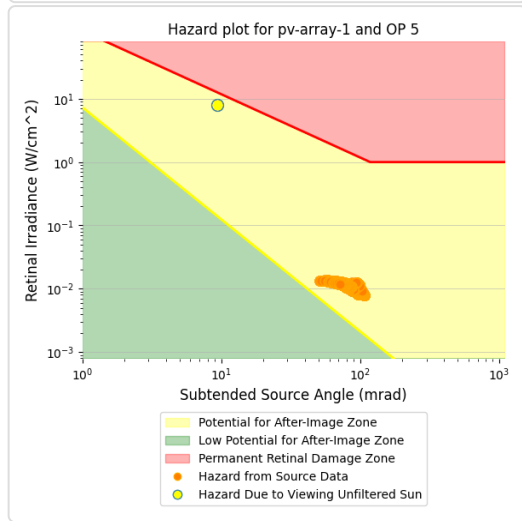
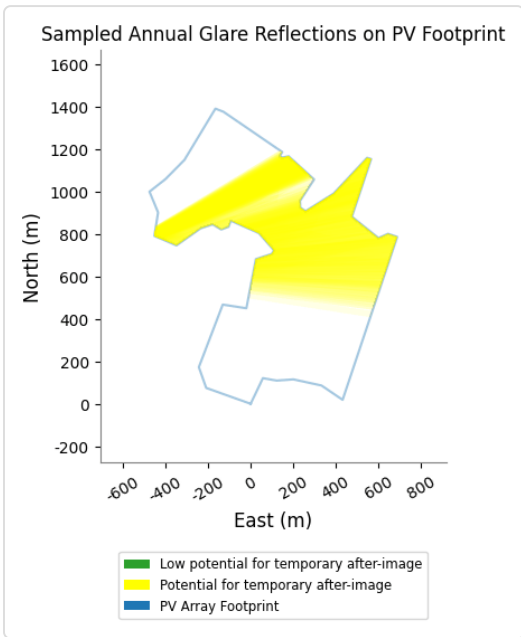
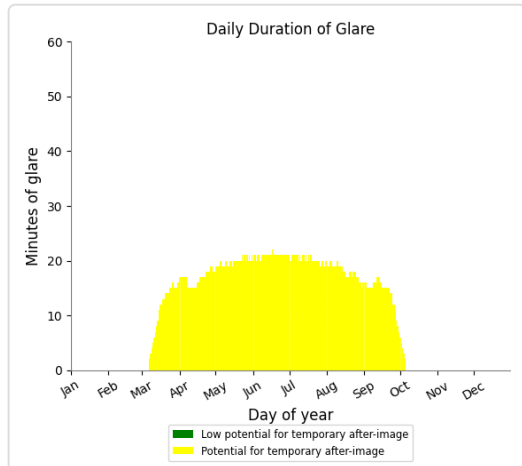
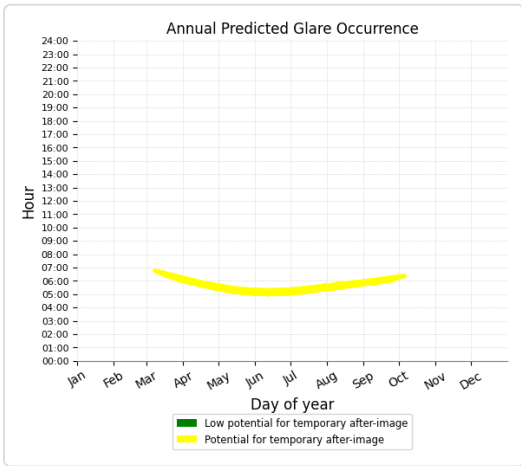
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,374 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:

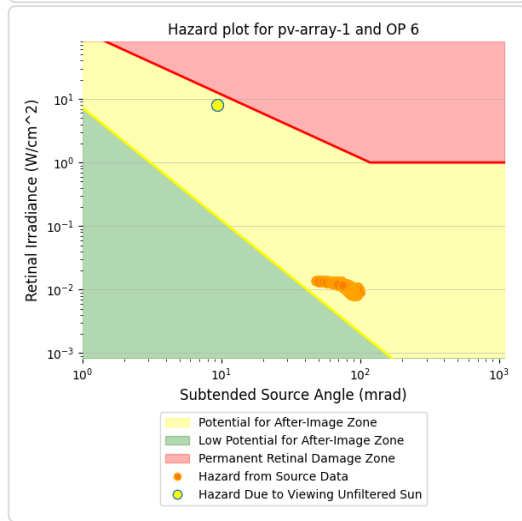
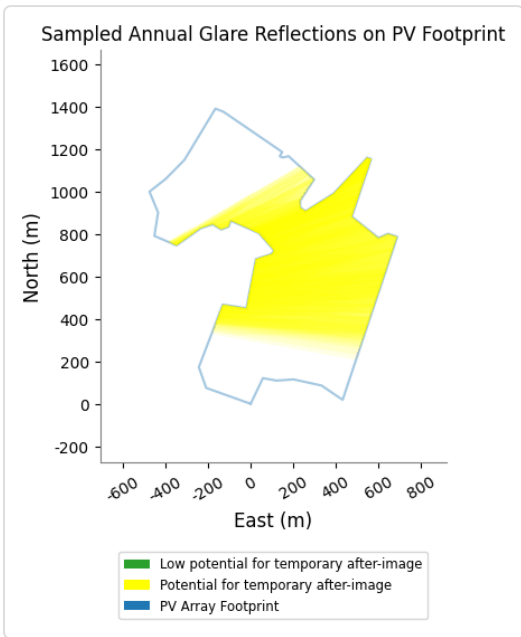
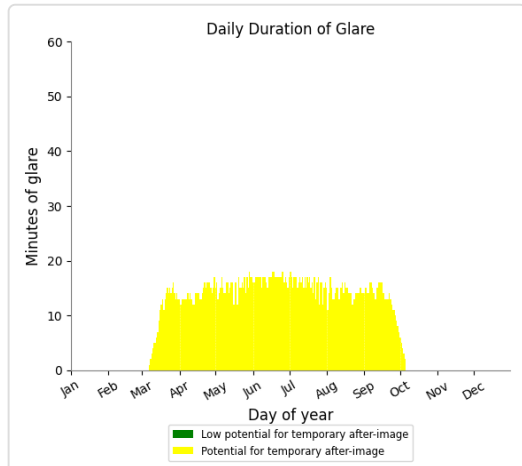
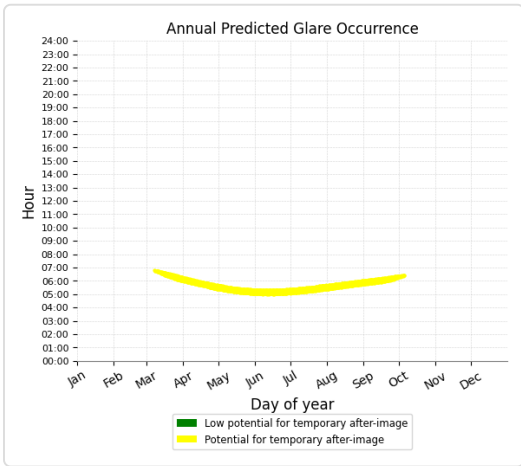
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,671 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 6)

PV array is expected to produce the following glare for receptors at this location:

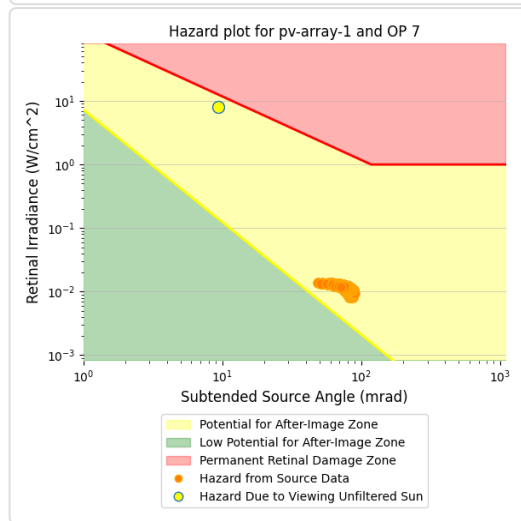
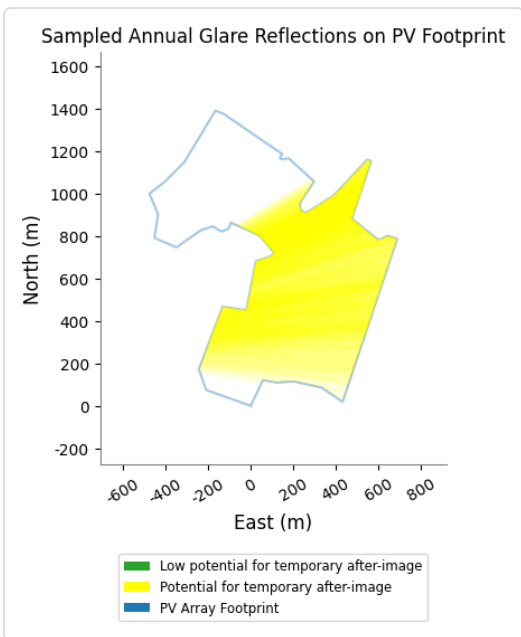
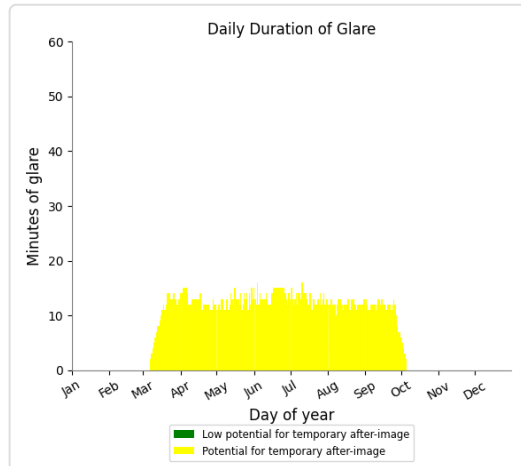
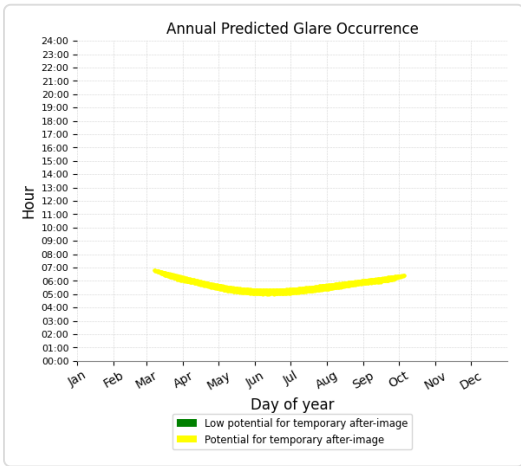
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,003 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 7)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,591 minutes of "yellow" glare with potential to cause temporary after-image.



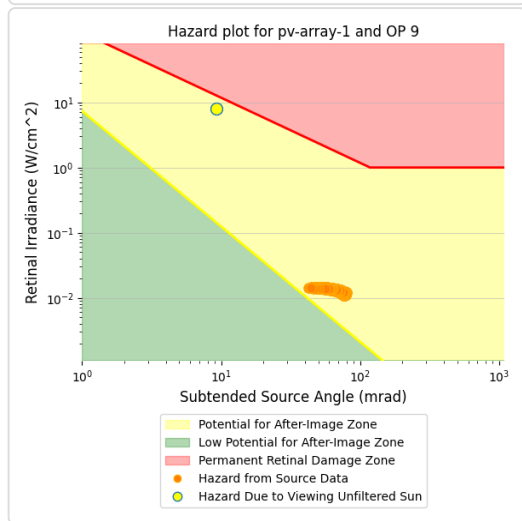
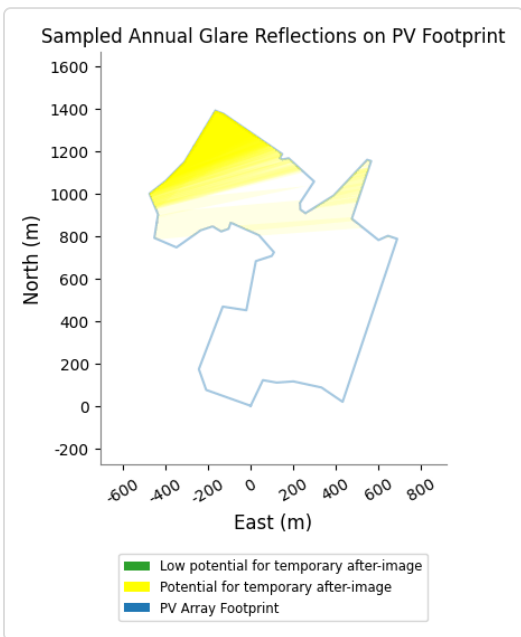
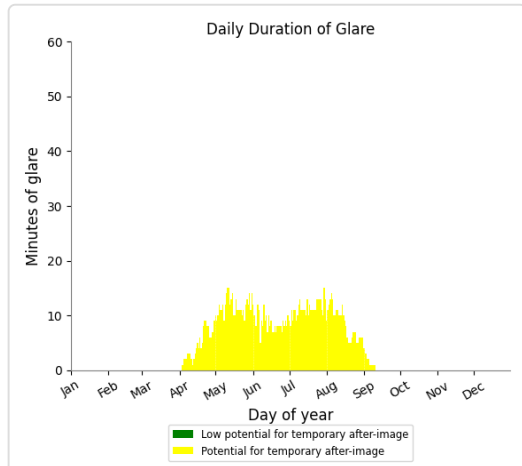
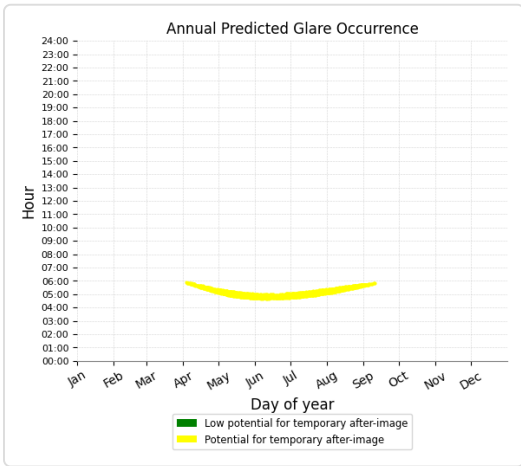
PV array 1 - OP Receptor (OP 8)

No glare found

PV array 1 - OP Receptor (OP 9)

PV array is expected to produce the following glare for receptors at this location:

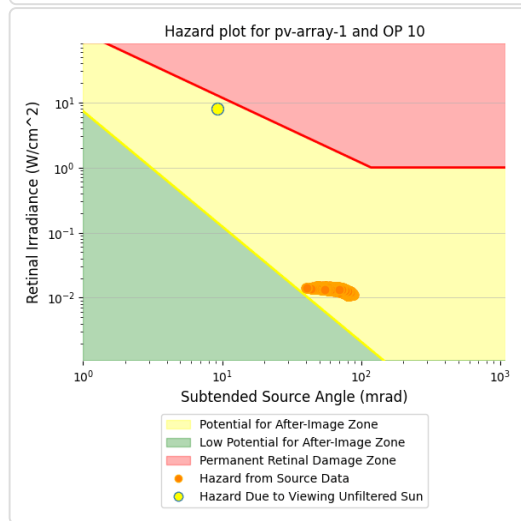
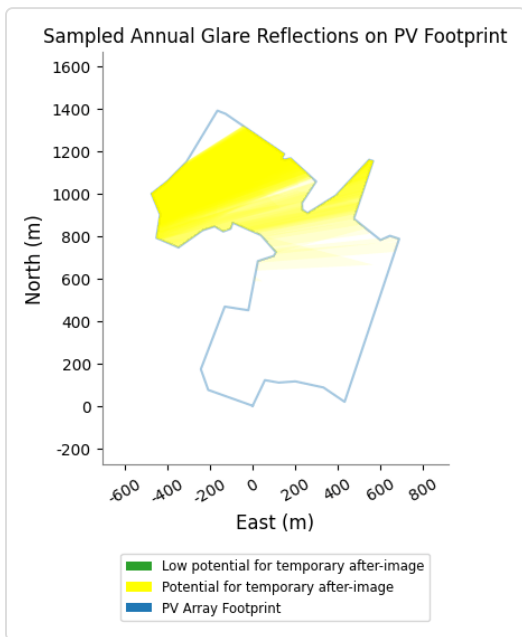
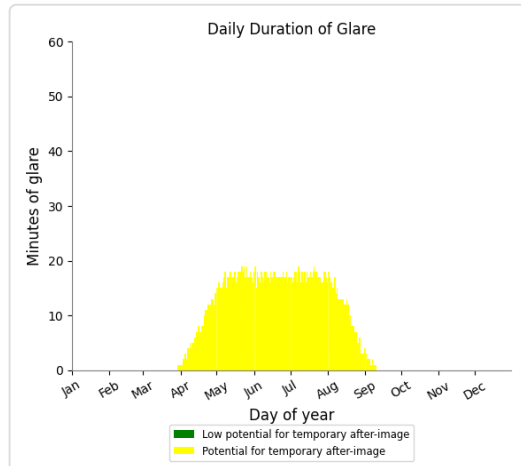
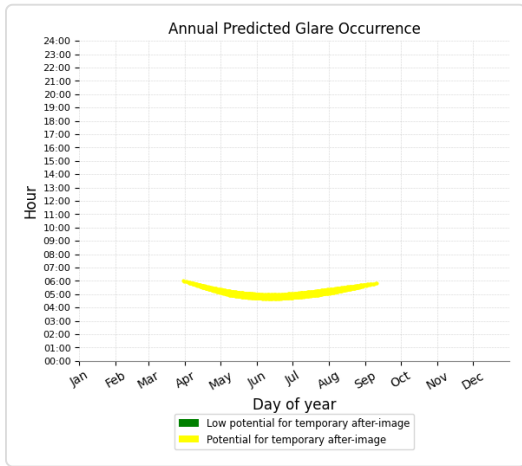
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,384 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 10)

PV array is expected to produce the following glare for receptors at this location:

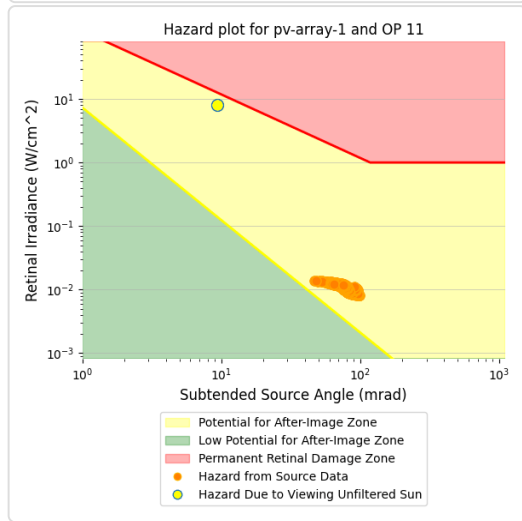
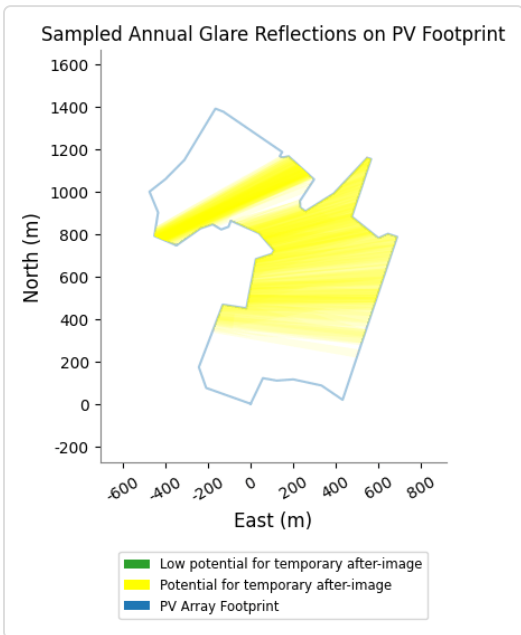
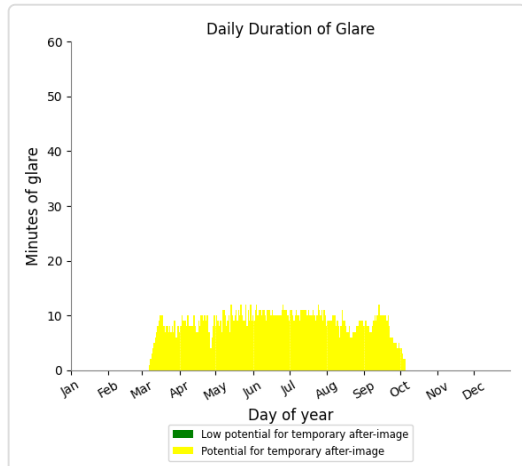
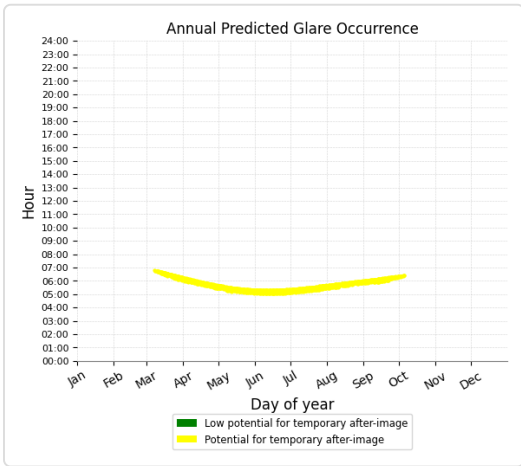
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,158 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 11)

PV array is expected to produce the following glare for receptors at this location:

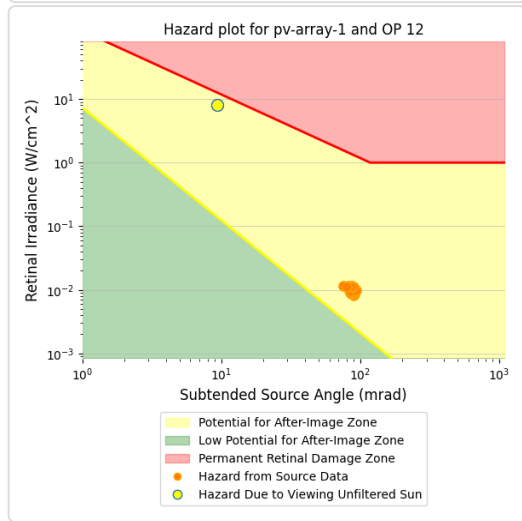
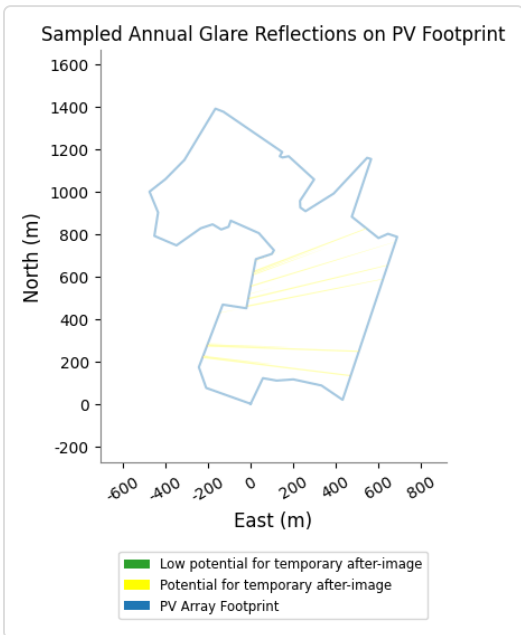
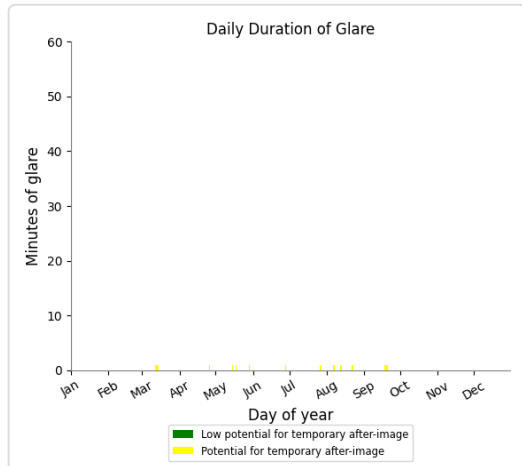
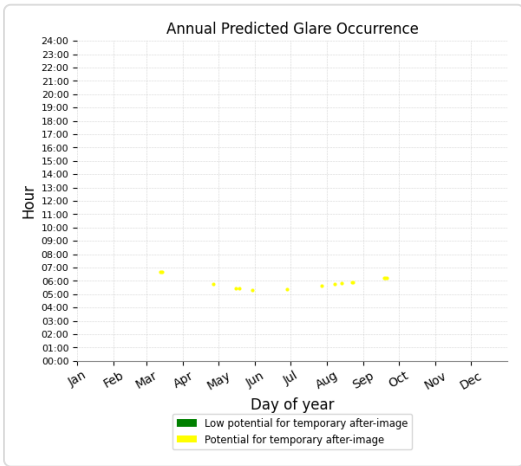
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,875 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 12)

PV array is expected to produce the following glare for receptors at this location:

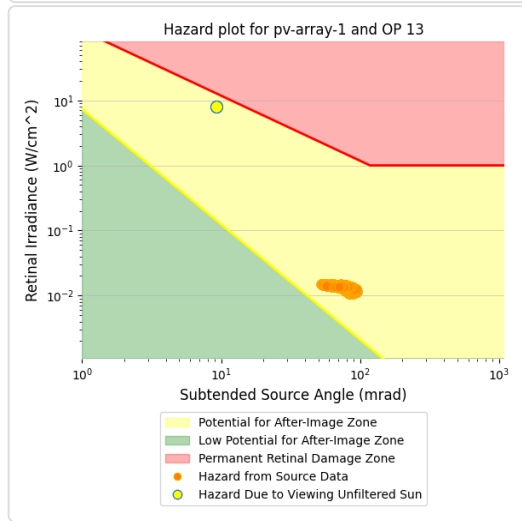
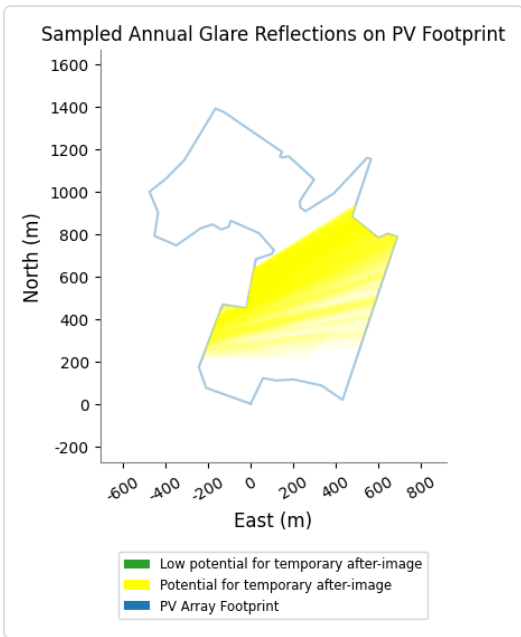
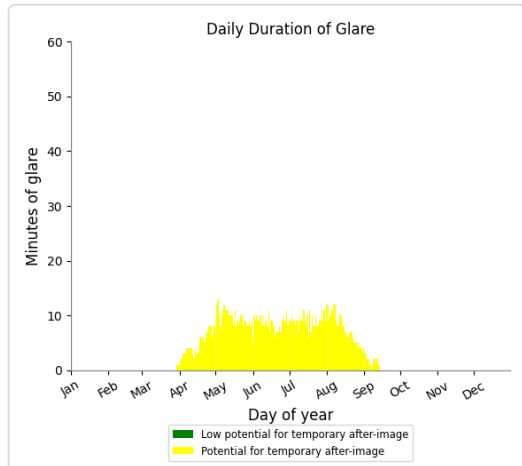
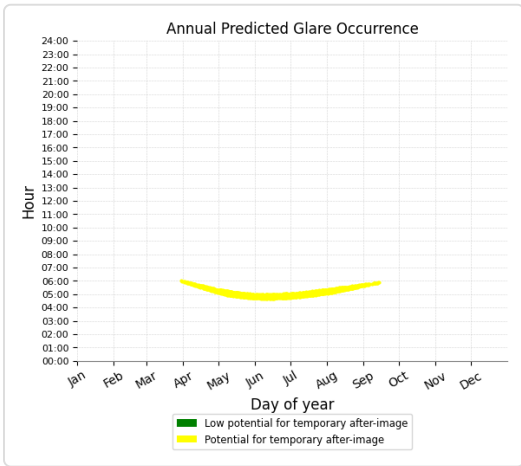
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 16 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 13)

PV array is expected to produce the following glare for receptors at this location:

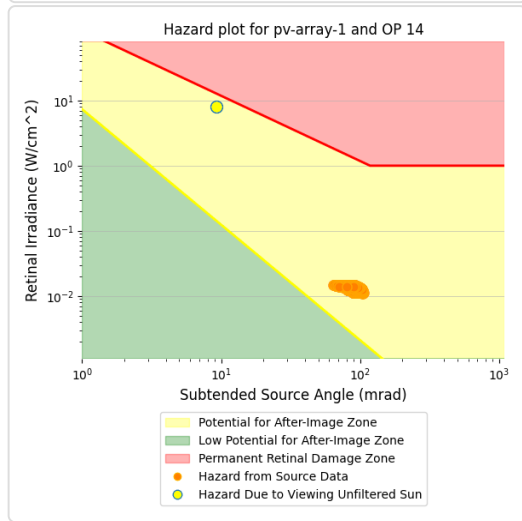
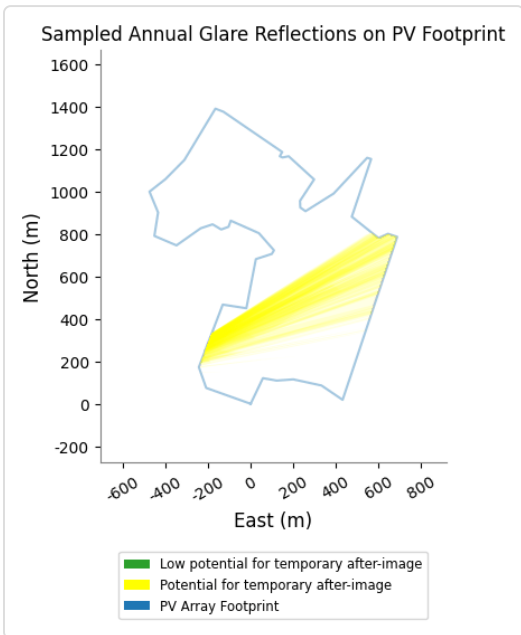
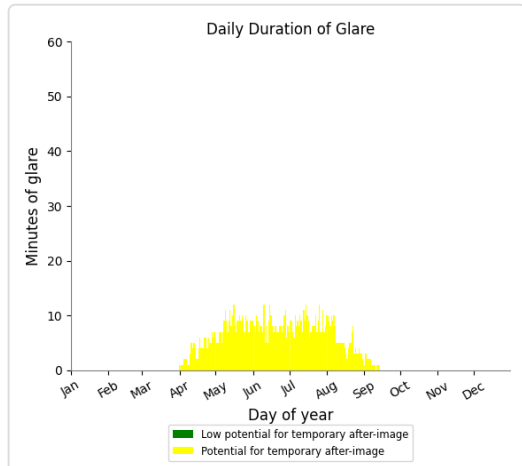
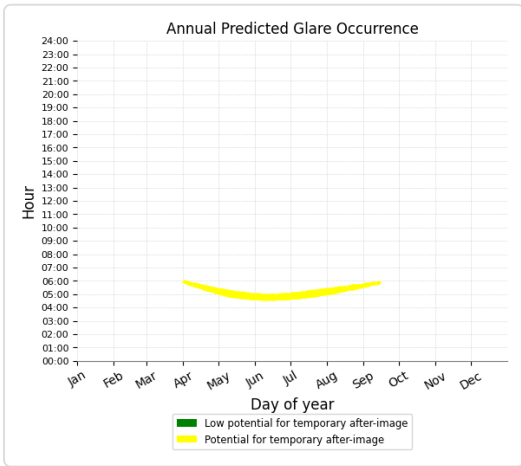
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,241 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 14)

PV array is expected to produce the following glare for receptors at this location:

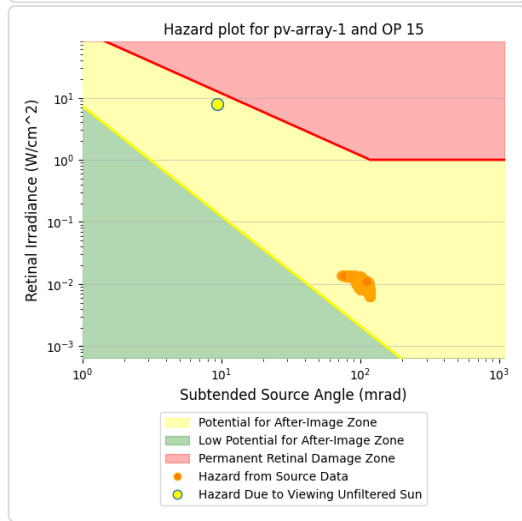
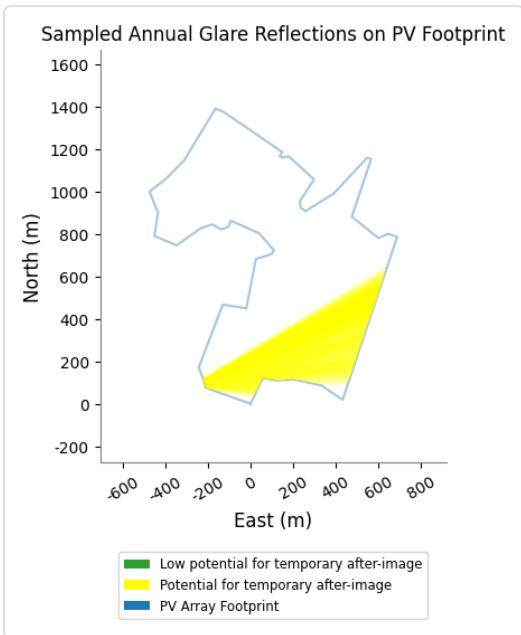
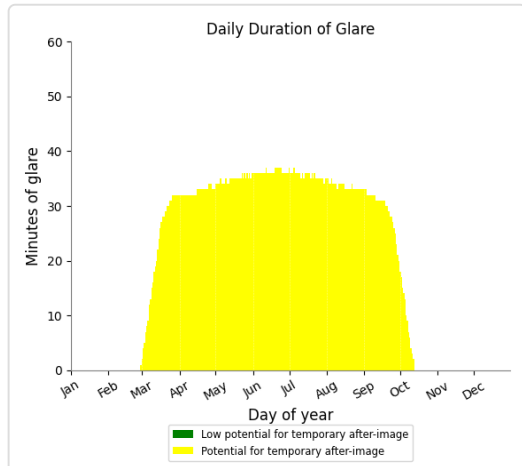
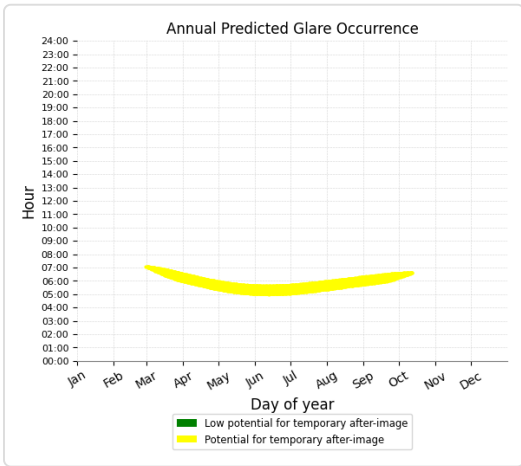
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,070 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:

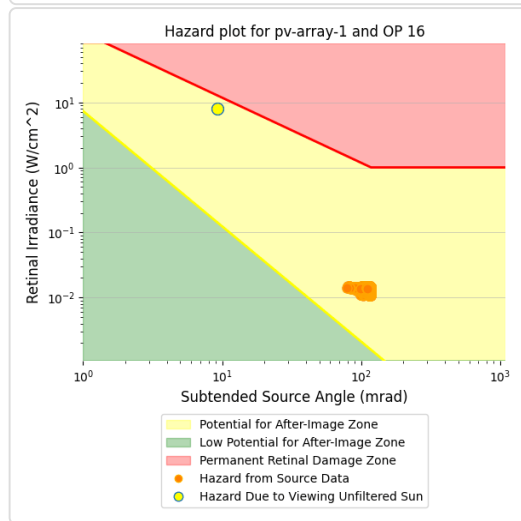
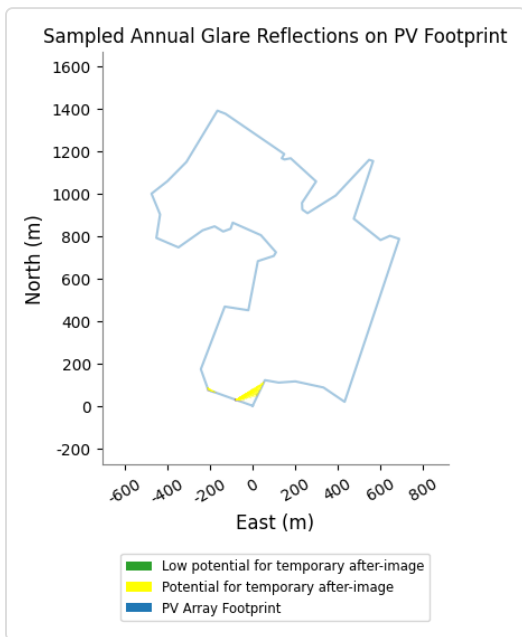
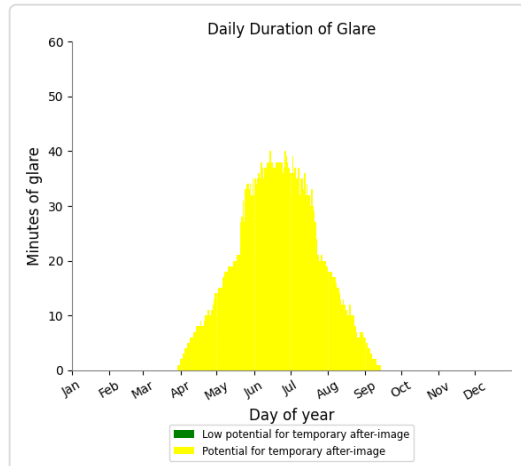
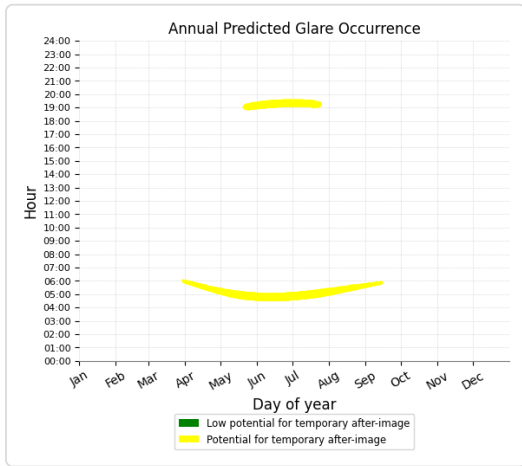
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 6,972 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 16)

PV array is expected to produce the following glare for receptors at this location:

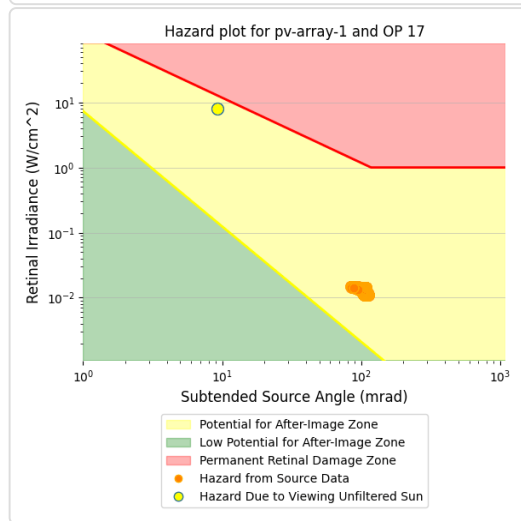
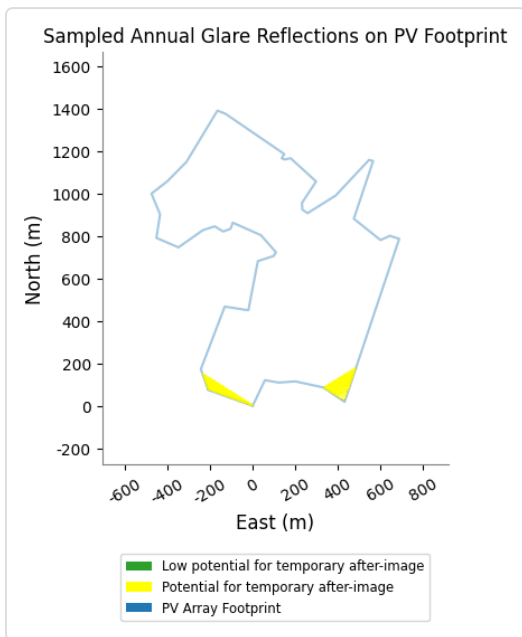
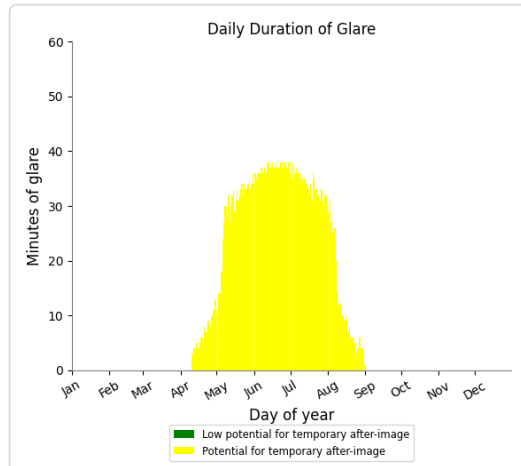
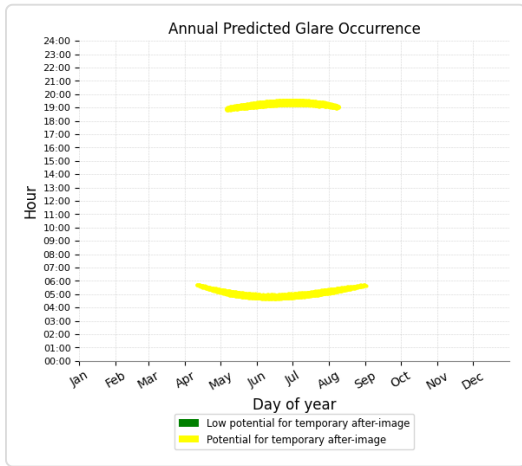
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,390 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 17)

PV array is expected to produce the following glare for receptors at this location:

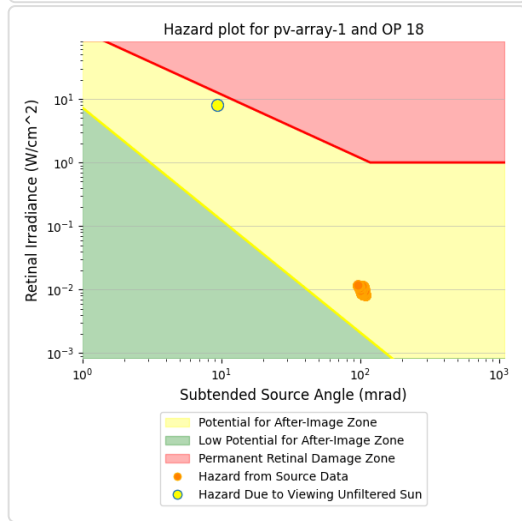
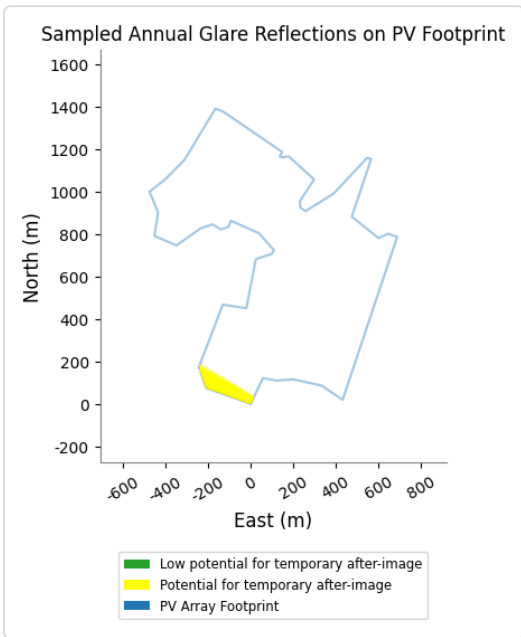
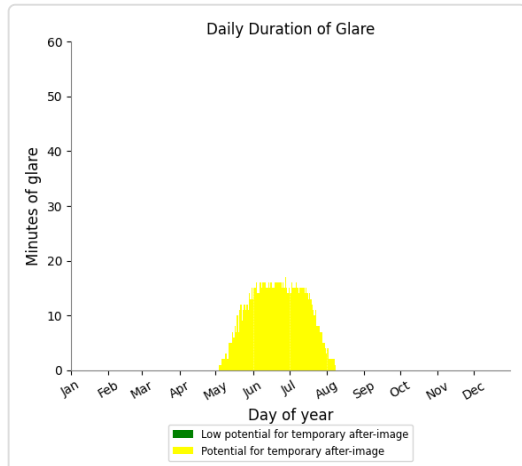
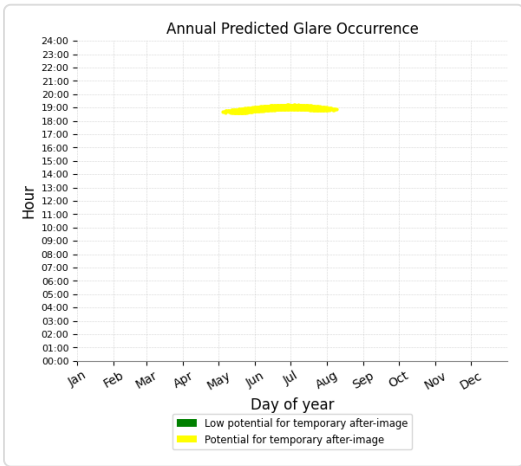
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,574 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 18)

PV array is expected to produce the following glare for receptors at this location:

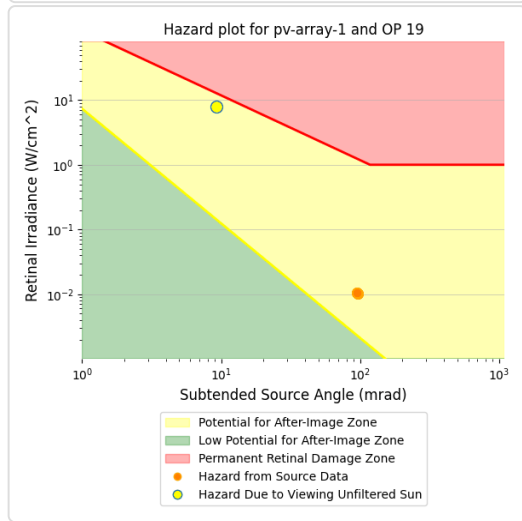
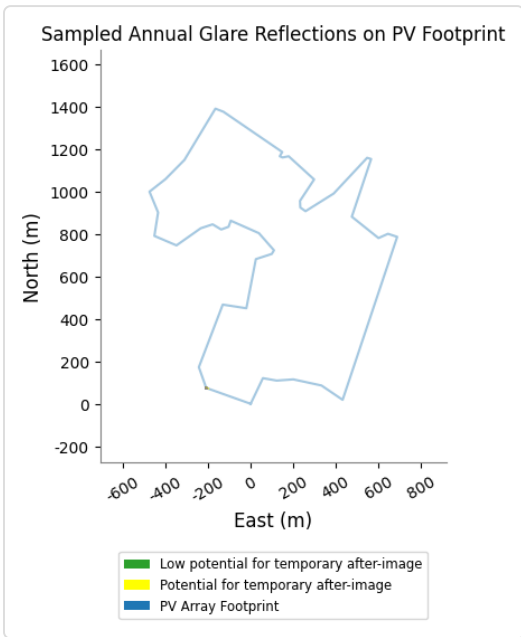
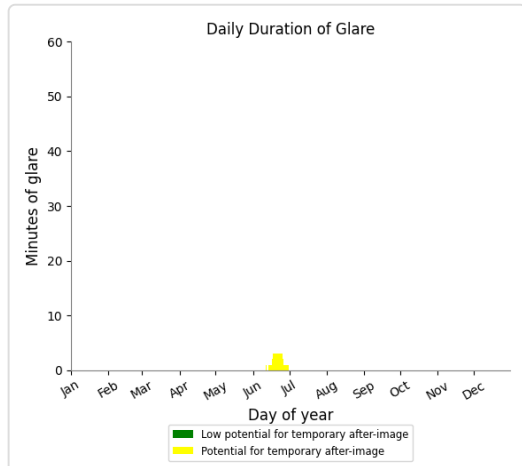
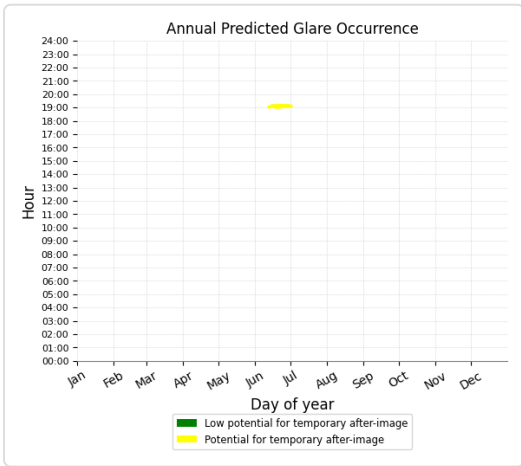
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,060 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 19)

PV array is expected to produce the following glare for receptors at this location:

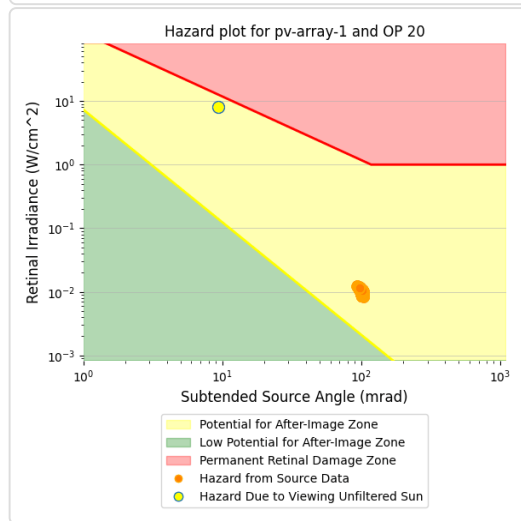
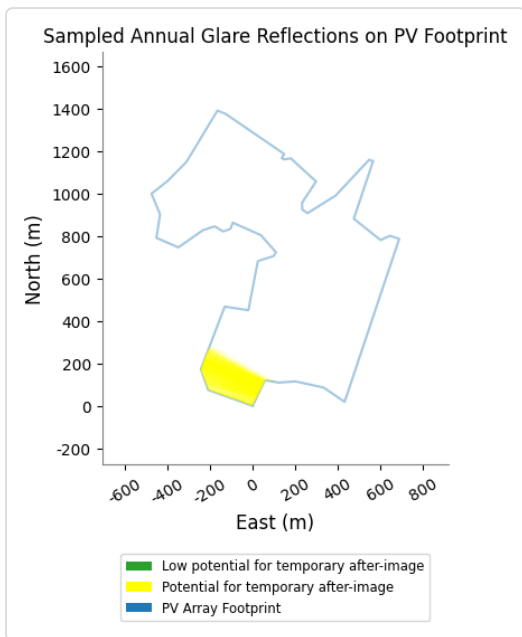
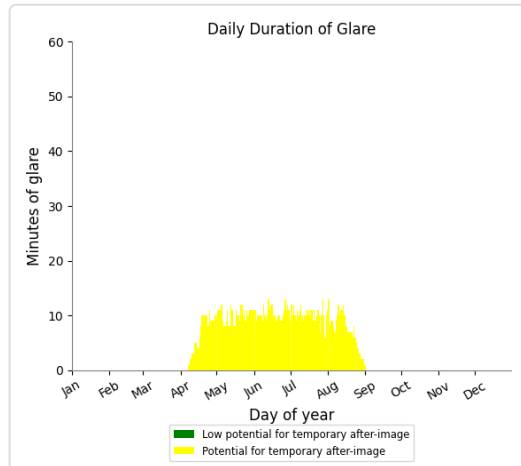
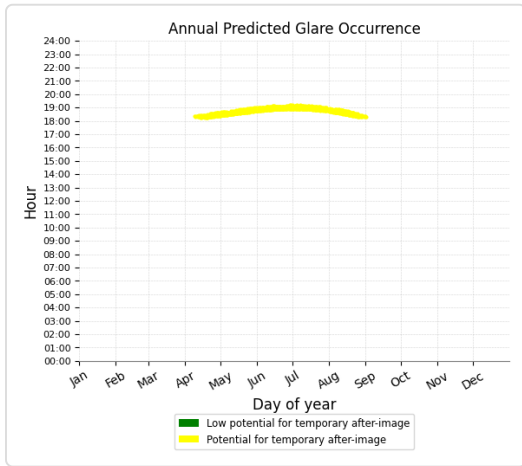
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 36 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 20)

PV array is expected to produce the following glare for receptors at this location:

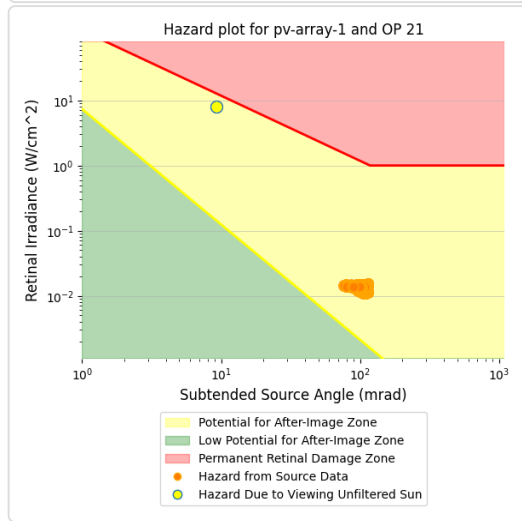
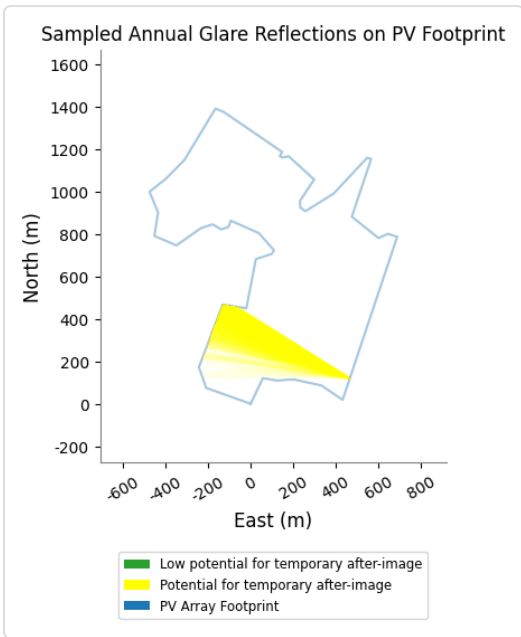
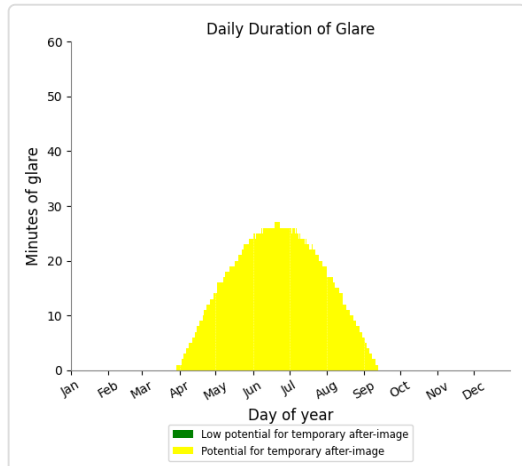
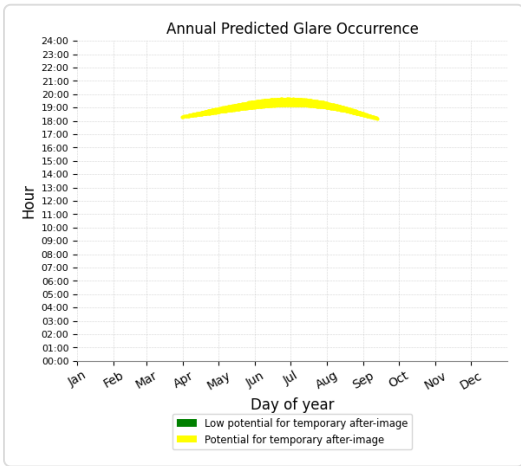
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,336 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 21)

PV array is expected to produce the following glare for receptors at this location:

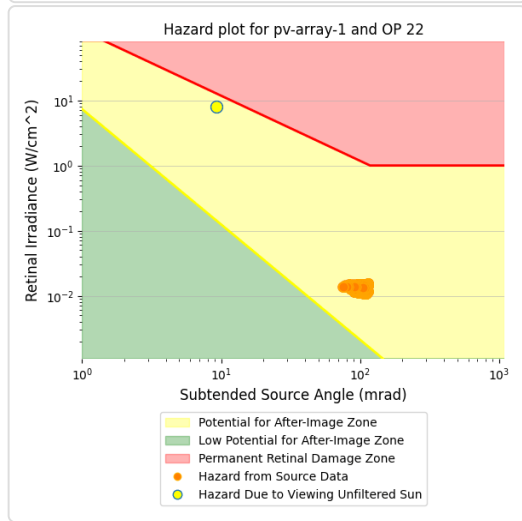
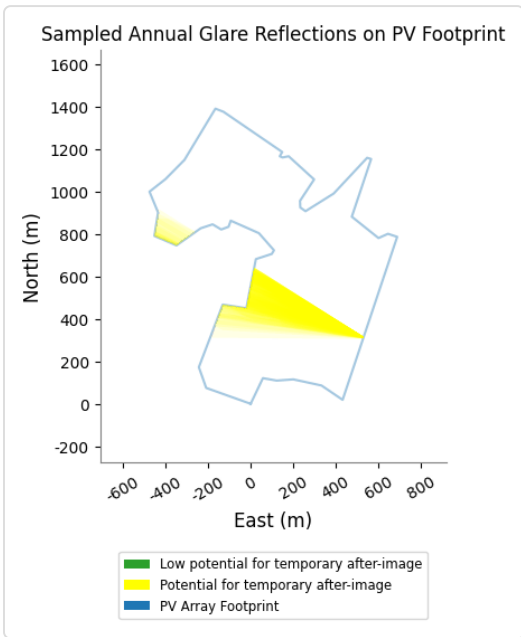
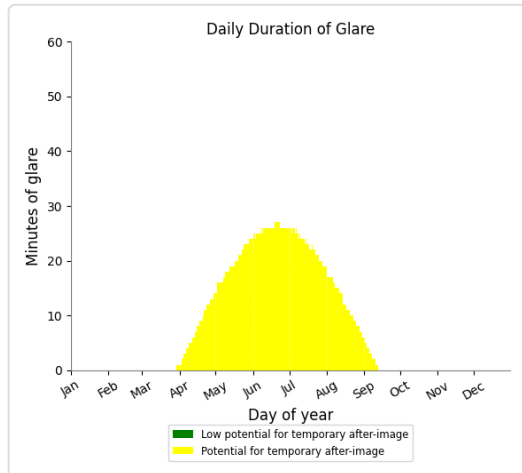
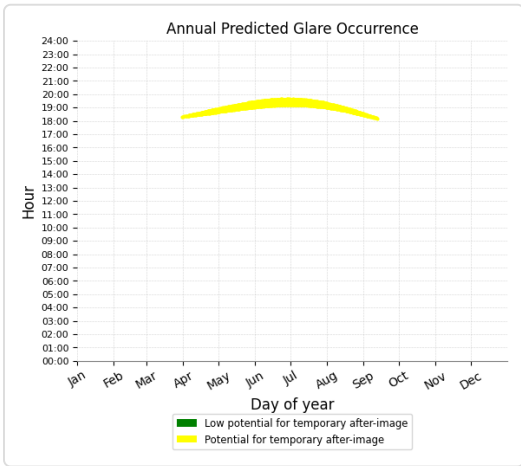
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,737 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 22)

PV array is expected to produce the following glare for receptors at this location:

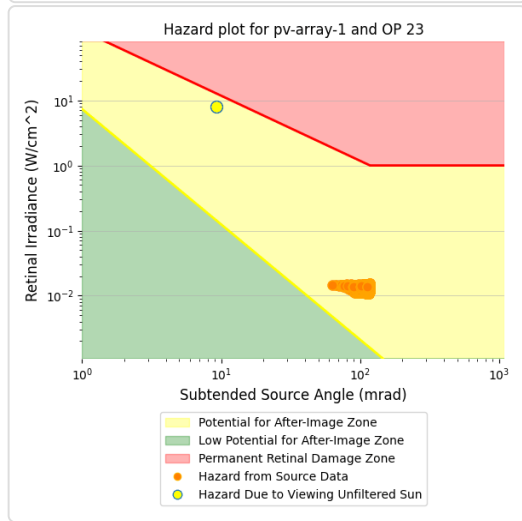
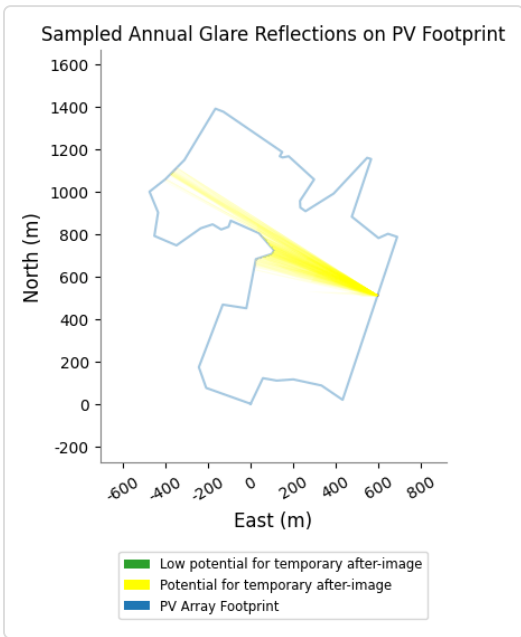
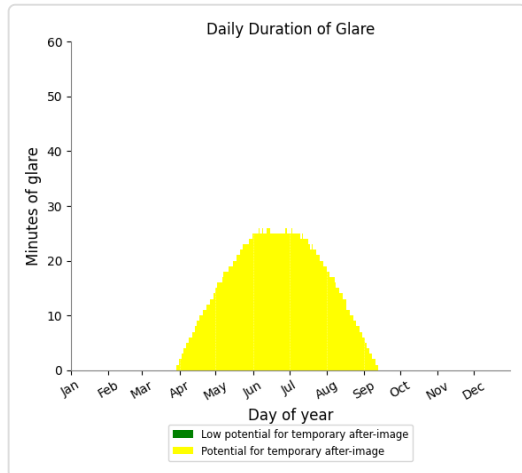
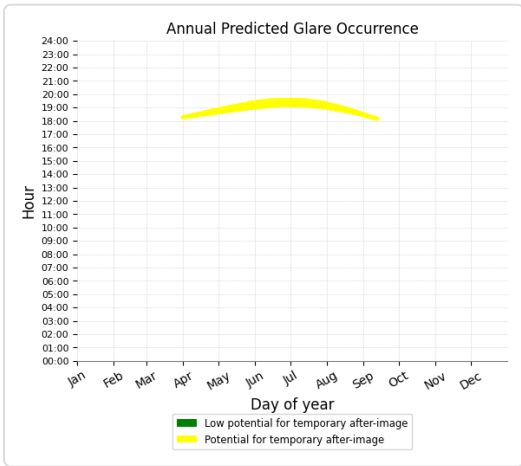
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,737 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:

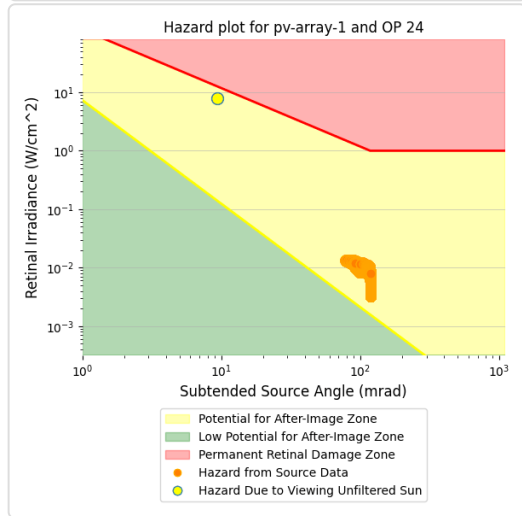
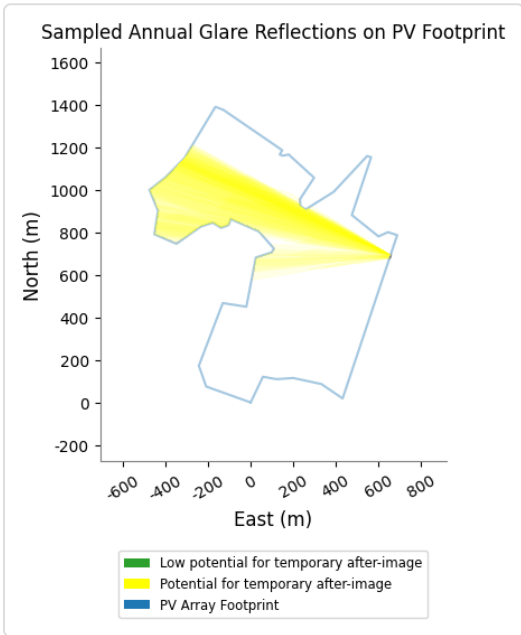
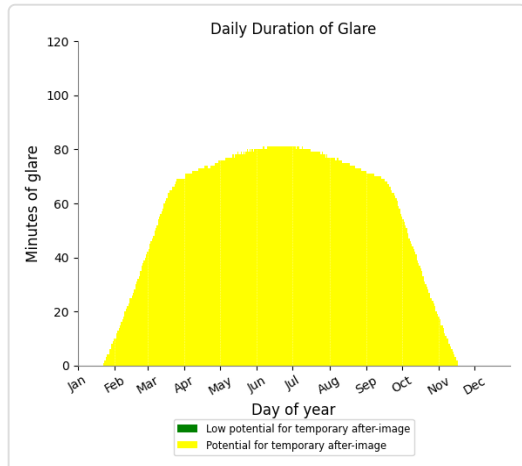
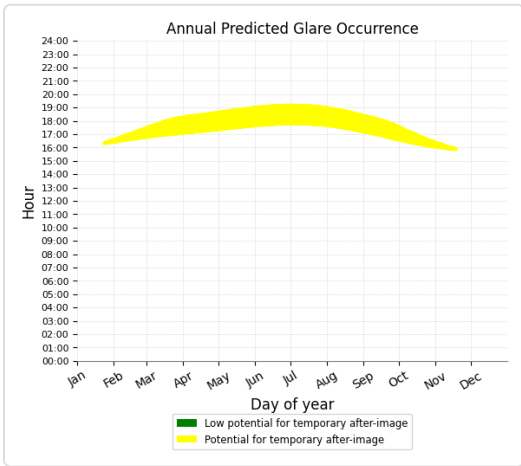
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,760 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 24)

PV array is expected to produce the following glare for receptors at this location:

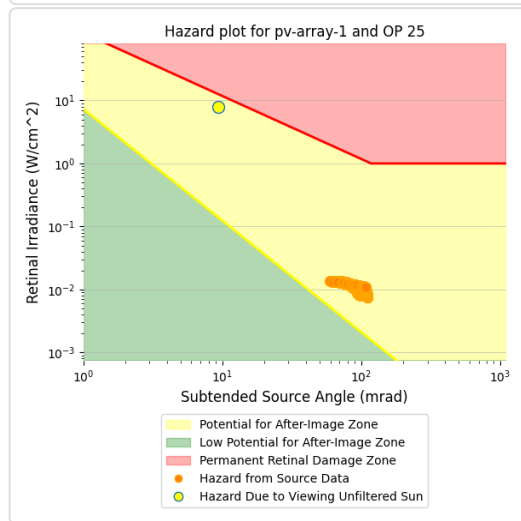
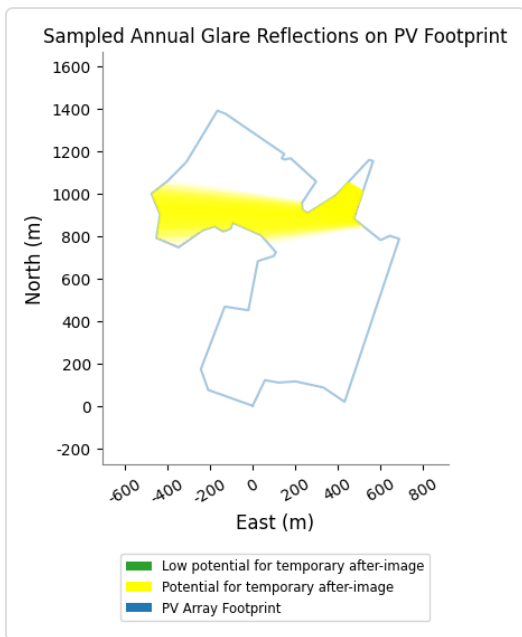
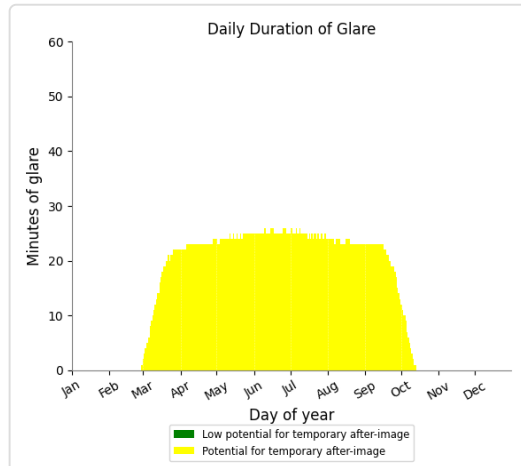
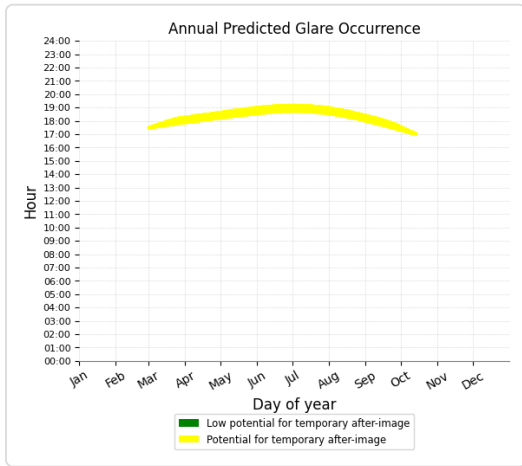
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 17,687 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 25)

PV array is expected to produce the following glare for receptors at this location:

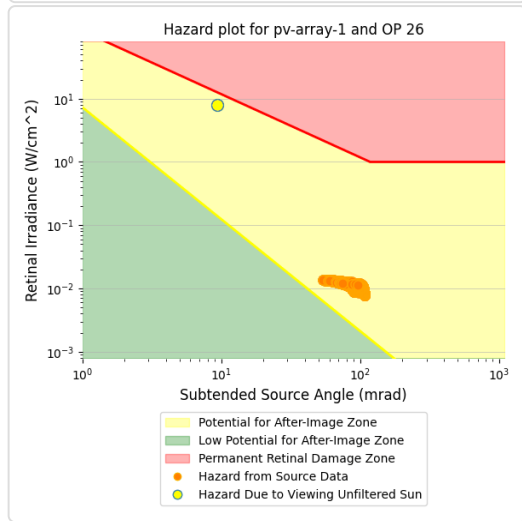
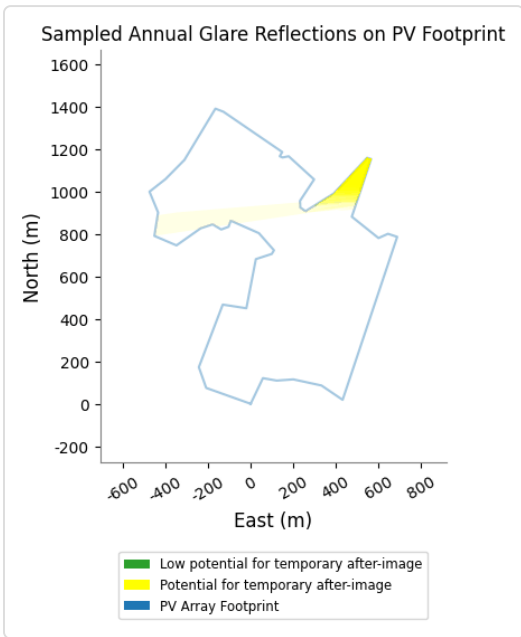
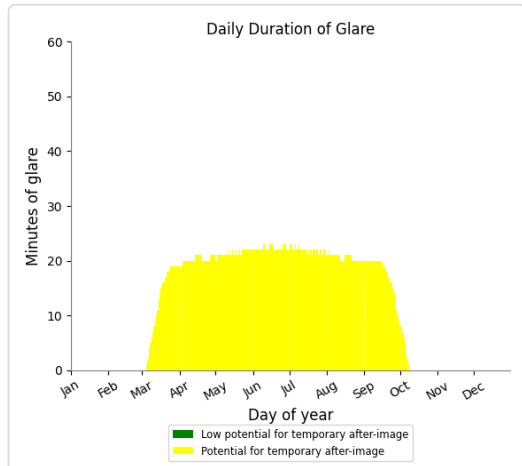
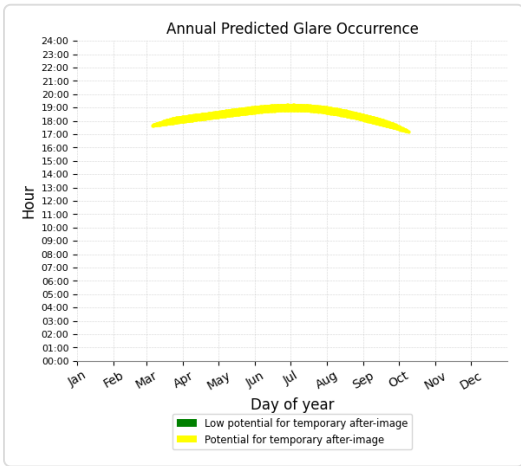
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,866 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 26)

PV array is expected to produce the following glare for receptors at this location:

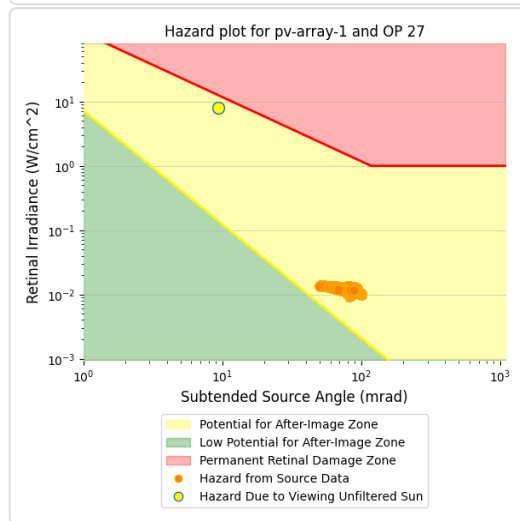
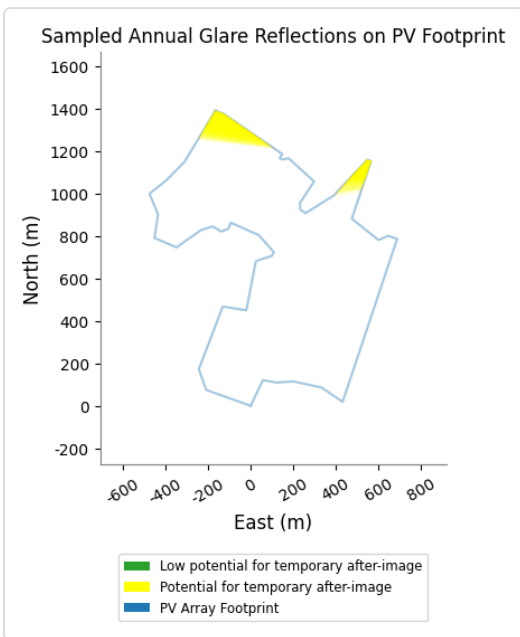
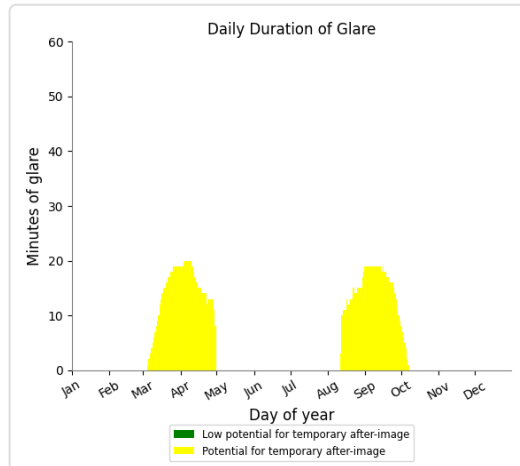
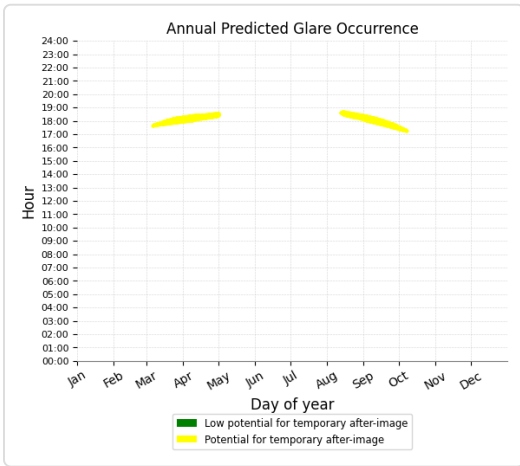
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,184 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:

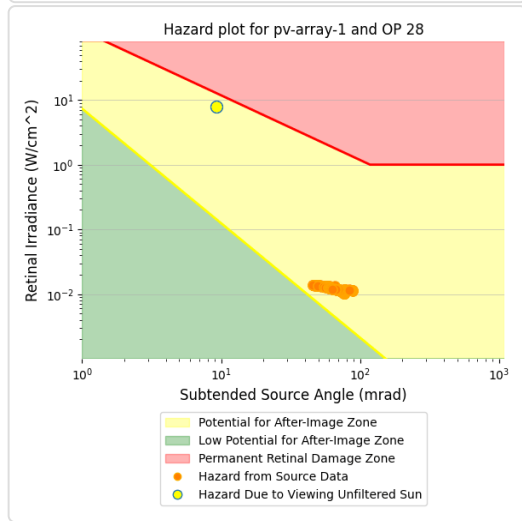
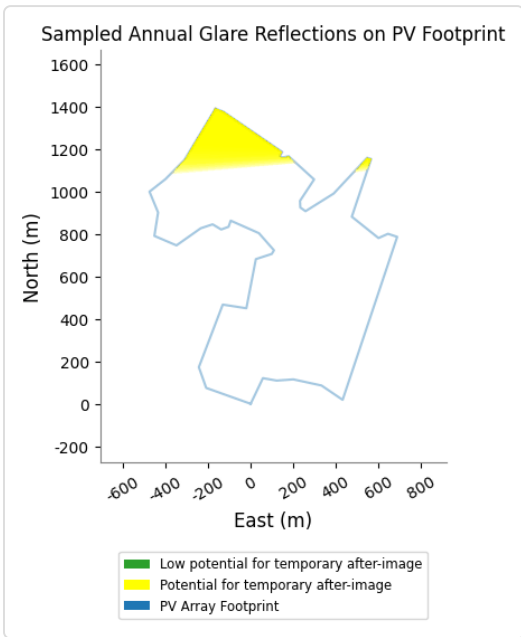
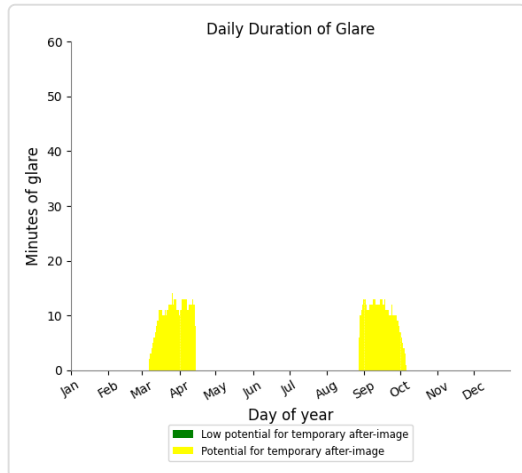
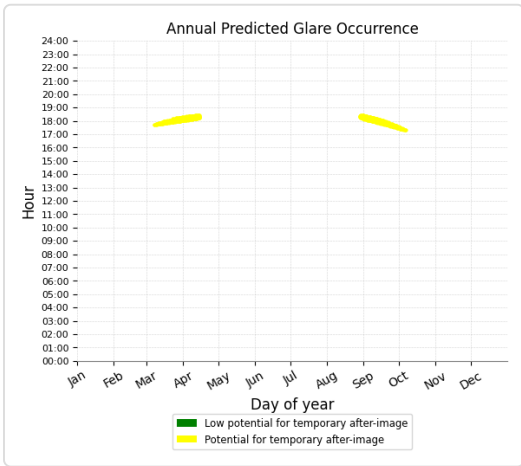
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,624 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:

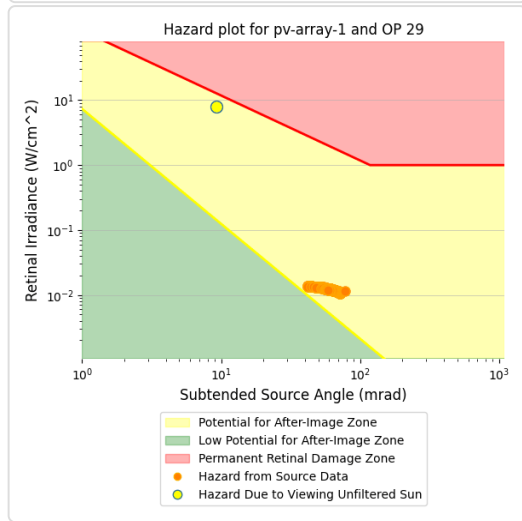
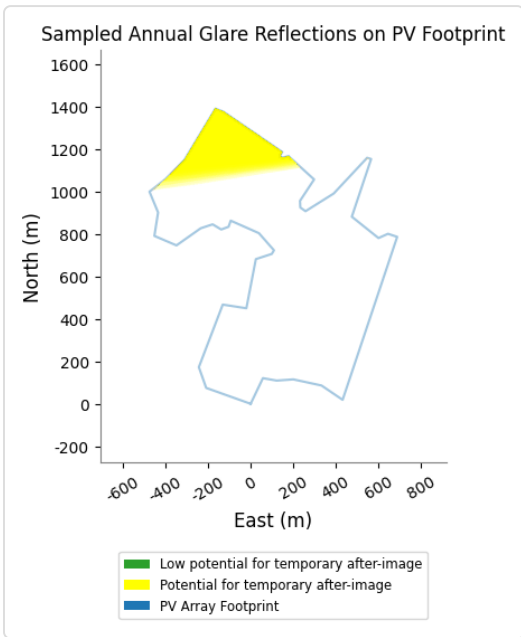
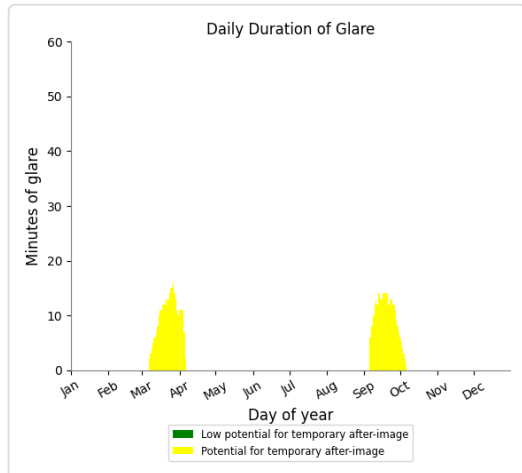
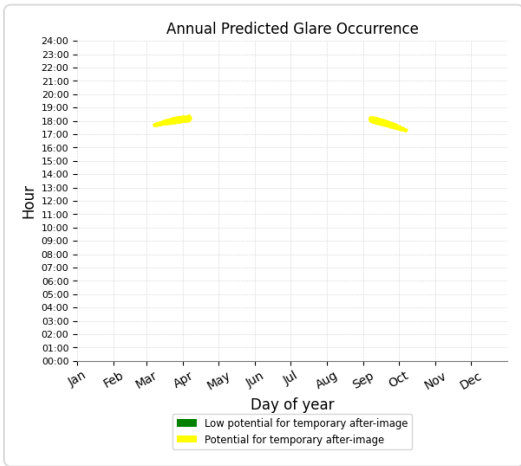
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 813 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 29)

PV array is expected to produce the following glare for receptors at this location:

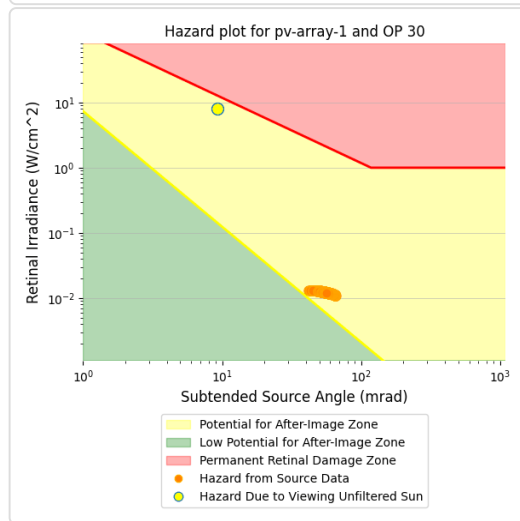
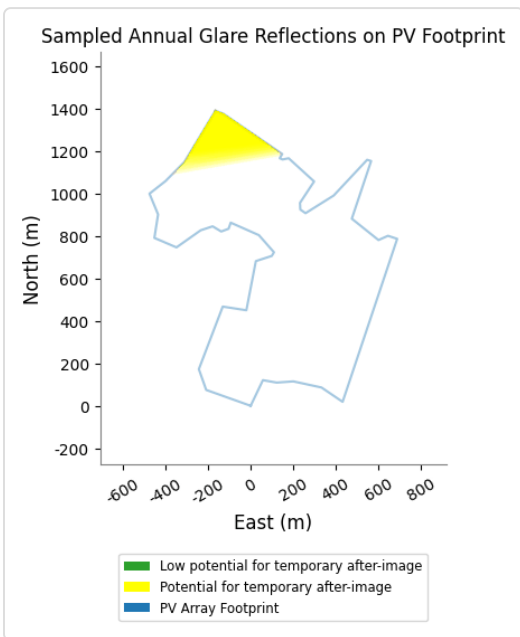
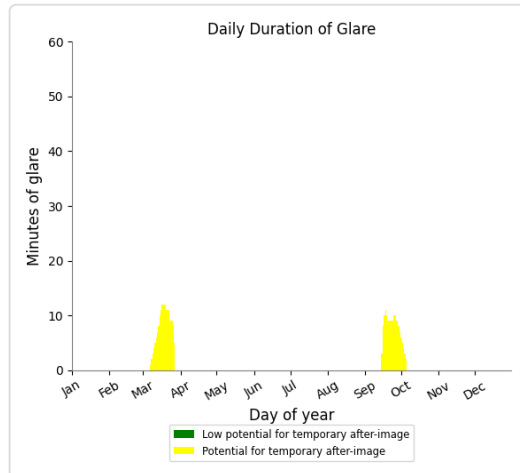
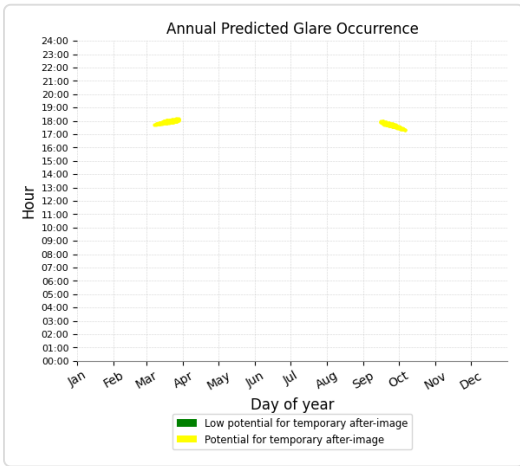
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 618 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:

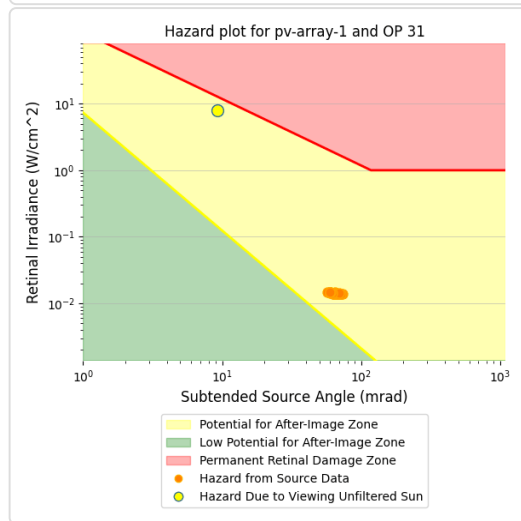
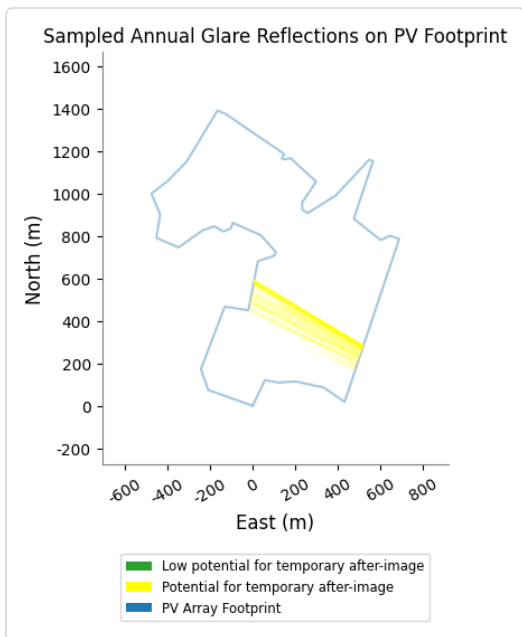
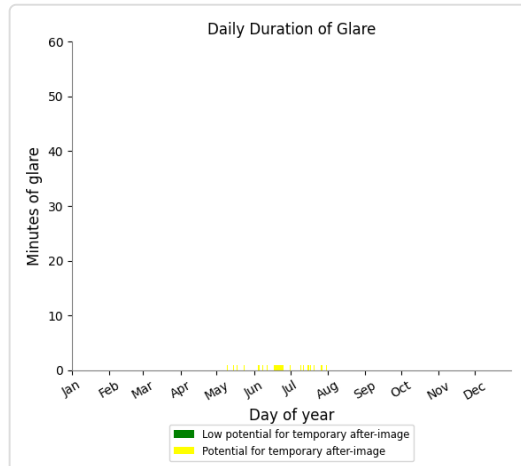
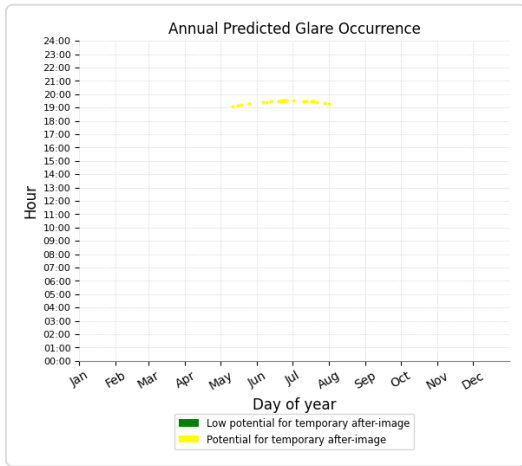
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 326 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 31)

PV array is expected to produce the following glare for receptors at this location:

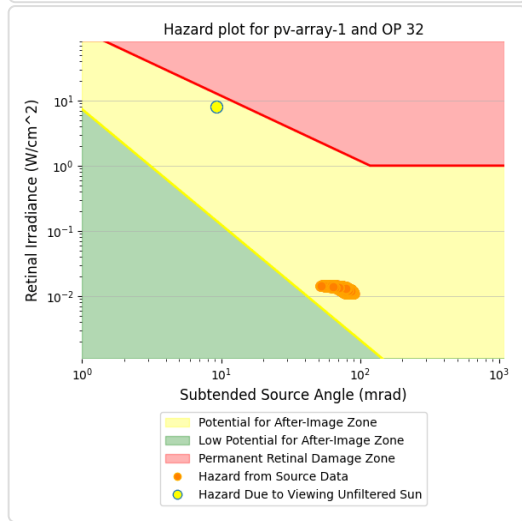
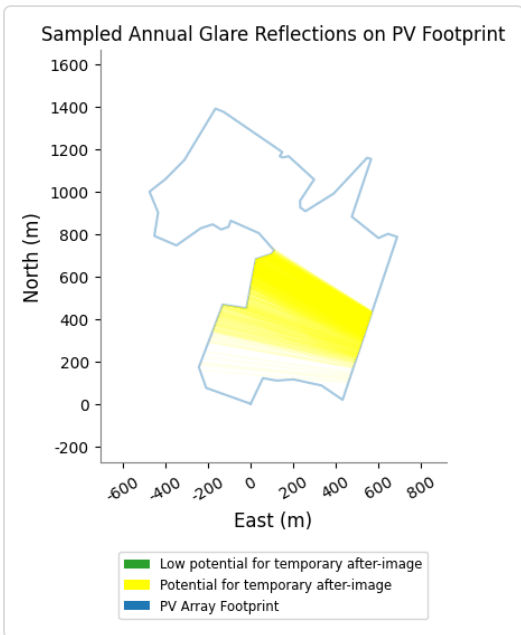
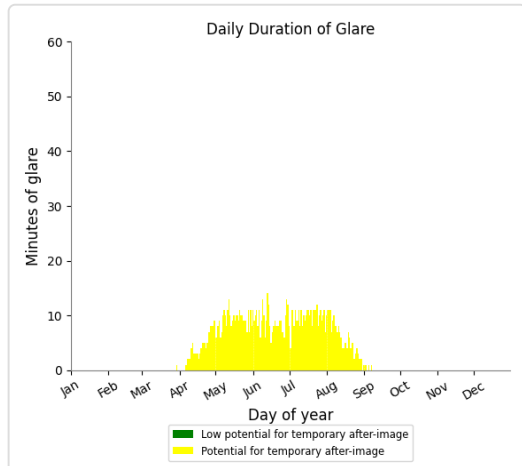
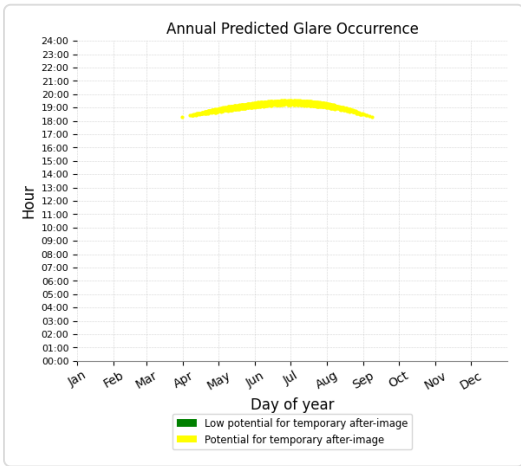
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 23 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 32)

PV array is expected to produce the following glare for receptors at this location:

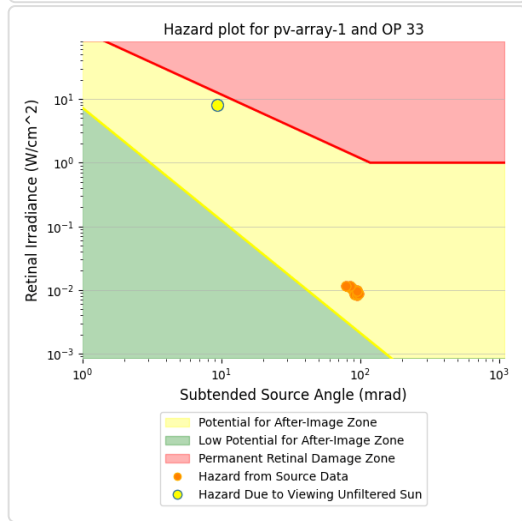
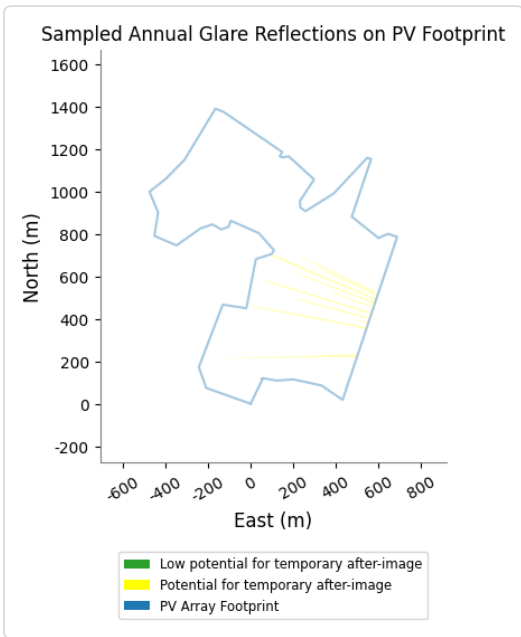
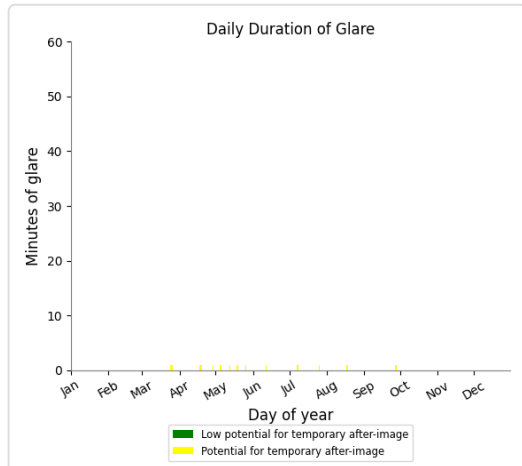
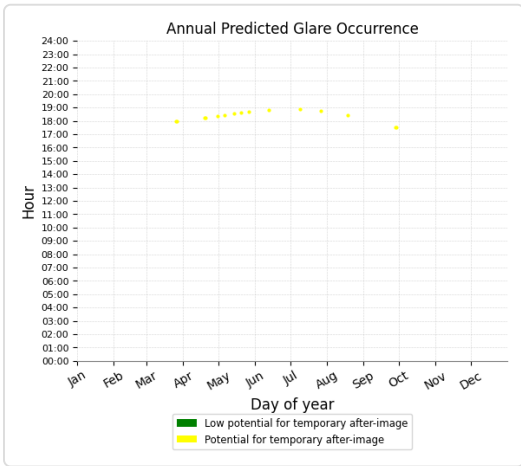
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,150 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 33)

PV array is expected to produce the following glare for receptors at this location:

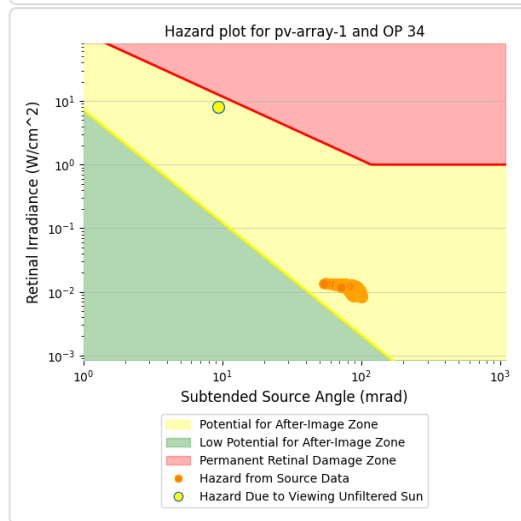
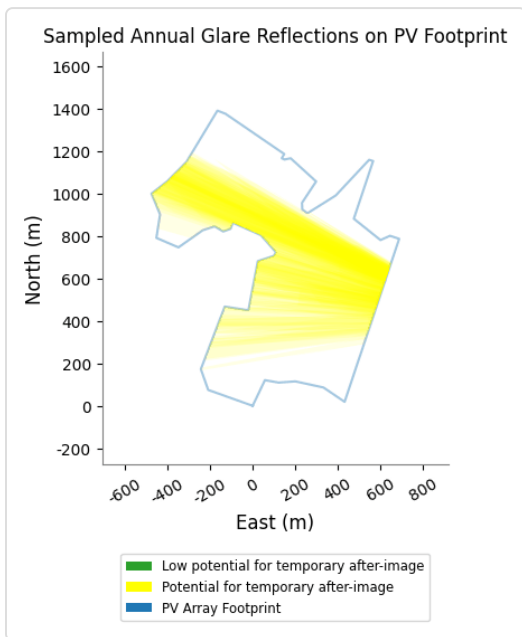
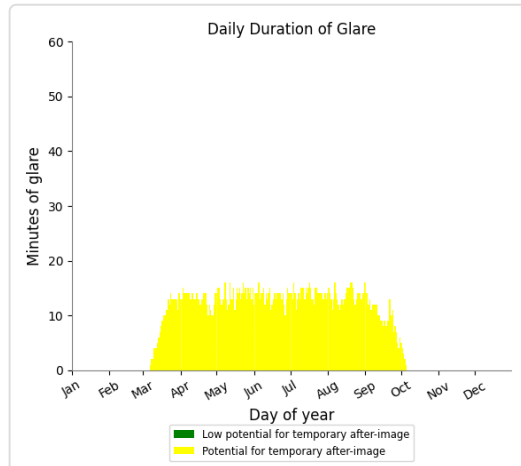
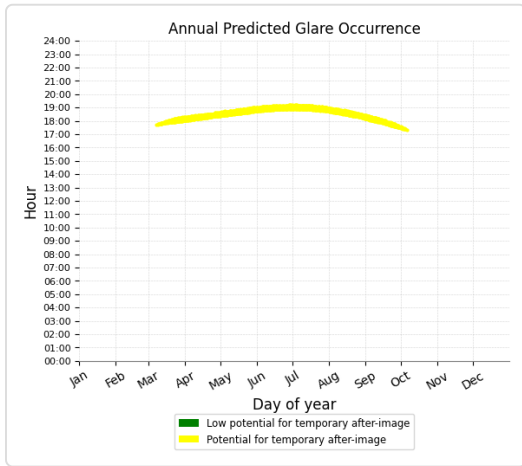
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 15 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 34)

PV array is expected to produce the following glare for receptors at this location:

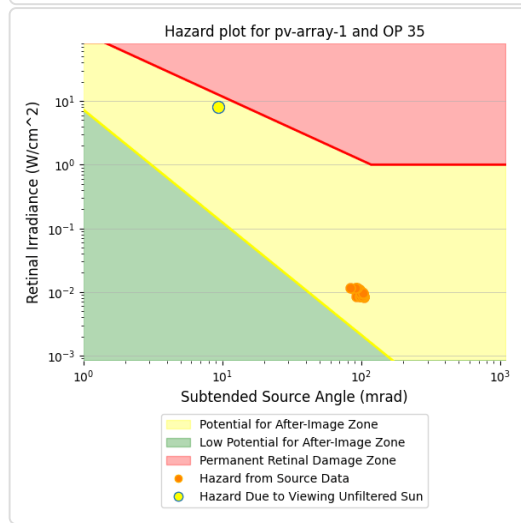
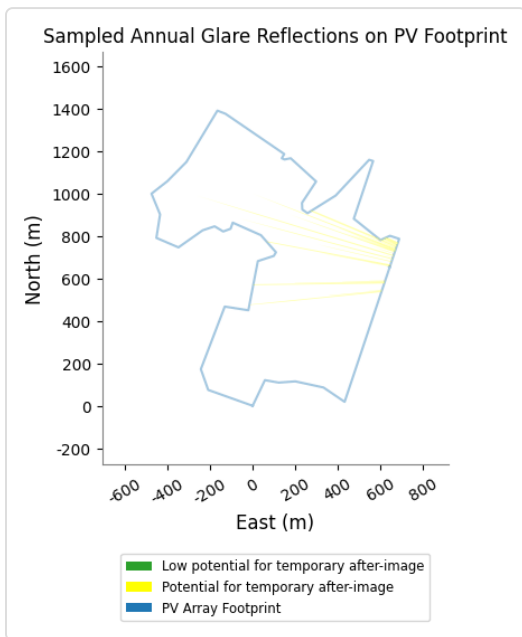
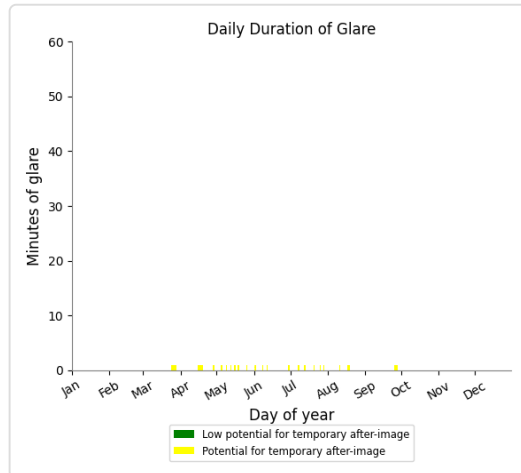
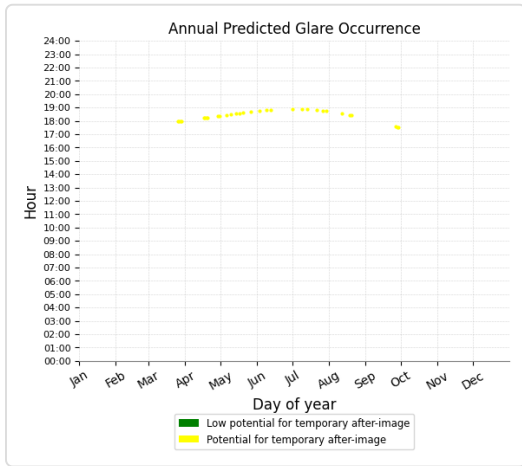
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,618 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 35)

PV array is expected to produce the following glare for receptors at this location:

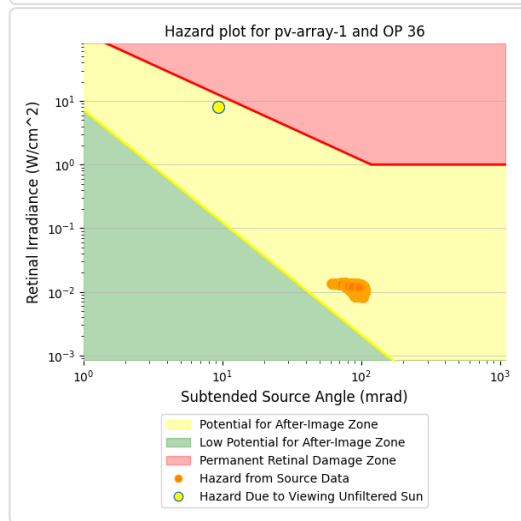
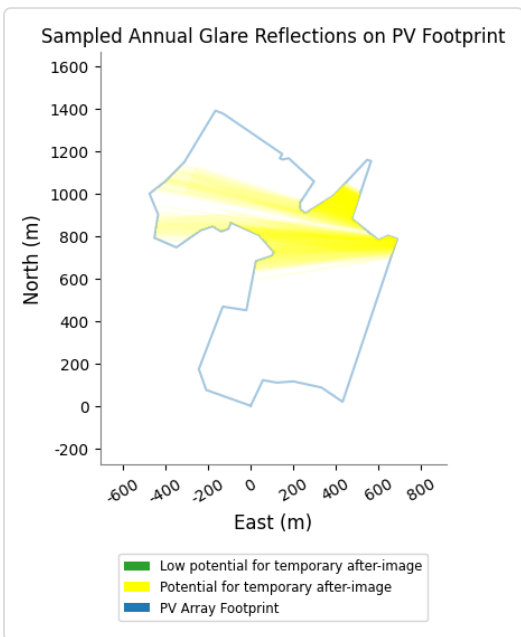
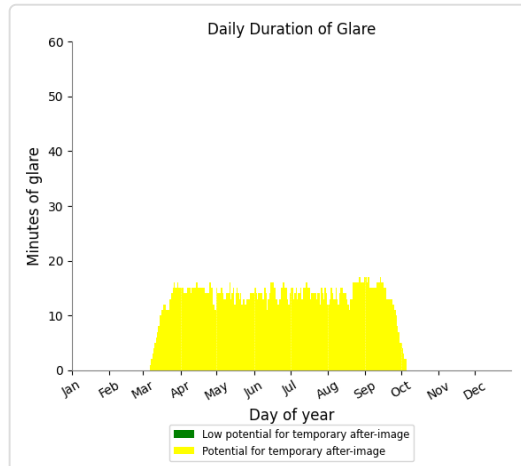
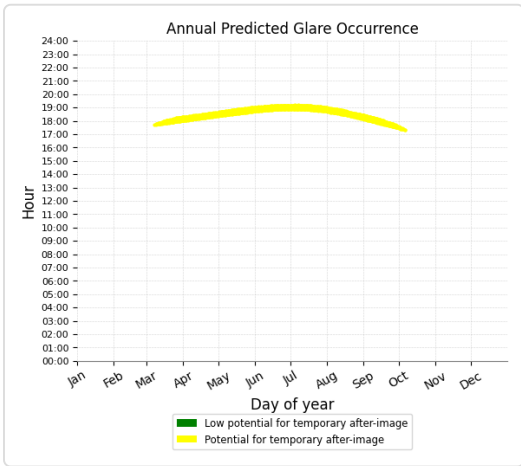
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 31 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 36)

PV array is expected to produce the following glare for receptors at this location:

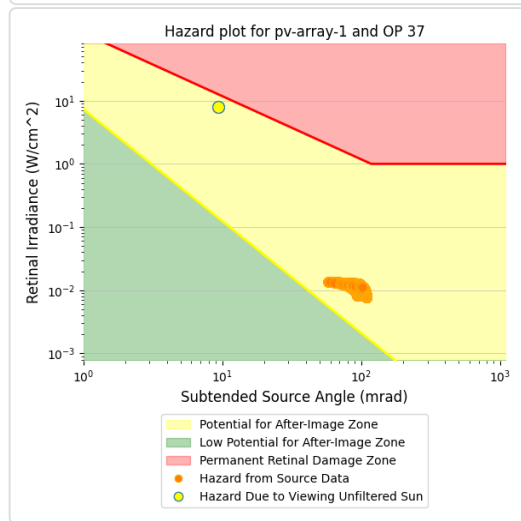
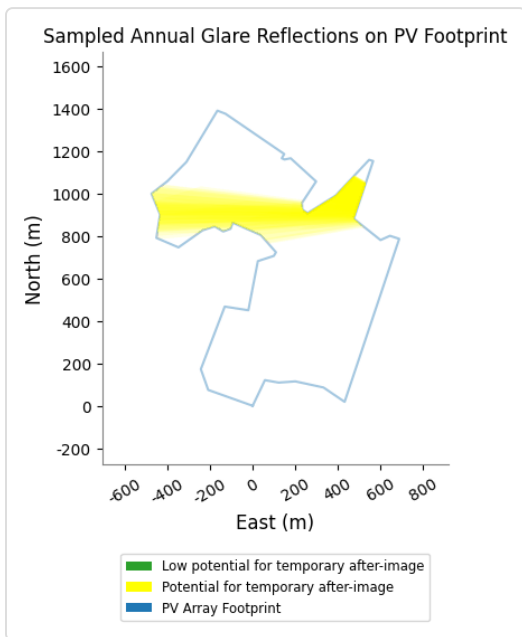
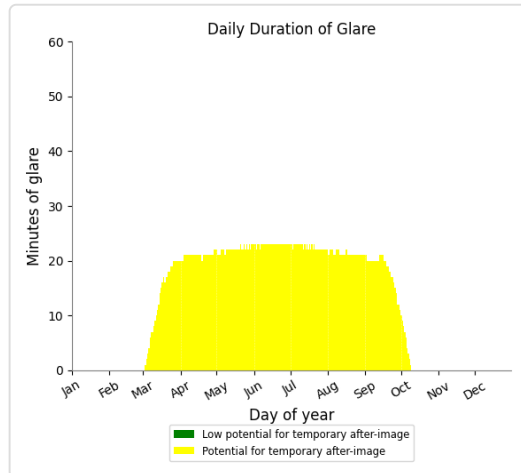
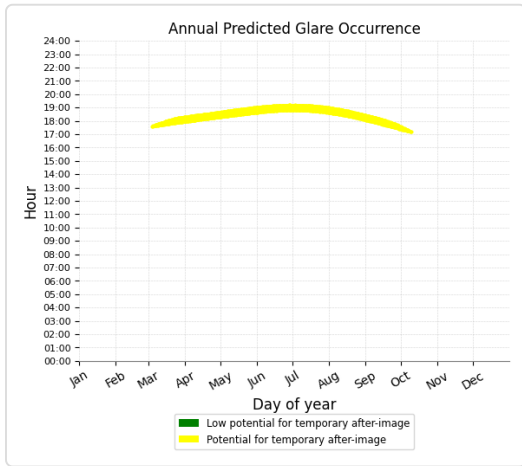
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,850 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 37)

PV array is expected to produce the following glare for receptors at this location:

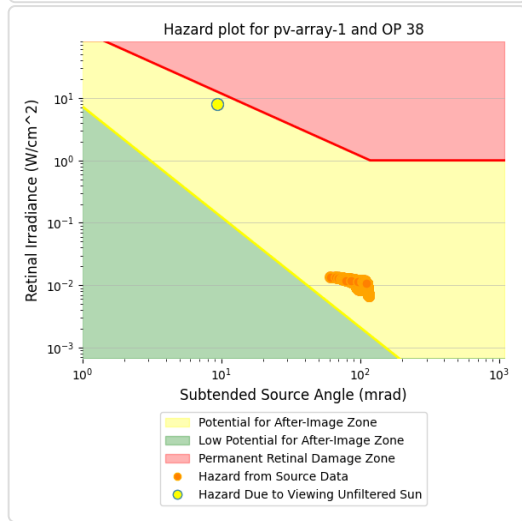
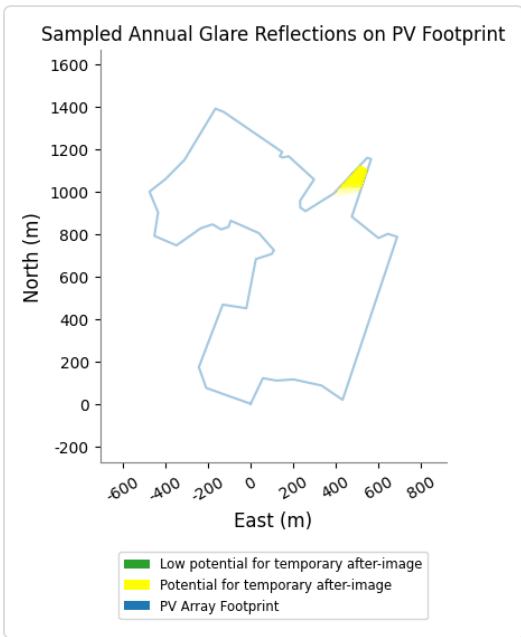
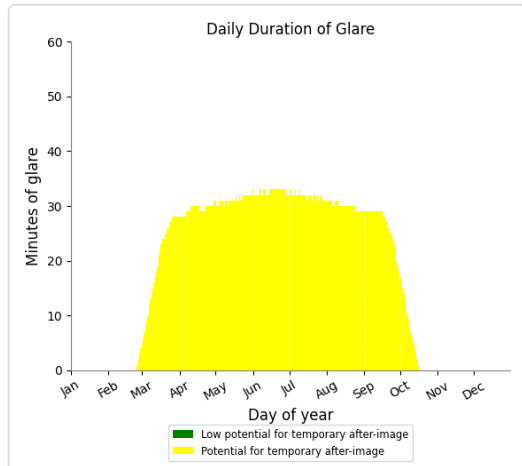
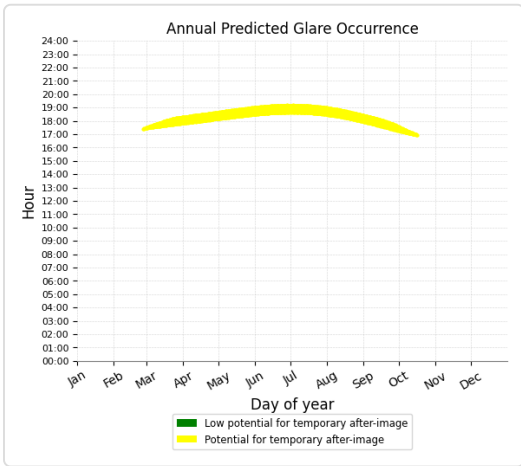
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,347 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 38)

PV array is expected to produce the following glare for receptors at this location:

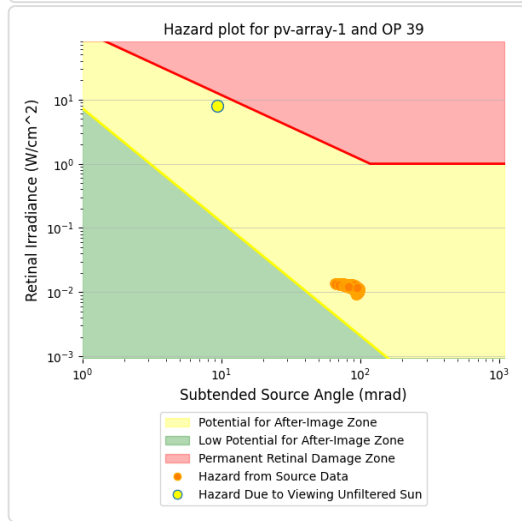
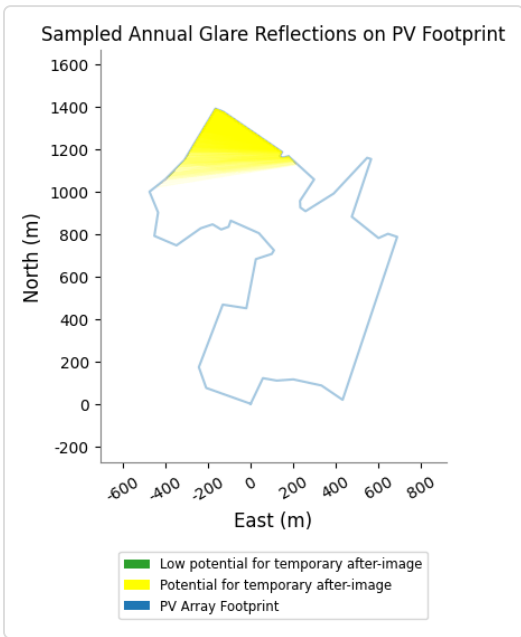
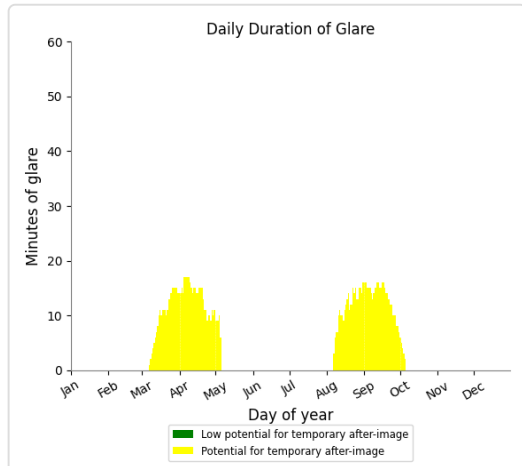
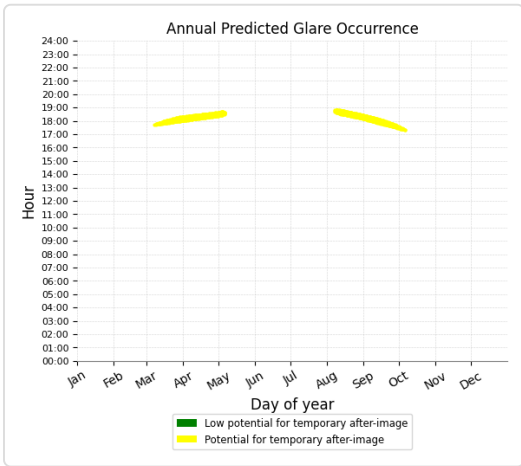
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 6,299 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 39)

PV array is expected to produce the following glare for receptors at this location:

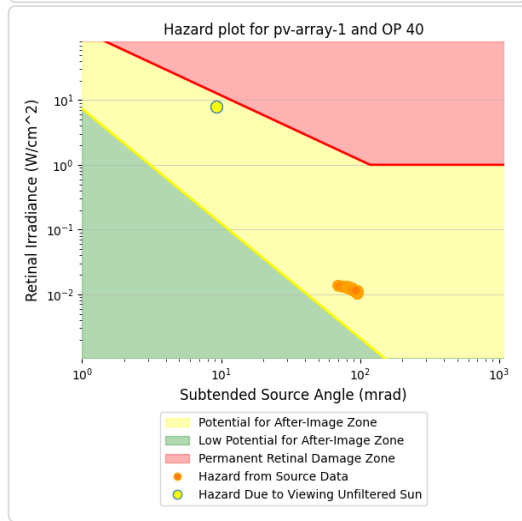
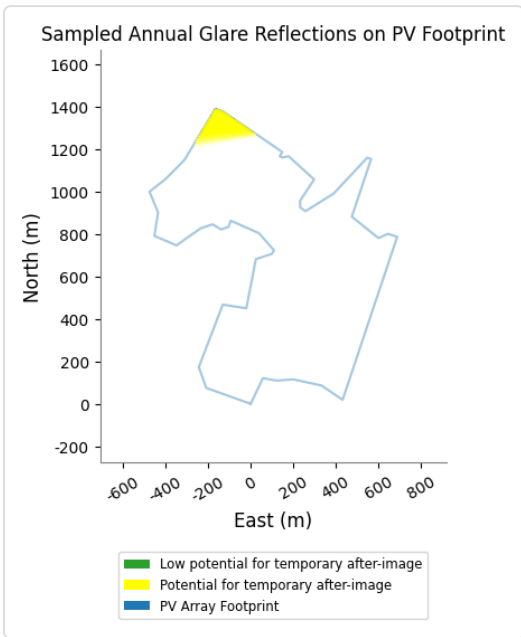
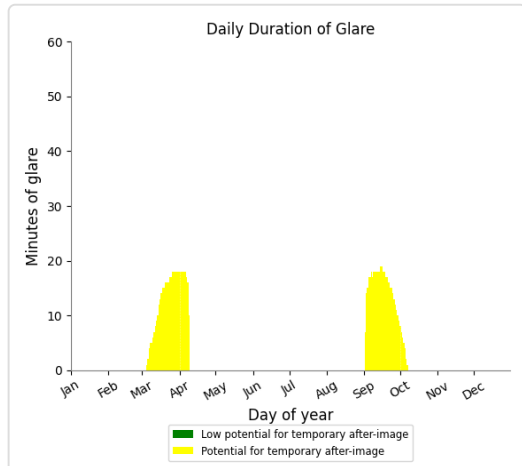
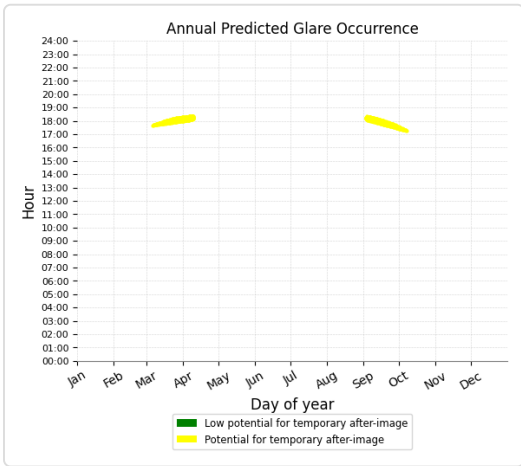
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,415 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 40)

PV array is expected to produce the following glare for receptors at this location:

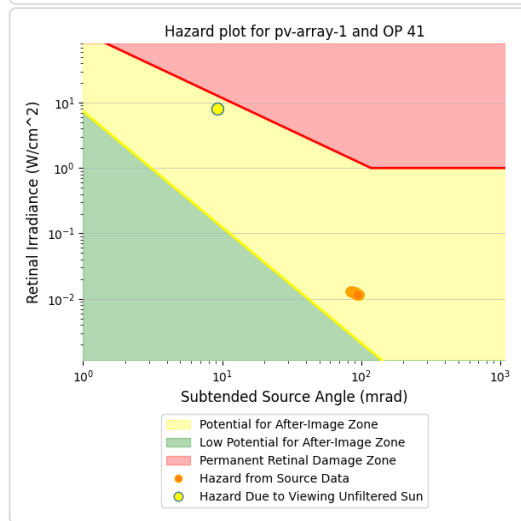
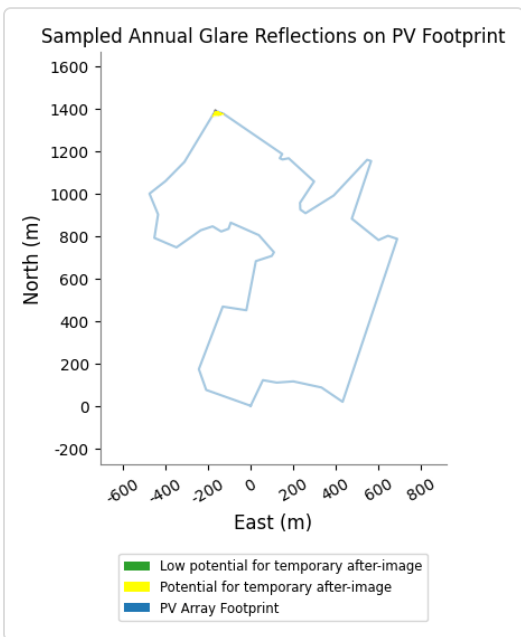
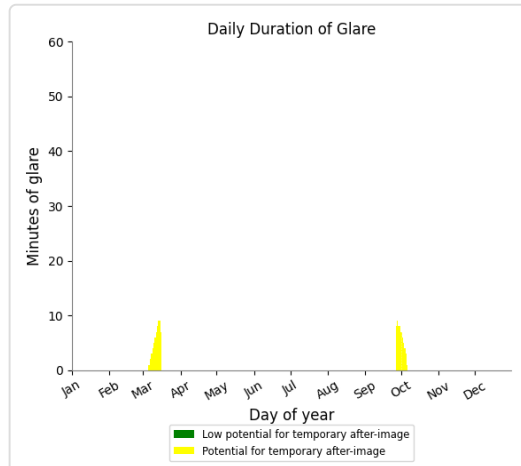
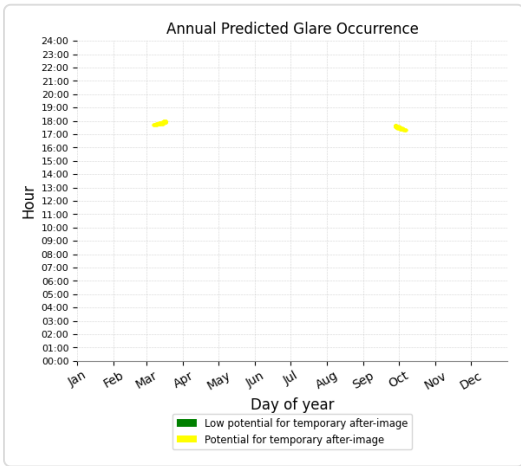
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 968 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 41)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 120 minutes of "yellow" glare with potential to cause temporary after-image.



Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6E - Road Receptor Glare Results (30 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Road Receptors 30deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 72998.12854

Project type Advanced
 Project status: active
 Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

Summary of Results Glare with potential for temporary after-image predicted

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced |
|------------|------|-------------|---------------|----------------|-----------------|
| | deg | deg | min | min | kWh |
| PV array 1 | 30.0 | 180.0 | 0 | 103,443 | - |

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 30.0 deg
Orientation: 180.0 deg
Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



| Vertex | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| 1 | 52.977416 | -0.868813 | 20.30 | 2.80 | 23.10 |
| 2 | 52.978501 | -0.867955 | 20.00 | 2.80 | 22.80 |
| 3 | 52.978398 | -0.866989 | 20.39 | 2.80 | 23.19 |
| 4 | 52.978450 | -0.865830 | 20.46 | 2.80 | 23.26 |
| 5 | 52.978191 | -0.863856 | 20.00 | 2.80 | 22.80 |
| 6 | 52.977584 | -0.862376 | 19.95 | 2.80 | 22.75 |
| 7 | 52.984483 | -0.858556 | 24.76 | 2.80 | 27.56 |
| 8 | 52.984612 | -0.859200 | 25.60 | 2.80 | 28.40 |
| 9 | 52.984431 | -0.859865 | 26.00 | 2.80 | 28.80 |
| 10 | 52.985335 | -0.861732 | 25.02 | 2.80 | 27.82 |
| 11 | 52.987777 | -0.860380 | 19.95 | 2.80 | 22.75 |
| 12 | 52.987828 | -0.860659 | 19.88 | 2.80 | 22.68 |
| 13 | 52.986317 | -0.862998 | 21.01 | 2.80 | 23.81 |
| 14 | 52.985568 | -0.864972 | 20.25 | 2.80 | 23.05 |
| 15 | 52.985723 | -0.865337 | 19.79 | 2.80 | 22.59 |
| 16 | 52.986007 | -0.865358 | 20.07 | 2.80 | 22.87 |
| 17 | 52.986911 | -0.864371 | 20.22 | 2.80 | 23.02 |
| 18 | 52.987893 | -0.866152 | 18.00 | 2.80 | 20.80 |
| 19 | 52.987841 | -0.866581 | 18.05 | 2.80 | 20.85 |
| 20 | 52.987893 | -0.866774 | 18.33 | 2.80 | 21.13 |
| 21 | 52.988074 | -0.866603 | 18.08 | 2.80 | 20.88 |
| 22 | 52.989779 | -0.870723 | 22.00 | 2.80 | 24.80 |
| 23 | 52.989908 | -0.871280 | 22.00 | 2.80 | 24.80 |
| 24 | 52.987738 | -0.873448 | 22.05 | 2.80 | 24.85 |
| 25 | 52.986924 | -0.874778 | 22.79 | 2.80 | 25.59 |
| 26 | 52.986395 | -0.875894 | 22.62 | 2.80 | 25.42 |
| 27 | 52.985516 | -0.875293 | 21.94 | 2.80 | 24.74 |
| 28 | 52.984522 | -0.875551 | 21.38 | 2.80 | 24.18 |
| 29 | 52.984121 | -0.874006 | 20.15 | 2.80 | 22.95 |
| 30 | 52.984845 | -0.872310 | 20.21 | 2.80 | 23.01 |
| 31 | 52.985012 | -0.871474 | 20.01 | 2.80 | 22.81 |
| 32 | 52.984793 | -0.870873 | 20.22 | 2.80 | 23.02 |
| 33 | 52.984909 | -0.870358 | 20.19 | 2.80 | 22.99 |
| 34 | 52.985167 | -0.870208 | 19.84 | 2.80 | 22.64 |
| 35 | 52.984638 | -0.868233 | 20.05 | 2.80 | 22.85 |
| 36 | 52.983914 | -0.867182 | 19.95 | 2.80 | 22.75 |
| 37 | 52.983759 | -0.867332 | 20.03 | 2.80 | 22.83 |
| 38 | 52.983540 | -0.868448 | 20.67 | 2.80 | 23.47 |
| 39 | 52.981460 | -0.869113 | 21.77 | 2.80 | 24.57 |
| 40 | 52.981615 | -0.870765 | 23.94 | 2.80 | 26.74 |
| 41 | 52.978966 | -0.872439 | 24.87 | 2.80 | 27.67 |
| 42 | 52.978088 | -0.871924 | 23.83 | 2.80 | 26.63 |

Discrete Observation Receptors

| Number | Latitude | Longitude | Ground elevation | Height above ground | Total Elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| OP 1 | 52.988661 | -0.872902 | 22.84 | 1.50 | 24.34 |
| OP 2 | 52.987175 | -0.874833 | 23.17 | 1.50 | 24.67 |
| OP 3 | 52.985987 | -0.876700 | 22.88 | 1.50 | 24.38 |
| OP 4 | 52.984624 | -0.878824 | 24.57 | 1.50 | 26.07 |
| OP 5 | 52.983106 | -0.880509 | 24.75 | 1.50 | 26.25 |
| OP 6 | 52.981556 | -0.882075 | 23.62 | 1.50 | 25.12 |
| OP 7 | 52.980031 | -0.883459 | 24.67 | 1.50 | 26.17 |
| OP 8 | 52.978539 | -0.884993 | 22.18 | 1.50 | 23.68 |
| OP 9 | 52.983662 | -0.889446 | 19.00 | 1.50 | 20.50 |
| OP 10 | 52.982589 | -0.886860 | 18.00 | 1.50 | 19.50 |
| OP 11 | 52.981834 | -0.884306 | 22.42 | 1.50 | 23.92 |
| OP 12 | 52.980070 | -0.881335 | 21.82 | 1.50 | 23.32 |
| OP 13 | 52.979256 | -0.878792 | 20.70 | 1.50 | 22.20 |
| OP 14 | 52.978688 | -0.876045 | 21.32 | 1.50 | 22.82 |
| OP 15 | 52.978171 | -0.873063 | 25.95 | 1.50 | 27.45 |
| OP 16 | 52.977564 | -0.870305 | 21.40 | 1.50 | 22.90 |
| OP 17 | 52.976892 | -0.867312 | 20.72 | 1.50 | 22.22 |
| OP 18 | 52.976304 | -0.864640 | 22.67 | 1.50 | 24.17 |
| OP 19 | 52.975109 | -0.863718 | 23.93 | 1.50 | 25.43 |
| OP 20 | 52.976692 | -0.862570 | 22.10 | 1.50 | 23.60 |
| OP 21 | 52.978429 | -0.861626 | 19.57 | 1.50 | 21.07 |
| OP 22 | 52.980154 | -0.860682 | 19.00 | 1.50 | 20.50 |
| OP 23 | 52.981940 | -0.859713 | 19.52 | 1.50 | 21.02 |
| OP 24 | 52.983600 | -0.858790 | 22.92 | 1.50 | 24.42 |
| OP 25 | 52.985370 | -0.857824 | 25.29 | 1.50 | 26.79 |
| OP 26 | 52.986377 | -0.855657 | 24.00 | 1.50 | 25.50 |
| OP 27 | 52.987353 | -0.853501 | 24.00 | 1.50 | 25.50 |
| OP 28 | 52.988399 | -0.850926 | 22.79 | 1.50 | 24.29 |
| OP 29 | 52.989161 | -0.848394 | 23.88 | 1.50 | 25.38 |
| OP 30 | 52.990304 | -0.846012 | 23.00 | 1.50 | 24.50 |
| OP 31 | 52.975971 | -0.850153 | 20.00 | 1.50 | 21.50 |
| OP 32 | 52.977728 | -0.850872 | 19.41 | 1.50 | 20.91 |
| OP 33 | 52.979524 | -0.851022 | 20.39 | 1.50 | 21.89 |
| OP 34 | 52.980958 | -0.852192 | 20.80 | 1.50 | 22.30 |
| OP 35 | 52.982676 | -0.852996 | 19.62 | 1.50 | 21.12 |
| OP 36 | 52.984130 | -0.854617 | 20.00 | 1.50 | 21.50 |
| OP 37 | 52.985473 | -0.857020 | 24.13 | 1.50 | 25.63 |
| OP 38 | 52.986733 | -0.858908 | 25.03 | 1.50 | 26.53 |
| OP 39 | 52.988069 | -0.860281 | 19.60 | 1.50 | 21.10 |
| OP 40 | 52.989464 | -0.862148 | 23.09 | 1.50 | 24.59 |
| OP 41 | 52.990394 | -0.864734 | 21.00 | 1.50 | 22.50 |

Summary of PV Glare Analysis

PV configuration and total predicted glare

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced | Data File |
|------------|------|-------------|---------------|----------------|-----------------|-----------|
| | deg | deg | min | min | kWh | |
| PV array 1 | 30.0 | 180.0 | 0 | 103,443 | - | - |

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

| PV | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---------------------|-----|-----|------|------|------|------|------|------|------|-----|-----|-----|
| pv-array-1 (green) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| pv-array-1 (yellow) | 0 | 26 | 2459 | 4308 | 5014 | 4924 | 5038 | 4757 | 3389 | 487 | 0 | 0 |

PV & Receptor Analysis Results

Results for each PV array and receptor

PV array 1 potential temporary after-image

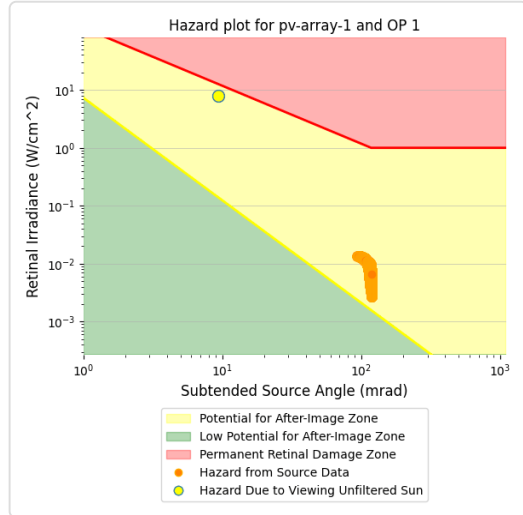
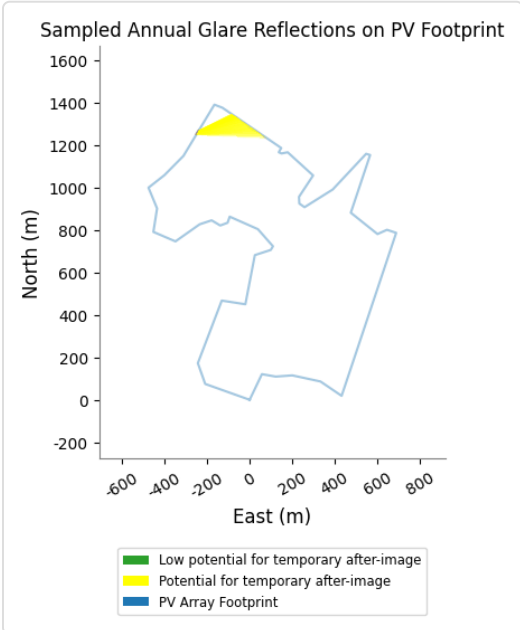
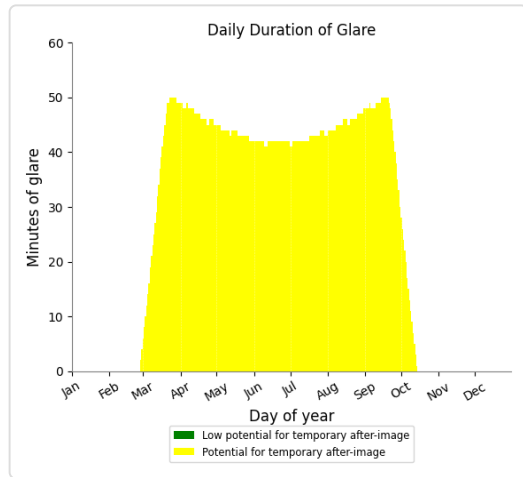
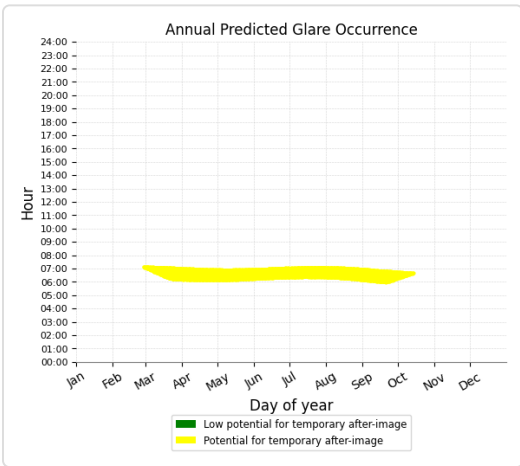
| Component | Green glare (min) | Yellow glare (min) |
|-----------|-------------------|--------------------|
| OP: OP 1 | 0 | 9407 |
| OP: OP 2 | 0 | 7163 |
| OP: OP 3 | 0 | 4902 |
| OP: OP 4 | 0 | 3487 |
| OP: OP 5 | 0 | 2929 |
| OP: OP 6 | 0 | 2335 |
| OP: OP 7 | 0 | 2036 |
| OP: OP 8 | 0 | 0 |
| OP: OP 9 | 0 | 1614 |
| OP: OP 10 | 0 | 2169 |
| OP: OP 11 | 0 | 1429 |
| OP: OP 12 | 0 | 13 |
| OP: OP 13 | 0 | 1568 |
| OP: OP 14 | 0 | 1160 |
| OP: OP 15 | 0 | 5579 |
| OP: OP 16 | 0 | 2484 |
| OP: OP 17 | 0 | 2154 |
| OP: OP 18 | 0 | 562 |
| OP: OP 19 | 0 | 0 |
| OP: OP 20 | 0 | 1106 |
| OP: OP 21 | 0 | 4552 |
| OP: OP 22 | 0 | 4696 |
| OP: OP 23 | 0 | 3069 |
| OP: OP 24 | 0 | 13586 |
| OP: OP 25 | 0 | 3814 |
| OP: OP 26 | 0 | 3350 |
| OP: OP 27 | 0 | 1288 |
| OP: OP 28 | 0 | 551 |
| OP: OP 29 | 0 | 352 |

| | | |
|-----------|---|------|
| OP: OP 30 | 0 | 89 |
| OP: OP 31 | 0 | 33 |
| OP: OP 32 | 0 | 1298 |
| OP: OP 33 | 0 | 16 |
| OP: OP 34 | 0 | 2088 |
| OP: OP 35 | 0 | 28 |
| OP: OP 36 | 0 | 2311 |
| OP: OP 37 | 0 | 3444 |
| OP: OP 38 | 0 | 4961 |
| OP: OP 39 | 0 | 1191 |
| OP: OP 40 | 0 | 629 |
| OP: OP 41 | 0 | 0 |

PV array 1 - OP Receptor (OP 1)

PV array is expected to produce the following glare for receptors at this location:

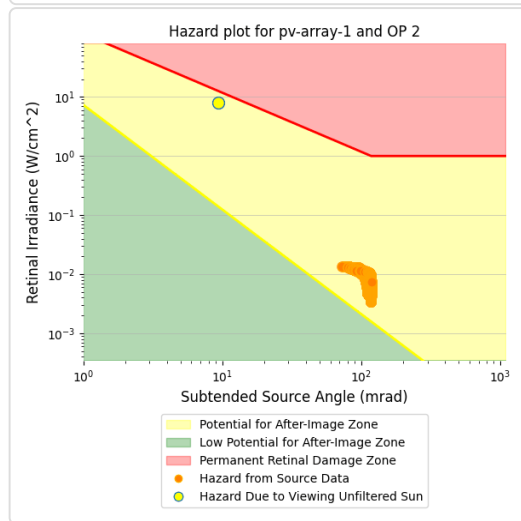
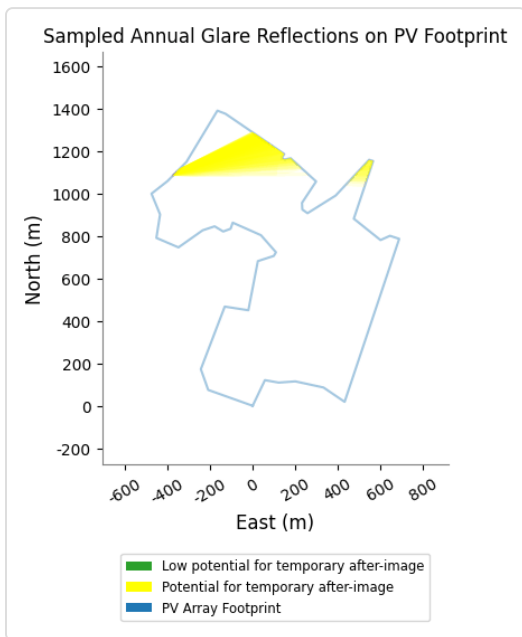
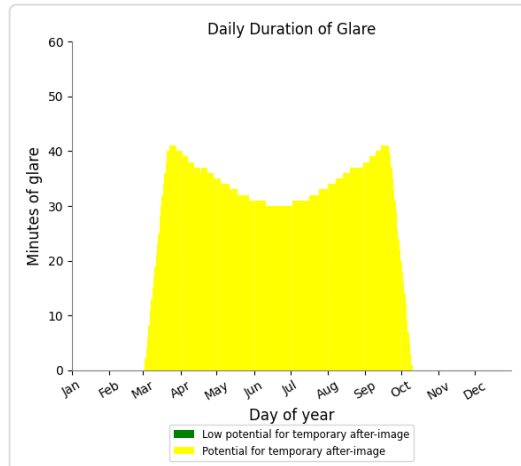
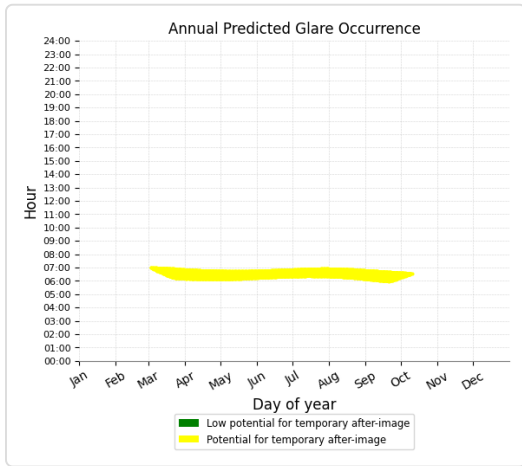
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 9,407 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 2)

PV array is expected to produce the following glare for receptors at this location:

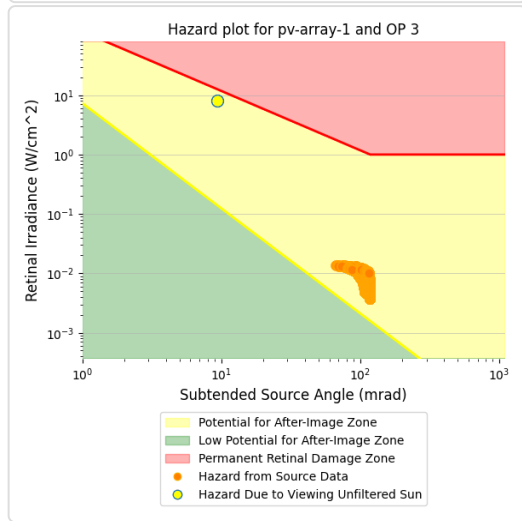
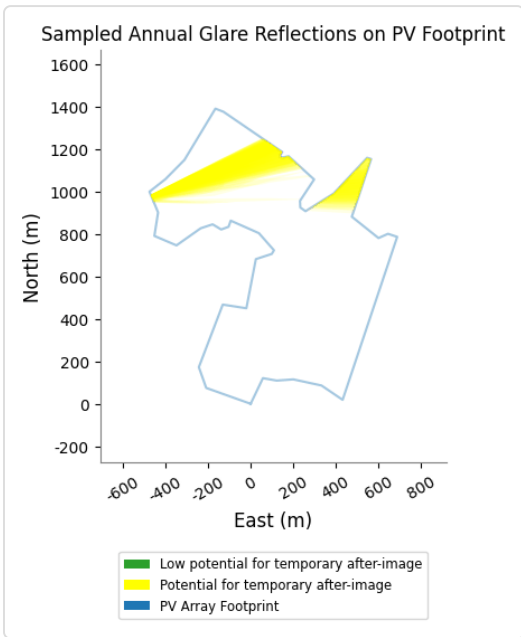
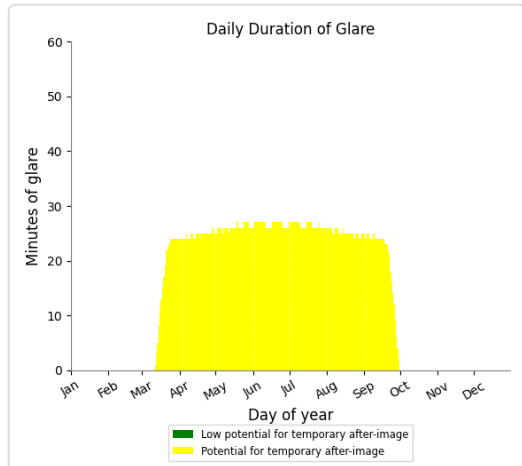
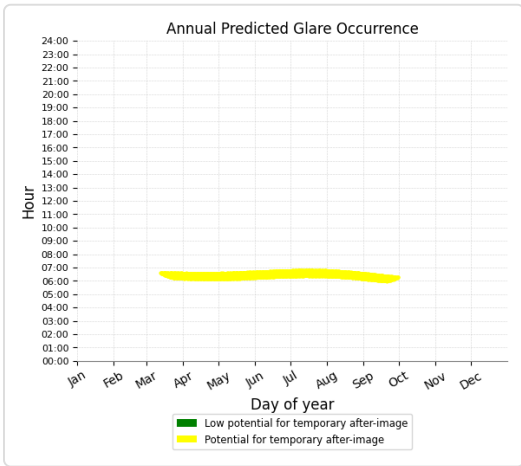
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 7,163 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 3)

PV array is expected to produce the following glare for receptors at this location:

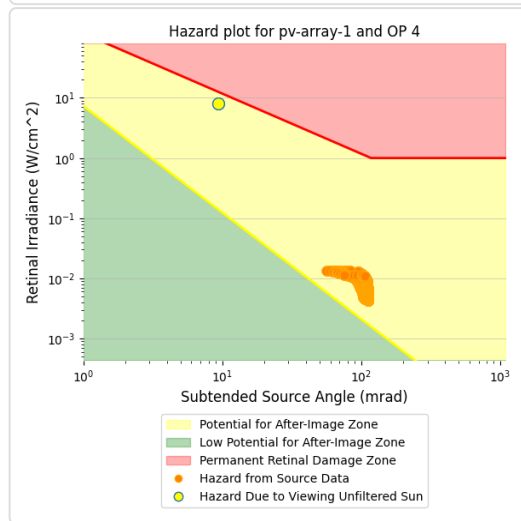
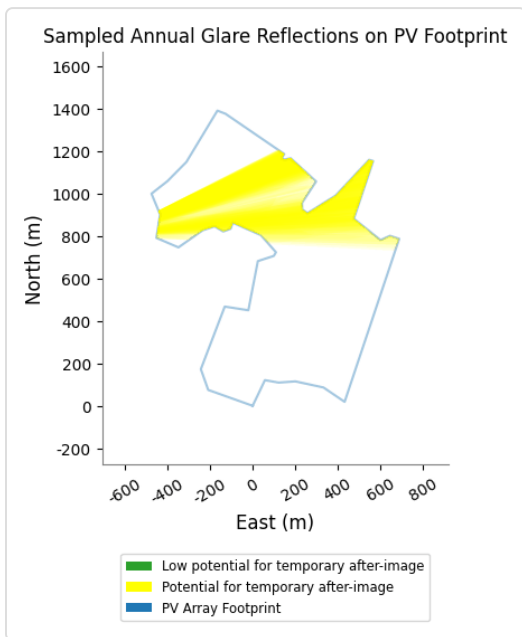
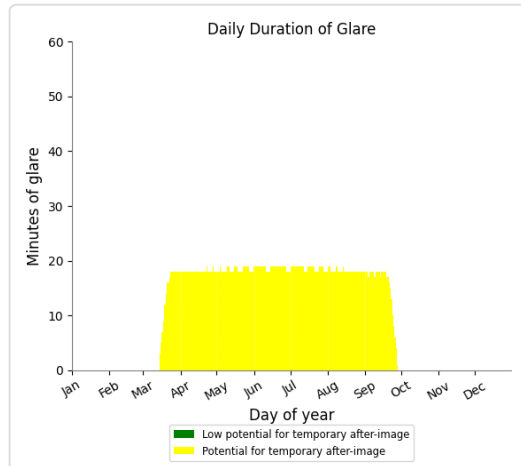
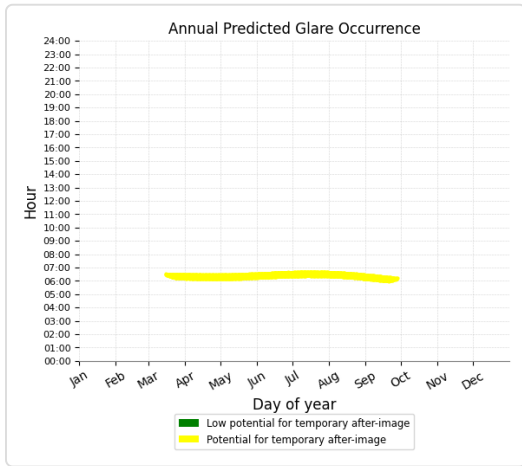
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,902 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 4)

PV array is expected to produce the following glare for receptors at this location:

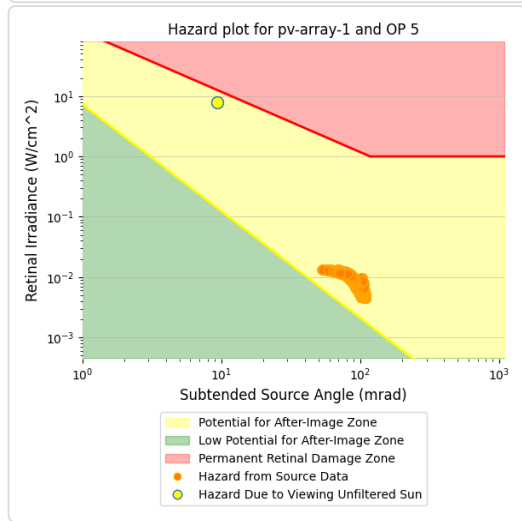
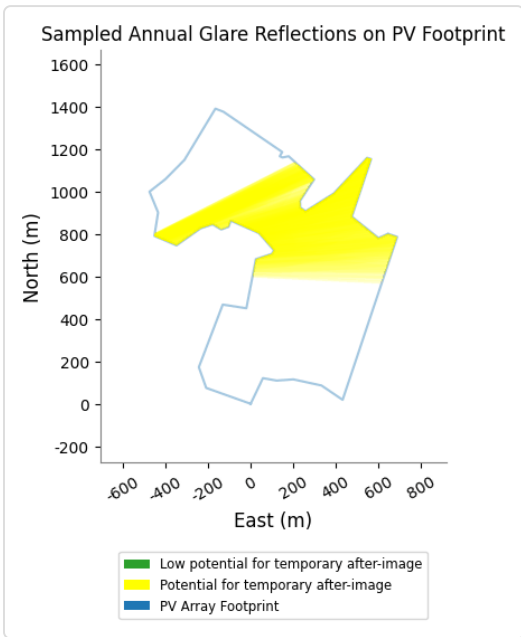
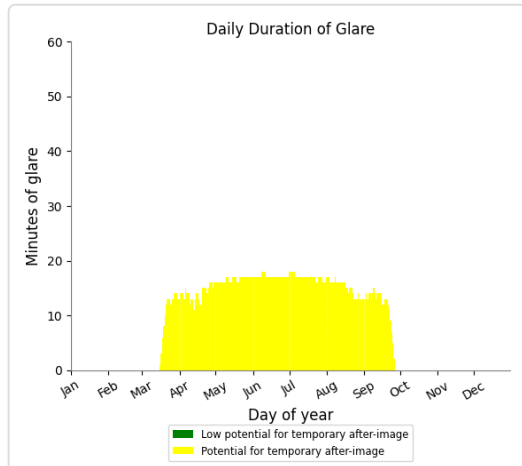
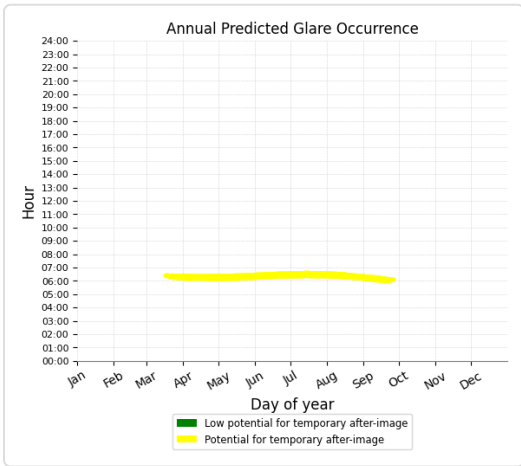
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,487 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 5)

PV array is expected to produce the following glare for receptors at this location:

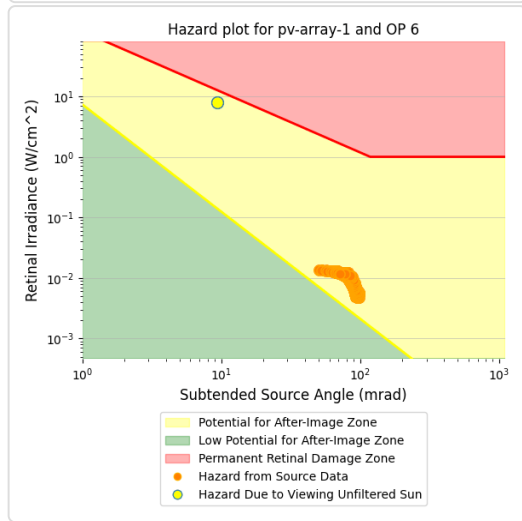
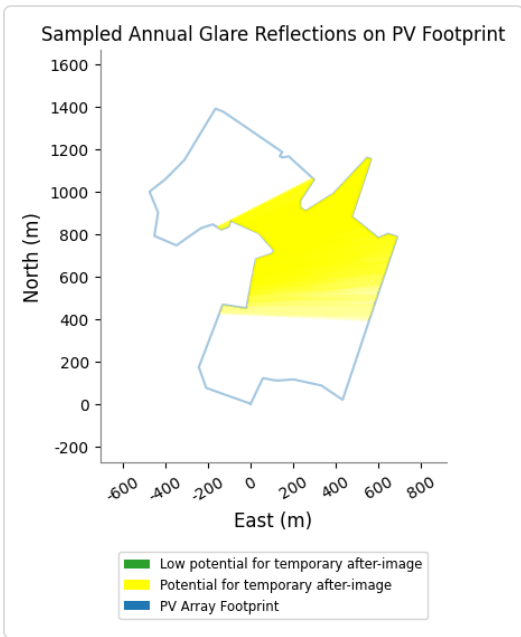
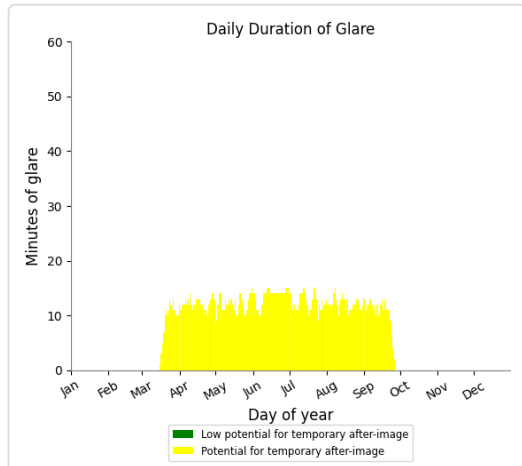
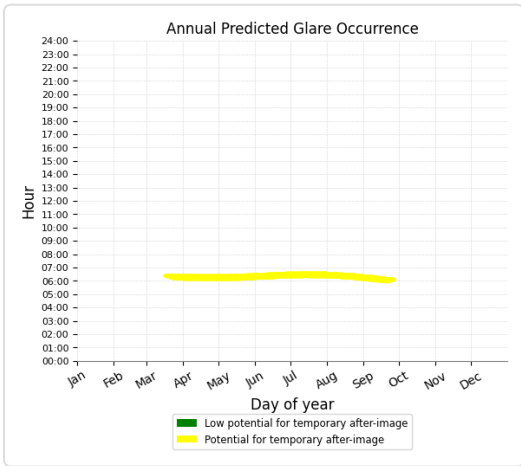
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,929 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 6)

PV array is expected to produce the following glare for receptors at this location:

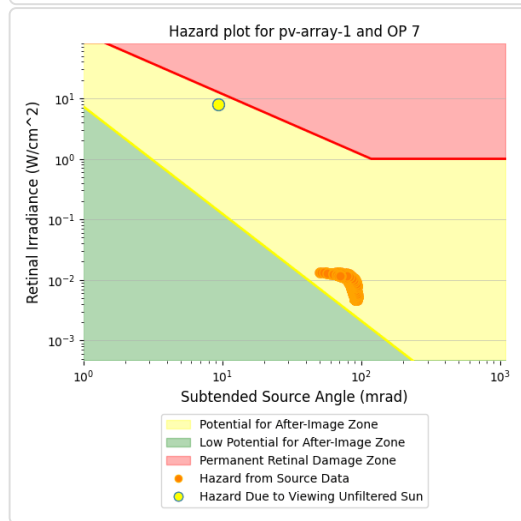
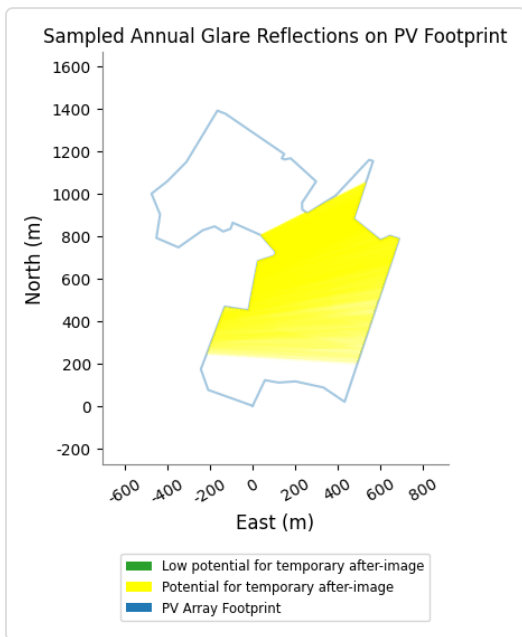
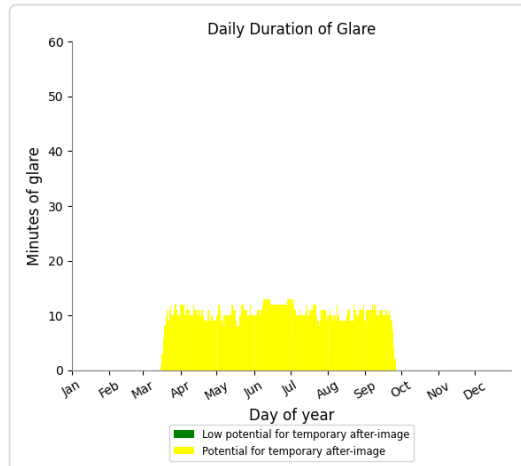
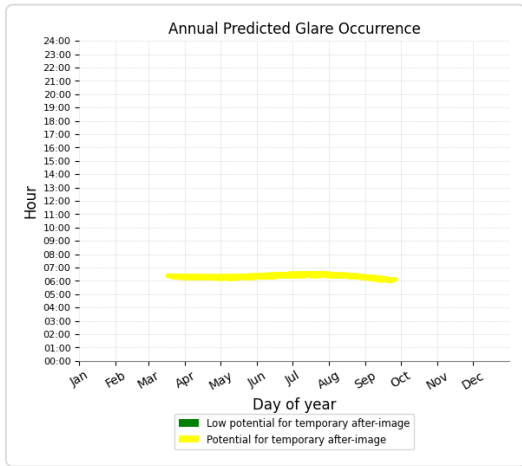
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,335 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 7)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,036 minutes of "yellow" glare with potential to cause temporary after-image.



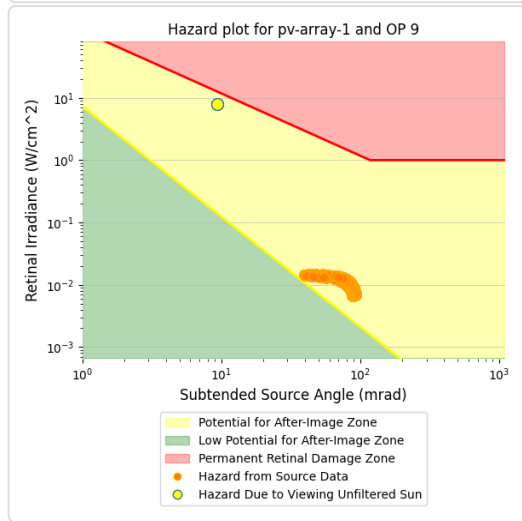
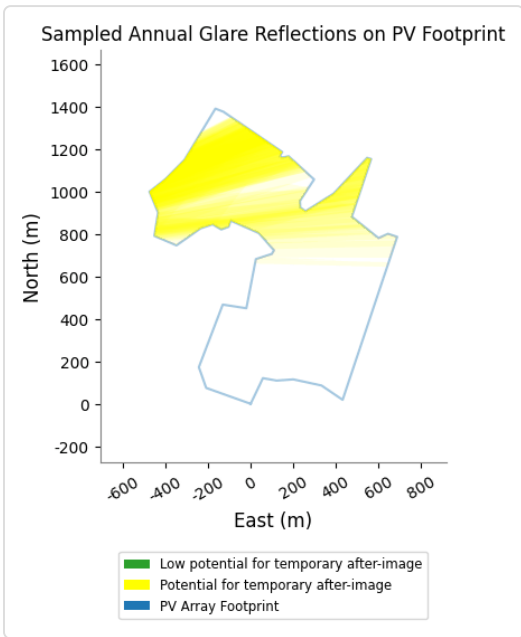
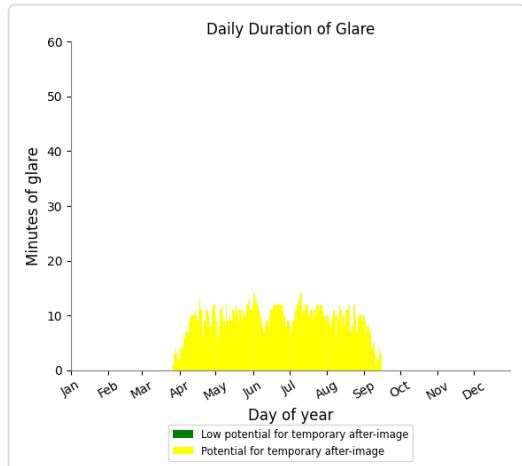
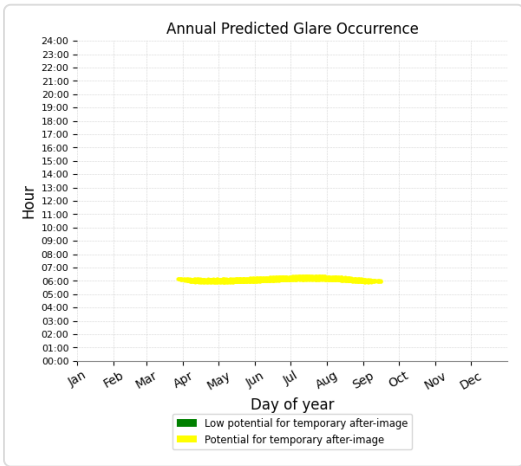
PV array 1 - OP Receptor (OP 8)

No glare found

PV array 1 - OP Receptor (OP 9)

PV array is expected to produce the following glare for receptors at this location:

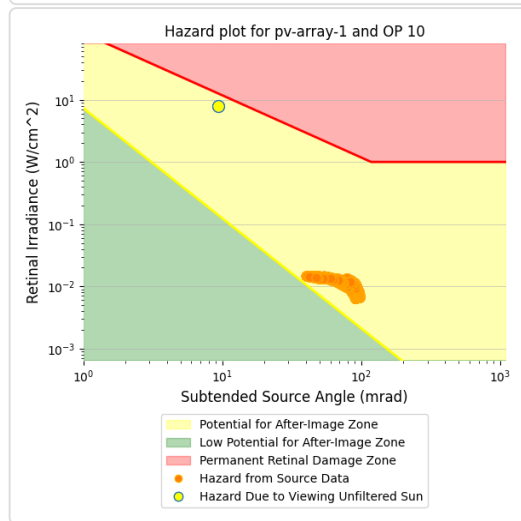
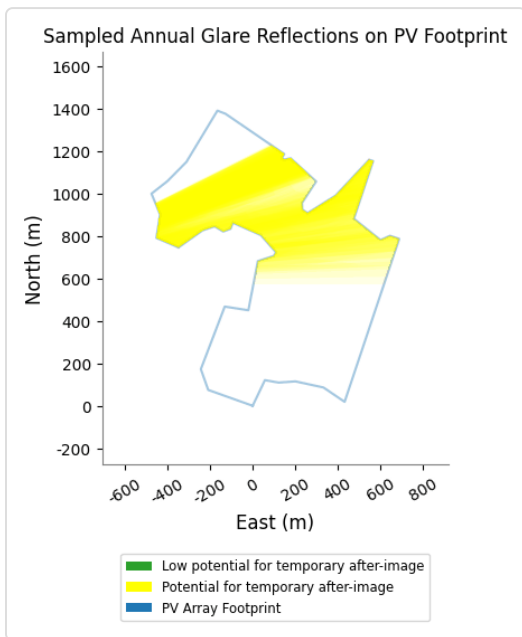
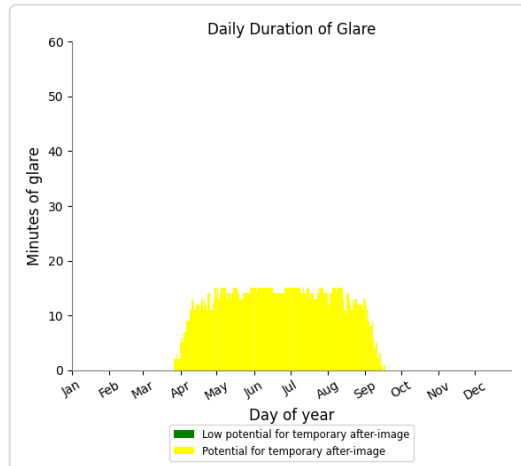
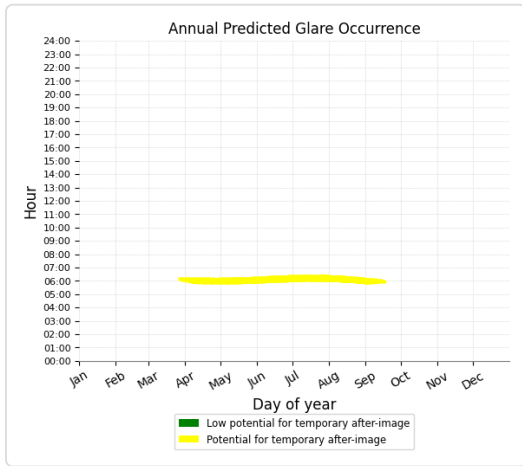
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,614 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 10)

PV array is expected to produce the following glare for receptors at this location:

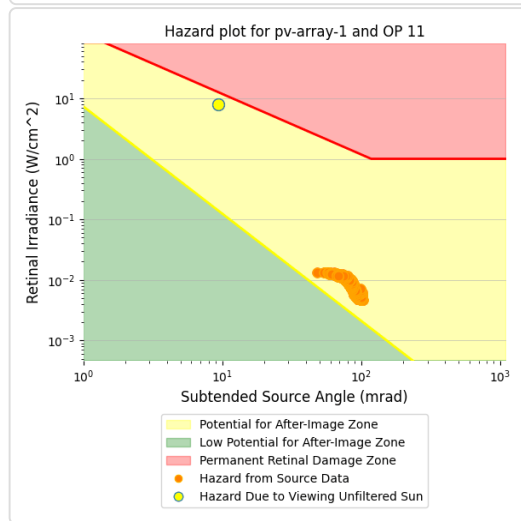
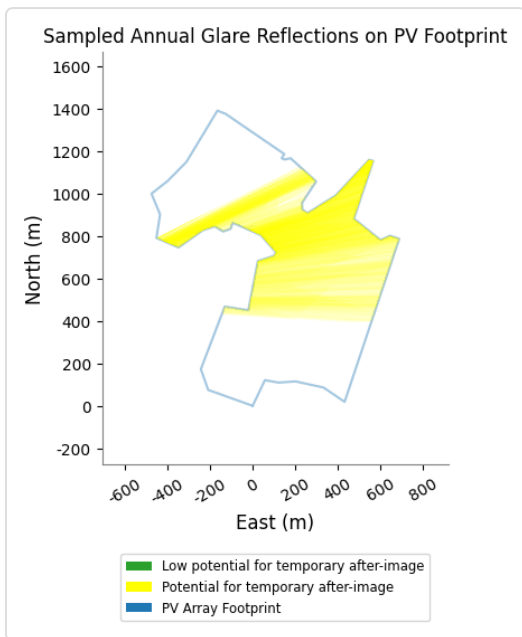
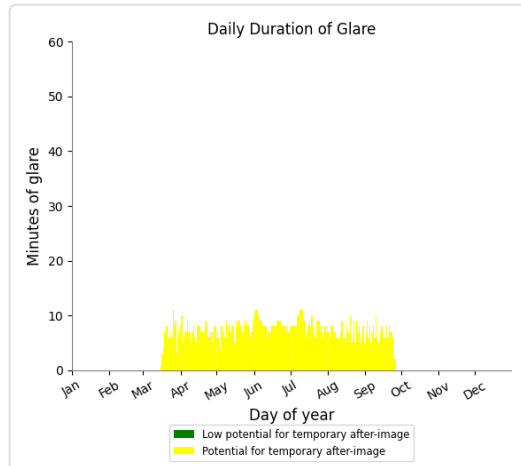
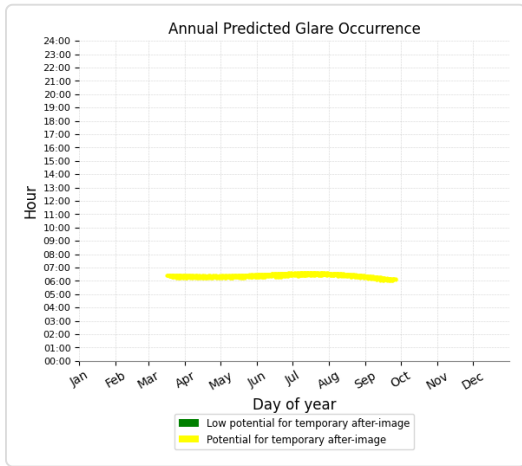
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,169 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 11)

PV array is expected to produce the following glare for receptors at this location:

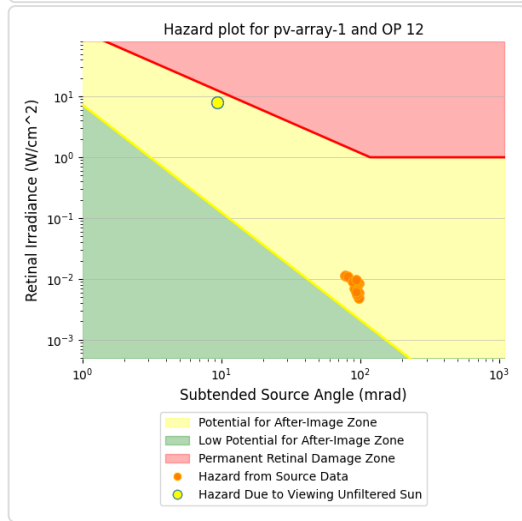
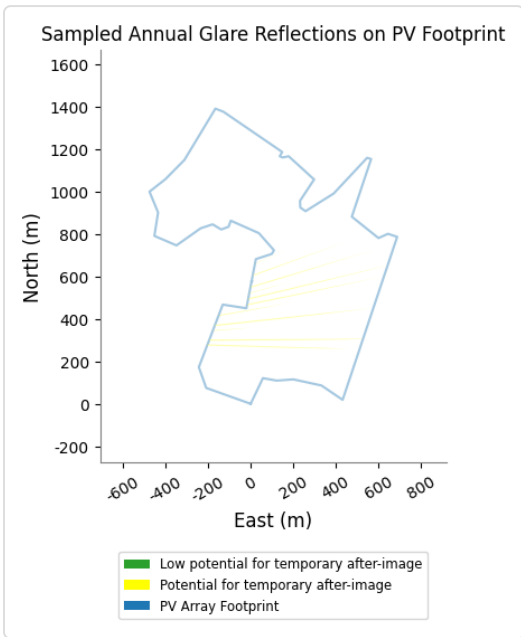
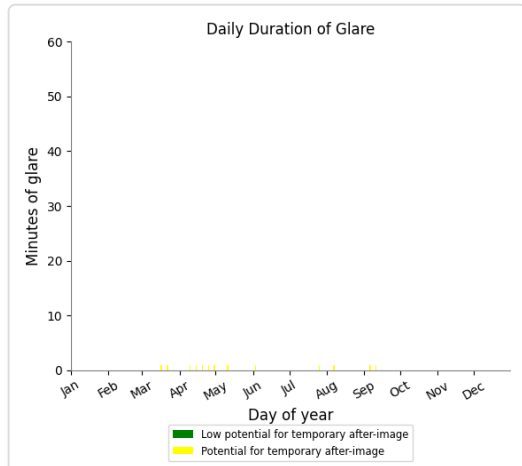
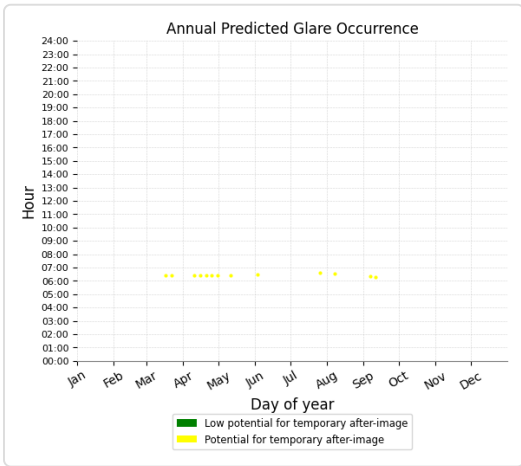
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,429 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 12)

PV array is expected to produce the following glare for receptors at this location:

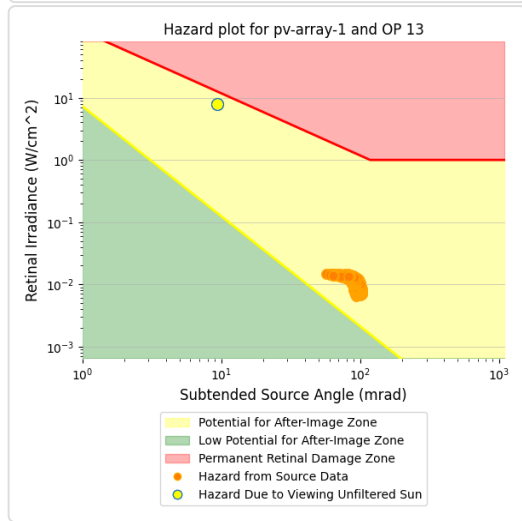
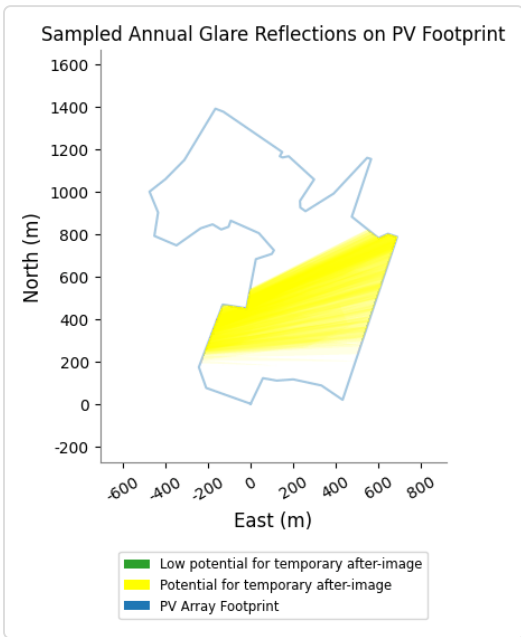
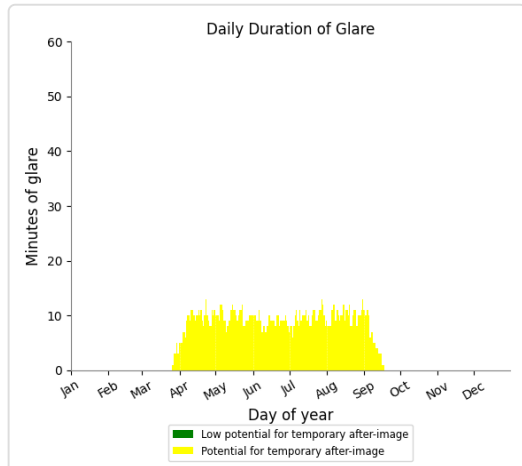
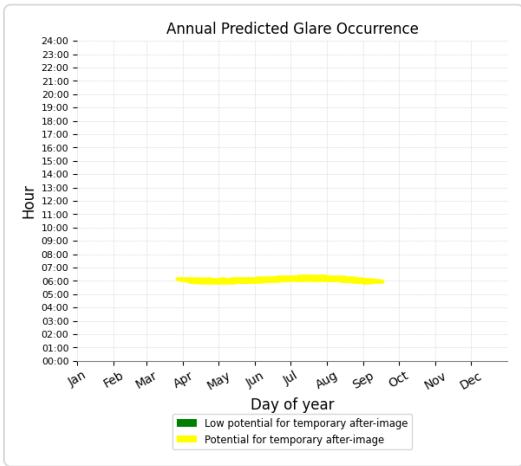
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 13 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 13)

PV array is expected to produce the following glare for receptors at this location:

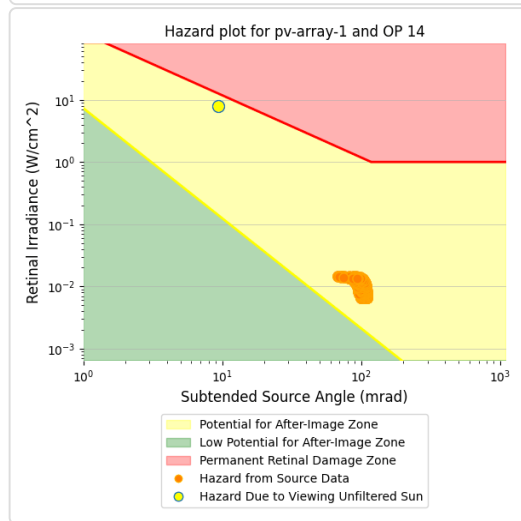
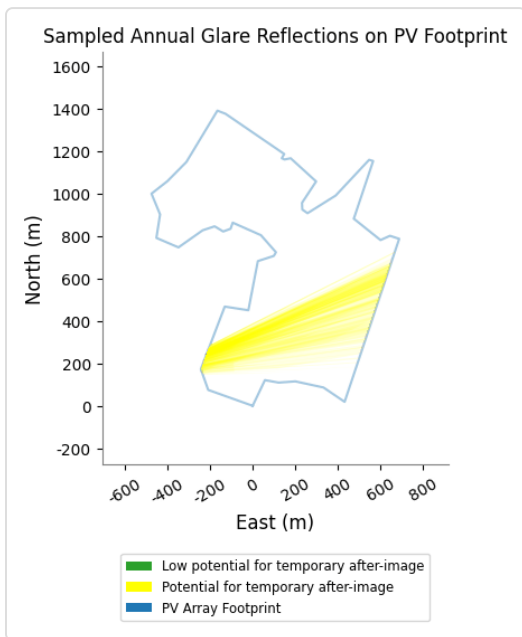
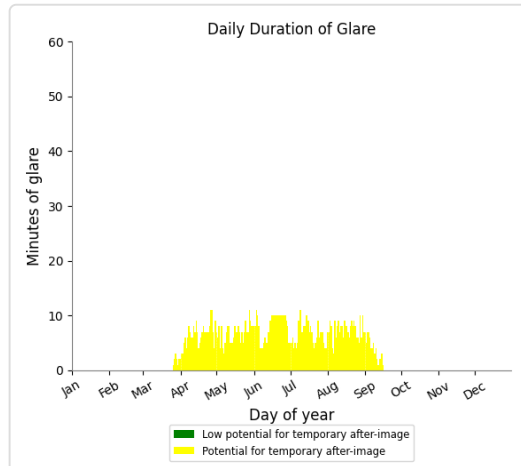
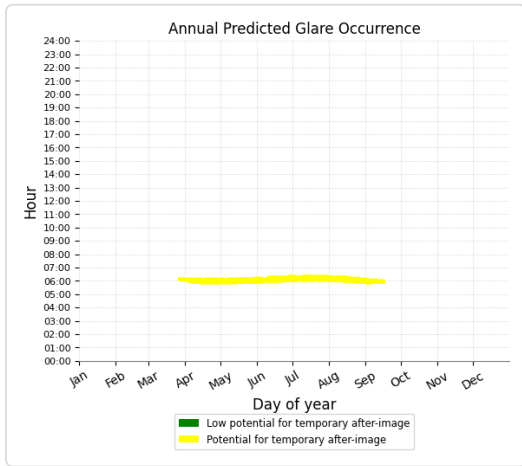
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,568 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 14)

PV array is expected to produce the following glare for receptors at this location:

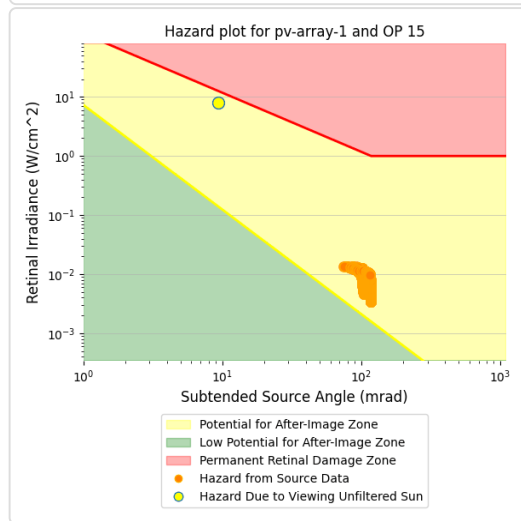
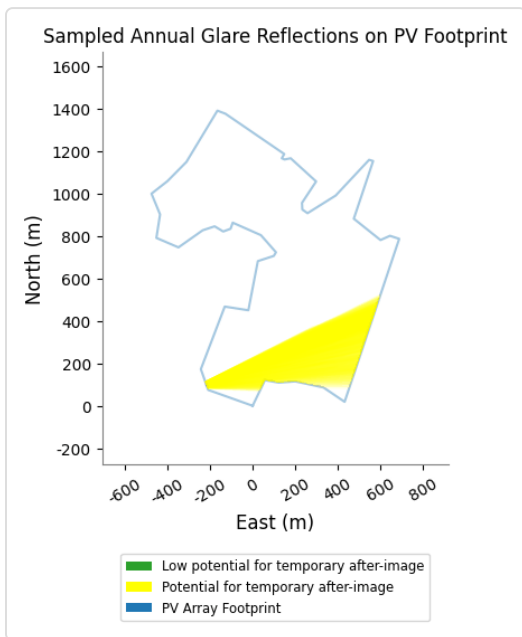
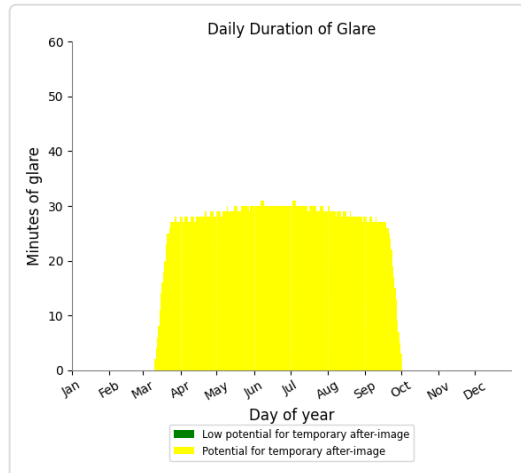
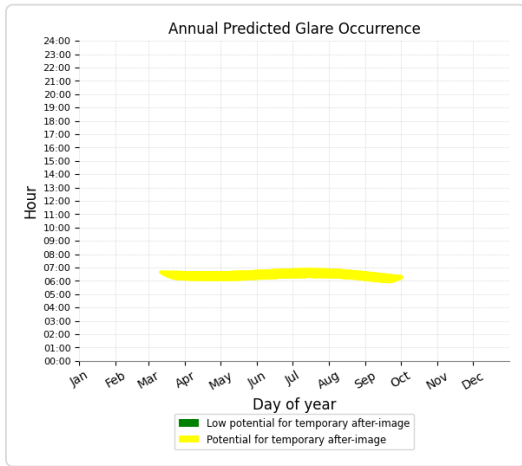
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,160 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 15)

PV array is expected to produce the following glare for receptors at this location:

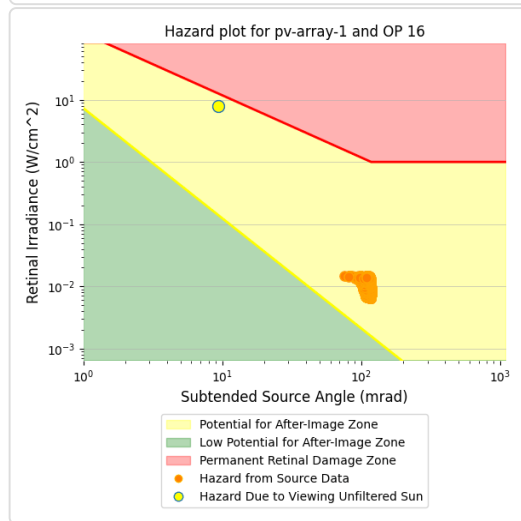
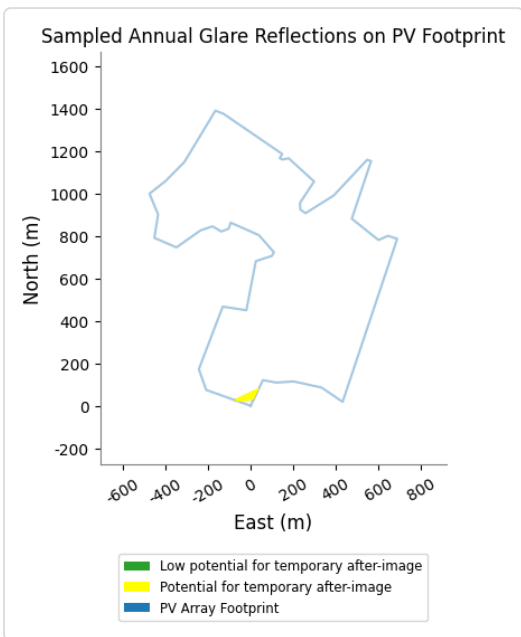
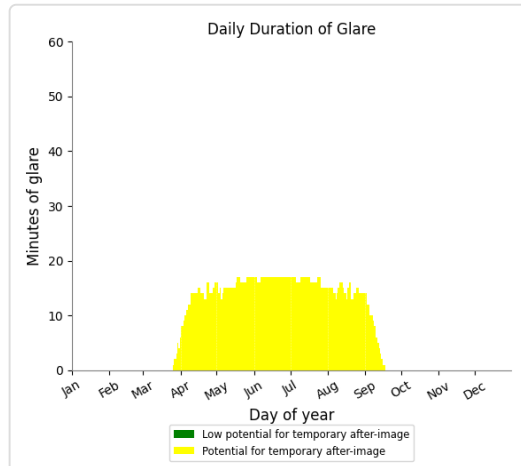
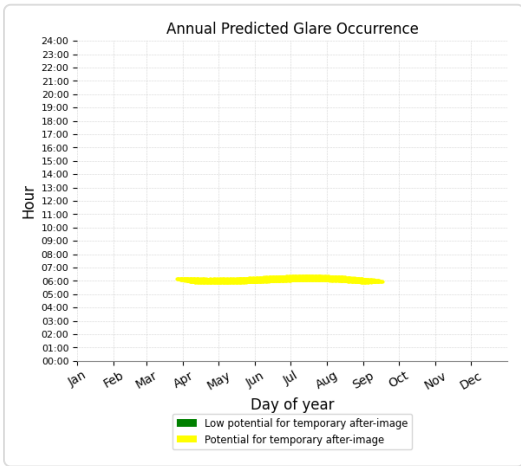
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 5,579 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 16)

PV array is expected to produce the following glare for receptors at this location:

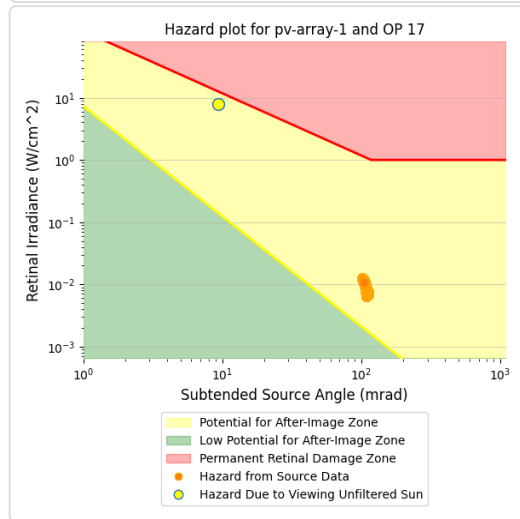
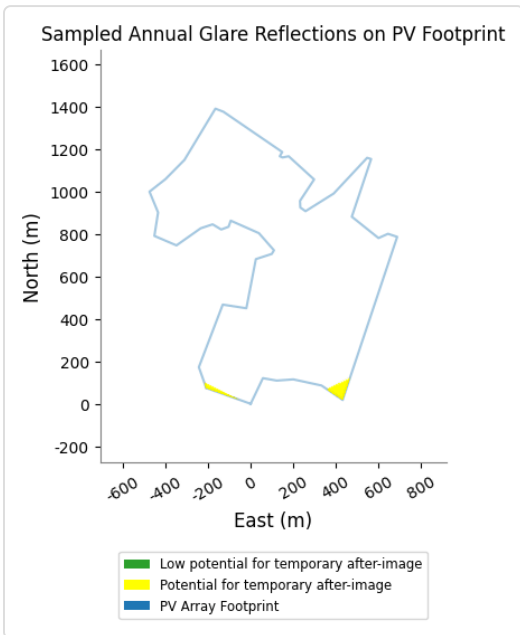
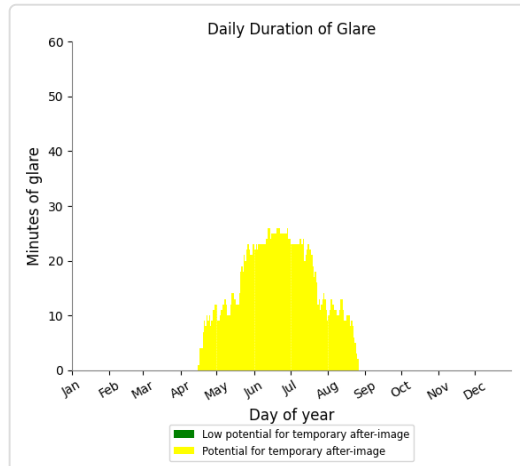
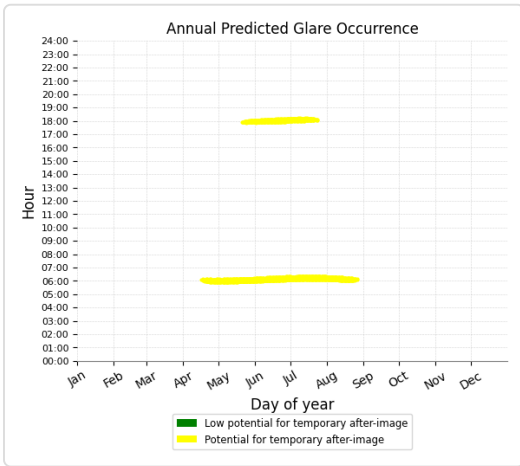
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,484 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 17)

PV array is expected to produce the following glare for receptors at this location:

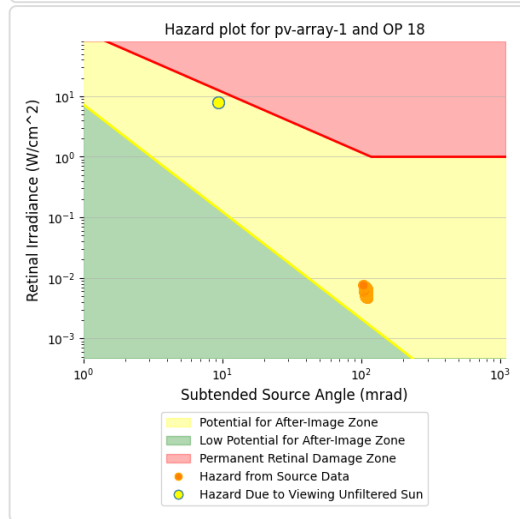
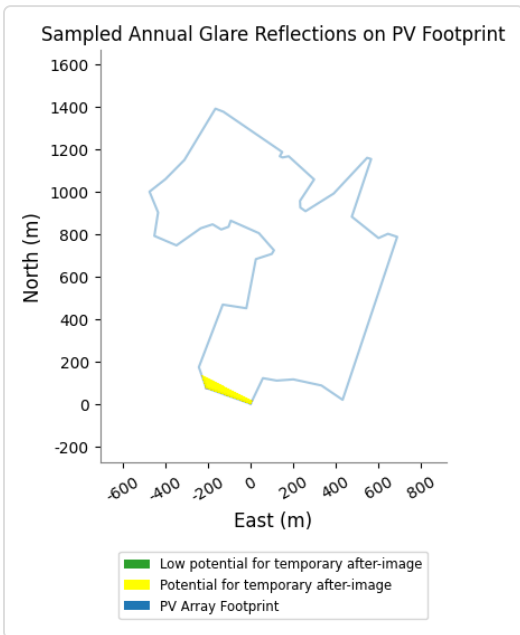
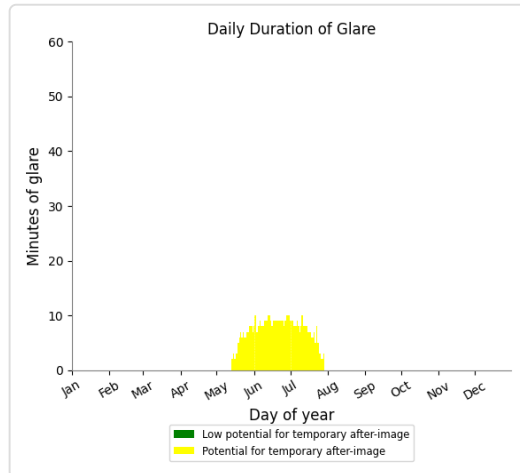
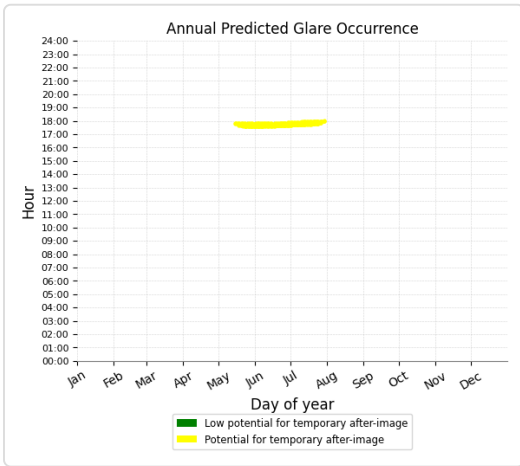
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,154 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 18)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 562 minutes of "yellow" glare with potential to cause temporary after-image.



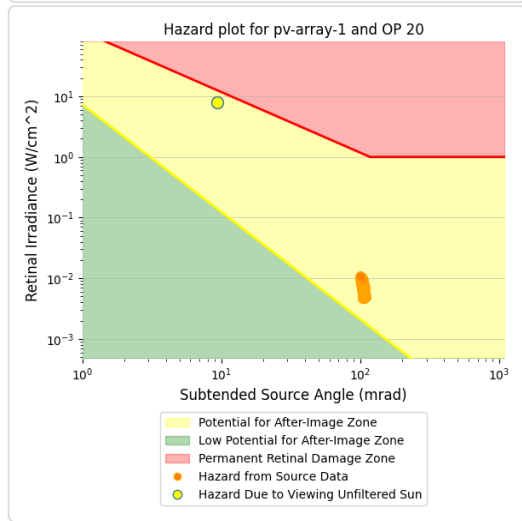
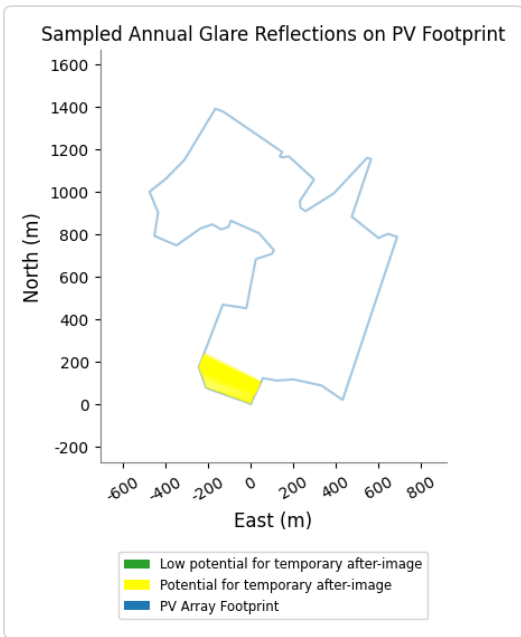
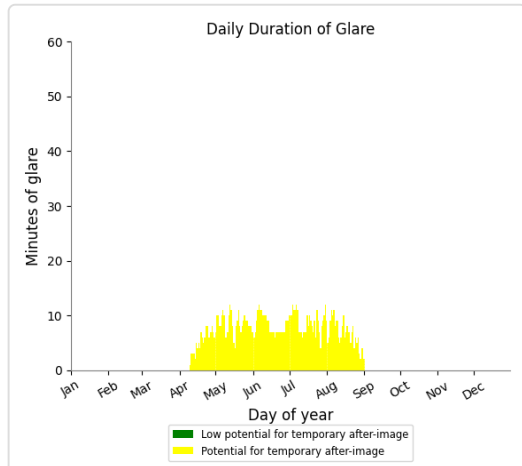
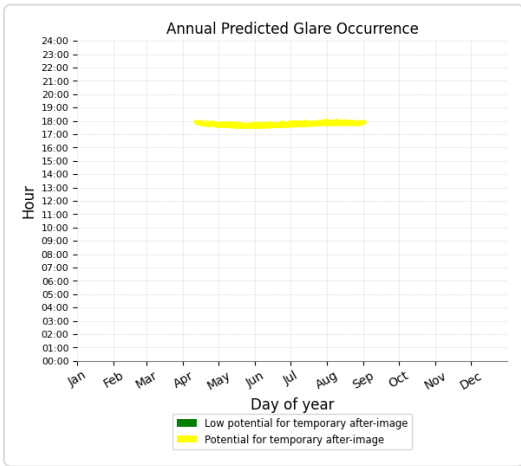
PV array 1 - OP Receptor (OP 19)

No glare found

PV array 1 - OP Receptor (OP 20)

PV array is expected to produce the following glare for receptors at this location:

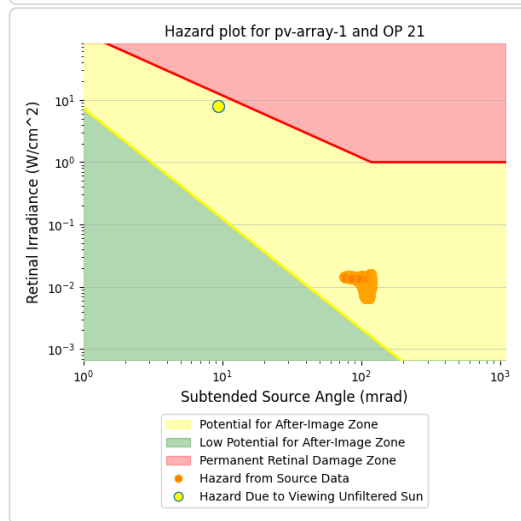
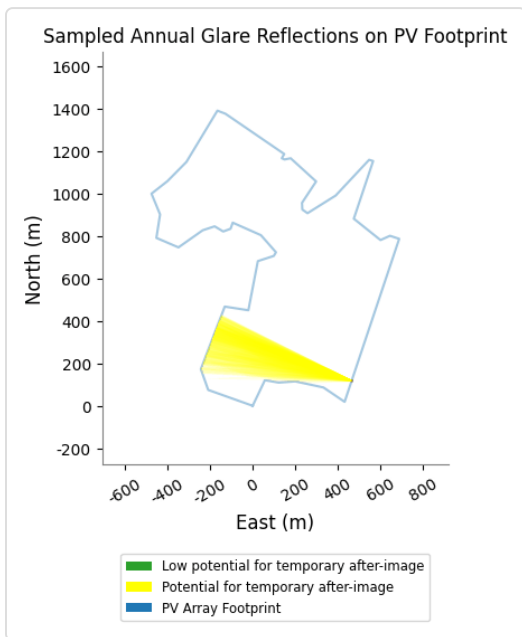
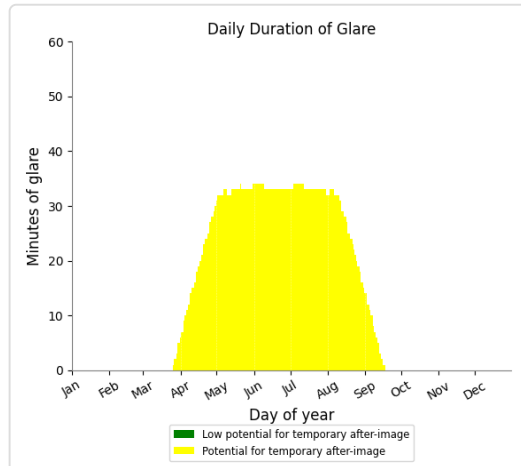
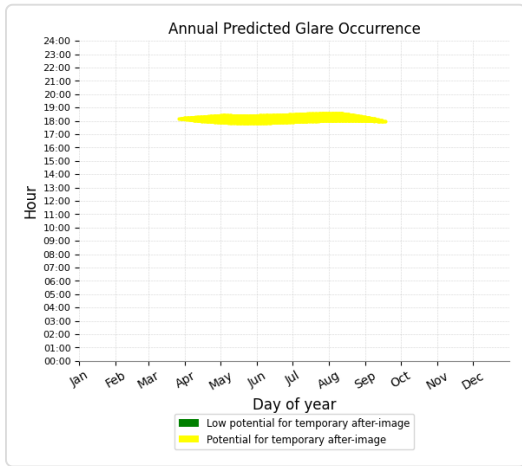
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,106 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 21)

PV array is expected to produce the following glare for receptors at this location:

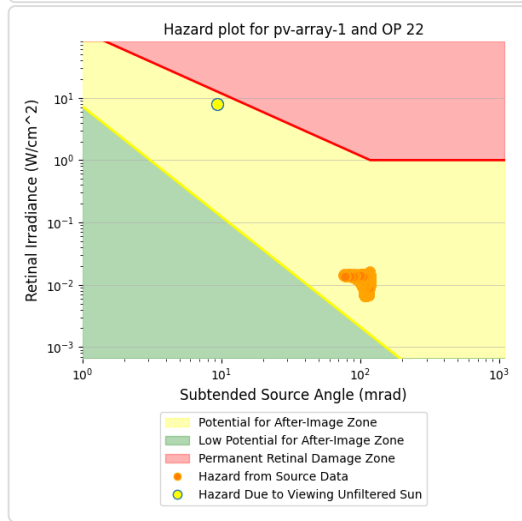
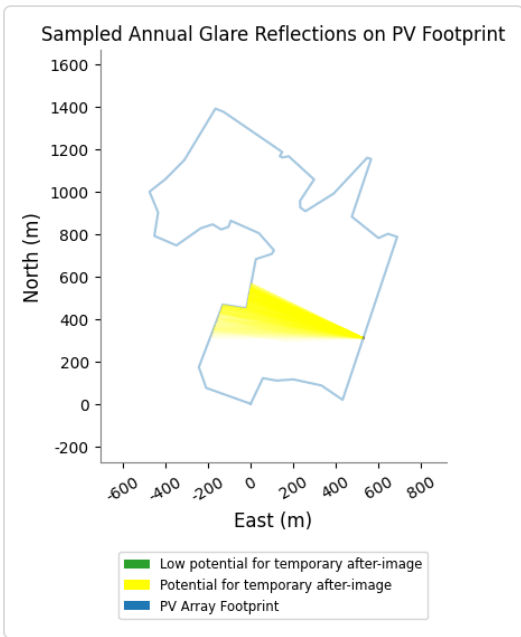
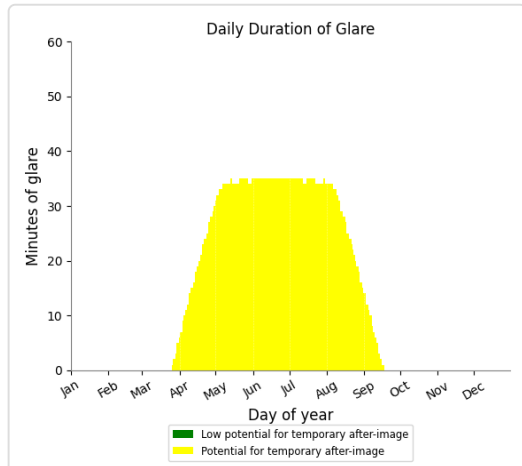
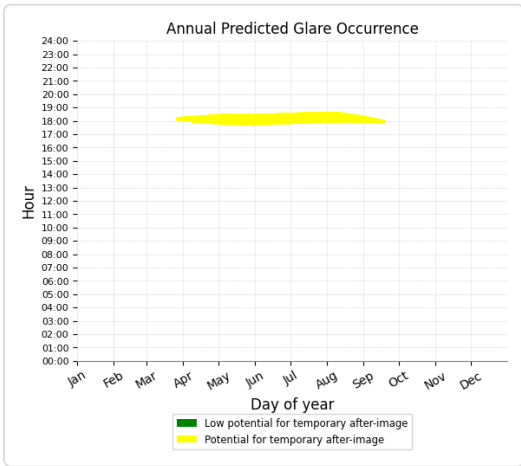
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,552 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 22)

PV array is expected to produce the following glare for receptors at this location:

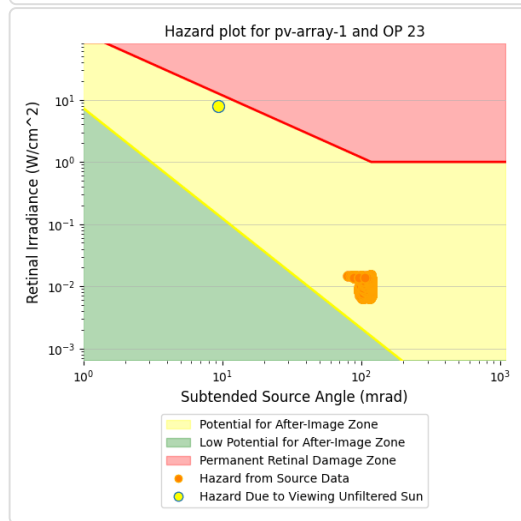
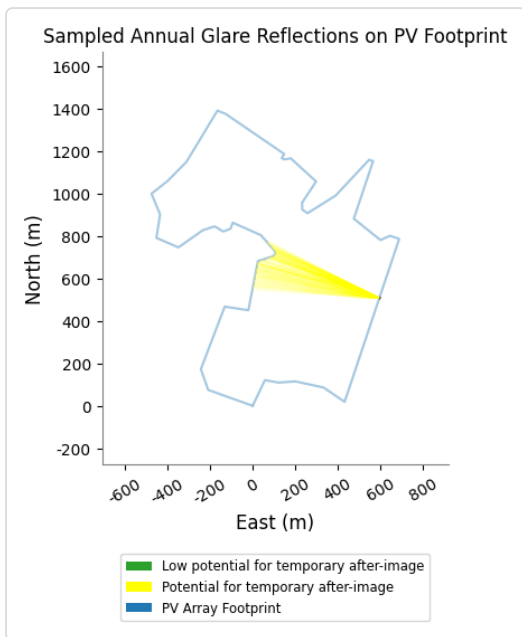
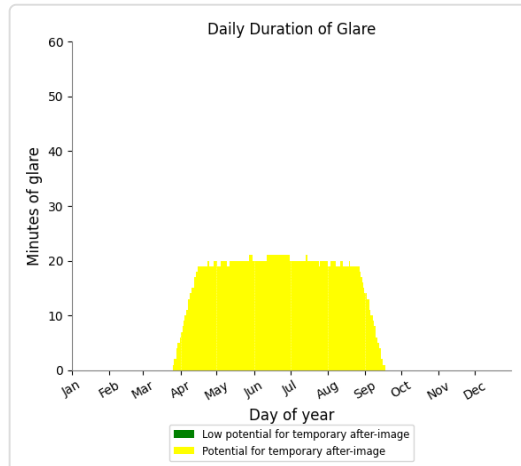
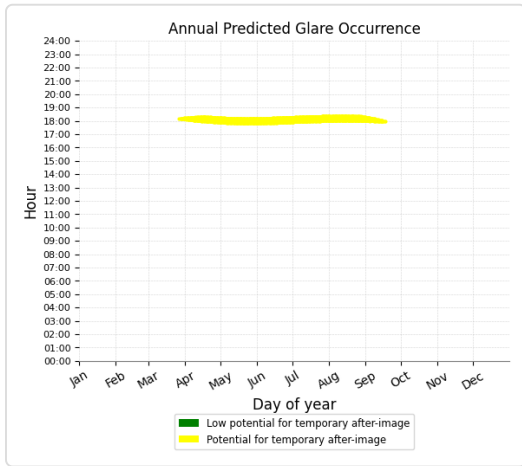
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,696 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 23)

PV array is expected to produce the following glare for receptors at this location:

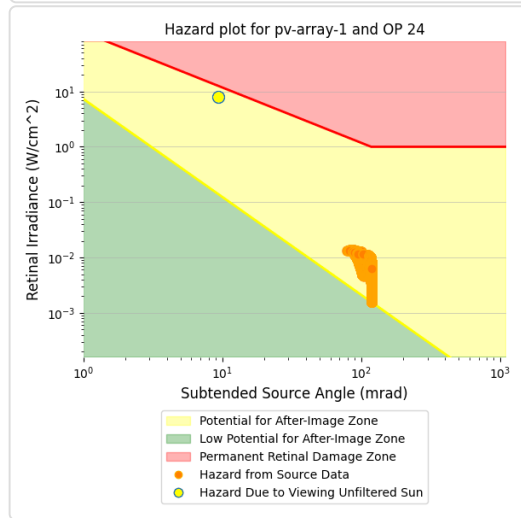
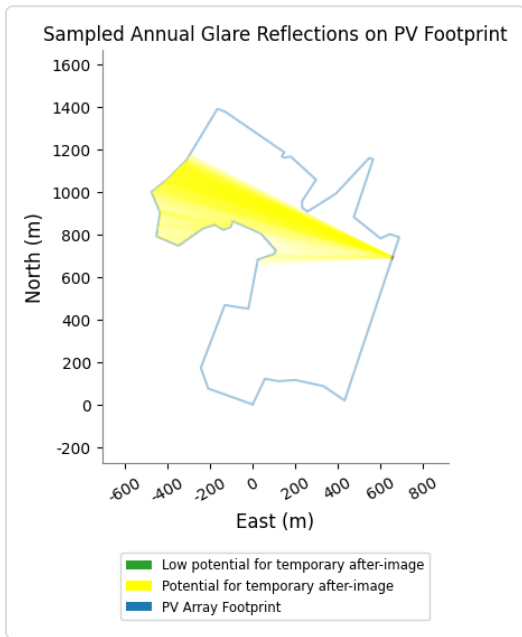
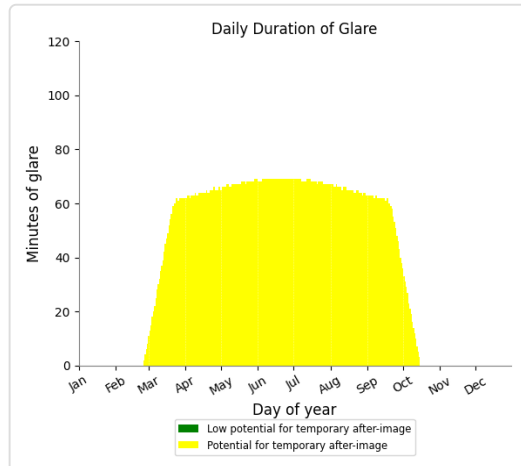
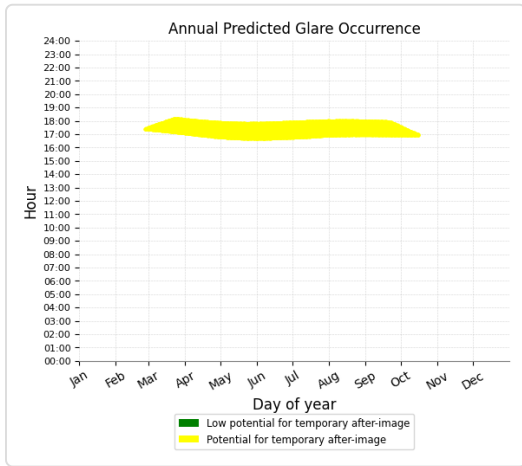
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,069 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 24)

PV array is expected to produce the following glare for receptors at this location:

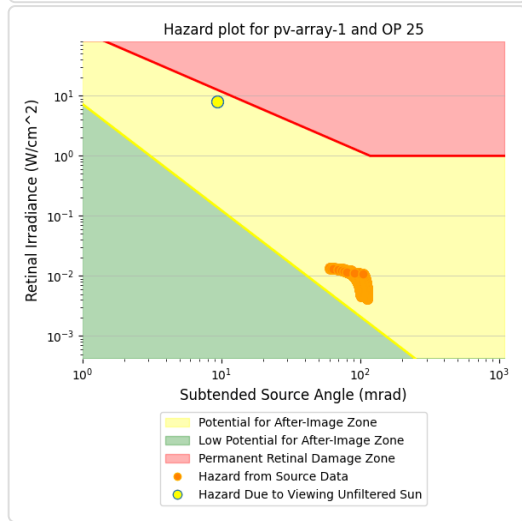
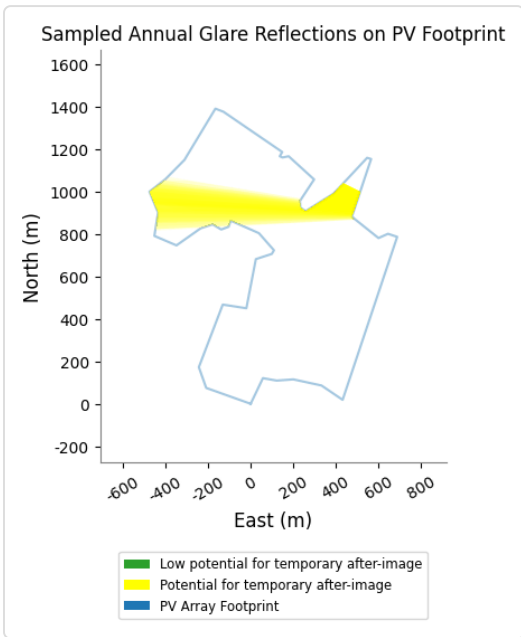
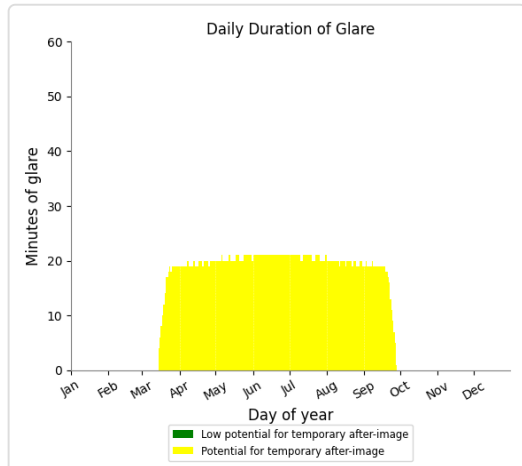
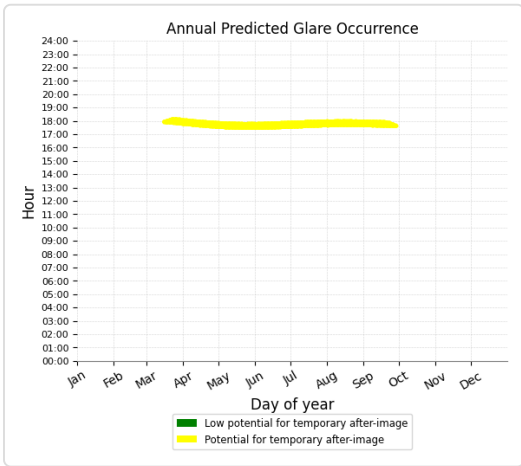
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 13,586 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 25)

PV array is expected to produce the following glare for receptors at this location:

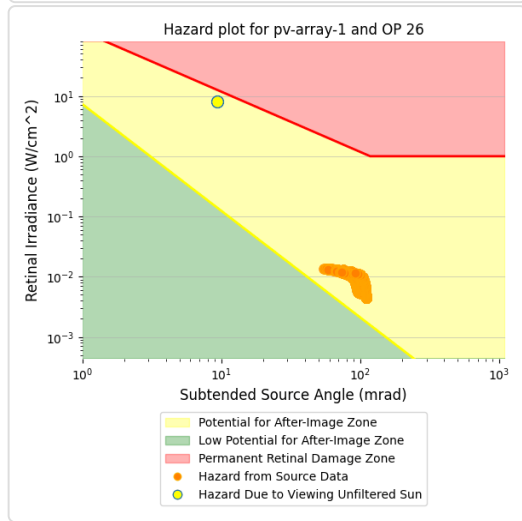
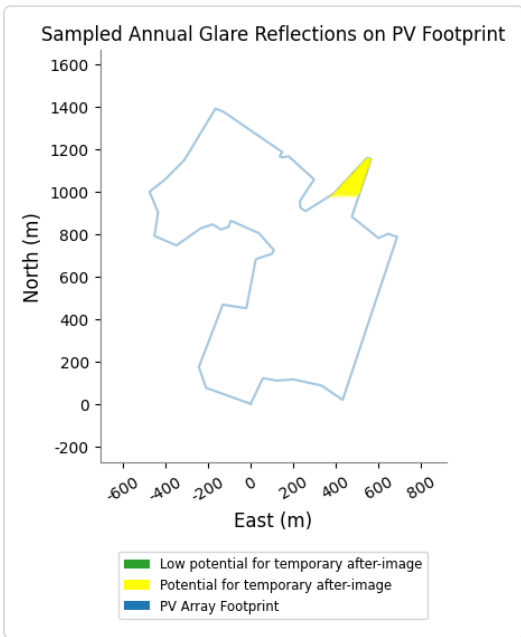
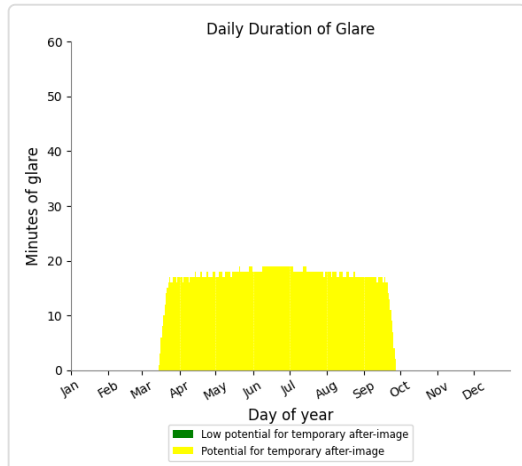
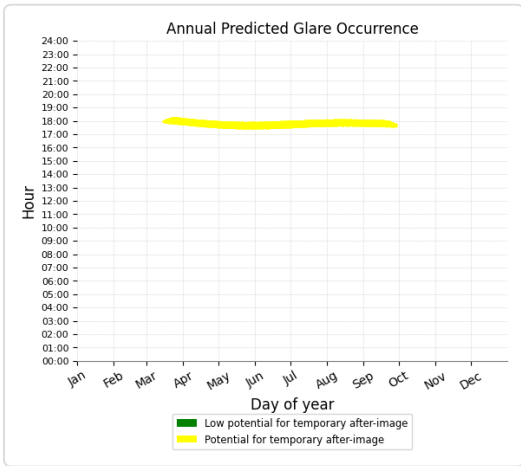
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,814 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 26)

PV array is expected to produce the following glare for receptors at this location:

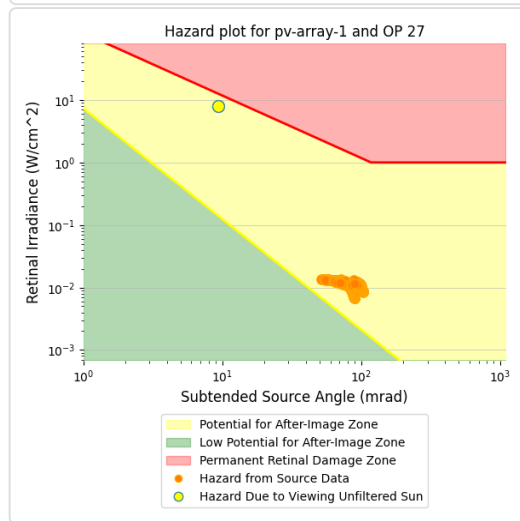
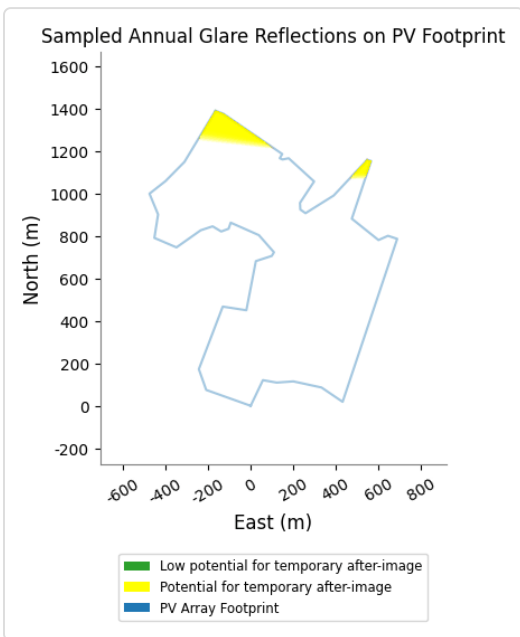
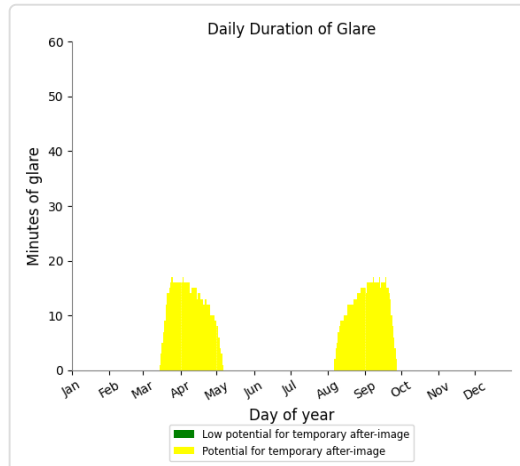
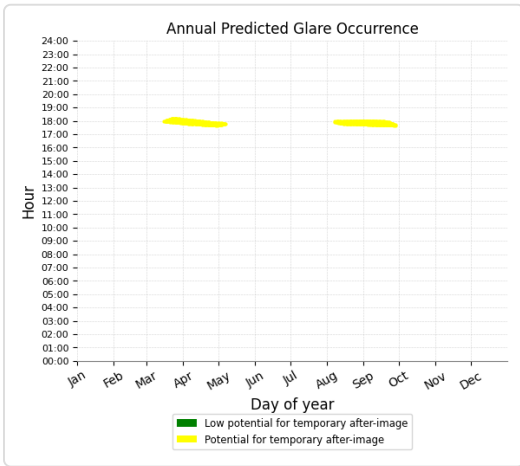
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,350 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 27)

PV array is expected to produce the following glare for receptors at this location:

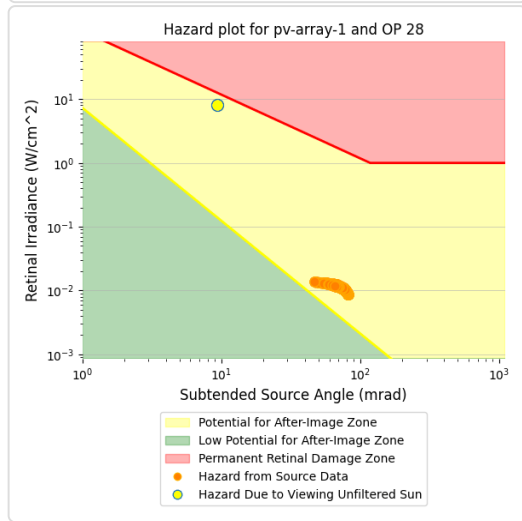
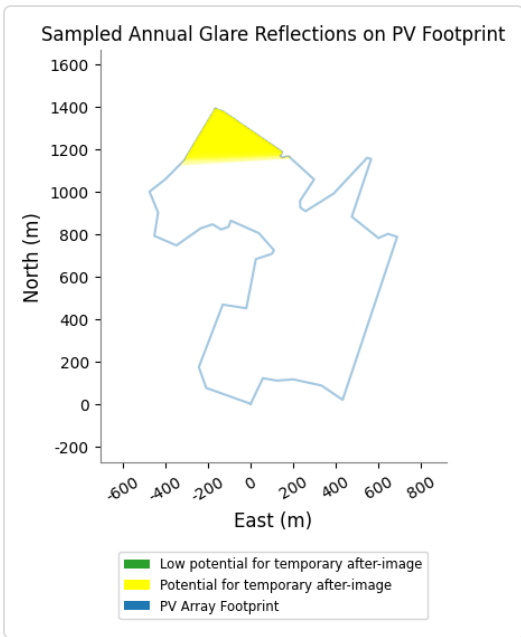
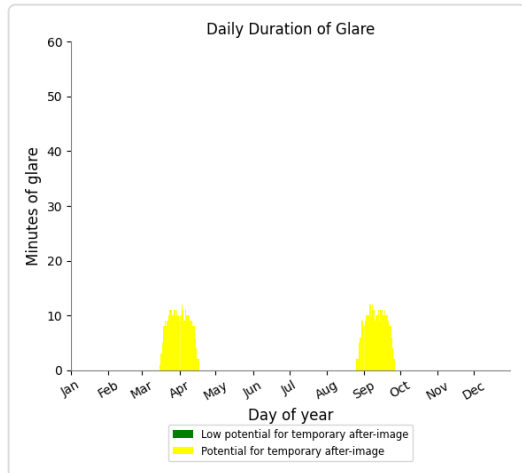
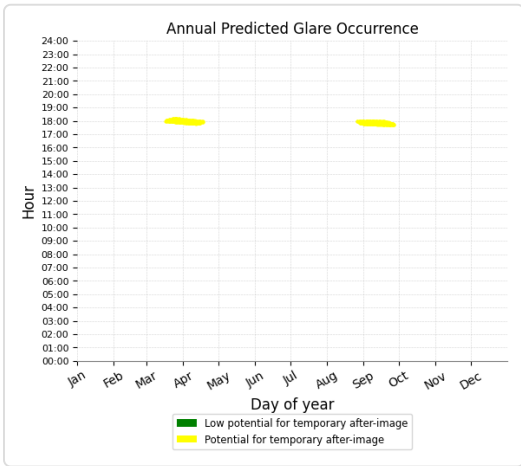
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,288 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 28)

PV array is expected to produce the following glare for receptors at this location:

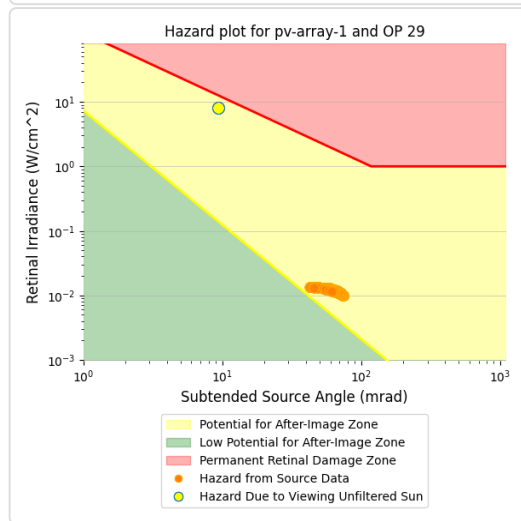
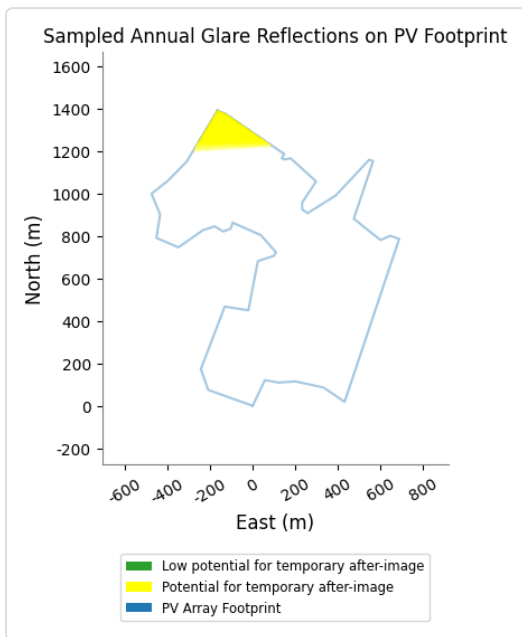
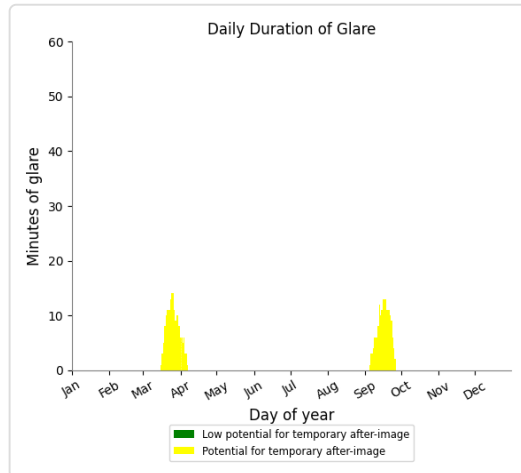
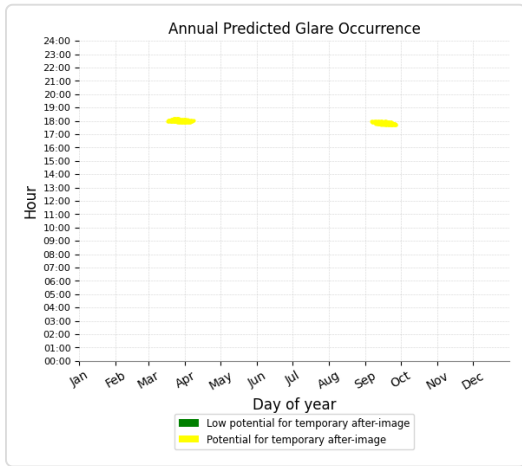
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 551 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 29)

PV array is expected to produce the following glare for receptors at this location:

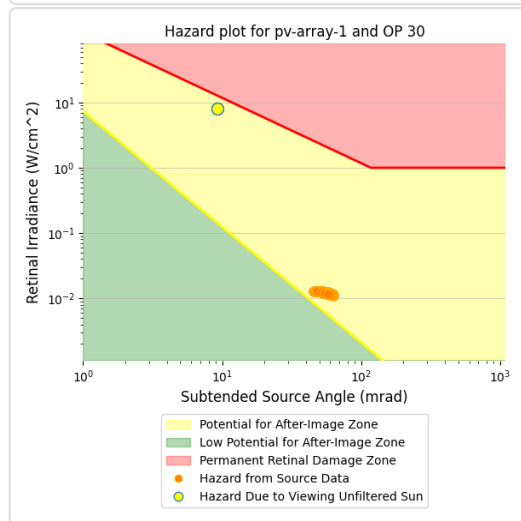
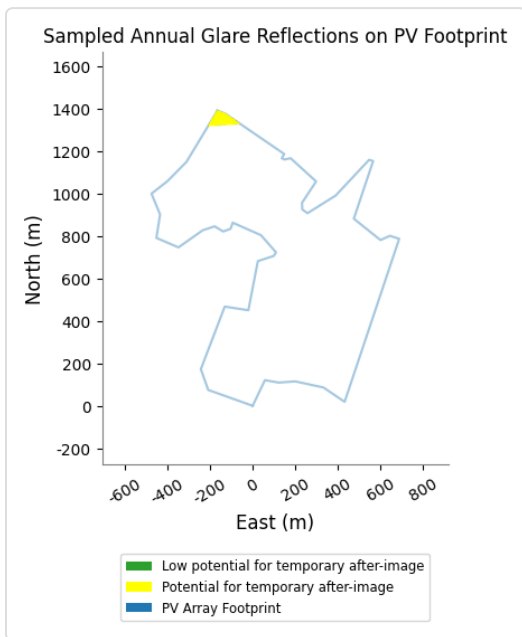
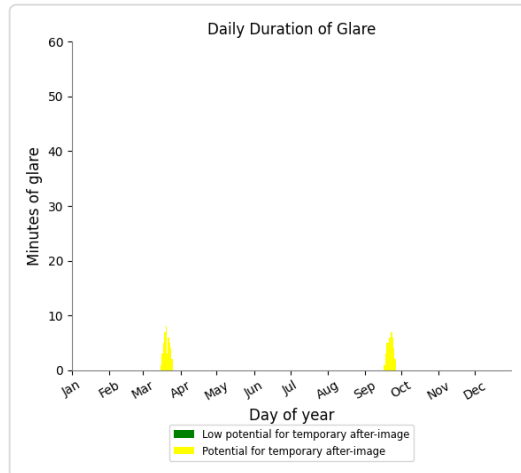
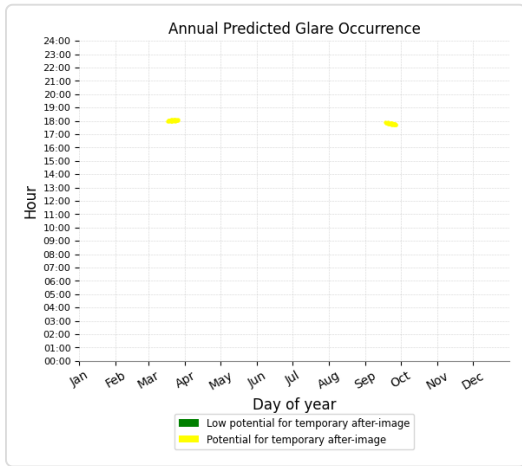
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 352 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 30)

PV array is expected to produce the following glare for receptors at this location:

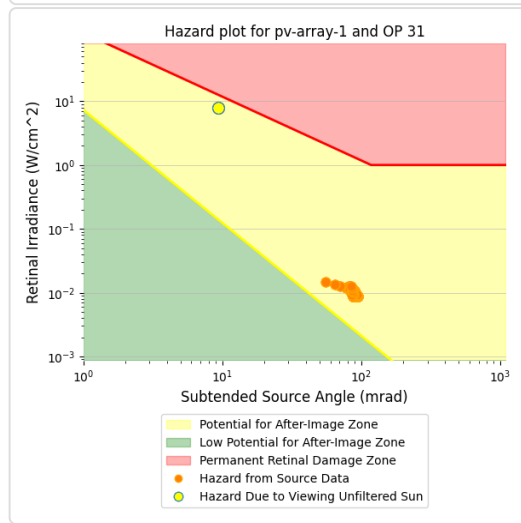
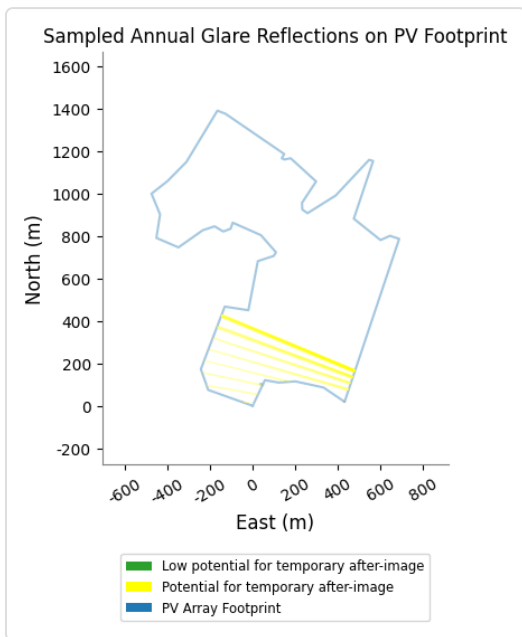
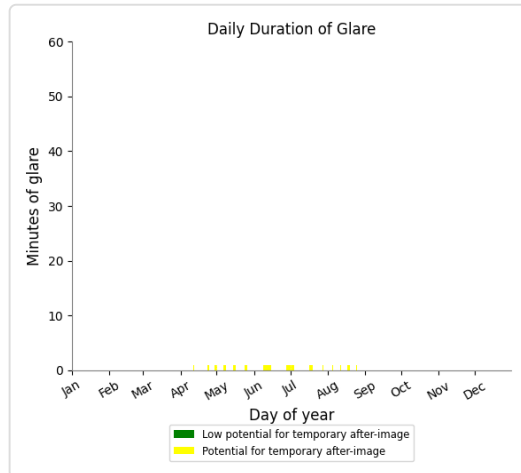
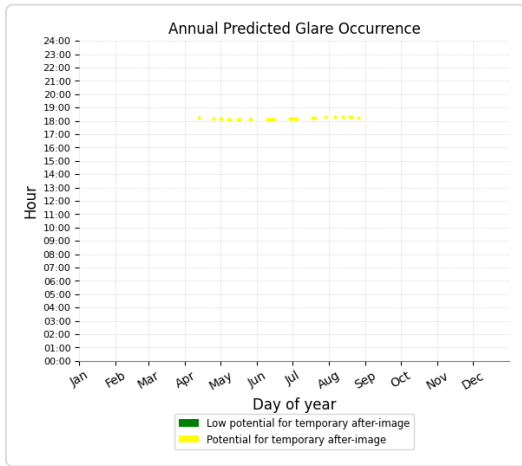
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 89 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 31)

PV array is expected to produce the following glare for receptors at this location:

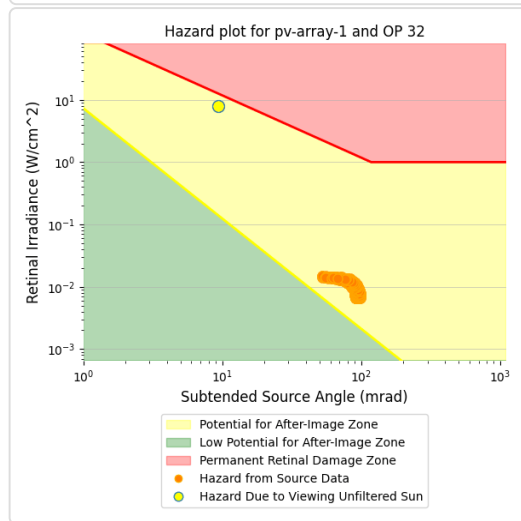
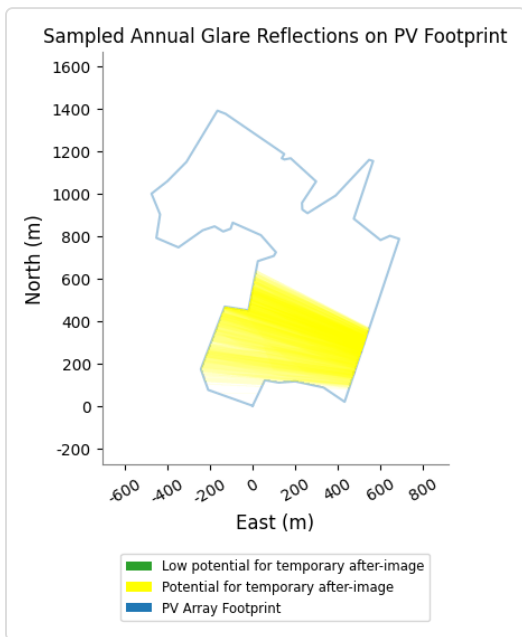
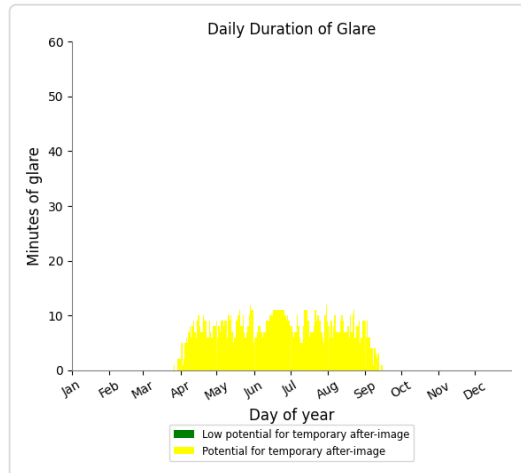
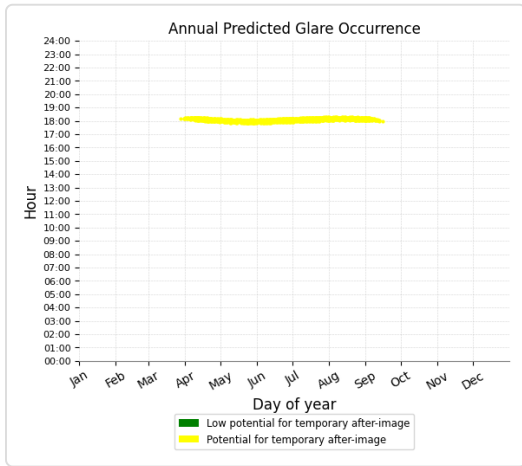
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 33 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 32)

PV array is expected to produce the following glare for receptors at this location:

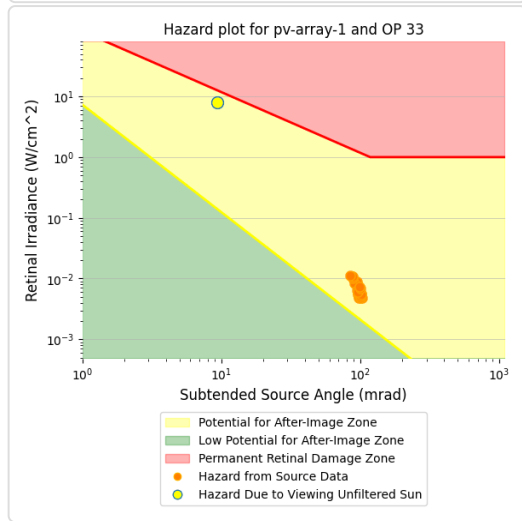
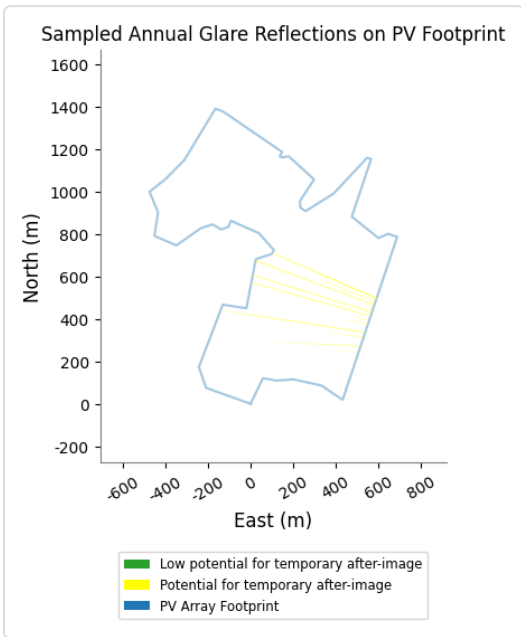
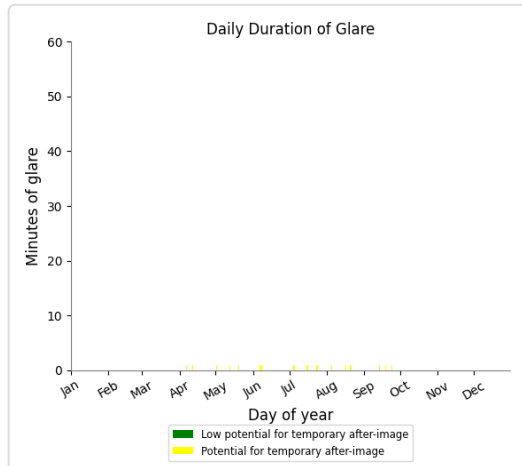
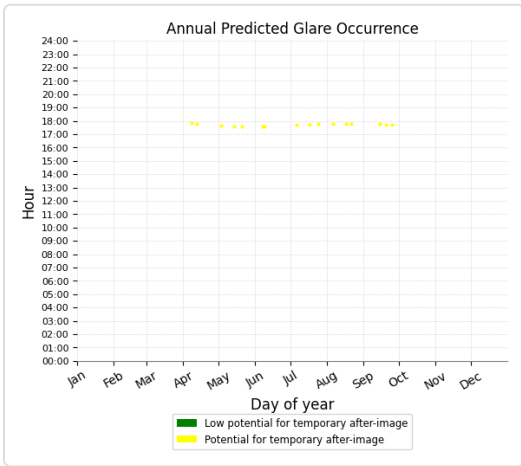
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,298 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 33)

PV array is expected to produce the following glare for receptors at this location:

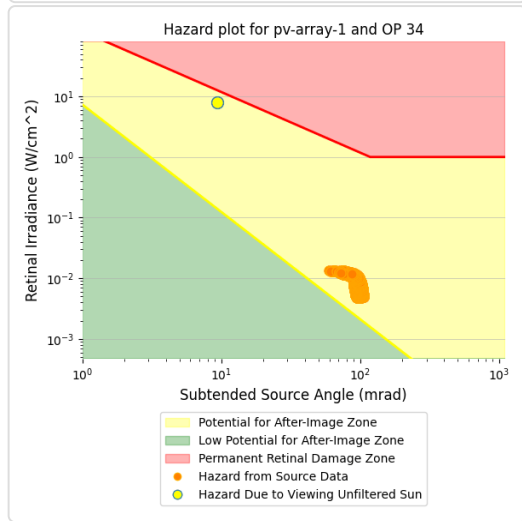
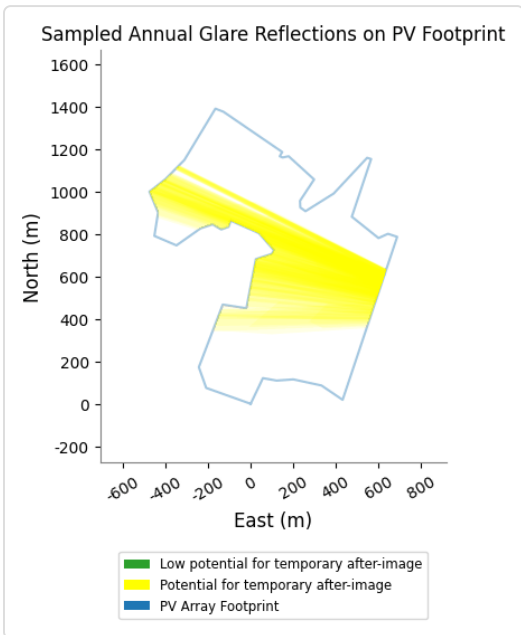
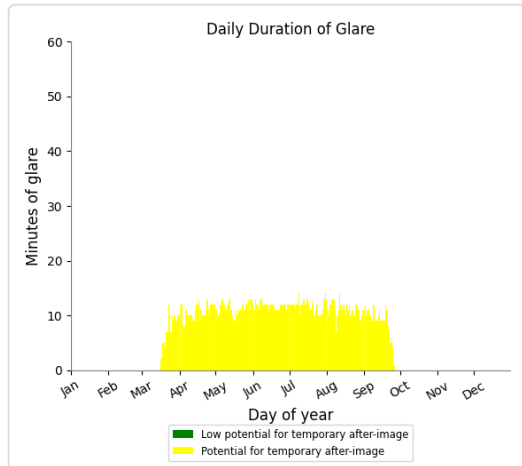
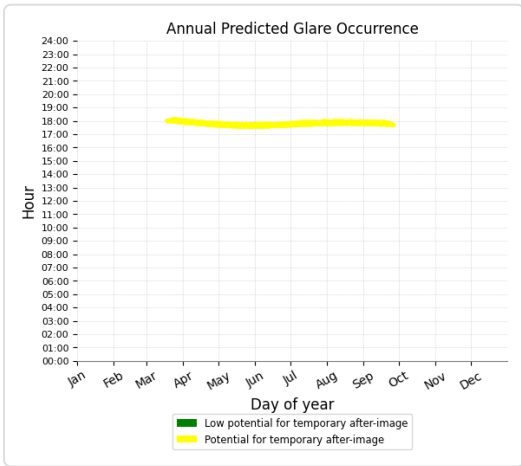
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 16 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 34)

PV array is expected to produce the following glare for receptors at this location:

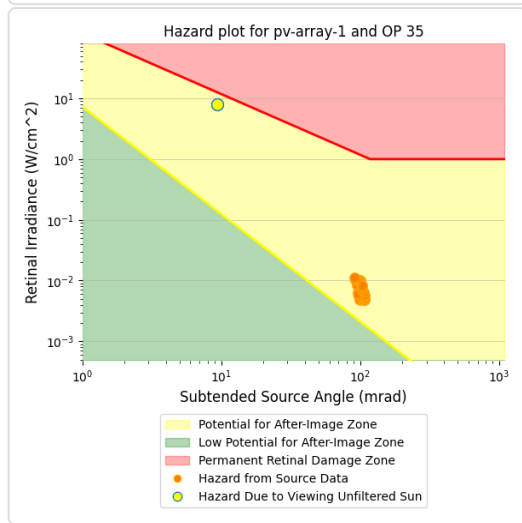
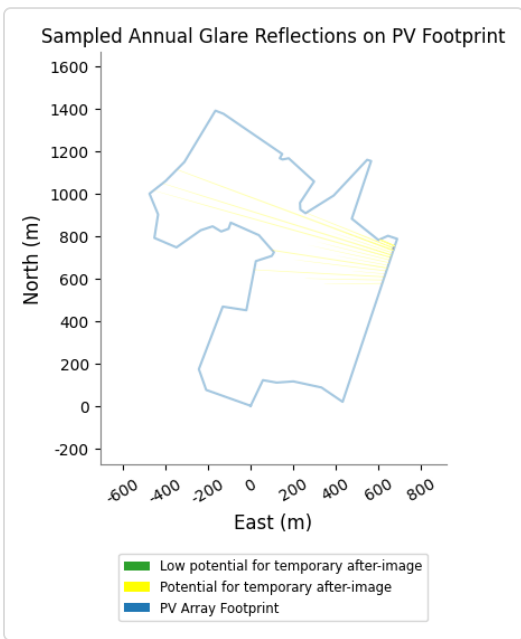
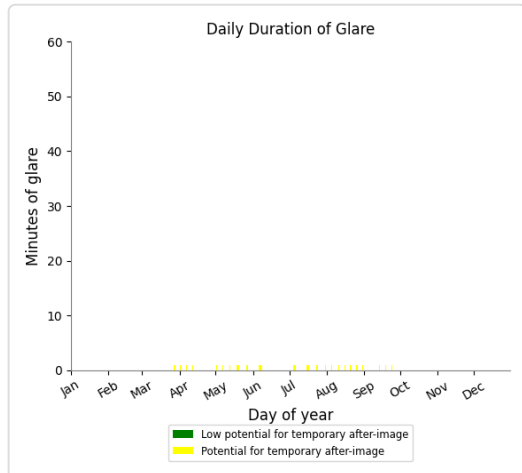
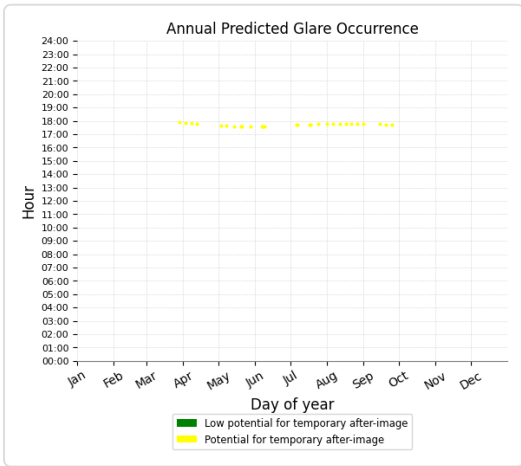
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,088 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 35)

PV array is expected to produce the following glare for receptors at this location:

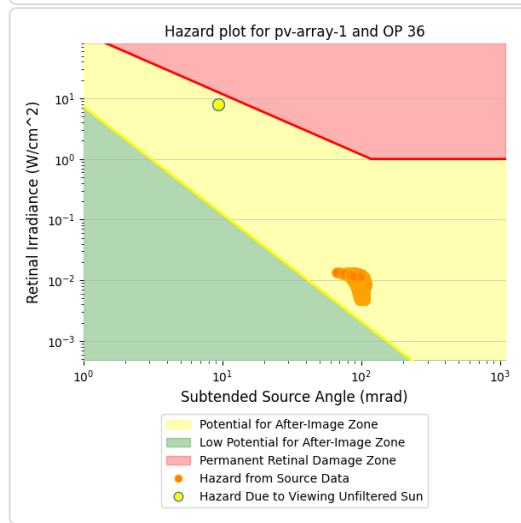
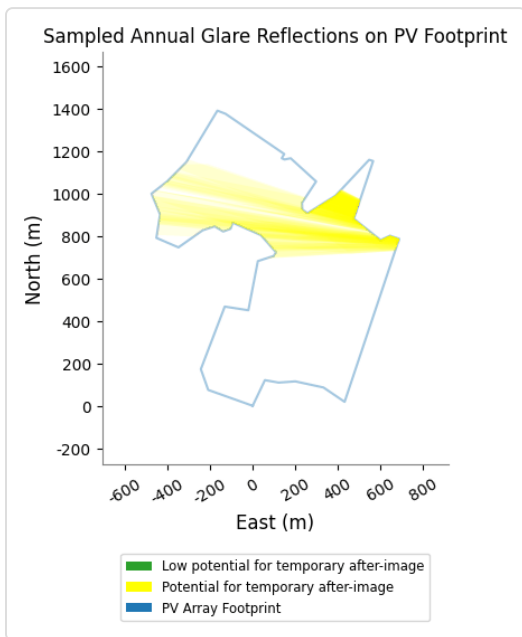
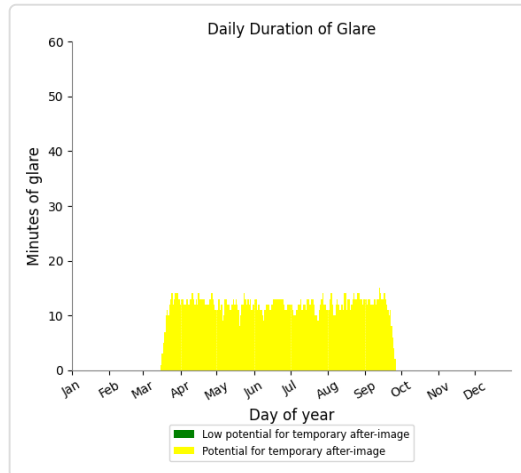
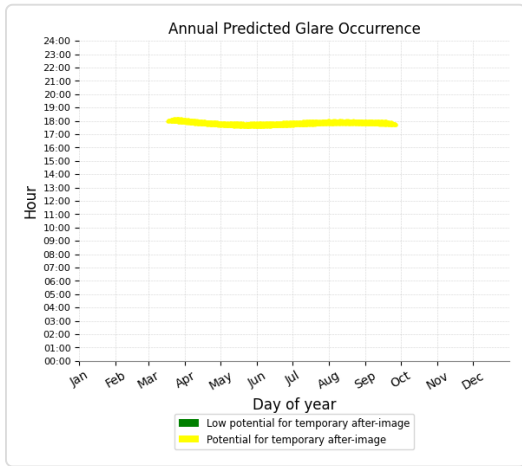
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 28 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 36)

PV array is expected to produce the following glare for receptors at this location:

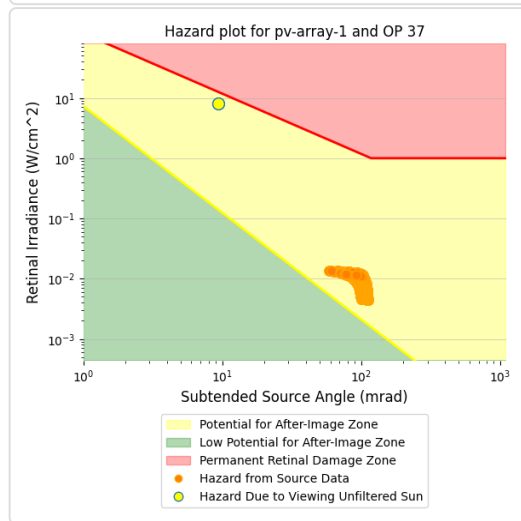
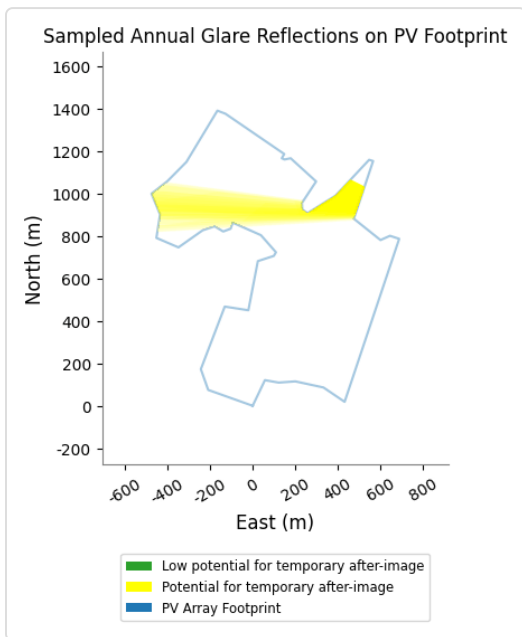
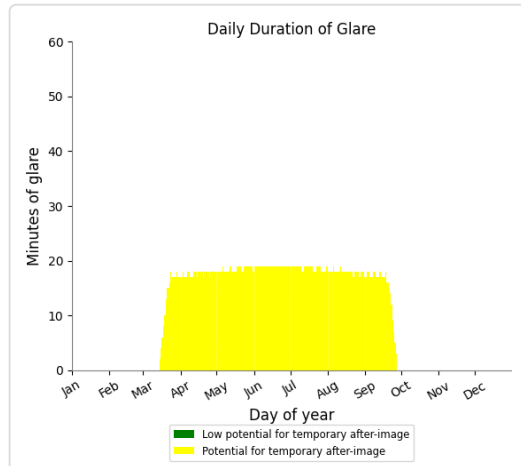
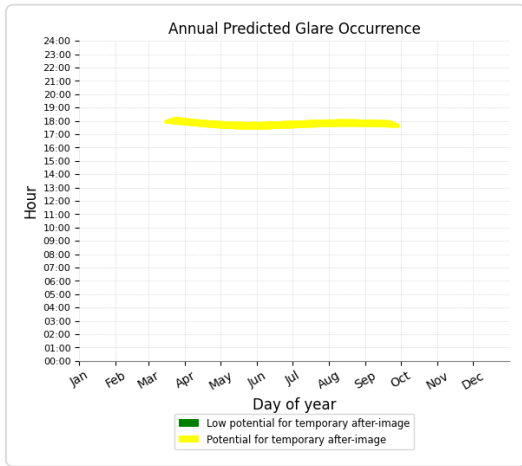
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 2,311 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 37)

PV array is expected to produce the following glare for receptors at this location:

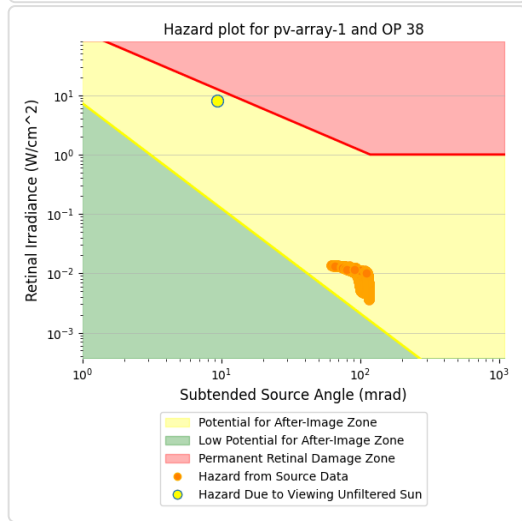
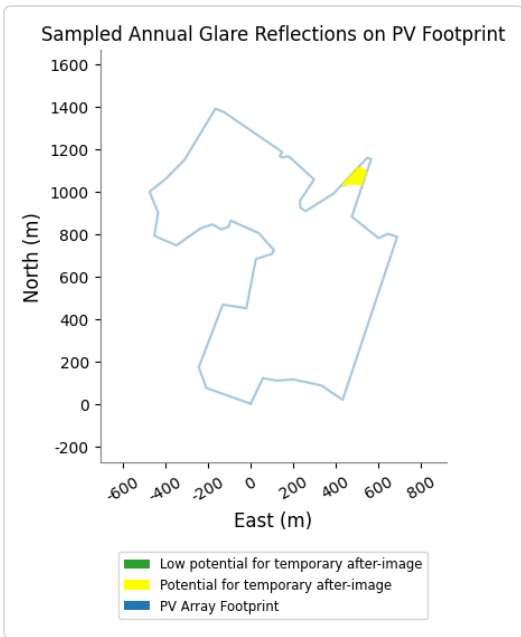
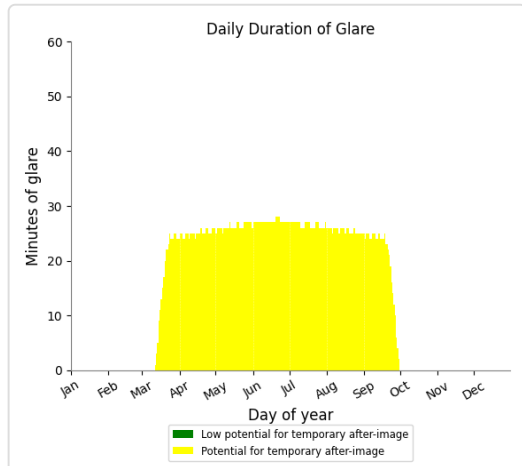
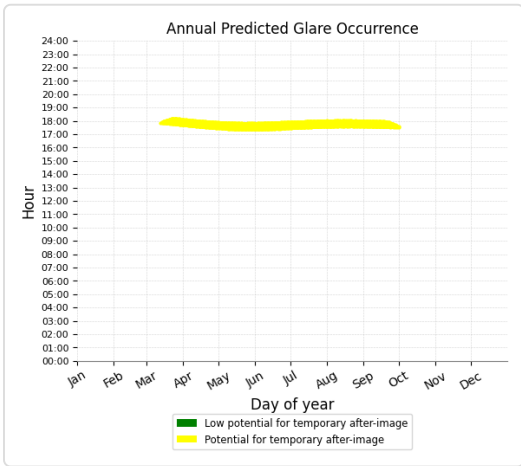
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,444 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 38)

PV array is expected to produce the following glare for receptors at this location:

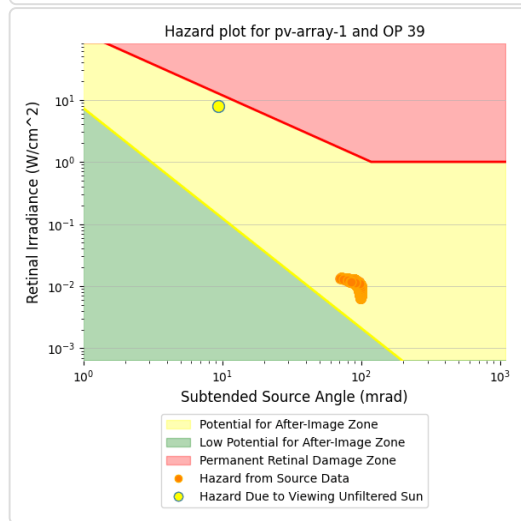
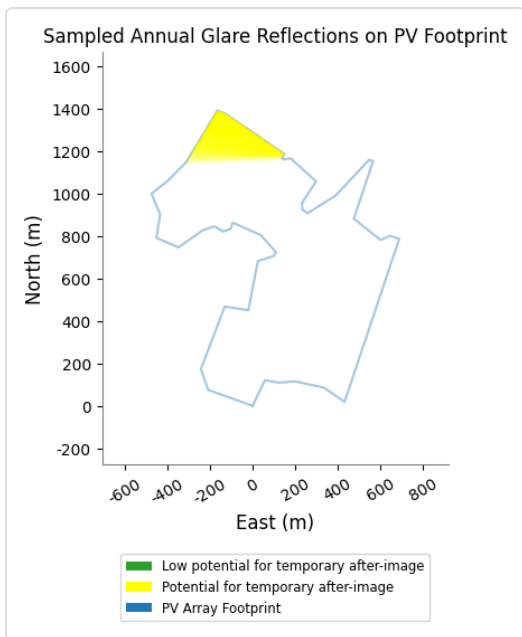
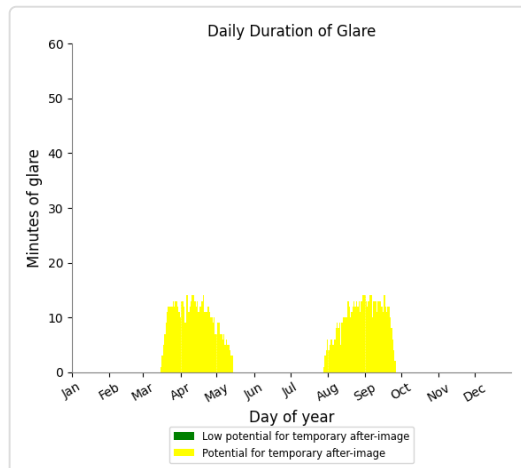
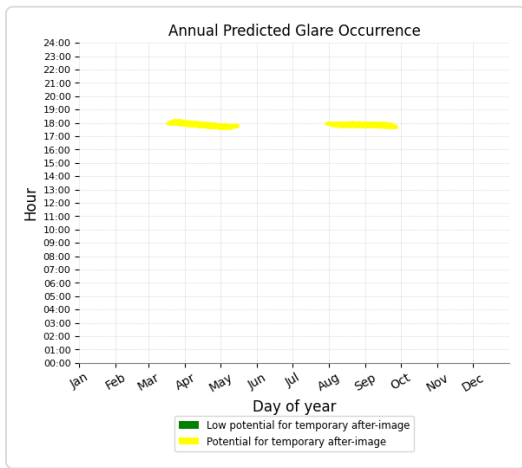
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,961 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 39)

PV array is expected to produce the following glare for receptors at this location:

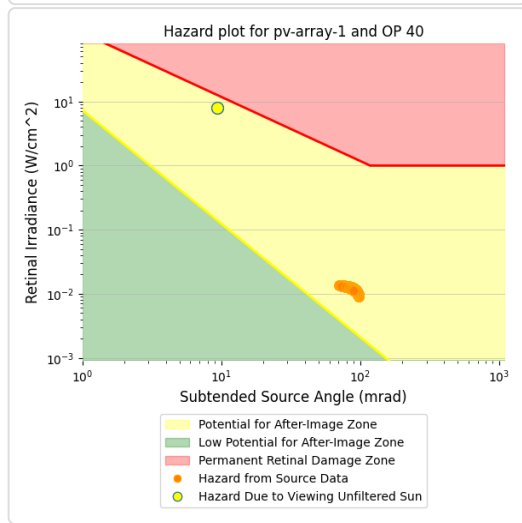
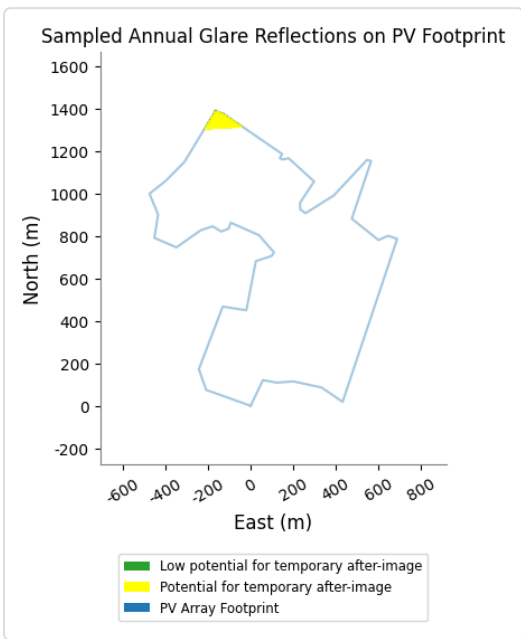
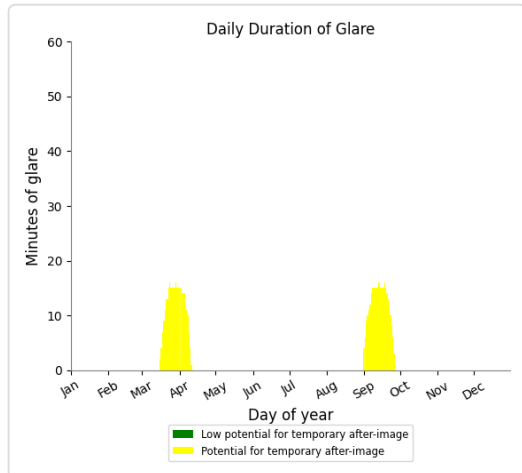
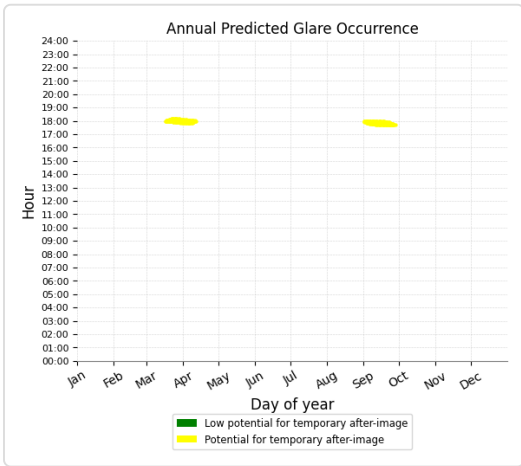
- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 1,191 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 40)

PV array is expected to produce the following glare for receptors at this location:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 629 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - OP Receptor (OP 41)

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6F - Aviation Receptor Glare Results (10 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Aviation Receptors 10deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 73013.12854

Project type Advanced
 Project status: active
 Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

Summary of Results Glare with low potential for temporary after-image predicted

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced |
|------------|------|-------------|---------------|----------------|-----------------|
| | deg | deg | min | min | kWh |
| PV array 1 | 10.0 | 180.0 | 2,040 | 0 | - |

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 10.0 deg
Orientation: 180.0 deg
Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



| Vertex | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| 1 | 52.977416 | -0.868813 | 20.30 | 2.80 | 23.10 |
| 2 | 52.978501 | -0.867955 | 20.00 | 2.80 | 22.80 |
| 3 | 52.978398 | -0.866989 | 20.39 | 2.80 | 23.19 |
| 4 | 52.978450 | -0.865830 | 20.46 | 2.80 | 23.26 |
| 5 | 52.978191 | -0.863856 | 20.00 | 2.80 | 22.80 |
| 6 | 52.977584 | -0.862376 | 19.95 | 2.80 | 22.75 |
| 7 | 52.984483 | -0.858556 | 24.76 | 2.80 | 27.56 |
| 8 | 52.984612 | -0.859200 | 25.60 | 2.80 | 28.40 |
| 9 | 52.984431 | -0.859865 | 26.00 | 2.80 | 28.80 |
| 10 | 52.985335 | -0.861732 | 25.02 | 2.80 | 27.82 |
| 11 | 52.987777 | -0.860380 | 19.95 | 2.80 | 22.75 |
| 12 | 52.987828 | -0.860659 | 19.88 | 2.80 | 22.68 |
| 13 | 52.986317 | -0.862998 | 21.01 | 2.80 | 23.81 |
| 14 | 52.985568 | -0.864972 | 20.25 | 2.80 | 23.05 |
| 15 | 52.985723 | -0.865337 | 19.79 | 2.80 | 22.59 |
| 16 | 52.986007 | -0.865358 | 20.07 | 2.80 | 22.87 |
| 17 | 52.986911 | -0.864371 | 20.22 | 2.80 | 23.02 |
| 18 | 52.987893 | -0.866152 | 18.00 | 2.80 | 20.80 |
| 19 | 52.987841 | -0.866581 | 18.05 | 2.80 | 20.85 |
| 20 | 52.987893 | -0.866774 | 18.33 | 2.80 | 21.13 |
| 21 | 52.988074 | -0.866603 | 18.08 | 2.80 | 20.88 |
| 22 | 52.989779 | -0.870723 | 22.00 | 2.80 | 24.80 |
| 23 | 52.989908 | -0.871280 | 22.00 | 2.80 | 24.80 |
| 24 | 52.987738 | -0.873448 | 22.05 | 2.80 | 24.85 |
| 25 | 52.986924 | -0.874778 | 22.79 | 2.80 | 25.59 |
| 26 | 52.986395 | -0.875894 | 22.62 | 2.80 | 25.42 |
| 27 | 52.985516 | -0.875293 | 21.94 | 2.80 | 24.74 |
| 28 | 52.984522 | -0.875551 | 21.38 | 2.80 | 24.18 |
| 29 | 52.984121 | -0.874006 | 20.15 | 2.80 | 22.95 |
| 30 | 52.984845 | -0.872310 | 20.21 | 2.80 | 23.01 |
| 31 | 52.985012 | -0.871474 | 20.01 | 2.80 | 22.81 |
| 32 | 52.984793 | -0.870873 | 20.22 | 2.80 | 23.02 |
| 33 | 52.984909 | -0.870358 | 20.19 | 2.80 | 22.99 |
| 34 | 52.985167 | -0.870208 | 19.84 | 2.80 | 22.64 |
| 35 | 52.984638 | -0.868233 | 20.05 | 2.80 | 22.85 |
| 36 | 52.983914 | -0.867182 | 19.95 | 2.80 | 22.75 |
| 37 | 52.983759 | -0.867332 | 20.03 | 2.80 | 22.83 |
| 38 | 52.983540 | -0.868448 | 20.67 | 2.80 | 23.47 |
| 39 | 52.981460 | -0.869113 | 21.77 | 2.80 | 24.57 |
| 40 | 52.981615 | -0.870765 | 23.94 | 2.80 | 26.74 |
| 41 | 52.978966 | -0.872439 | 24.87 | 2.80 | 27.67 |
| 42 | 52.978088 | -0.871924 | 23.83 | 2.80 | 26.63 |

2-Mile Flight Path Receptor(s)

Name: Nott City RWY 03
Description:
Threshold height : 15 m
Direction: 28.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg



| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 52.916684 | -1.079598 | 34.79 | 15.24 | 50.03 |
| 2-mile point | 52.891323 | -1.102651 | 40.65 | 178.07 | 218.71 |

Name: Nott City RWY 09
Description:
Threshold height : 15 m
Direction: 88.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg



| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 52.920669 | -1.085391 | 38.34 | 15.24 | 53.58 |
| 2-mile point | 52.919710 | -1.133375 | 41.72 | 180.55 | 222.27 |

Name: Nott City RWY 21
Description:
Threshold height : 15 m
Direction: 208.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg



| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 52.923140 | -1.073783 | 26.88 | 15.24 | 42.12 |
| 2-mile point | 52.948500 | -1.050726 | 20.49 | 190.32 | 210.81 |

Name: Nott City RWY 27
Description:
Threshold height : 15 m
Direction: 268.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 52.920850 | -1.072946 | 26.71 | 15.24 | 41.95 |
| 2-mile point | 52.921808 | -1.024962 | 55.39 | 155.24 | 210.64 |



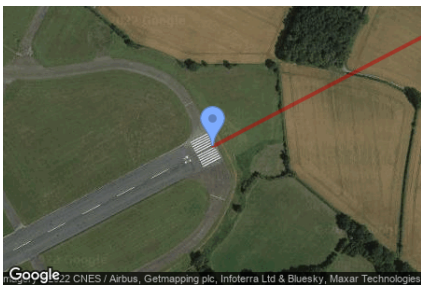
Name: RAF Syerston RWY 06
Description:
Threshold height : 15 m
Direction: 62.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 53.019293 | -0.924462 | 65.60 | 15.24 | 80.84 |
| 2-mile point | 53.005915 | -0.967122 | 17.75 | 231.77 | 249.52 |



Name: RAF Syerston RWY 24
Description:
Threshold height : 15 m
Direction: 242.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 53.026804 | -0.900580 | 56.20 | 15.24 | 71.44 |
| 2-mile point | 53.040199 | -0.857928 | 17.72 | 222.40 | 240.13 |



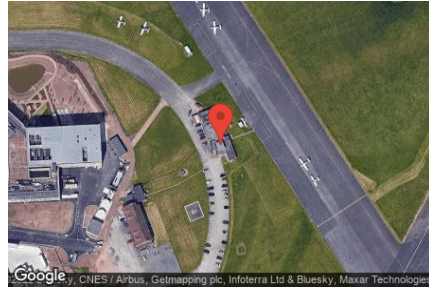
Discrete Observation Receptors

| Number | Latitude | Longitude | Ground elevation | Height above ground | Total Elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| 1-ATCT | 53.020181 | -0.913400 | 65.59 | 8.00 | 73.59 |
| 2-ATCT | 52.918698 | -1.080804 | 36.43 | 5.00 | 41.43 |

1-ATCT map image



2-ATCT map image



Summary of PV Glare Analysis

PV configuration and total predicted glare

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced | Data File |
|------------|------|-------------|---------------|----------------|-----------------|-----------|
| | deg | deg | min | min | kWh | |
| PV array 1 | 10.0 | 180.0 | 2,040 | 0 | - | - |

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

| PV | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| pv-array-1 (green) | 0 | 1 | 0 | 3 | 453 | 491 | 520 | 124 | 0 | 2 | 0 | 0 |
| pv-array-1 (yellow) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

PV & Receptor Analysis Results

Results for each PV array and receptor

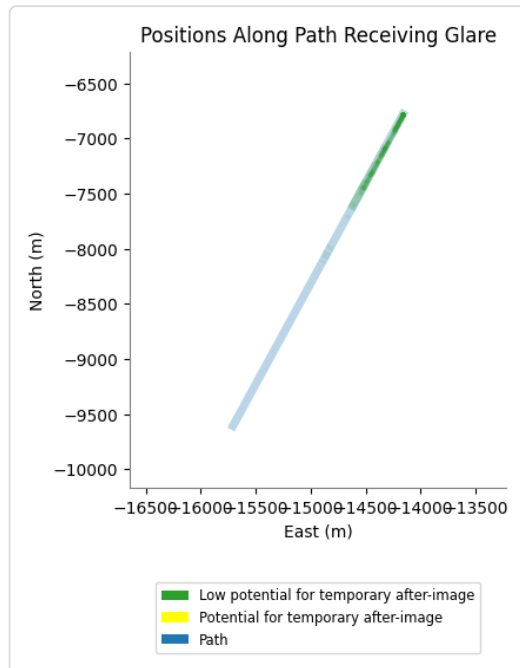
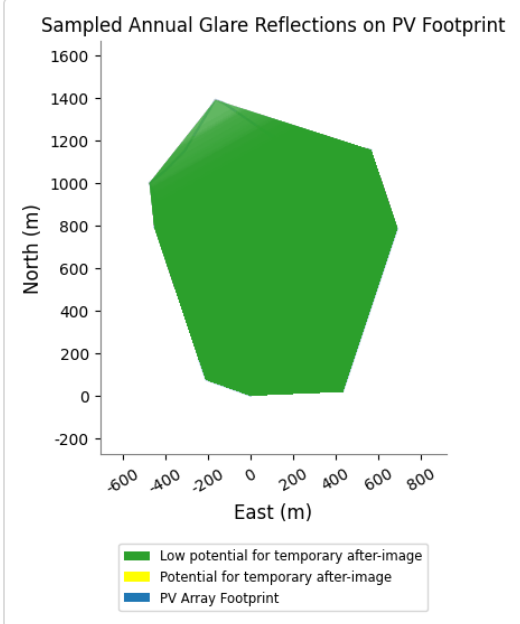
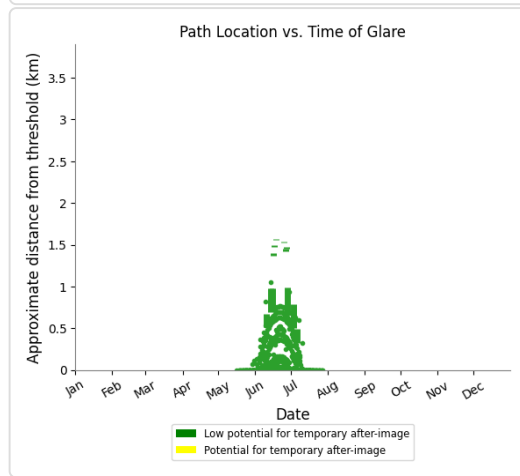
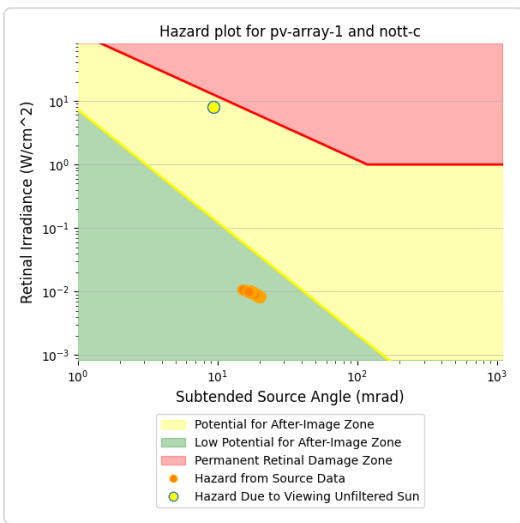
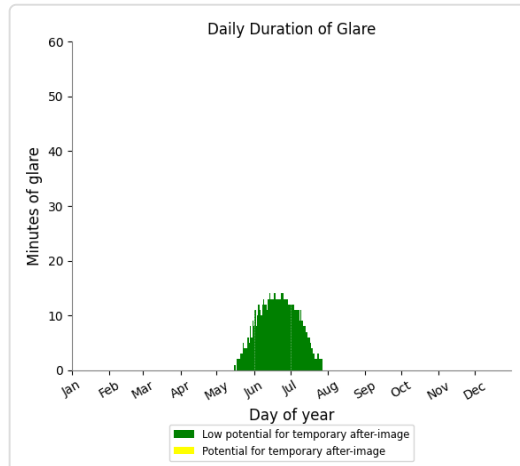
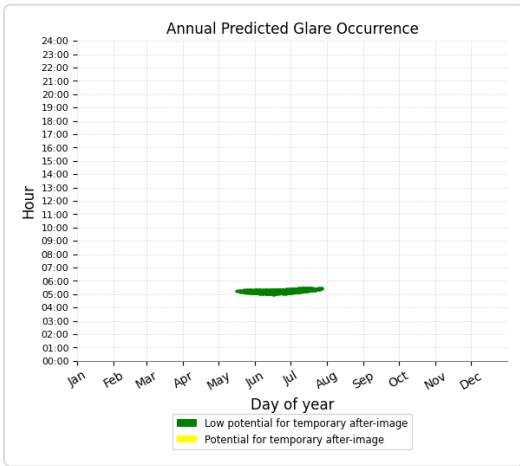
PV array 1 low potential for temporary after-image

| Component | Green glare (min) | Yellow glare (min) |
|-------------------------|-------------------|--------------------|
| FP: Nott City RWY 03 | 622 | 0 |
| FP: Nott City RWY 09 | 1414 | 0 |
| FP: Nott City RWY 21 | 0 | 0 |
| FP: Nott City RWY 27 | 0 | 0 |
| FP: RAF Syerston RWY 06 | 3 | 0 |
| FP: RAF Syerston RWY 24 | 0 | 0 |
| OP: 1-ATCT | 0 | 0 |
| OP: 2-ATCT | 1 | 0 |

PV array 1 - Receptor (Nott City RWY 03)

PV array is expected to produce the following glare for observers on this flight path:

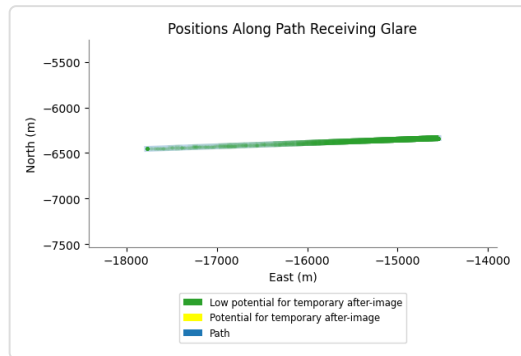
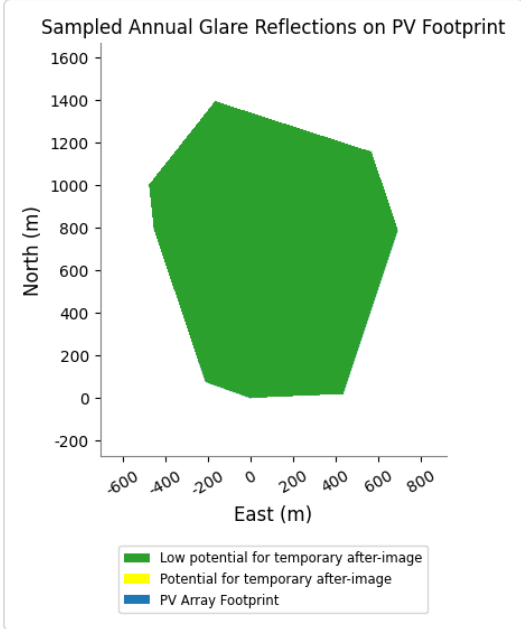
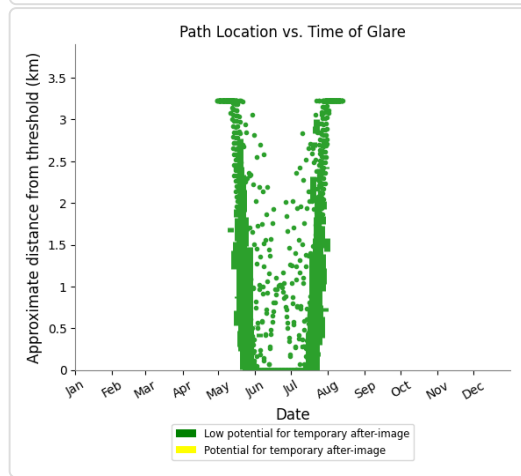
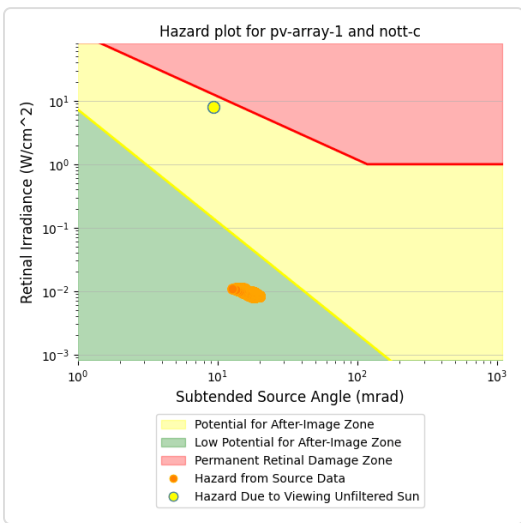
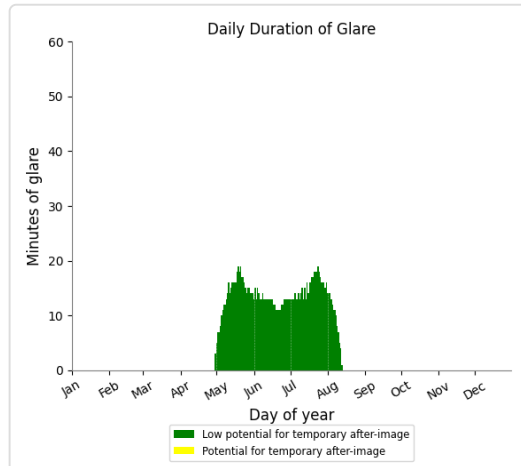
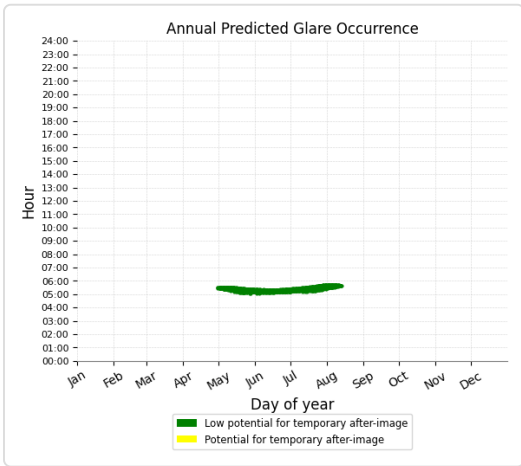
- 622 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - Receptor (Nott City RWY 09)

PV array is expected to produce the following glare for observers on this flight path:

- 1,414 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - Receptor (Nott City RWY 21)

No glare found

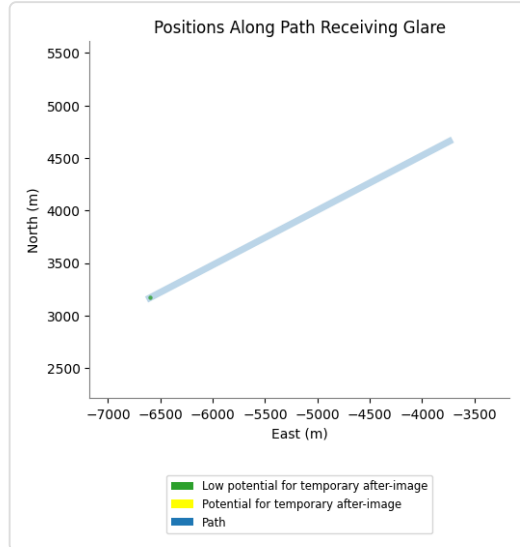
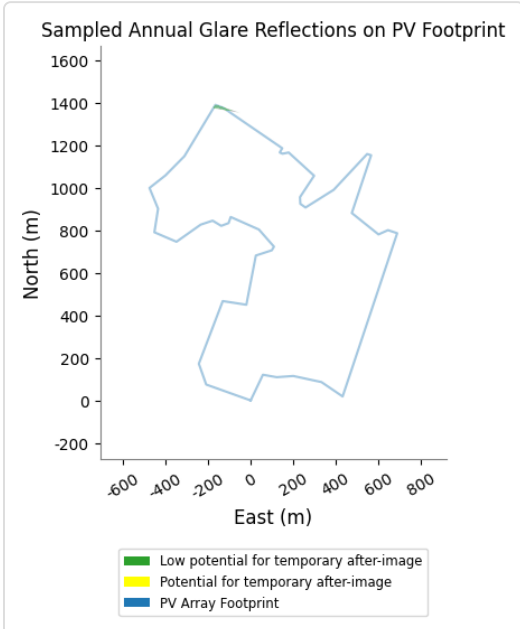
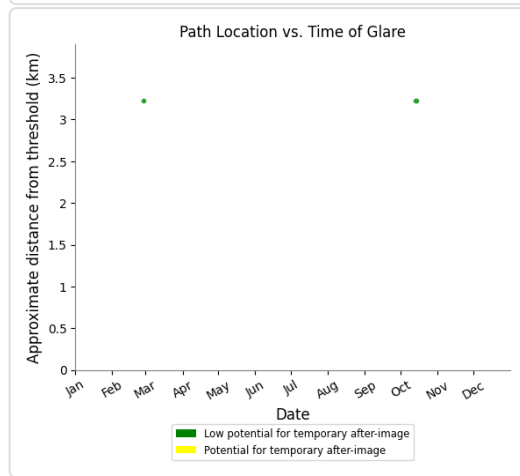
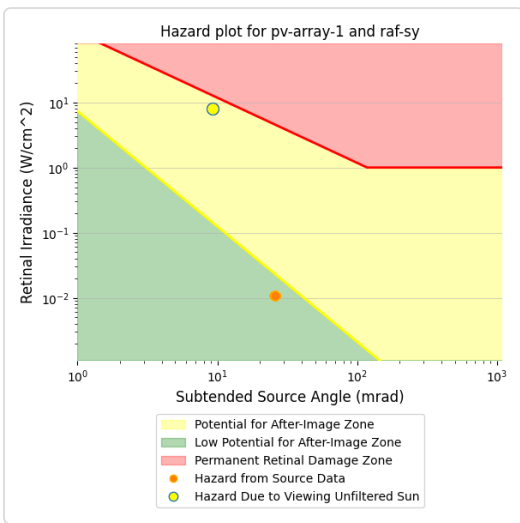
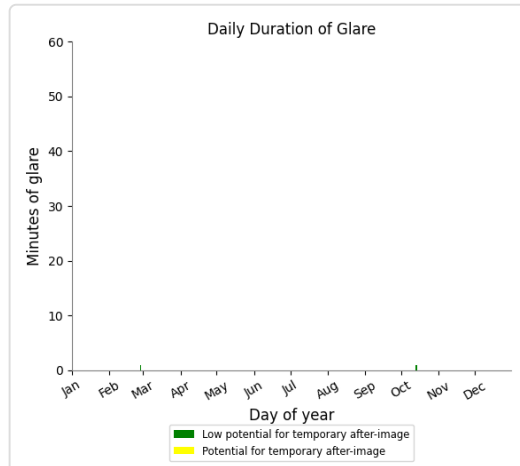
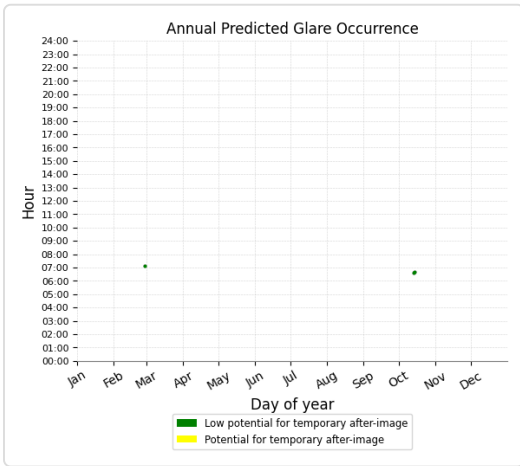
PV array 1 - Receptor (Nott City RWY 27)

No glare found

PV array 1 - Receptor (RAF Syerston RWY 06)

PV array is expected to produce the following glare for observers on this flight path:

- 3 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - Receptor (RAF Syerston RWY 24)

No glare found

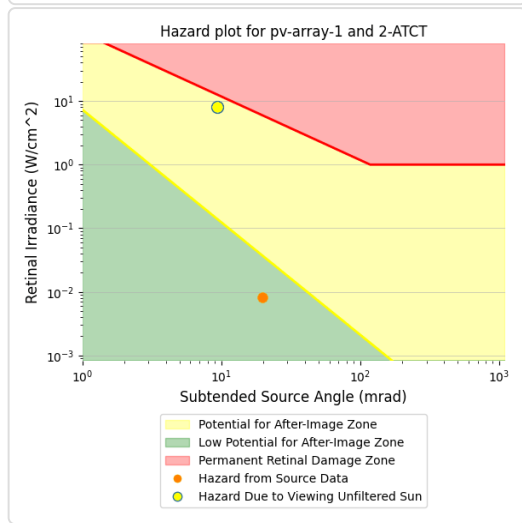
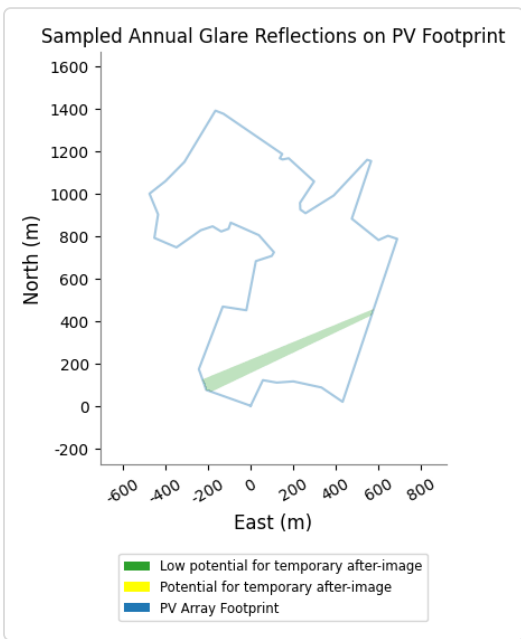
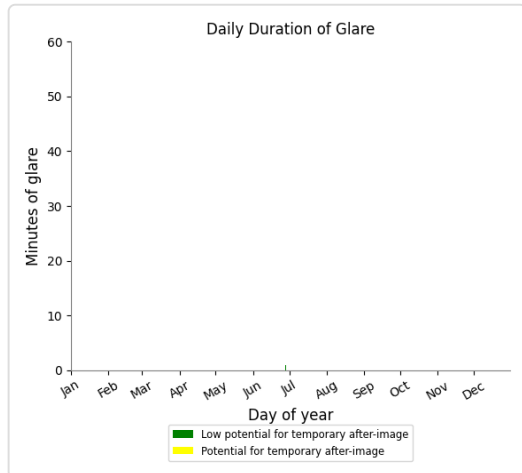
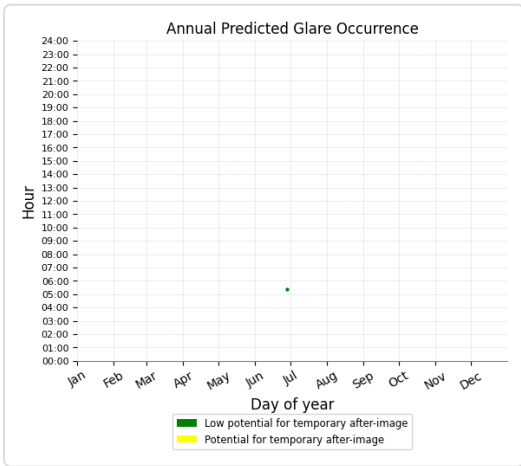
PV array 1 - OP Receptor (1-ATCT)

No glare found

PV array 1 - OP Receptor (2-ATCT)

PV array is expected to produce the following glare for receptors at this location:

- 1 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6G - Aviation Receptor Glare Results (30 degrees)





Longhedge Solar Farm

Longhedge Solar Farm Aviation Receptors 30deg

Created July 25, 2022
 Updated Aug. 10, 2022
 Time-step 1 minute
 Timezone offset UTC0
 Site ID 73013.12854

Project type Advanced
 Project status: active
 Category 10 MW to 100 MW



Misc. Analysis Settings

DNI: varies (1,000.0 W/m² peak)
 Ocular transmission coefficient: 0.5
 Pupil diameter: 0.002 m
 Eye focal length: 0.017 m
 Sun subtended angle: 9.3 mrad

Analysis Methodologies:

- Observation point: **Version 2**
- 2-Mile Flight Path: **Version 2**
- Route: **Version 2**

Summary of Results Glare with low potential for temporary after-image predicted

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced |
|------------|------|-------------|---------------|----------------|-----------------|
| | deg | deg | min | min | kWh |
| PV array 1 | 30.0 | 180.0 | 1,418 | 0 | - |

Component Data

PV Array(s)

Total PV footprint area: 829,786 m²

Name: PV array 1
Footprint area: 829,786 m²
Axis tracking: Fixed (no rotation)
Tilt: 30.0 deg
Orientation: 180.0 deg
Rated power: -
Panel material: Light textured glass with AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 9.16 mrad



| Vertex | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| 1 | 52.977416 | -0.868813 | 20.30 | 2.80 | 23.10 |
| 2 | 52.978501 | -0.867955 | 20.00 | 2.80 | 22.80 |
| 3 | 52.978398 | -0.866989 | 20.39 | 2.80 | 23.19 |
| 4 | 52.978450 | -0.865830 | 20.46 | 2.80 | 23.26 |
| 5 | 52.978191 | -0.863856 | 20.00 | 2.80 | 22.80 |
| 6 | 52.977584 | -0.862376 | 19.95 | 2.80 | 22.75 |
| 7 | 52.984483 | -0.858556 | 24.76 | 2.80 | 27.56 |
| 8 | 52.984612 | -0.859200 | 25.60 | 2.80 | 28.40 |
| 9 | 52.984431 | -0.859865 | 26.00 | 2.80 | 28.80 |
| 10 | 52.985335 | -0.861732 | 25.02 | 2.80 | 27.82 |
| 11 | 52.987777 | -0.860380 | 19.95 | 2.80 | 22.75 |
| 12 | 52.987828 | -0.860659 | 19.88 | 2.80 | 22.68 |
| 13 | 52.986317 | -0.862998 | 21.01 | 2.80 | 23.81 |
| 14 | 52.985568 | -0.864972 | 20.25 | 2.80 | 23.05 |
| 15 | 52.985723 | -0.865337 | 19.79 | 2.80 | 22.59 |
| 16 | 52.986007 | -0.865358 | 20.07 | 2.80 | 22.87 |
| 17 | 52.986911 | -0.864371 | 20.22 | 2.80 | 23.02 |
| 18 | 52.987893 | -0.866152 | 18.00 | 2.80 | 20.80 |
| 19 | 52.987841 | -0.866581 | 18.05 | 2.80 | 20.85 |
| 20 | 52.987893 | -0.866774 | 18.33 | 2.80 | 21.13 |
| 21 | 52.988074 | -0.866603 | 18.08 | 2.80 | 20.88 |
| 22 | 52.989779 | -0.870723 | 22.00 | 2.80 | 24.80 |
| 23 | 52.989908 | -0.871280 | 22.00 | 2.80 | 24.80 |
| 24 | 52.987738 | -0.873448 | 22.05 | 2.80 | 24.85 |
| 25 | 52.986924 | -0.874778 | 22.79 | 2.80 | 25.59 |
| 26 | 52.986395 | -0.875894 | 22.62 | 2.80 | 25.42 |
| 27 | 52.985516 | -0.875293 | 21.94 | 2.80 | 24.74 |
| 28 | 52.984522 | -0.875551 | 21.38 | 2.80 | 24.18 |
| 29 | 52.984121 | -0.874006 | 20.15 | 2.80 | 22.95 |
| 30 | 52.984845 | -0.872310 | 20.21 | 2.80 | 23.01 |
| 31 | 52.985012 | -0.871474 | 20.01 | 2.80 | 22.81 |
| 32 | 52.984793 | -0.870873 | 20.22 | 2.80 | 23.02 |
| 33 | 52.984909 | -0.870358 | 20.19 | 2.80 | 22.99 |
| 34 | 52.985167 | -0.870208 | 19.84 | 2.80 | 22.64 |
| 35 | 52.984638 | -0.868233 | 20.05 | 2.80 | 22.85 |
| 36 | 52.983914 | -0.867182 | 19.95 | 2.80 | 22.75 |
| 37 | 52.983759 | -0.867332 | 20.03 | 2.80 | 22.83 |
| 38 | 52.983540 | -0.868448 | 20.67 | 2.80 | 23.47 |
| 39 | 52.981460 | -0.869113 | 21.77 | 2.80 | 24.57 |
| 40 | 52.981615 | -0.870765 | 23.94 | 2.80 | 26.74 |
| 41 | 52.978966 | -0.872439 | 24.87 | 2.80 | 27.67 |
| 42 | 52.978088 | -0.871924 | 23.83 | 2.80 | 26.63 |

2-Mile Flight Path Receptor(s)

Name: Nott City RWY 03
Description:
Threshold height : 15 m
Direction: 28.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg



| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 52.916684 | -1.079598 | 34.79 | 15.24 | 50.03 |
| 2-mile point | 52.891323 | -1.102651 | 40.65 | 178.07 | 218.71 |

Name: Nott City RWY 09
Description:
Threshold height : 15 m
Direction: 88.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg



| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 52.920669 | -1.085391 | 38.34 | 15.24 | 53.58 |
| 2-mile point | 52.919710 | -1.133375 | 41.72 | 180.55 | 222.27 |

Name: Nott City RWY 21
Description:
Threshold height : 15 m
Direction: 208.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg



| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 52.923140 | -1.073783 | 26.88 | 15.24 | 42.12 |
| 2-mile point | 52.948500 | -1.050726 | 20.49 | 190.32 | 210.81 |

Name: Nott City RWY 27
Description:
Threshold height : 15 m
Direction: 268.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 52.920850 | -1.072946 | 26.71 | 15.24 | 41.95 |
| 2-mile point | 52.921808 | -1.024962 | 55.39 | 155.24 | 210.64 |



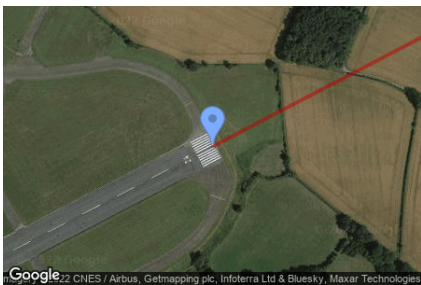
Name: RAF Syerston RWY 06
Description:
Threshold height : 15 m
Direction: 62.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 53.019293 | -0.924462 | 65.60 | 15.24 | 80.84 |
| 2-mile point | 53.005915 | -0.967122 | 17.75 | 231.77 | 249.52 |



Name: RAF Syerston RWY 24
Description:
Threshold height : 15 m
Direction: 242.4 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 50.0 deg

| Point | Latitude | Longitude | Ground elevation | Height above ground | Total elevation |
|--------------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| Threshold | 53.026804 | -0.900580 | 56.20 | 15.24 | 71.44 |
| 2-mile point | 53.040199 | -0.857928 | 17.72 | 222.40 | 240.13 |



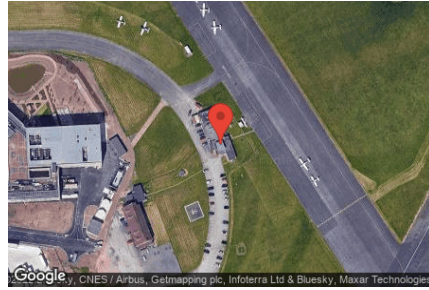
Discrete Observation Receptors

| Number | Latitude | Longitude | Ground elevation | Height above ground | Total Elevation |
|--------|-----------|-----------|------------------|---------------------|-----------------|
| | deg | deg | m | m | m |
| 1-ATCT | 53.020181 | -0.913400 | 65.59 | 8.00 | 73.59 |
| 2-ATCT | 52.918698 | -1.080804 | 36.43 | 5.00 | 41.43 |

1-ATCT map image



2-ATCT map image



Summary of PV Glare Analysis

PV configuration and total predicted glare

| PV Name | Tilt | Orientation | "Green" Glare | "Yellow" Glare | Energy Produced | Data File |
|----------------|-------------|--------------------|----------------------|-----------------------|------------------------|------------------|
| | deg | deg | min | min | kWh | |
| PV array 1 | 30.0 | 180.0 | 1,418 | 0 | - | - |

Distinct glare per month

Excludes overlapping glare from PV array for multiple receptors at matching time(s)

| PV | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| pv-array-1 (green) | 0 | 0 | 0 | 0 | 325 | 457 | 427 | 66 | 0 | 0 | 0 | 0 |
| pv-array-1 (yellow) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

PV & Receptor Analysis Results

Results for each PV array and receptor

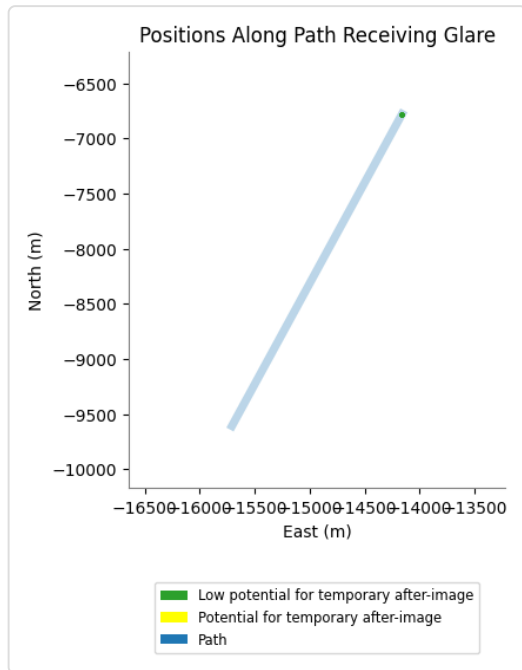
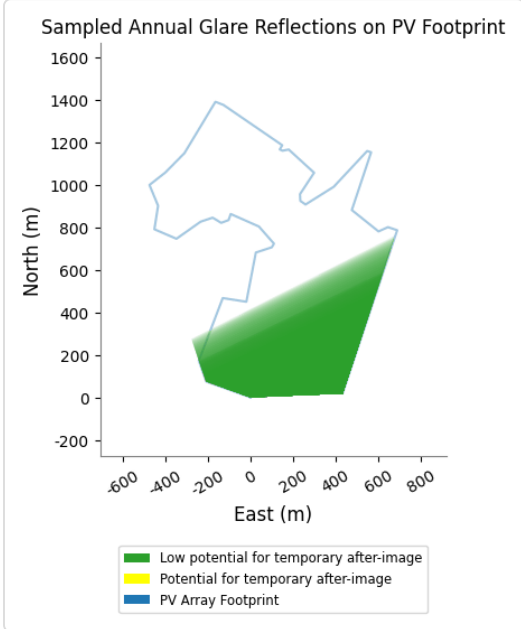
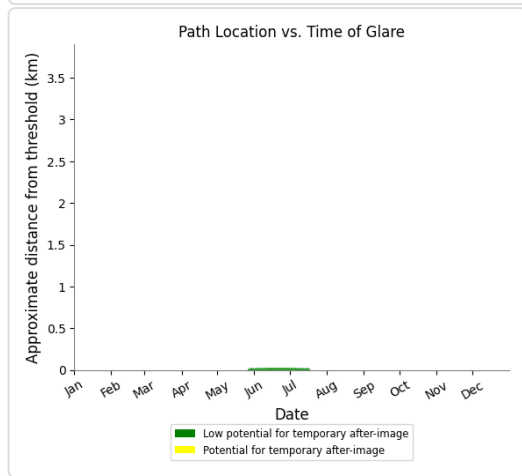
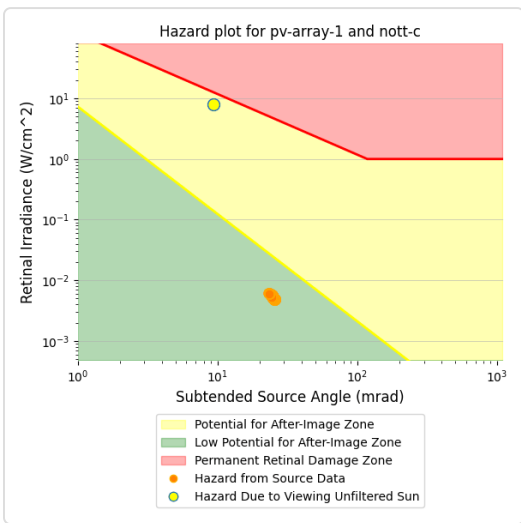
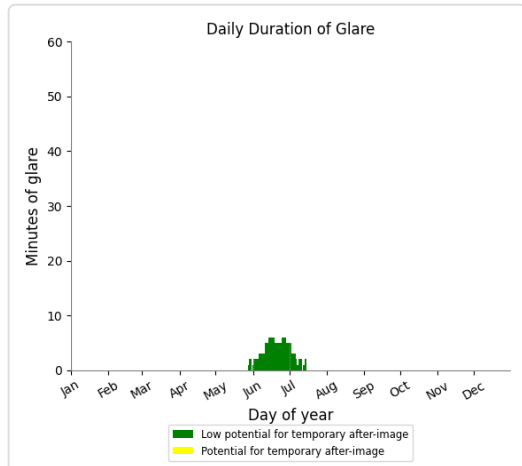
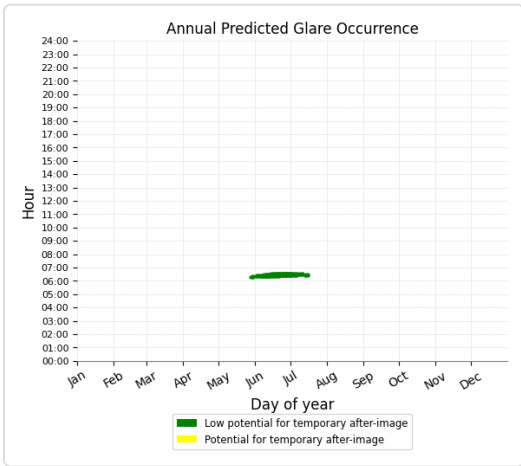
PV array 1 low potential for temporary after-image

| Component | Green glare (min) | Yellow glare (min) |
|-------------------------|--------------------------|---------------------------|
| FP: Nott City RWY 03 | 174 | 0 |
| FP: Nott City RWY 09 | 1244 | 0 |
| FP: Nott City RWY 21 | 0 | 0 |
| FP: Nott City RWY 27 | 0 | 0 |
| FP: RAF Syerston RWY 06 | 0 | 0 |
| FP: RAF Syerston RWY 24 | 0 | 0 |
| OP: 1-ATCT | 0 | 0 |
| OP: 2-ATCT | 0 | 0 |

PV array 1 - Receptor (Nott City RWY 03)

PV array is expected to produce the following glare for observers on this flight path:

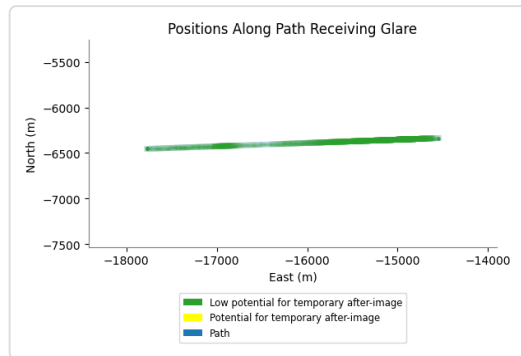
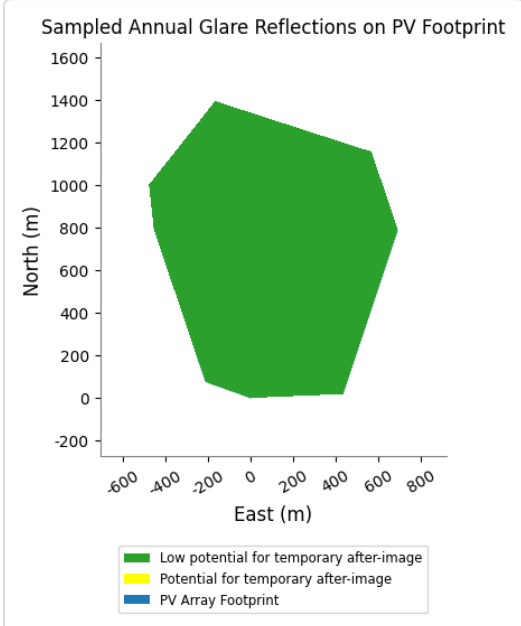
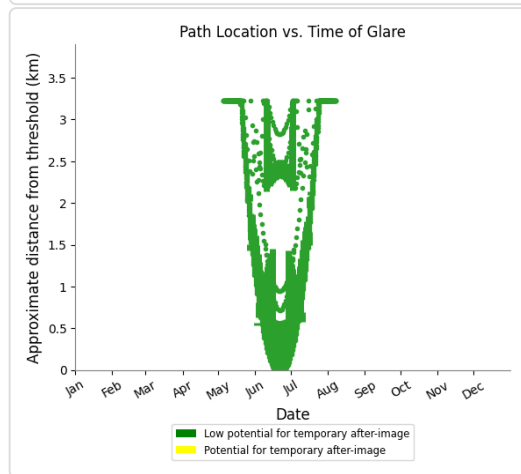
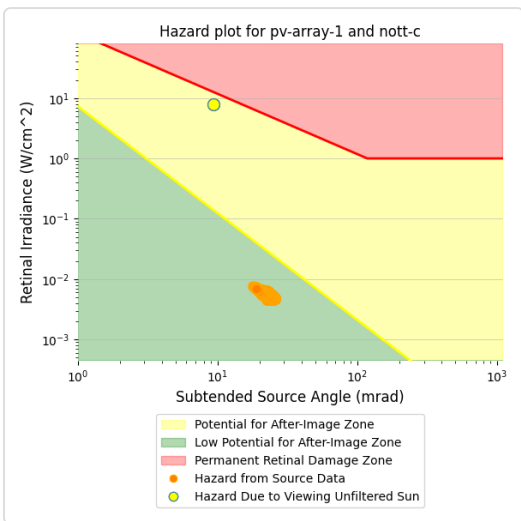
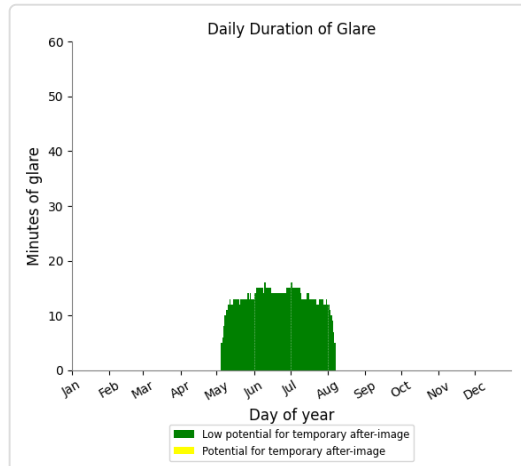
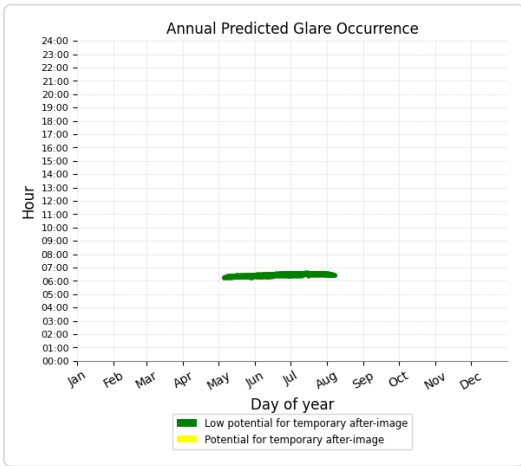
- 174 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - Receptor (Nott City RWY 09)

PV array is expected to produce the following glare for observers on this flight path:

- 1,244 minutes of "green" glare with low potential to cause temporary after-image.
- 0 minutes of "yellow" glare with potential to cause temporary after-image.



PV array 1 - Receptor (Nott City RWY 21)

No glare found

PV array 1 - Receptor (Nott City RWY 27)

No glare found

PV array 1 - Receptor (RAF Syerston RWY 06)

No glare found

PV array 1 - Receptor (RAF Syerston RWY 24)

No glare found

PV array 1 - OP Receptor (1-ATCT)

No glare found

PV array 1 - OP Receptor (2-ATCT)

No glare found

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- Detailed system geometry is not rigorously simulated.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values and results may vary.
- The system output calculation is a DNI-based approximation that assumes clear, sunny skies year-round. It should not be used in place of more rigorous modeling methods.
- Several V1 calculations utilize the PV array centroid, rather than the actual glare spot location, due to algorithm limitations. This may affect results for large PV footprints. Additional analyses of array sub-sections can provide additional information on expected glare.
- The subtended source angle (glare spot size) is constrained by the PV array footprint size. Partitioning large arrays into smaller sections will reduce the maximum potential subtended angle, potentially impacting results if actual glare spots are larger than the sub-array size. Additional analyses of the combined area of adjacent sub-arrays can provide more information on potential glare hazards. (See previous point on related limitations.)
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.
- Glare locations displayed on receptor plots are approximate. Actual glare-spot locations may differ.
- Glare vector plots are simplified representations of analysis data. Actual glare emanations and results may differ.
- Refer to the **Help page** for detailed assumptions and limitations not listed here.



Appendix 6H - Visibility Assessment Evidence





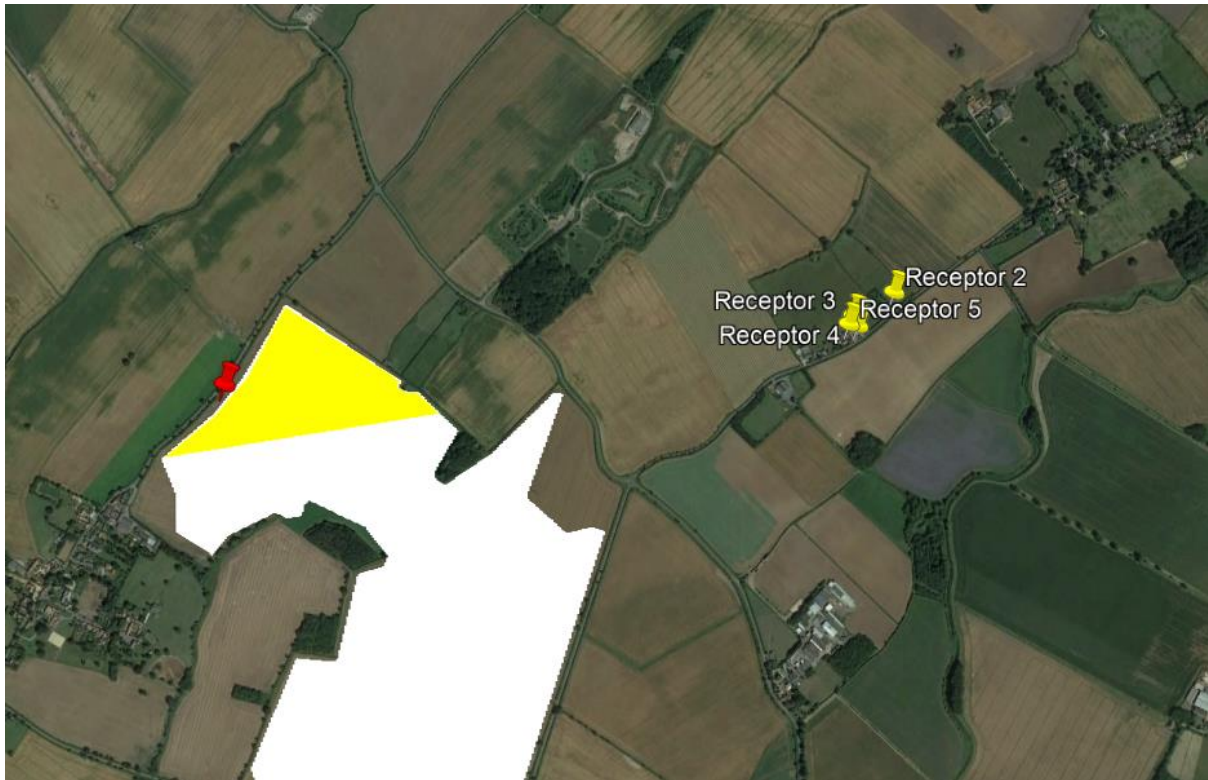
Appendix 6H: Visibility Assessment Evidence



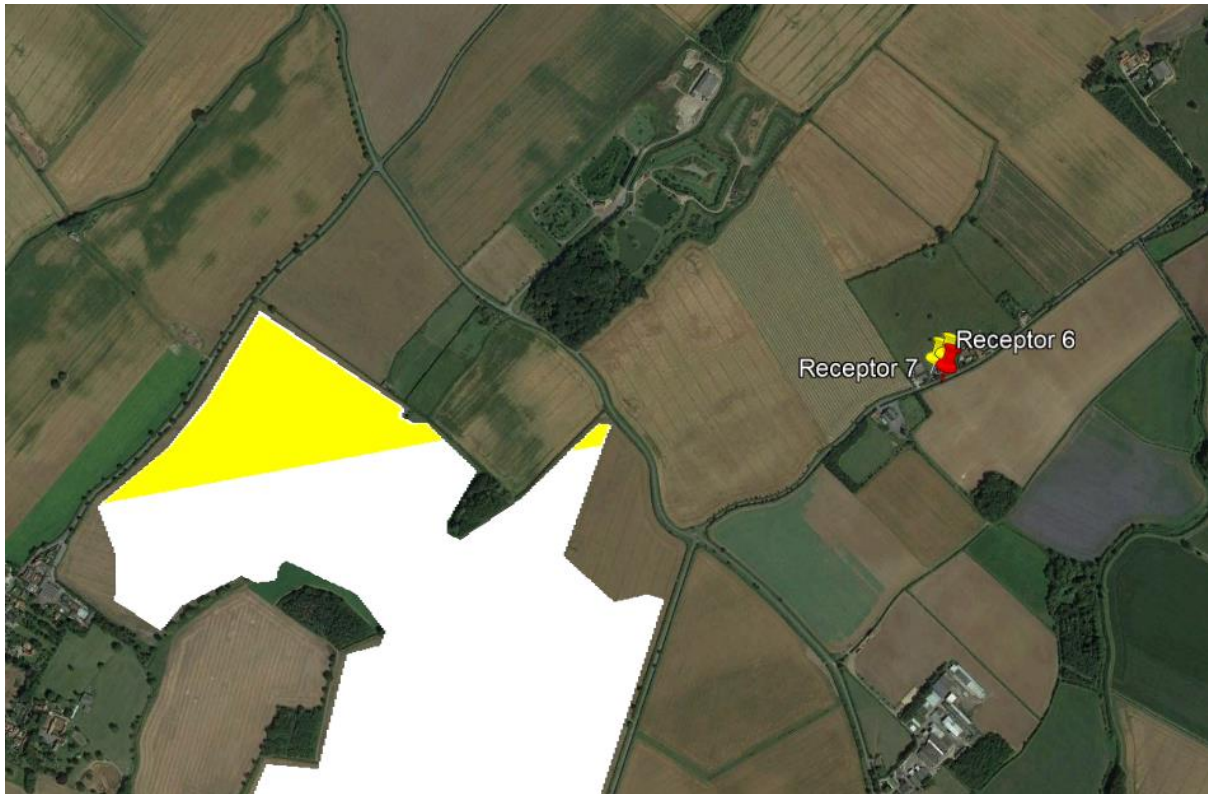
Left Blank

Residential Receptors

Receptors 2 - 5



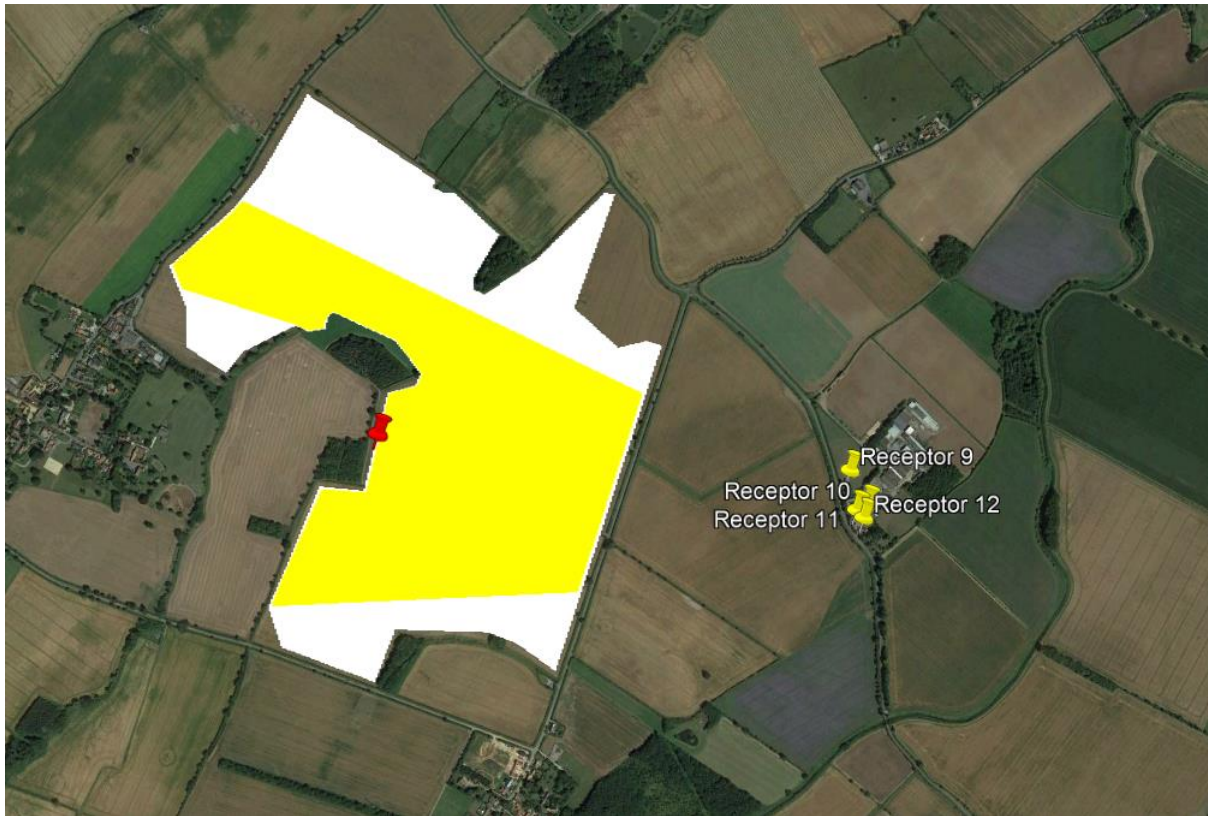
Receptors 6 and 7



Receptor 8



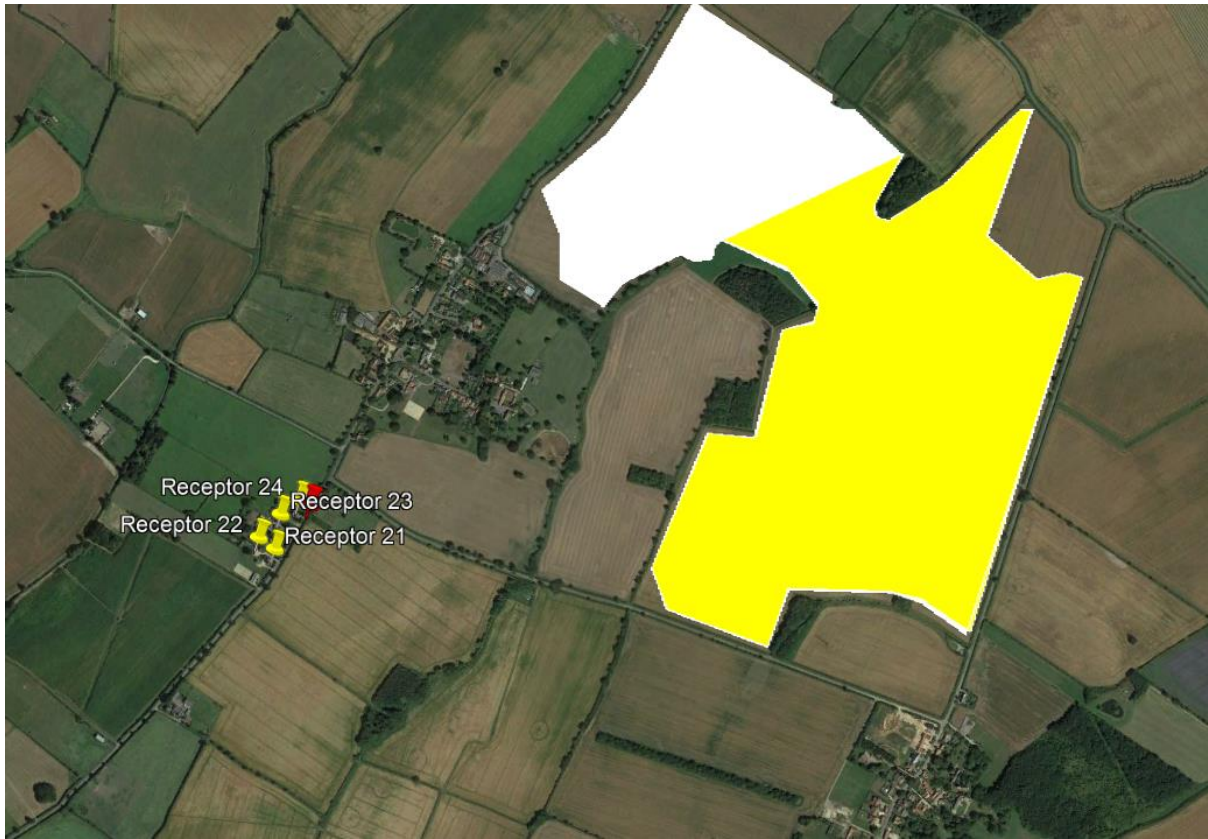
Receptors 9 – 12



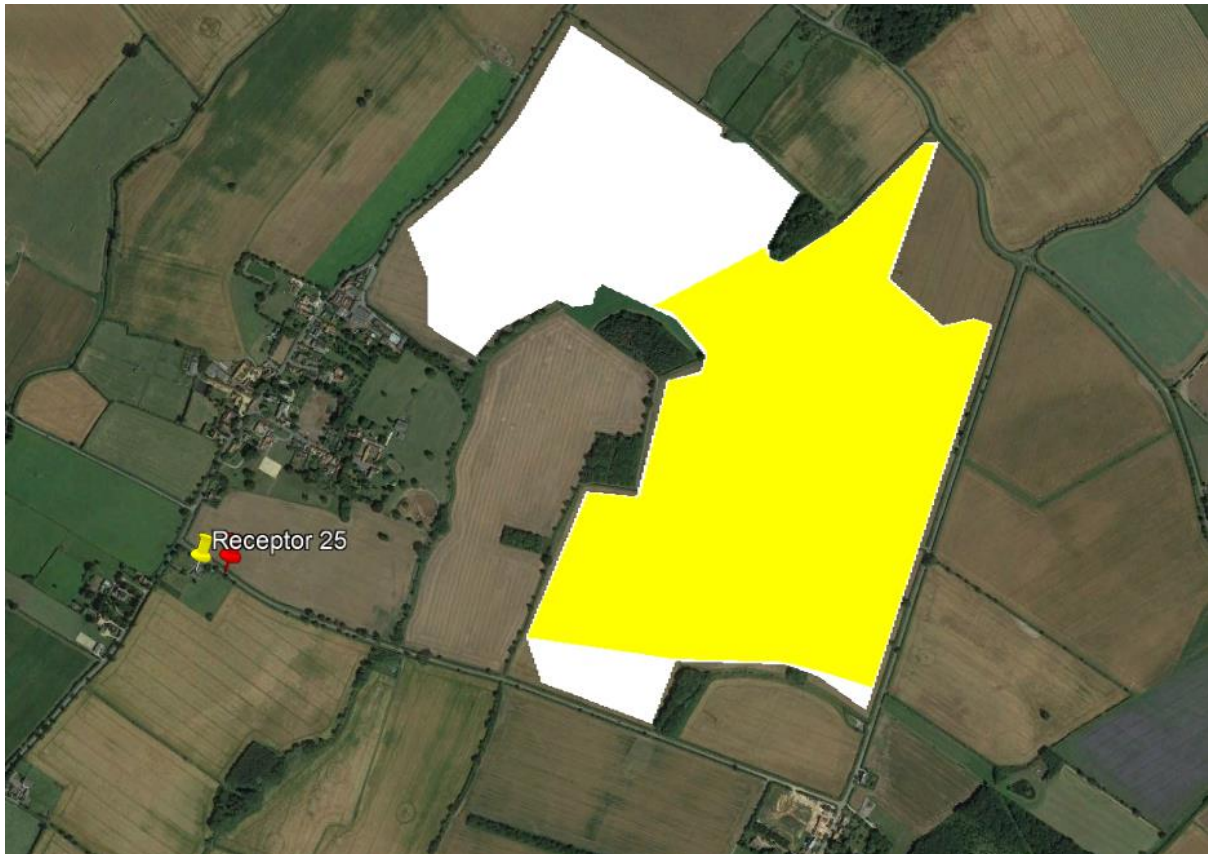
Receptors 13 – 18



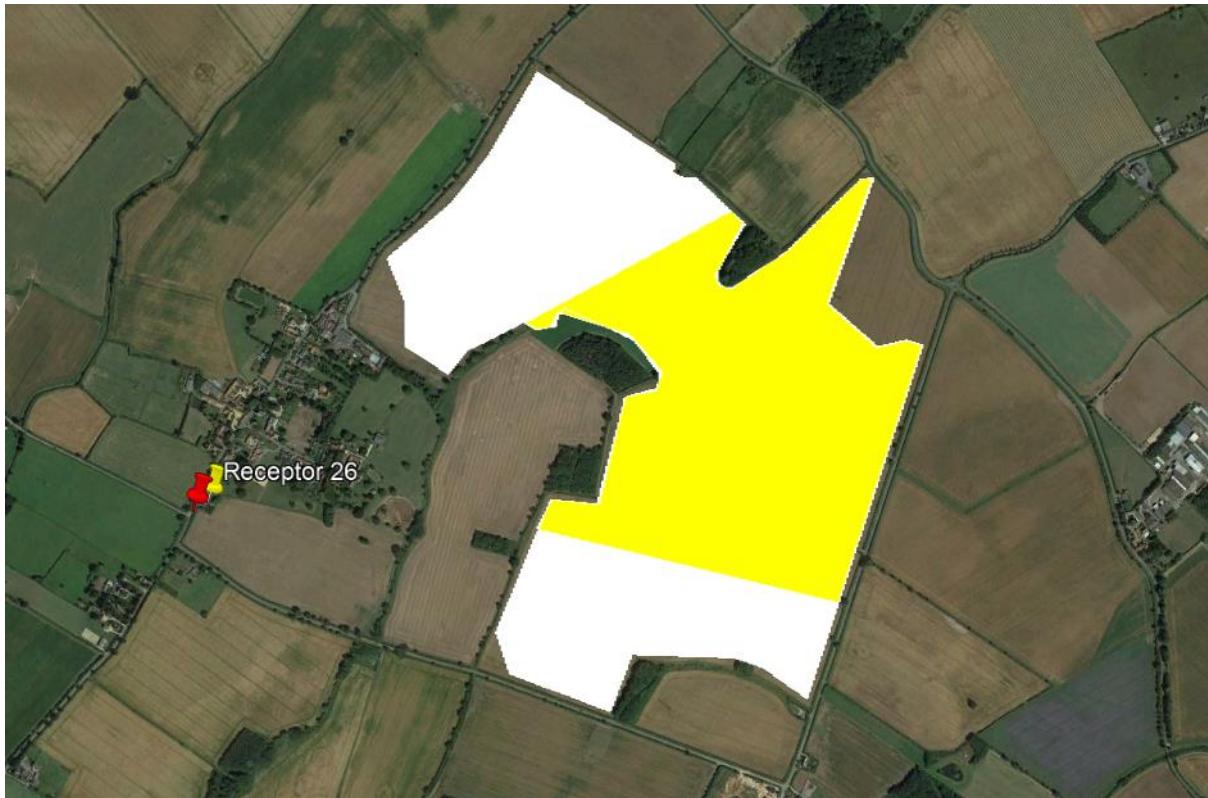
Receptors 21 – 24



Receptor 25



Receptor 26



Receptors 27 – 30

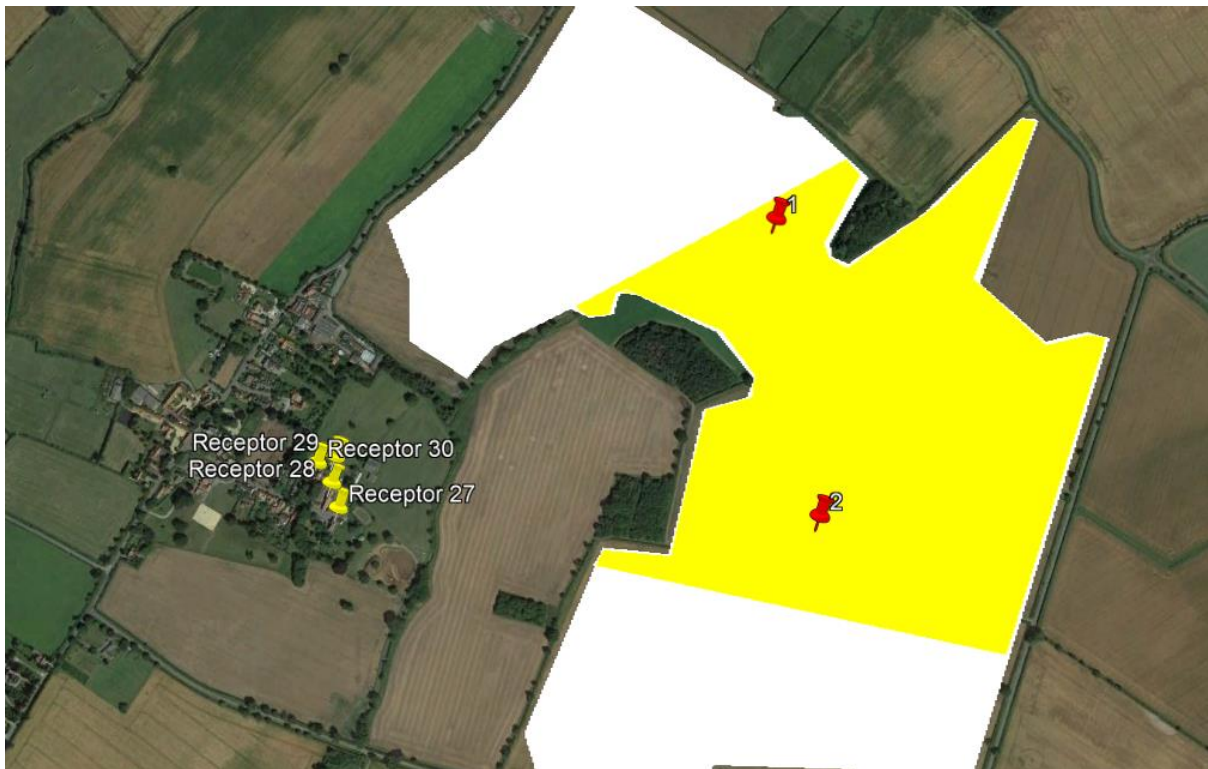


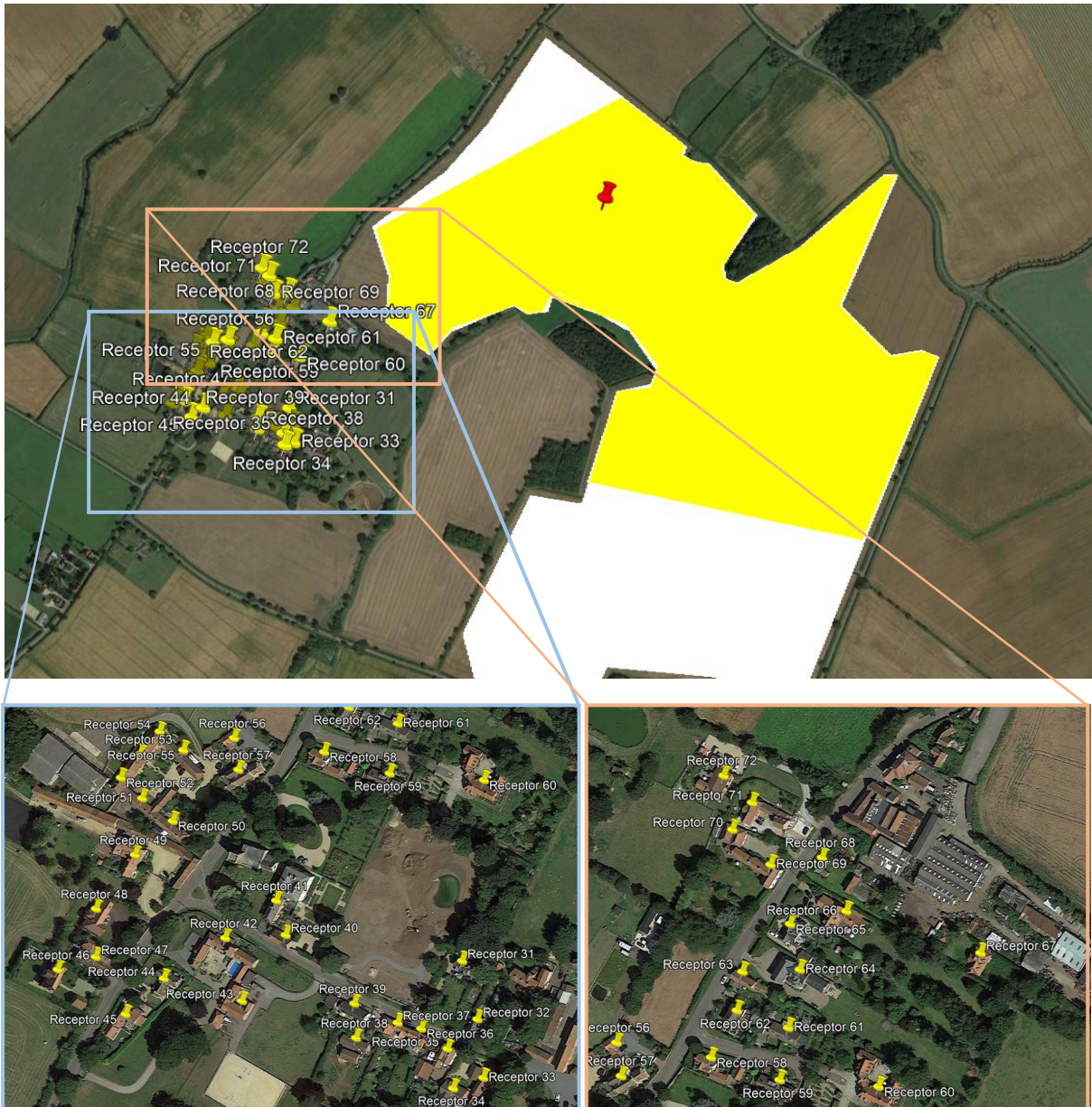
Photo from Red Pin 1



Photo from Red Pin 2



Receptors 31 - 72



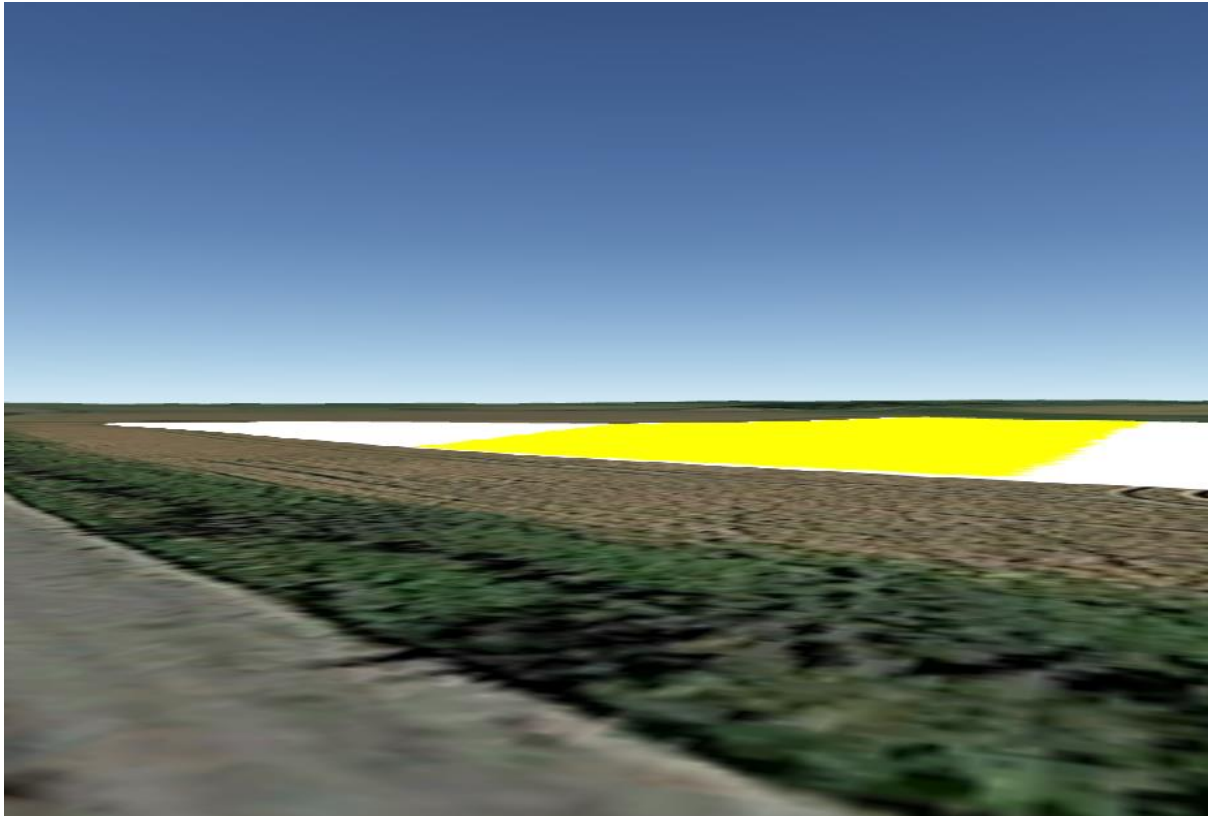


Receptors 73 – 75

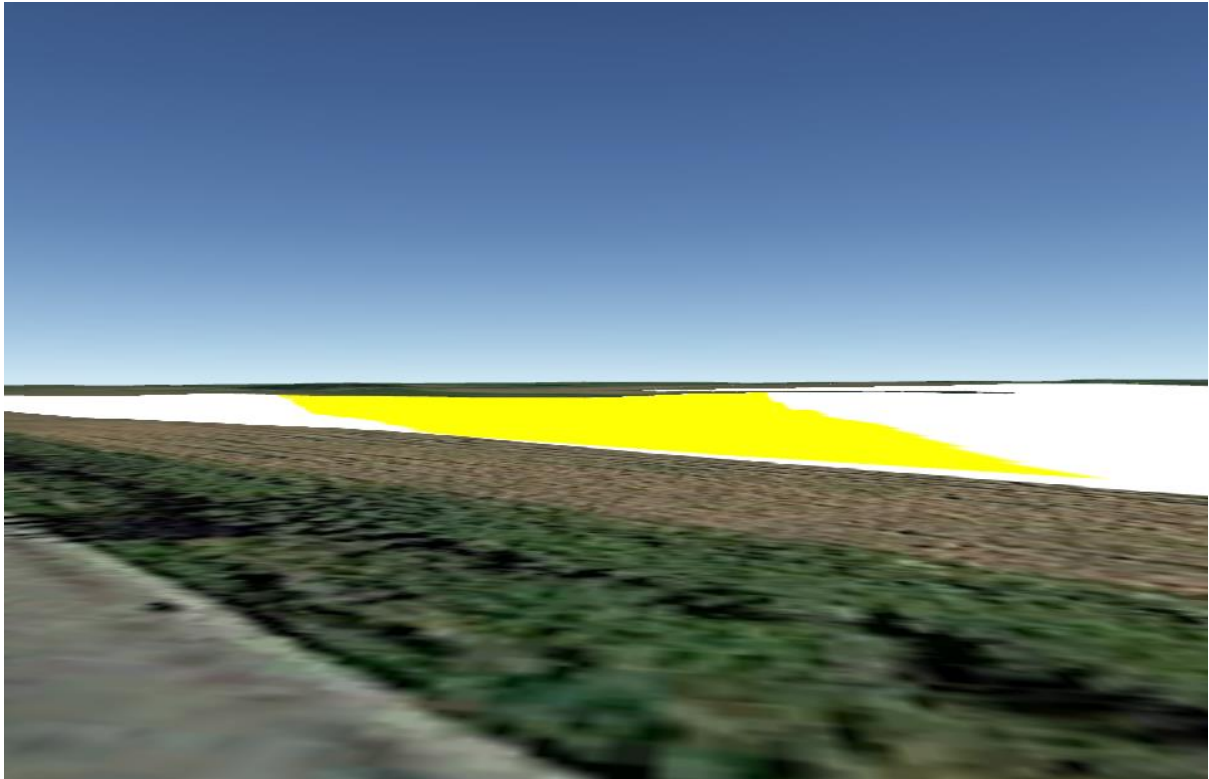


Road Receptors

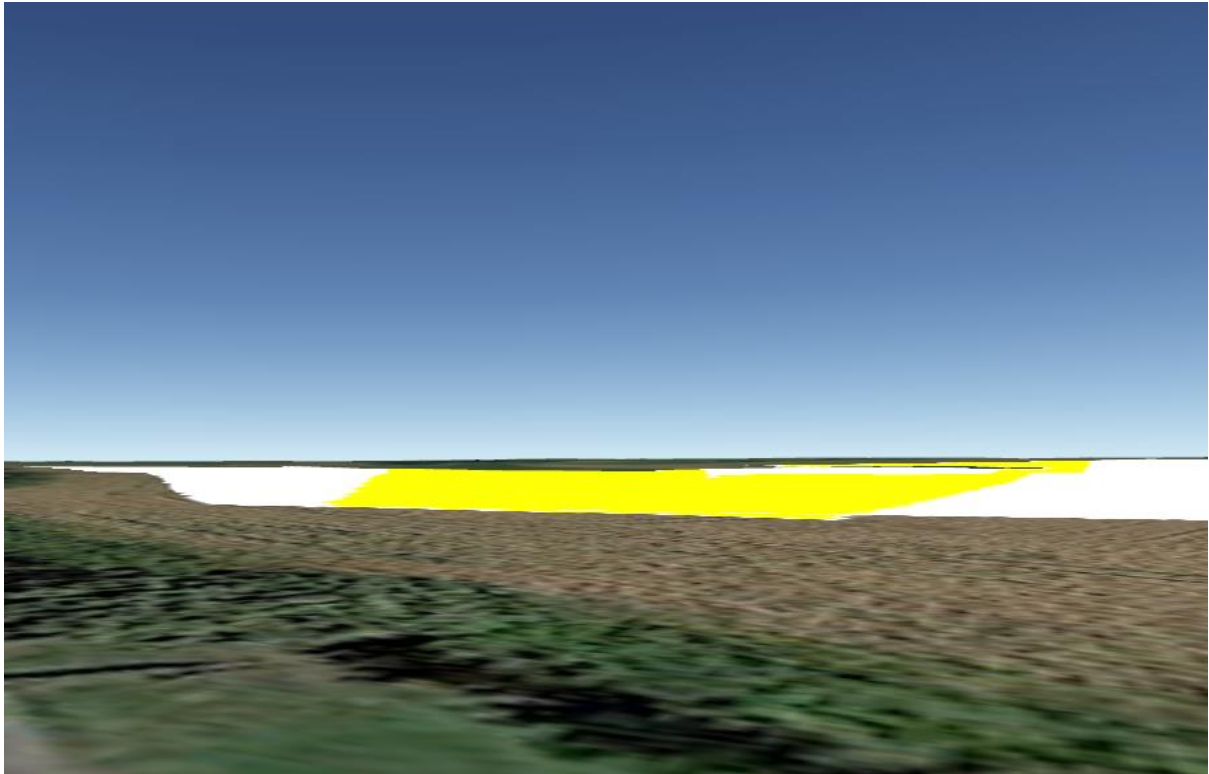
Receptor 1



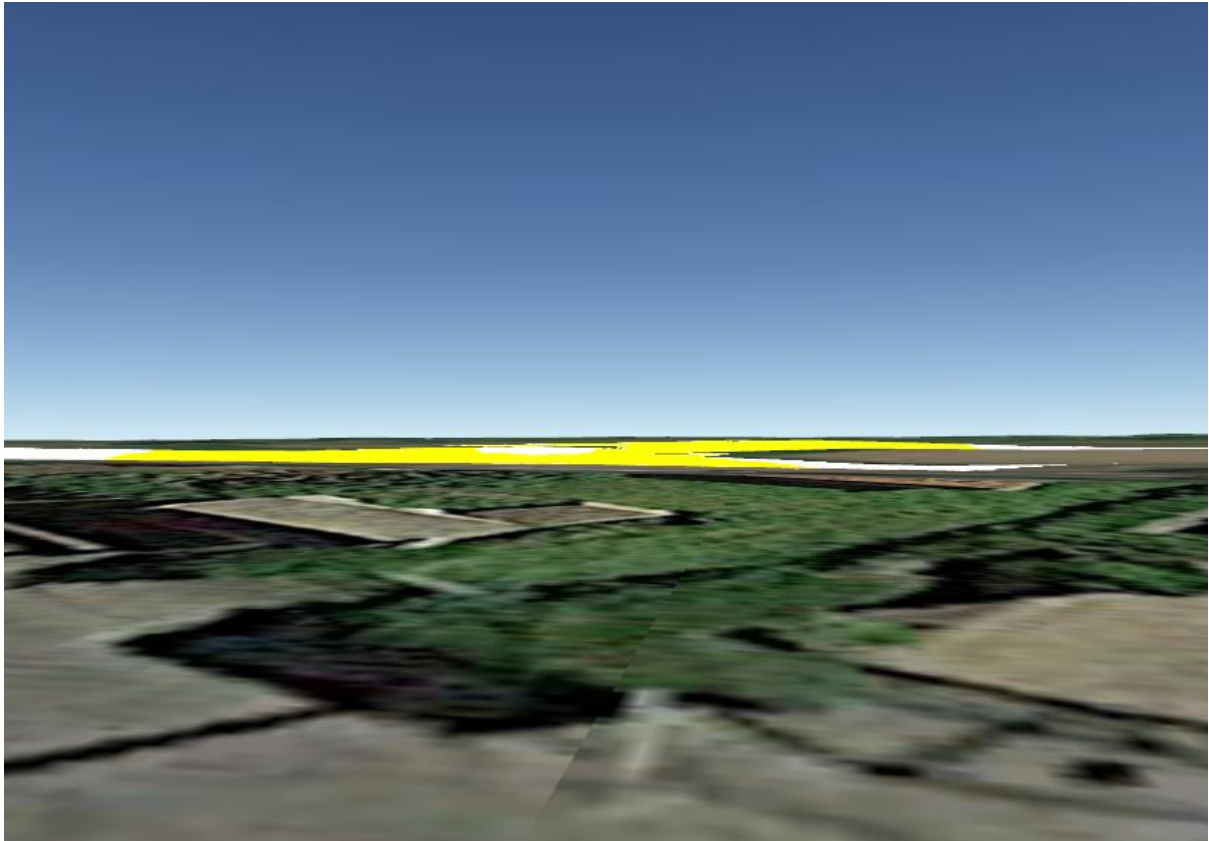
Receptor 2



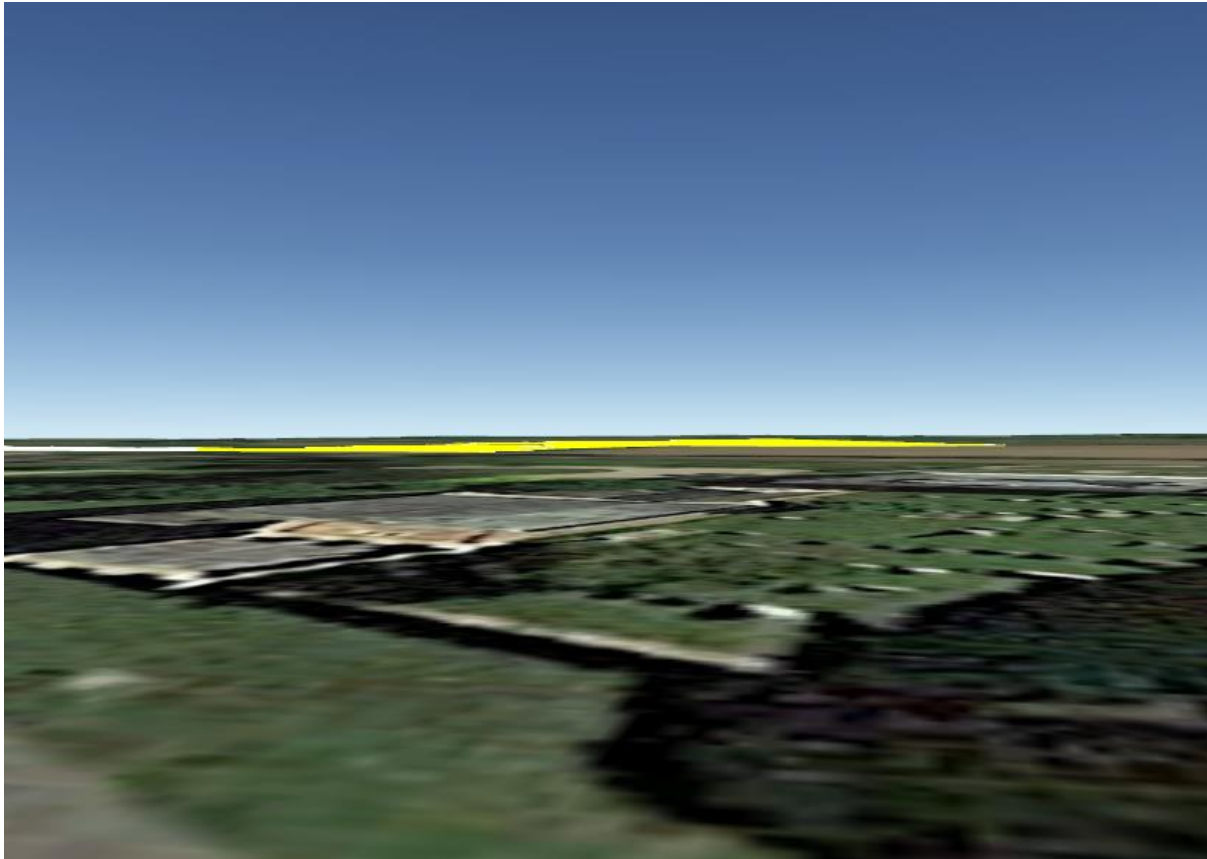
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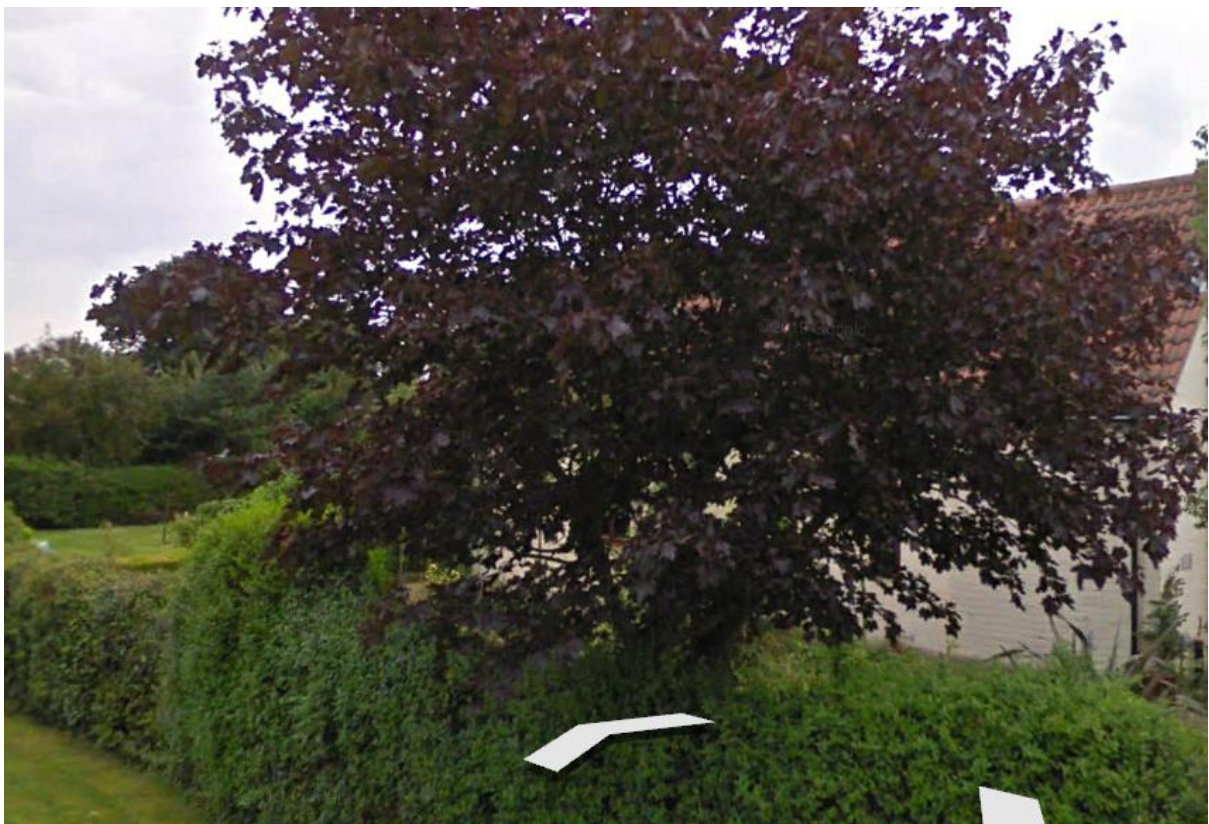
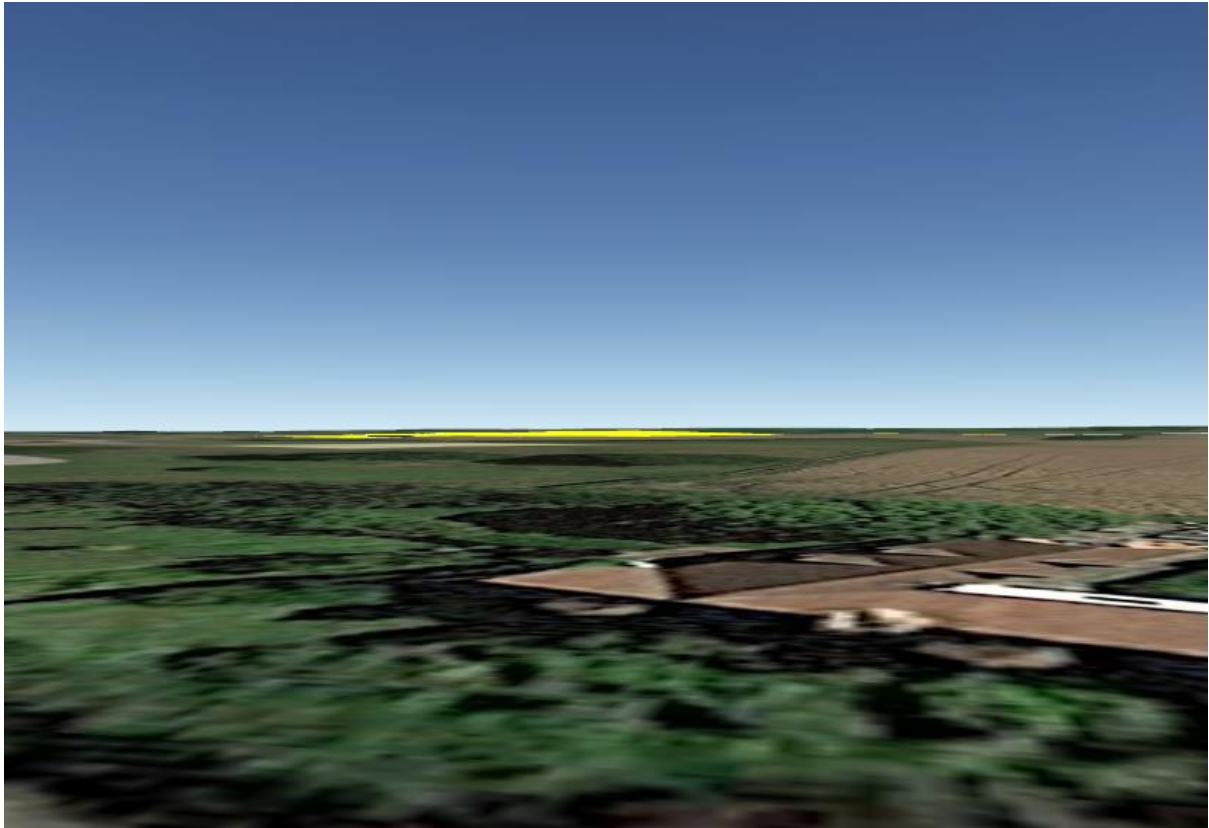
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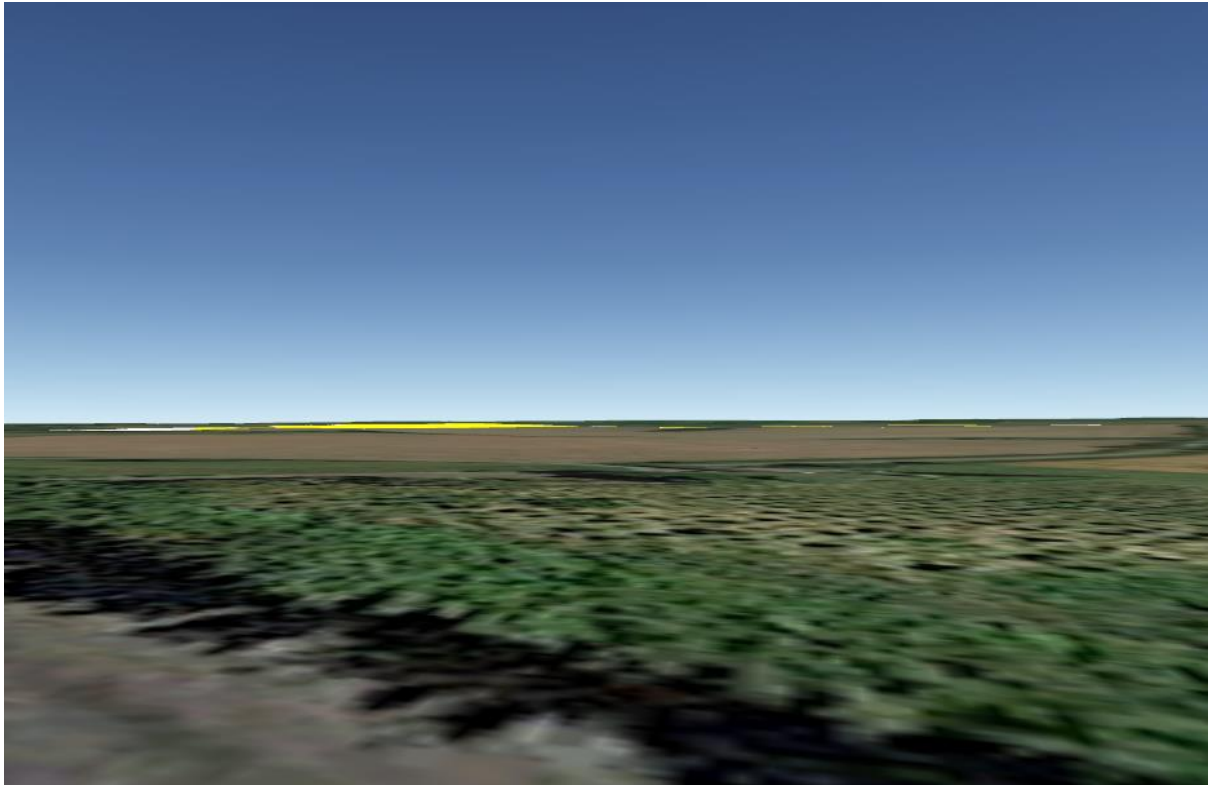
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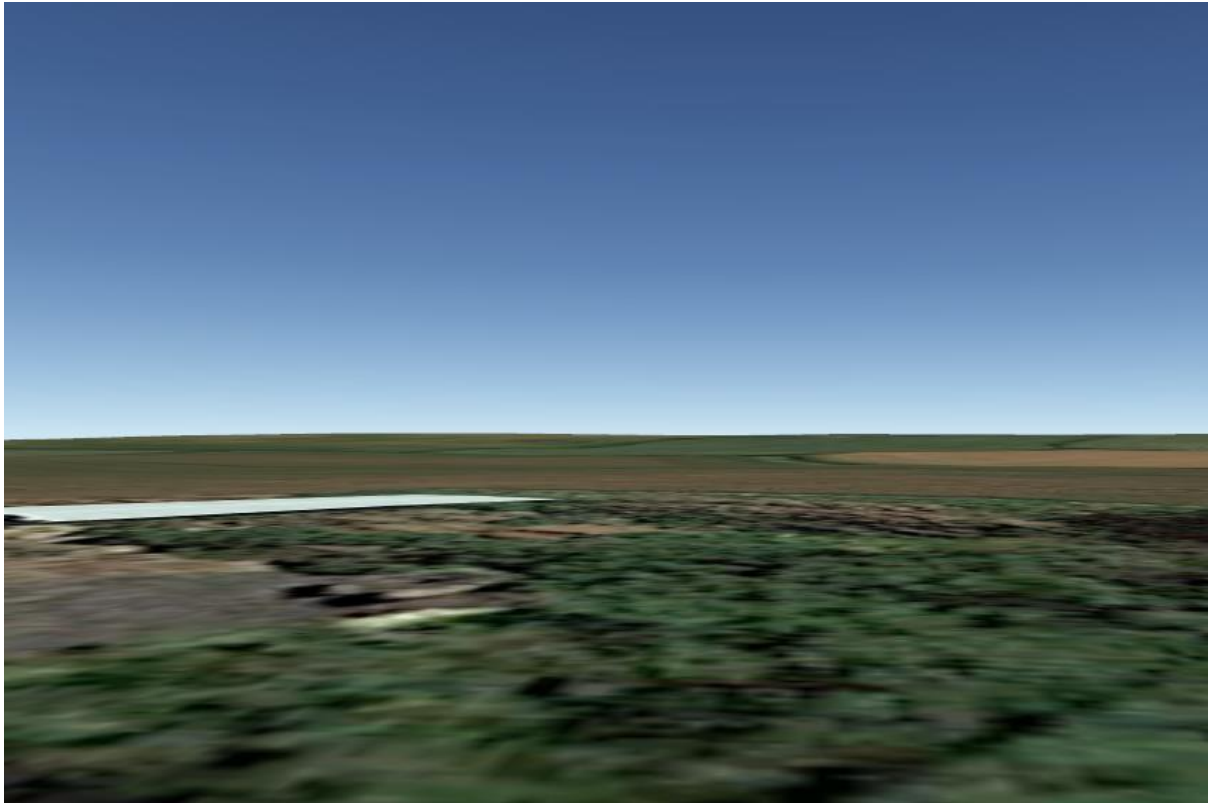
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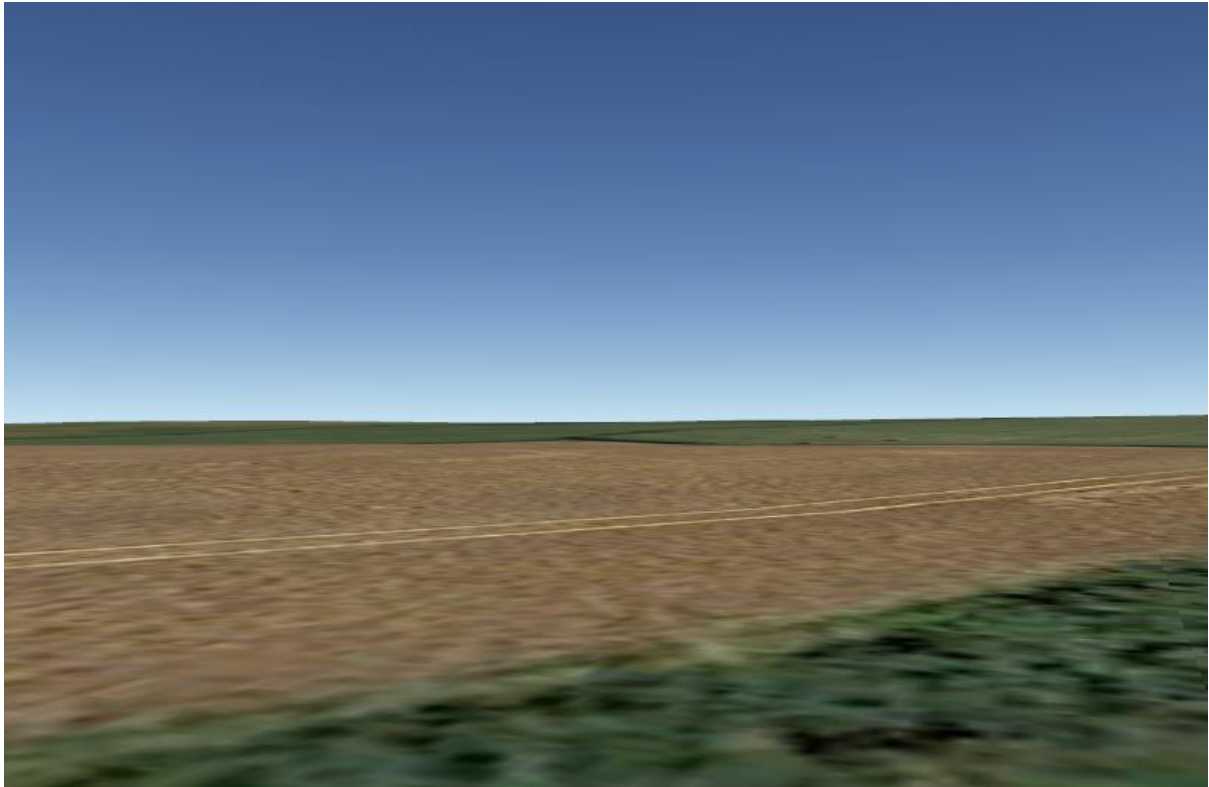
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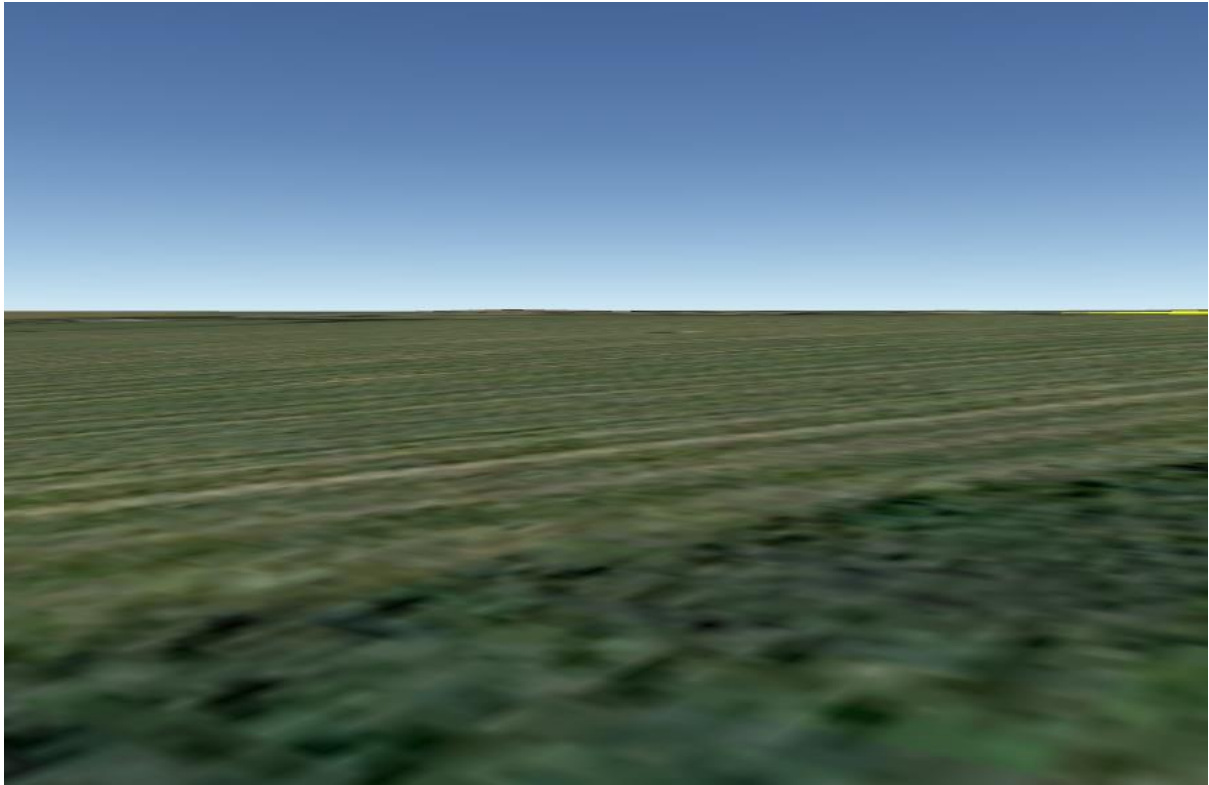
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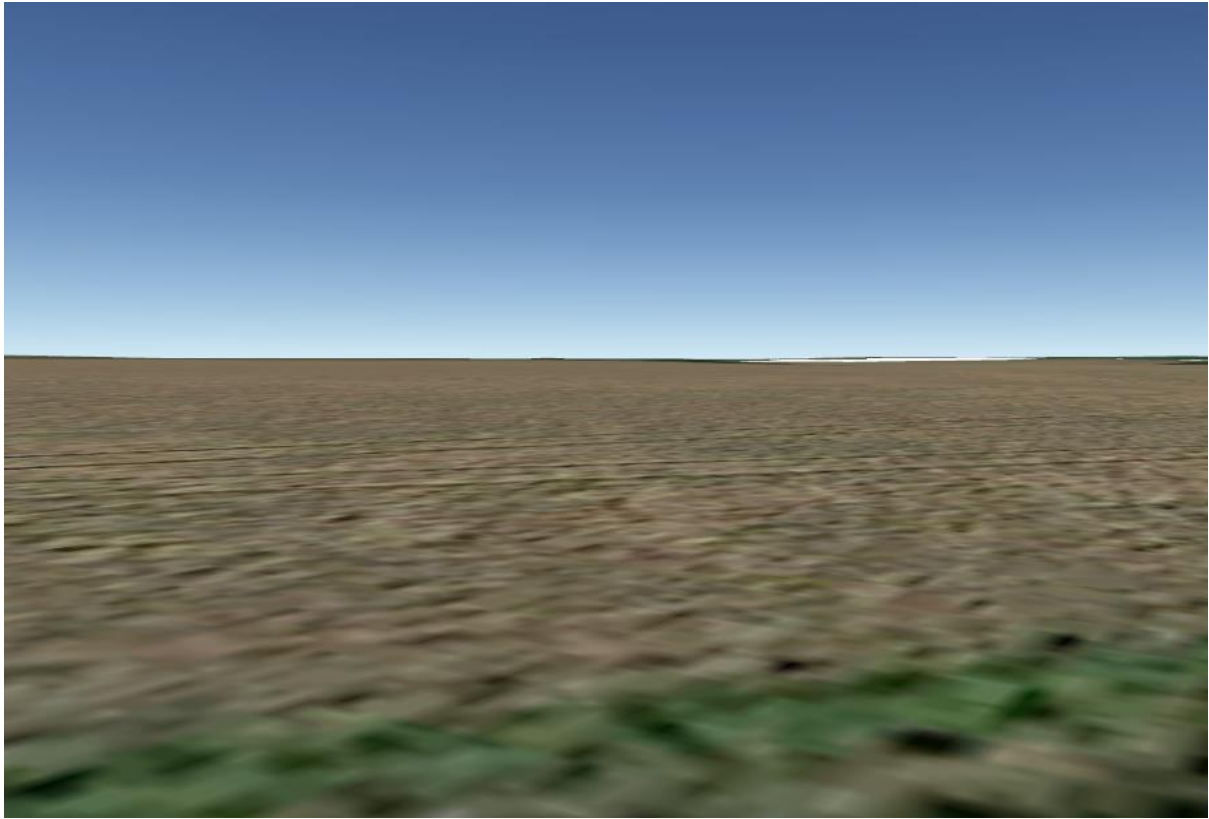
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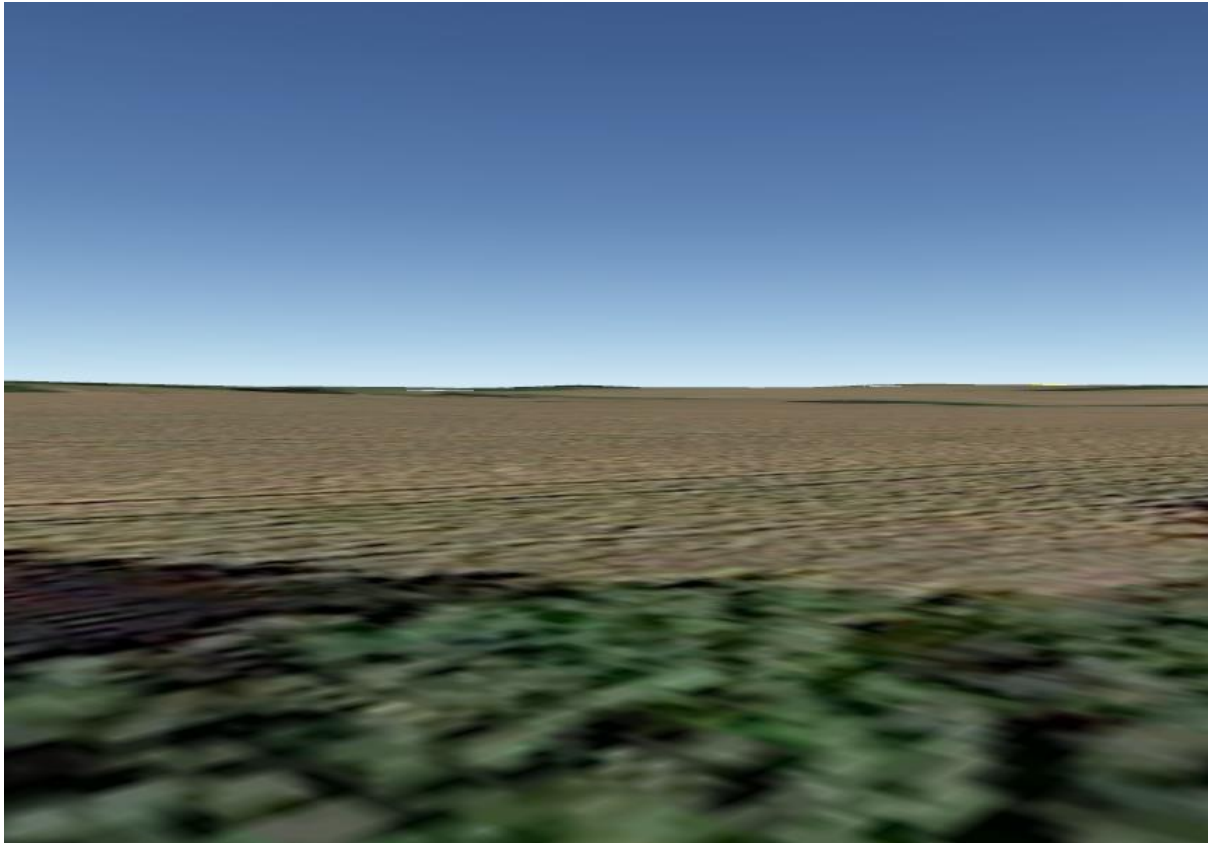
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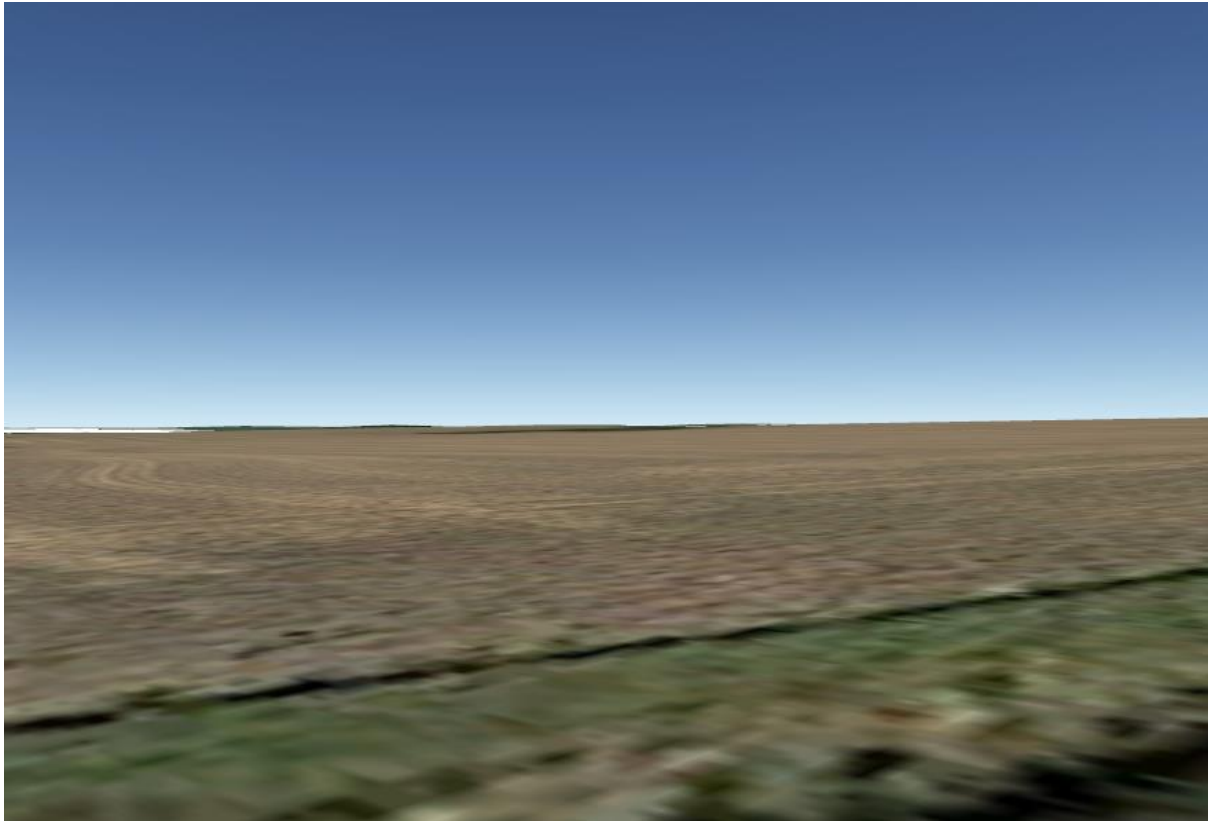
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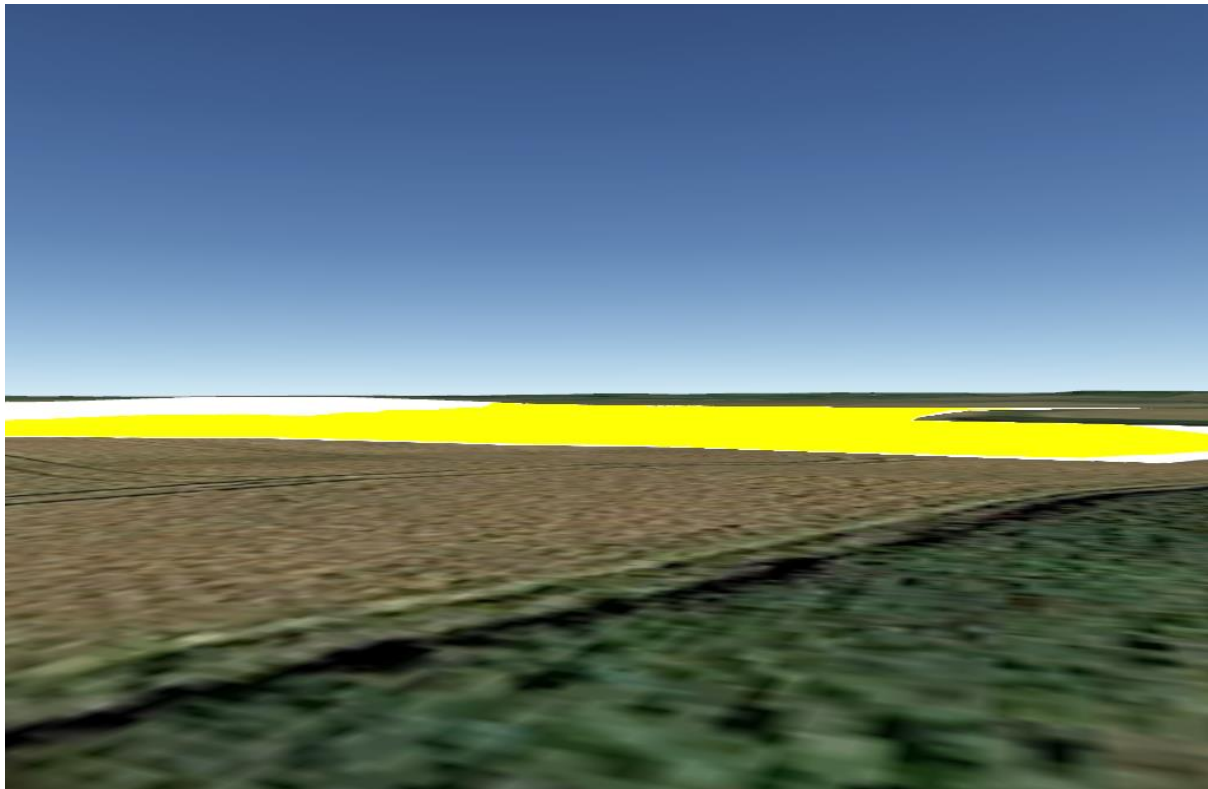
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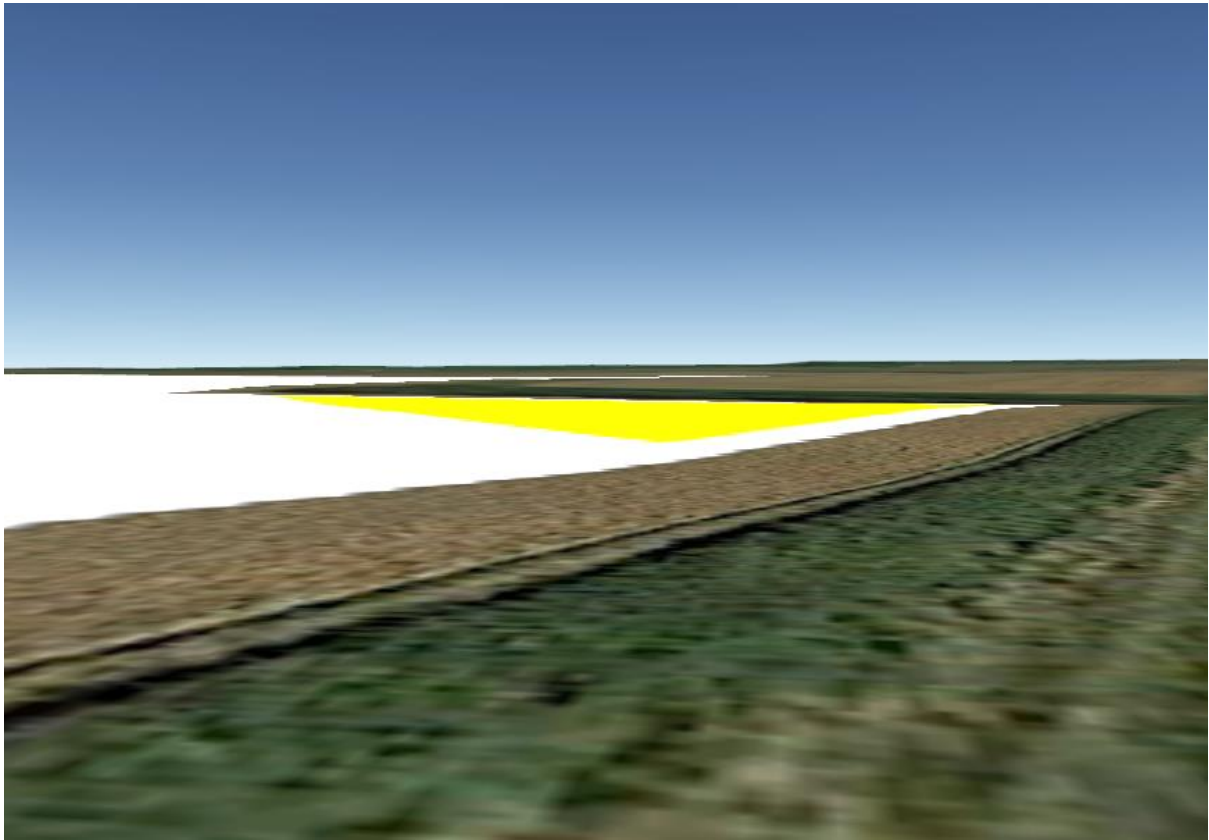


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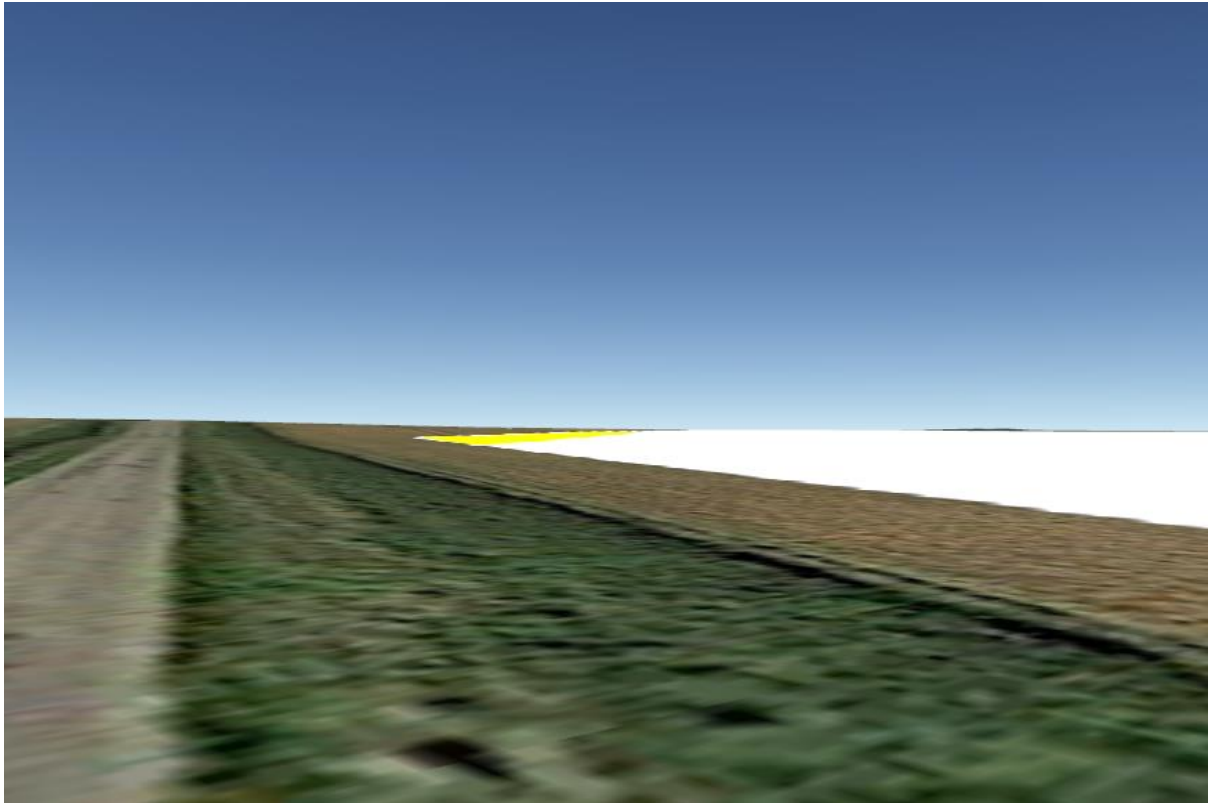


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Looking east

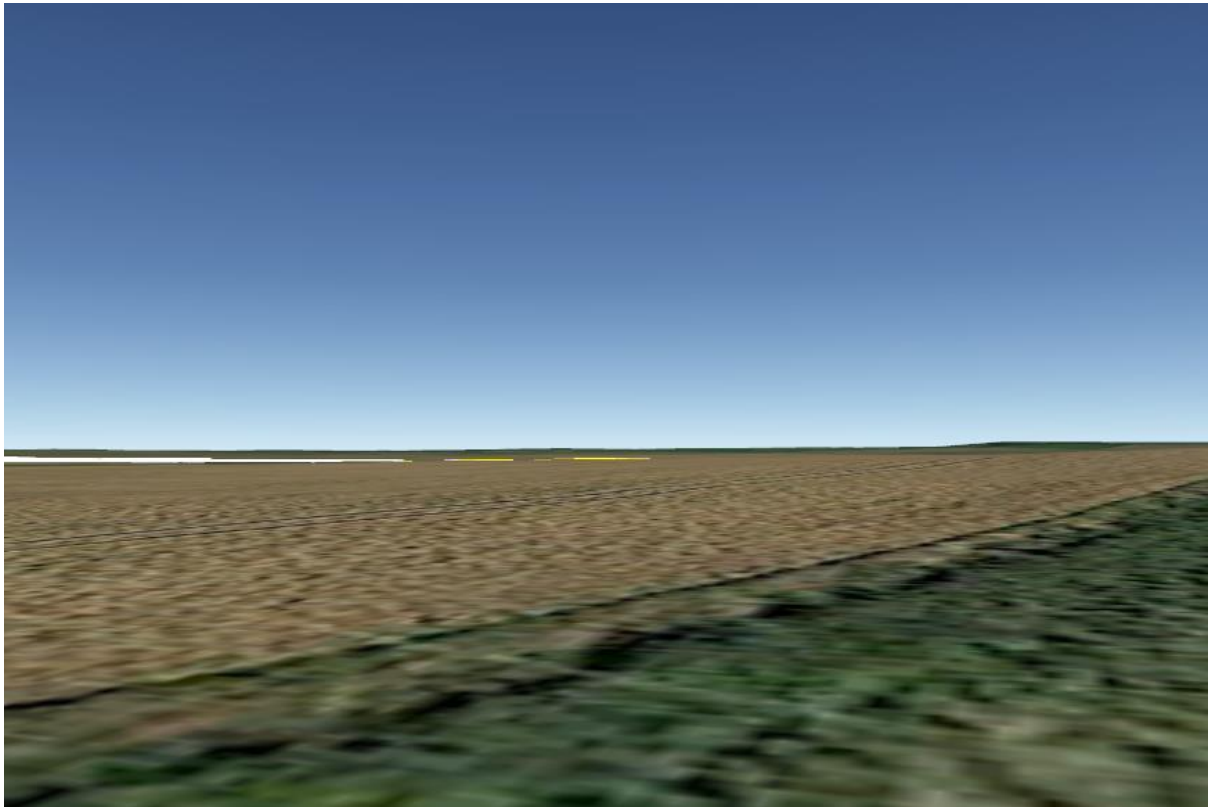


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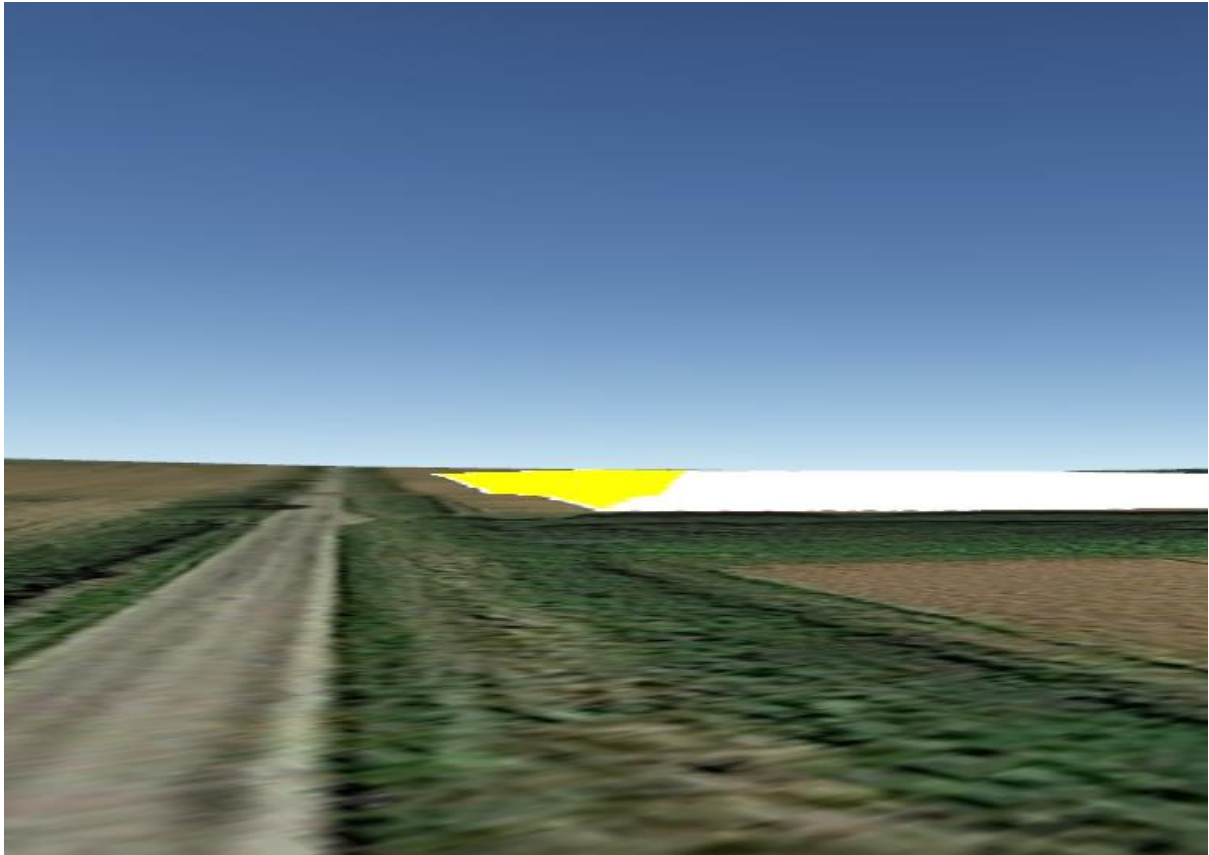


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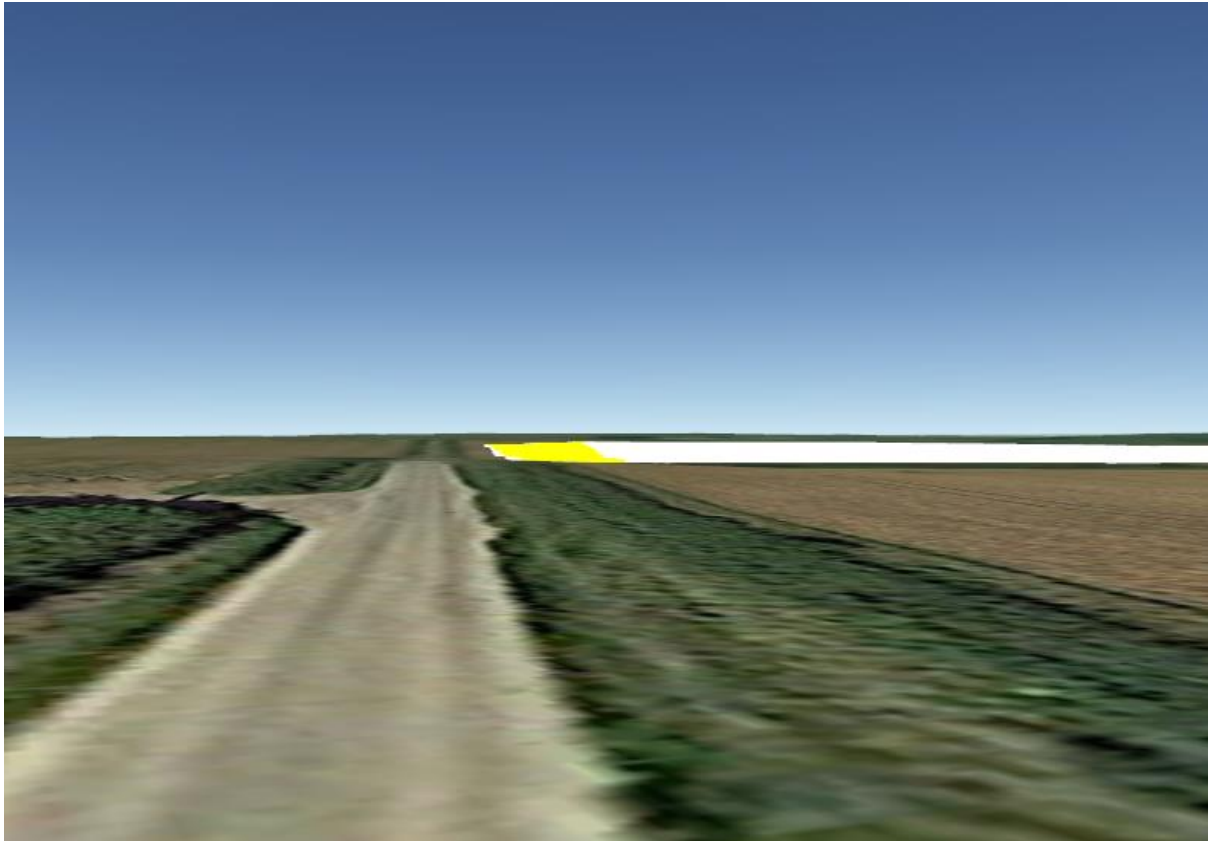
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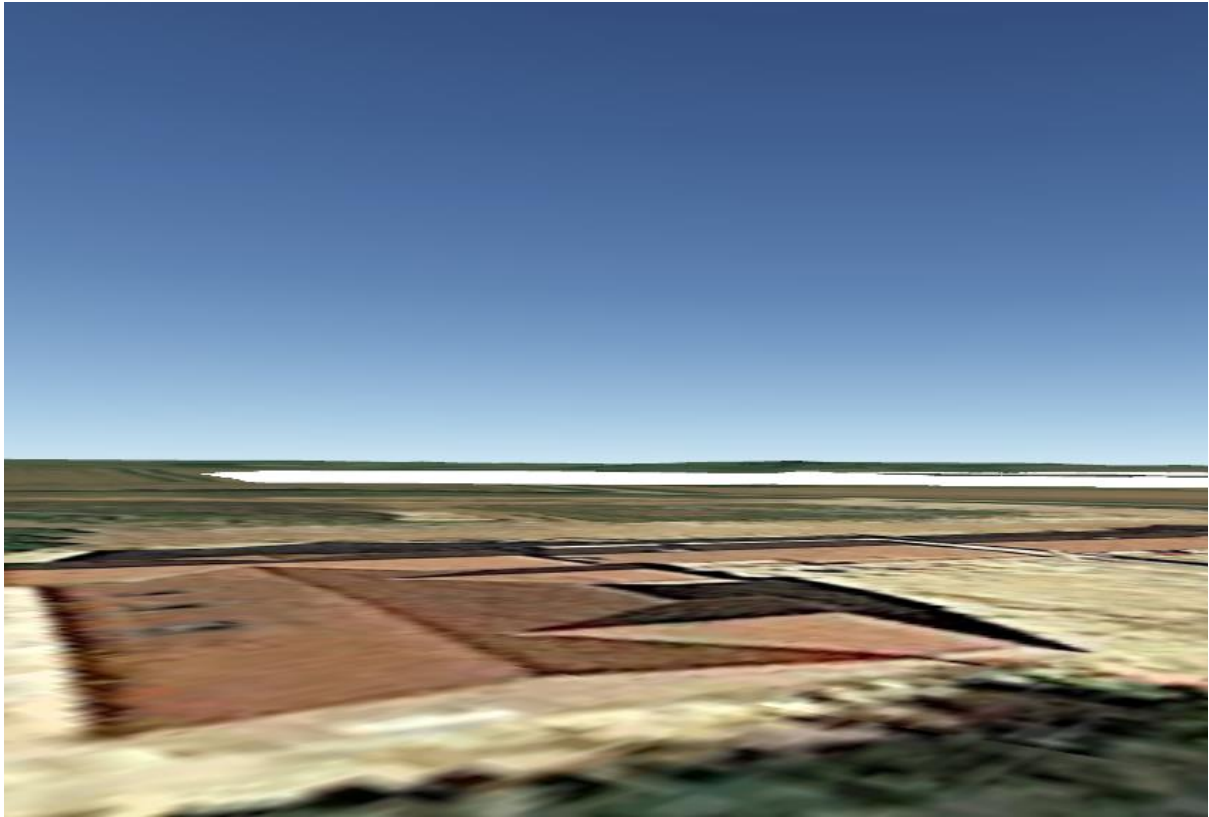
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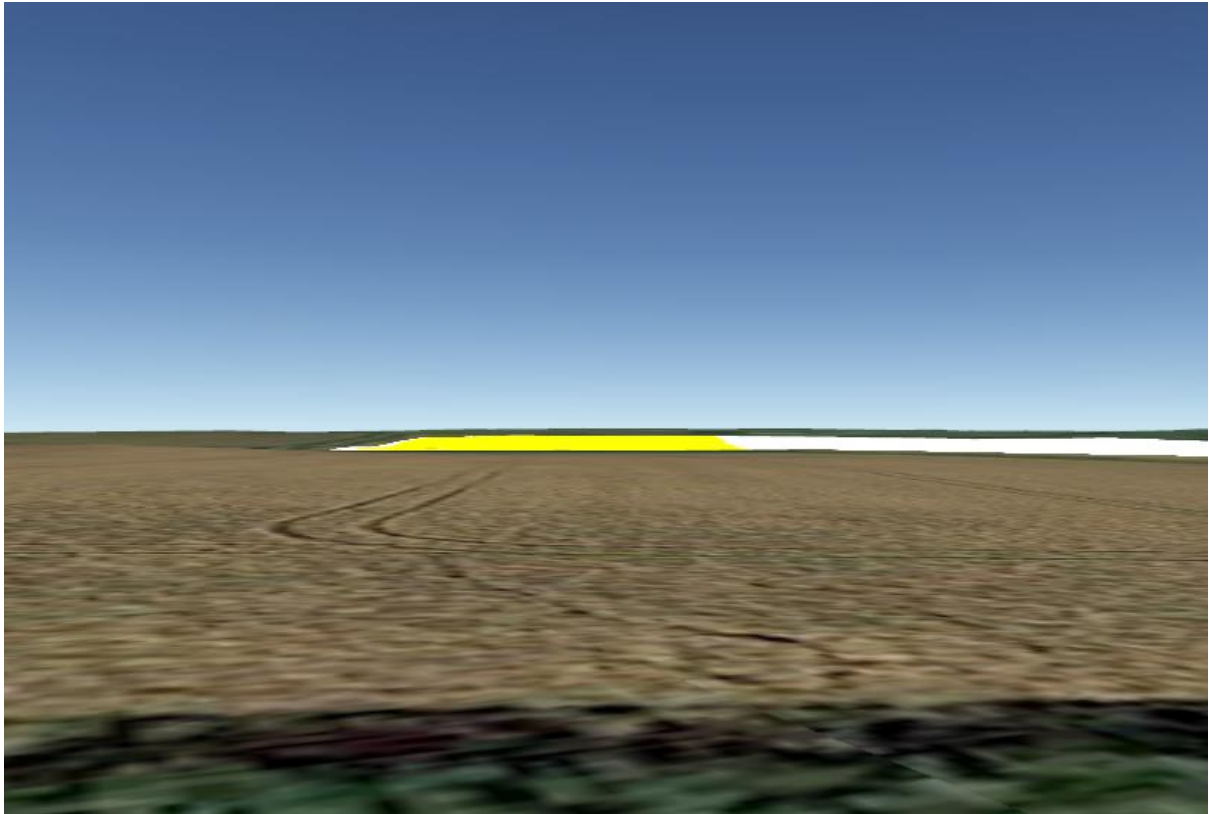
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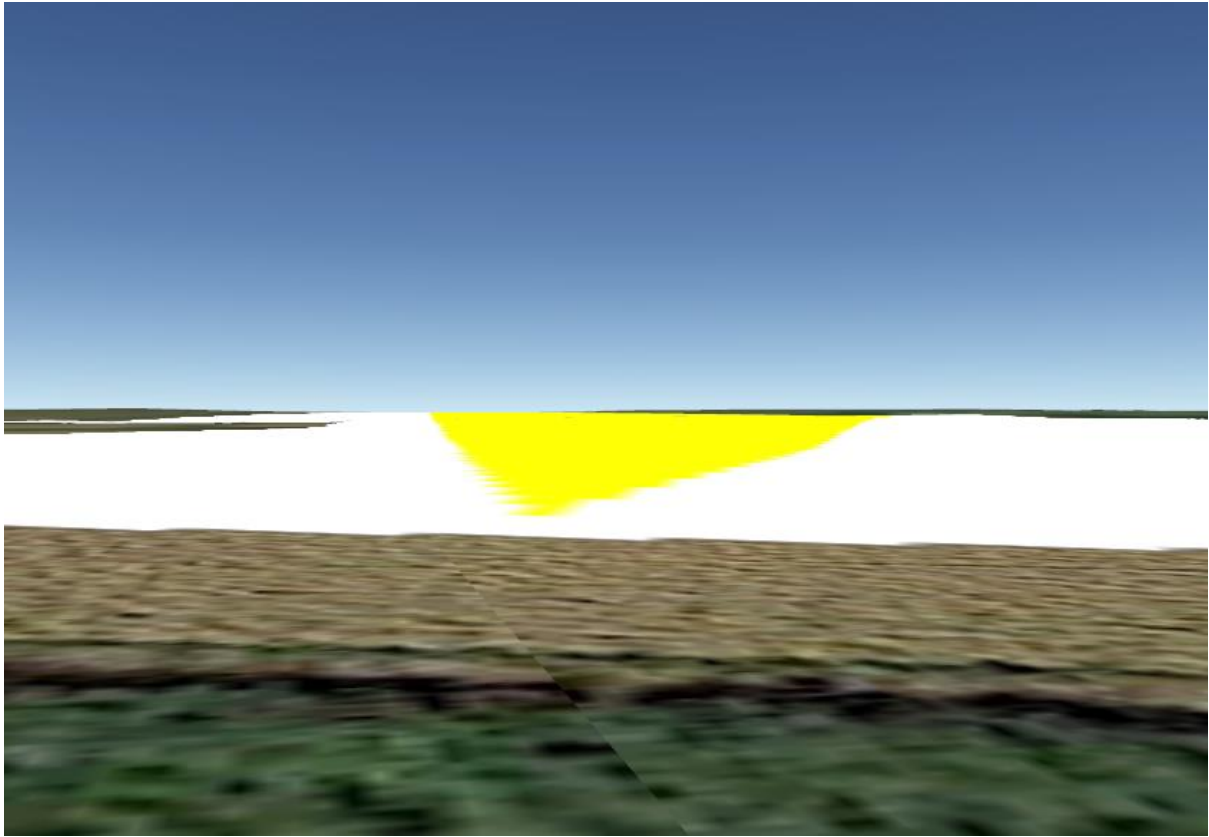
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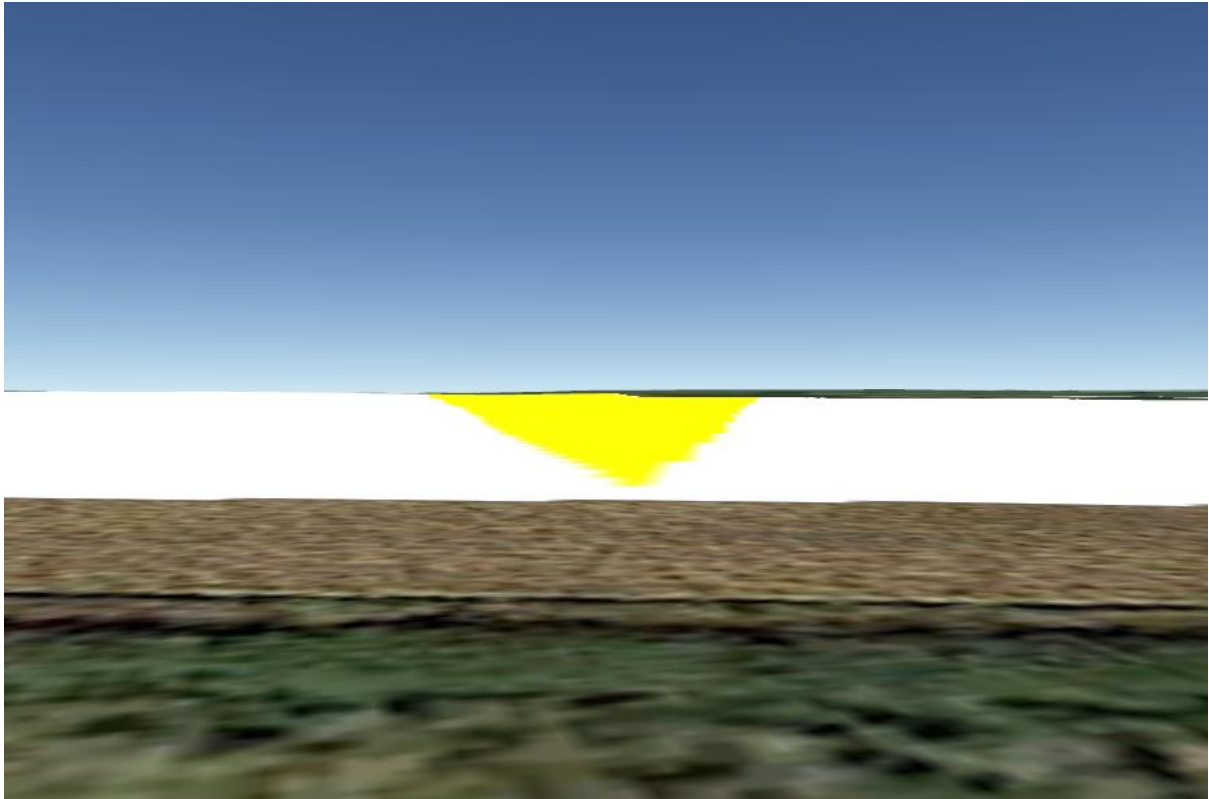
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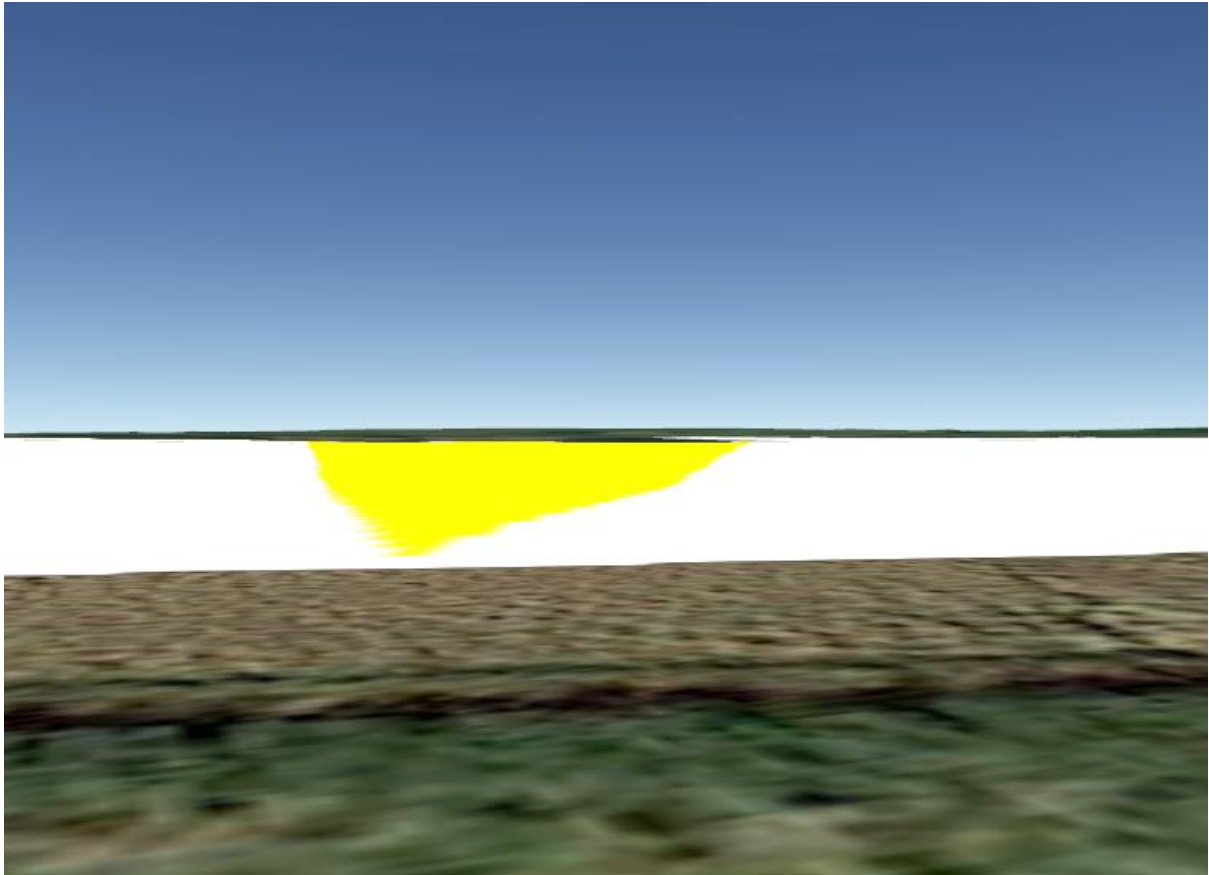
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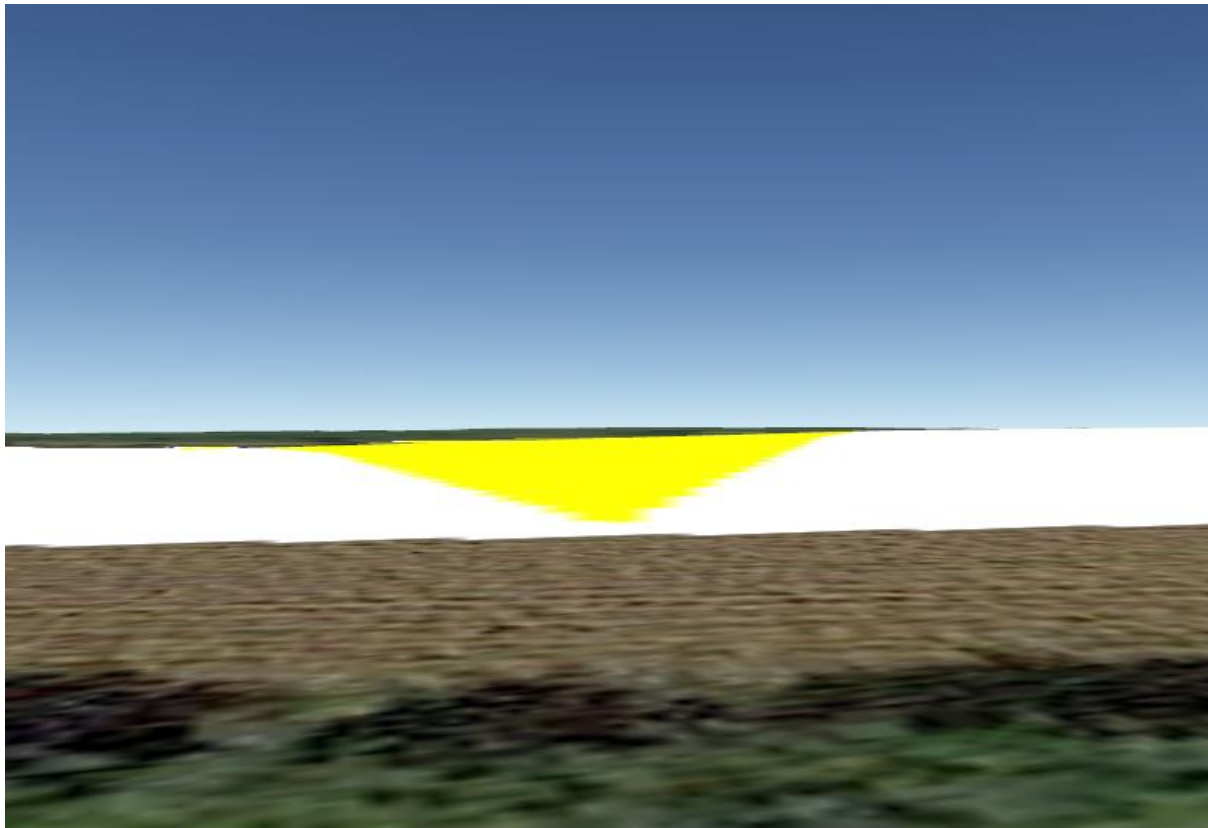
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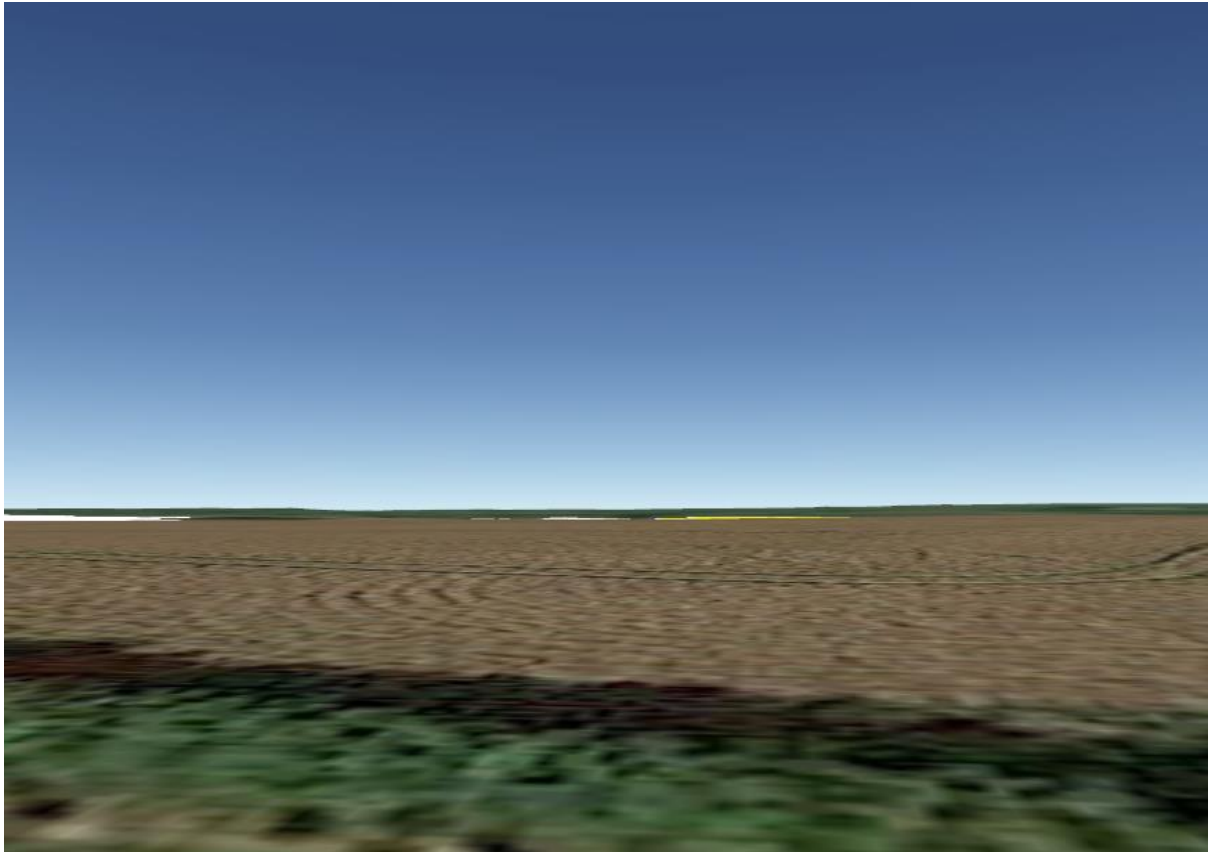
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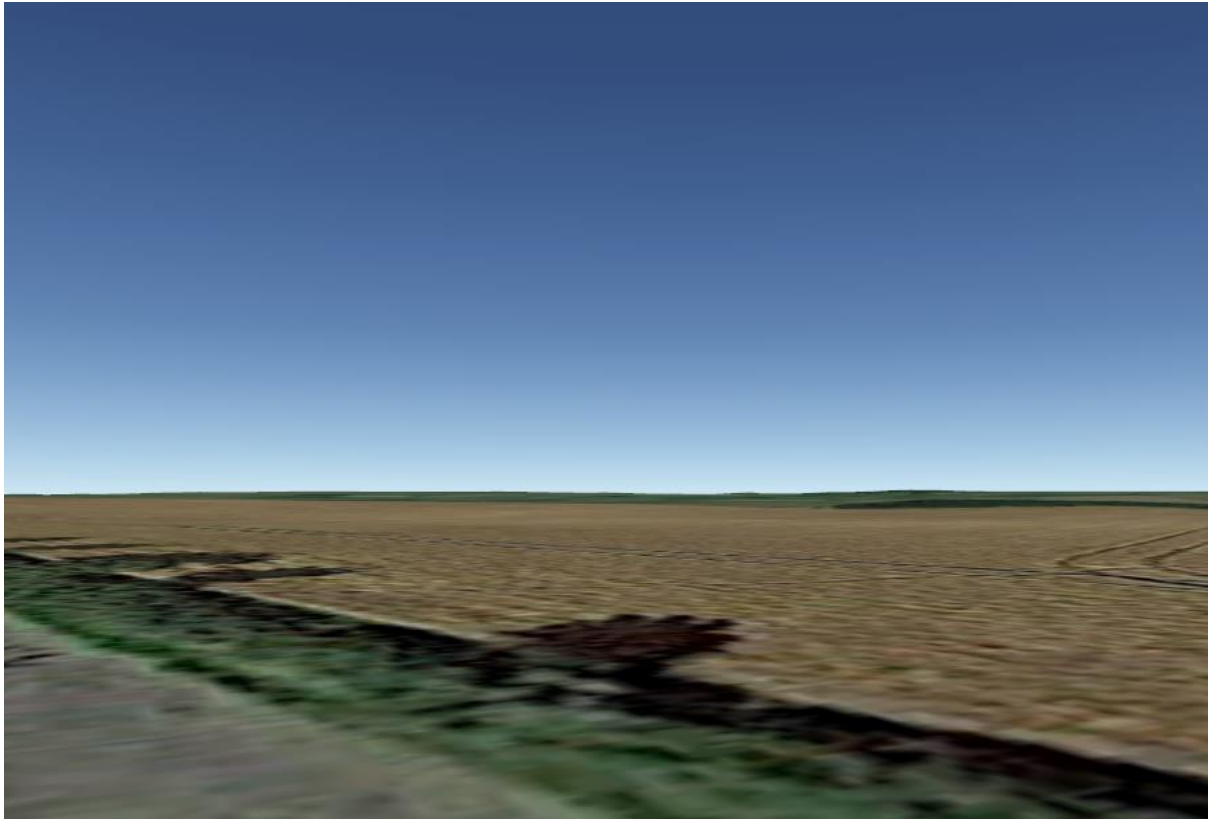
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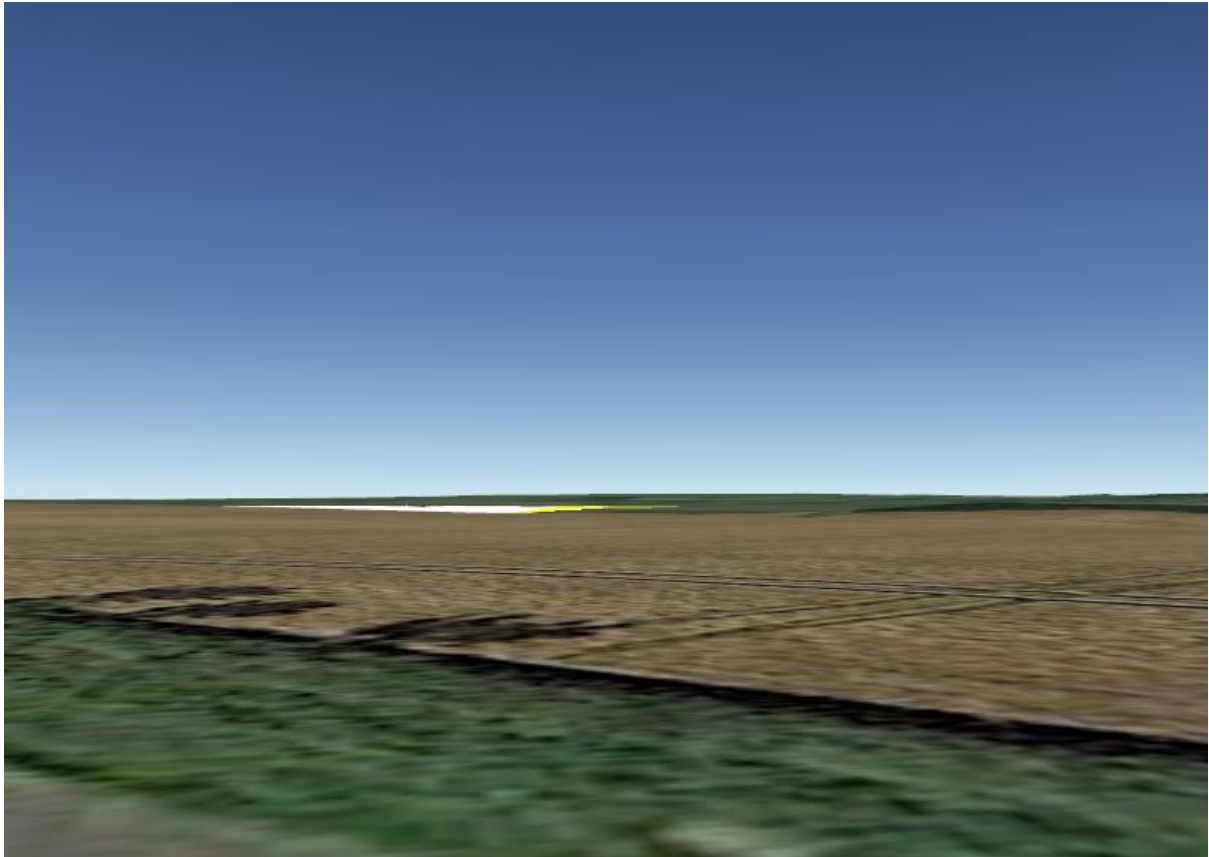
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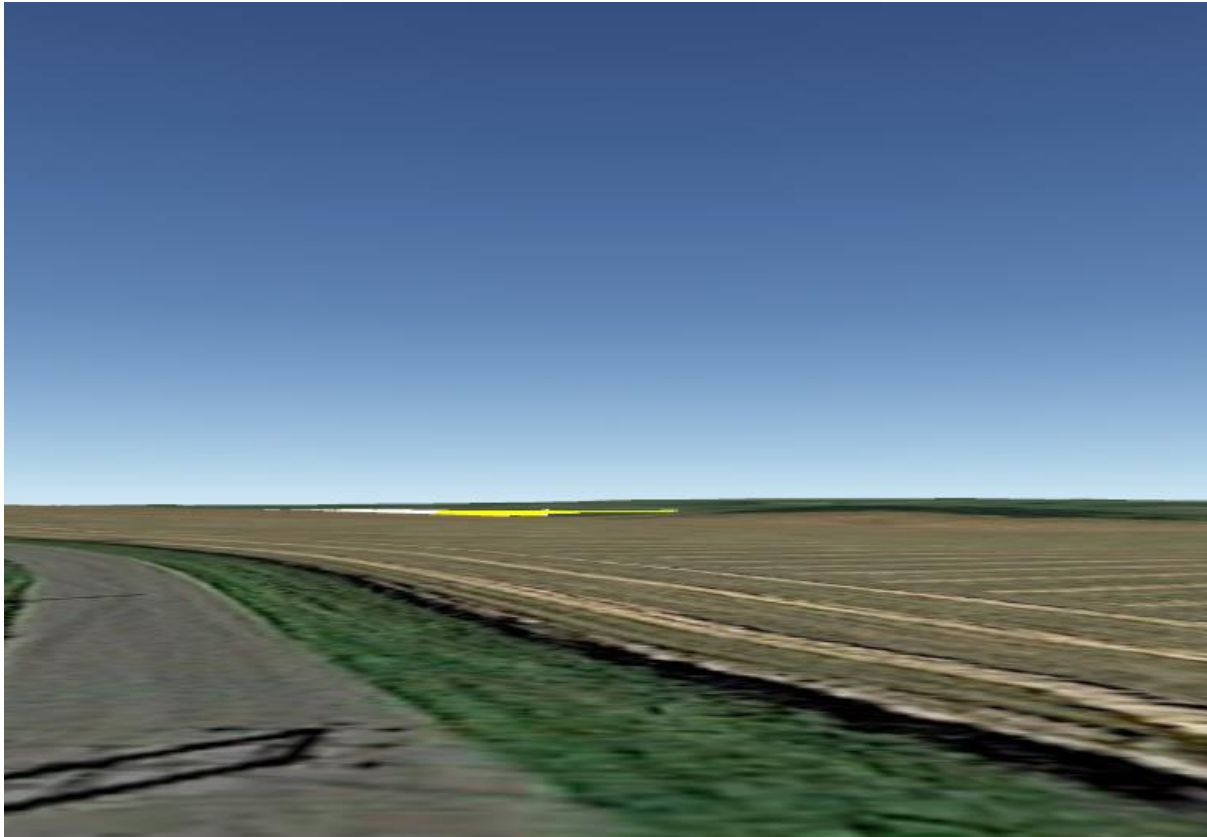
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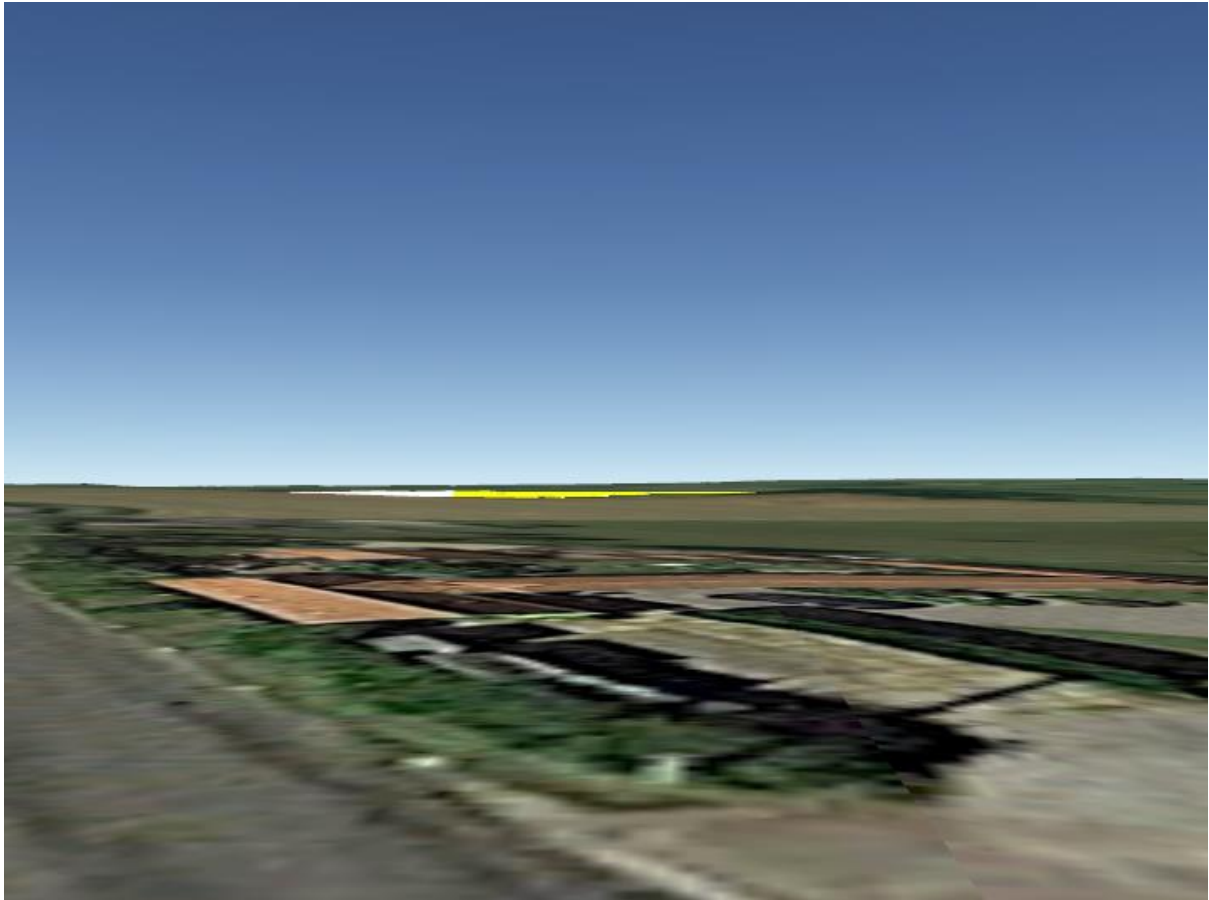
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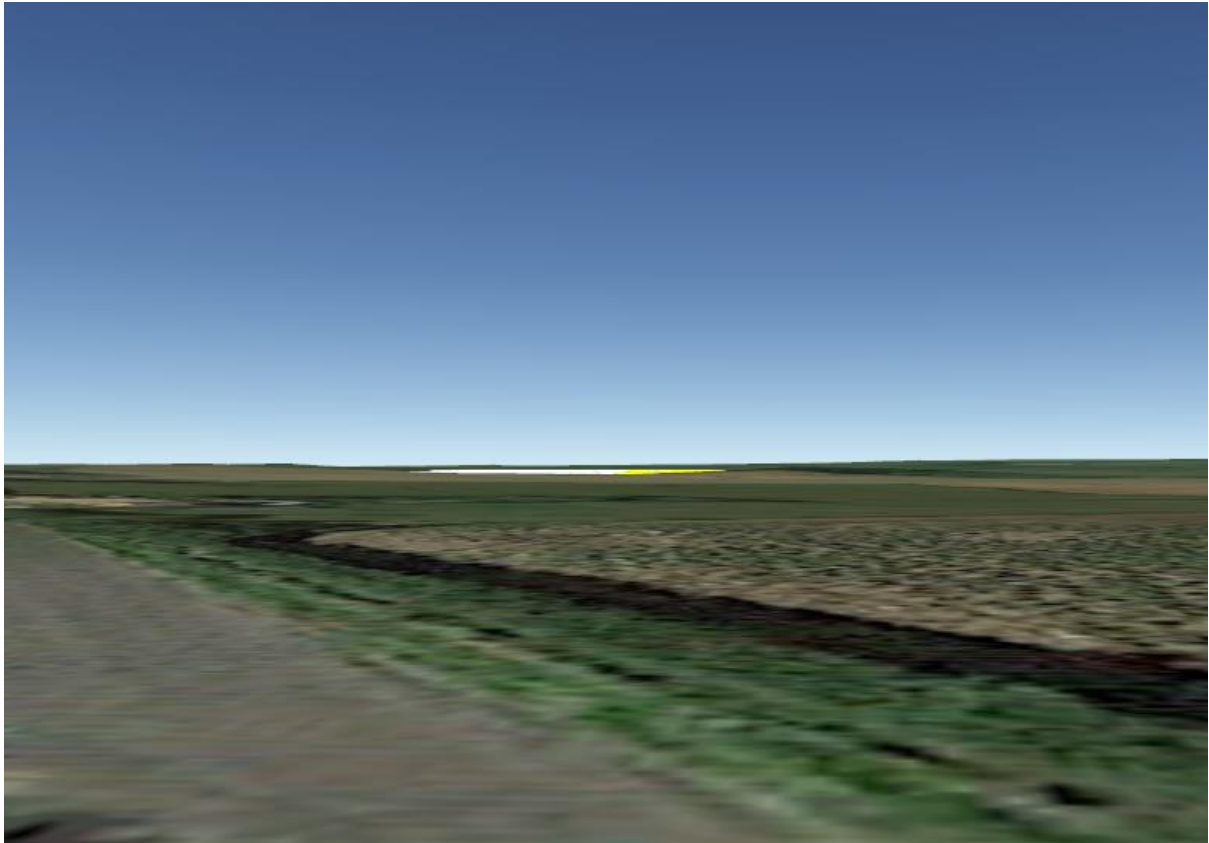
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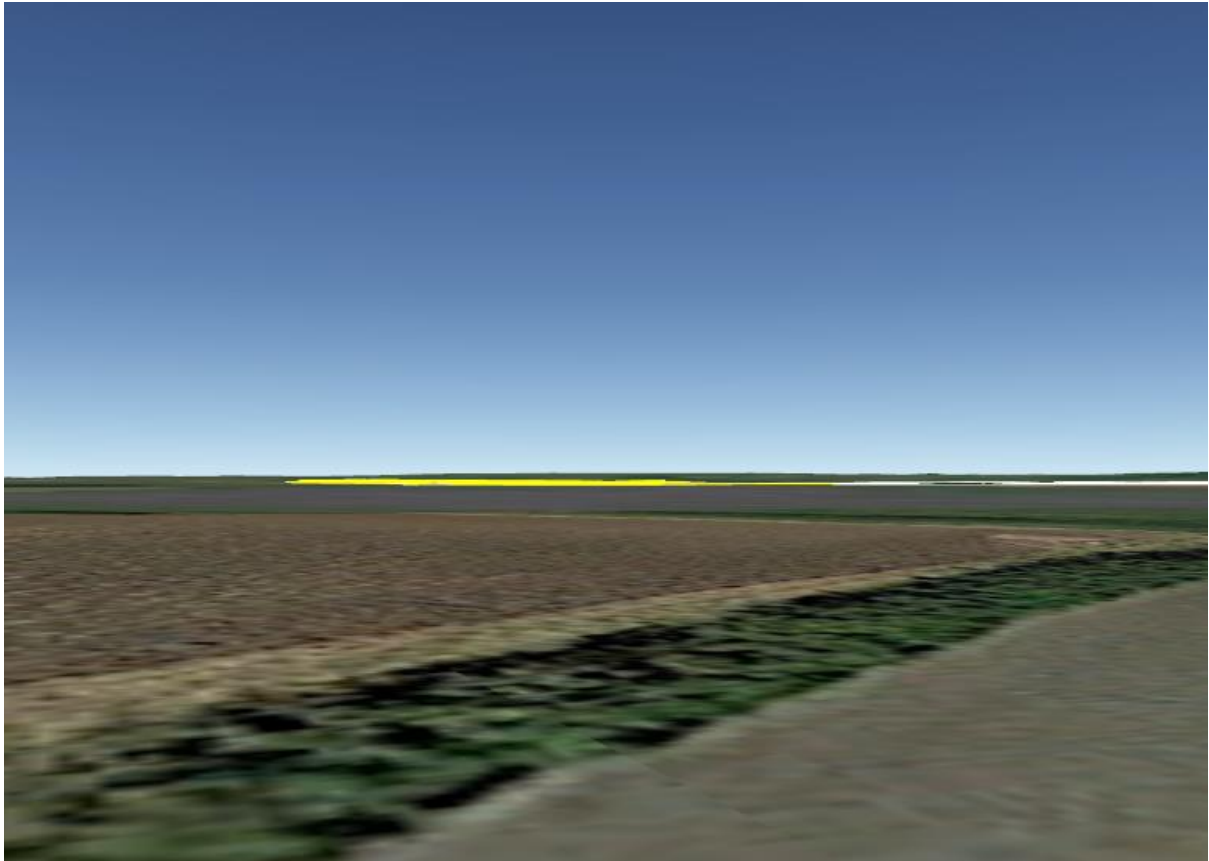
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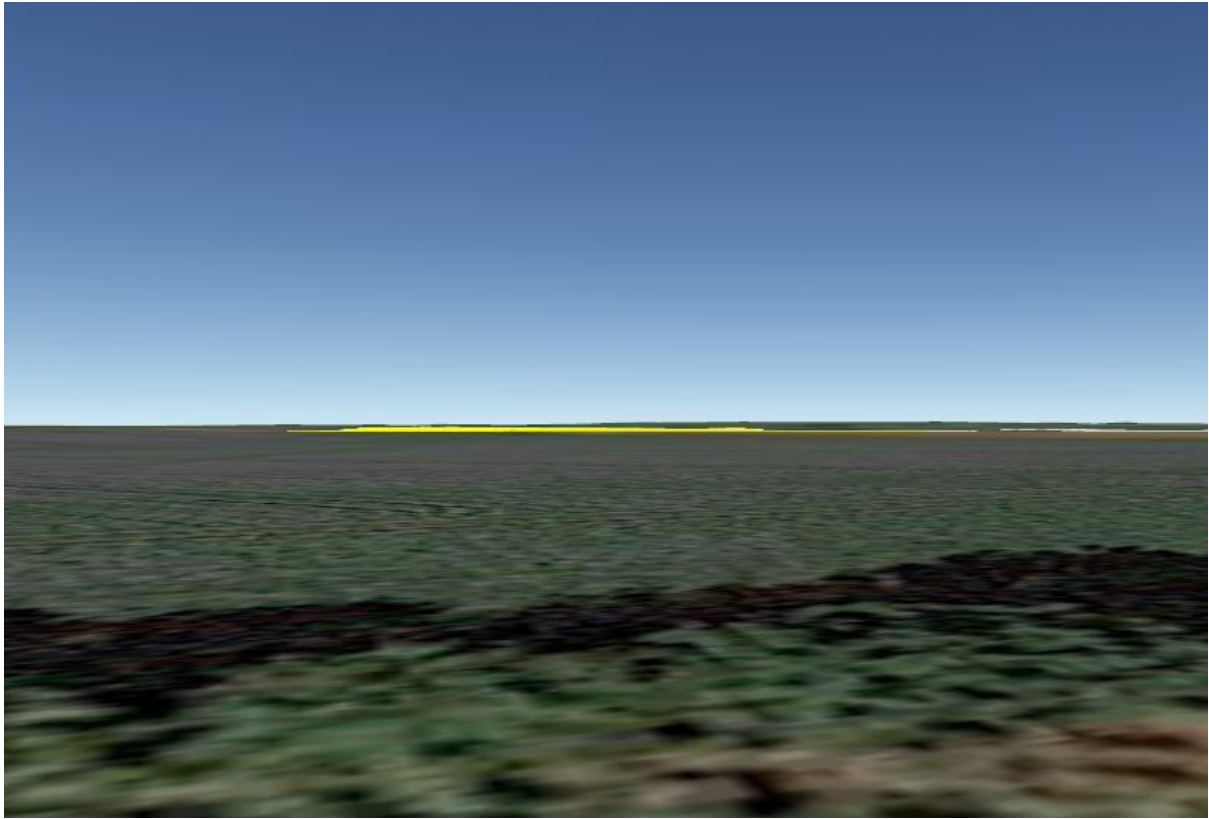
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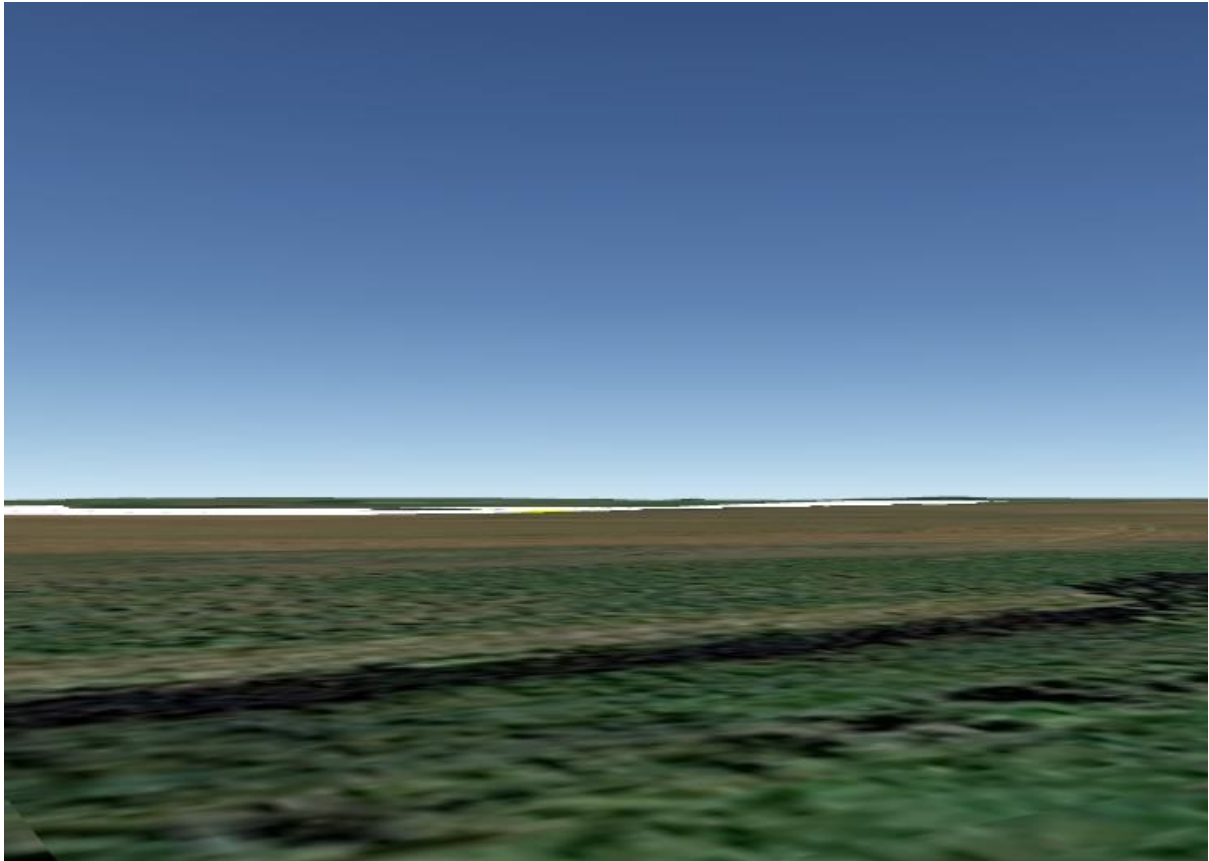
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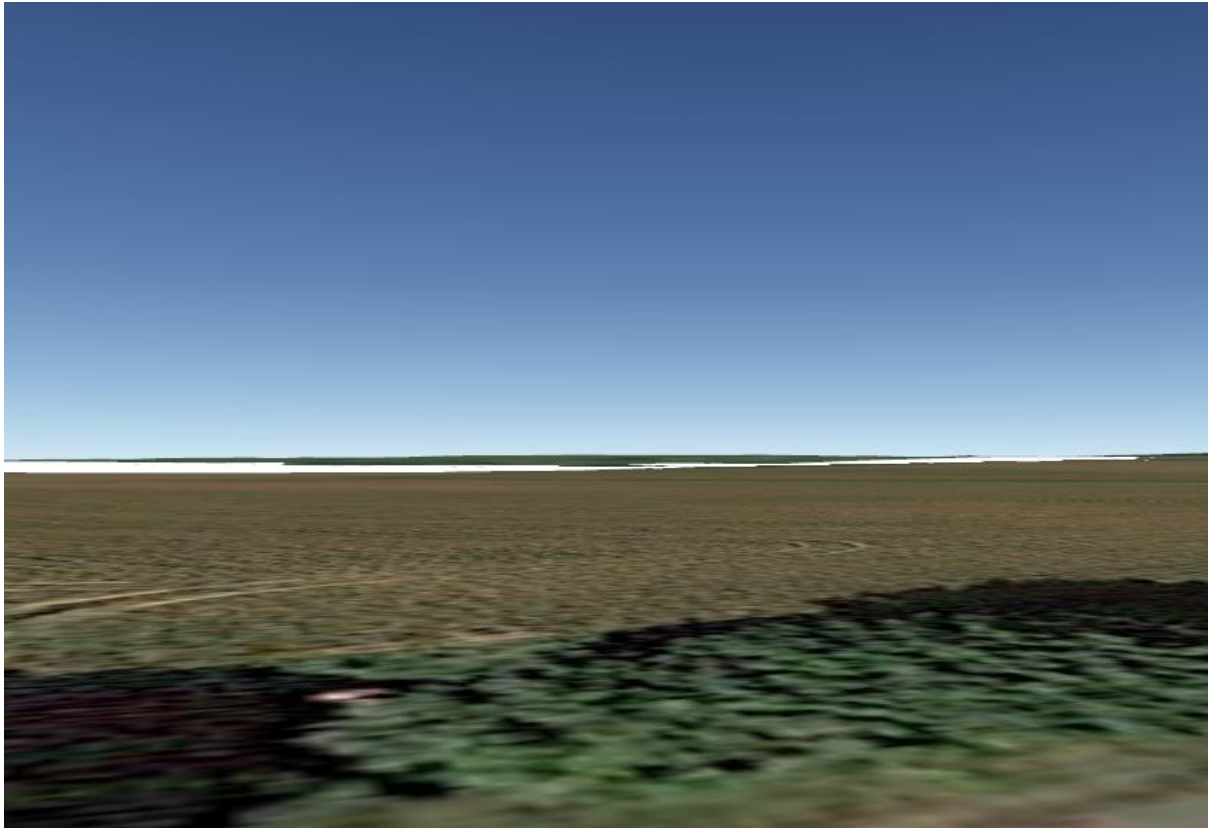
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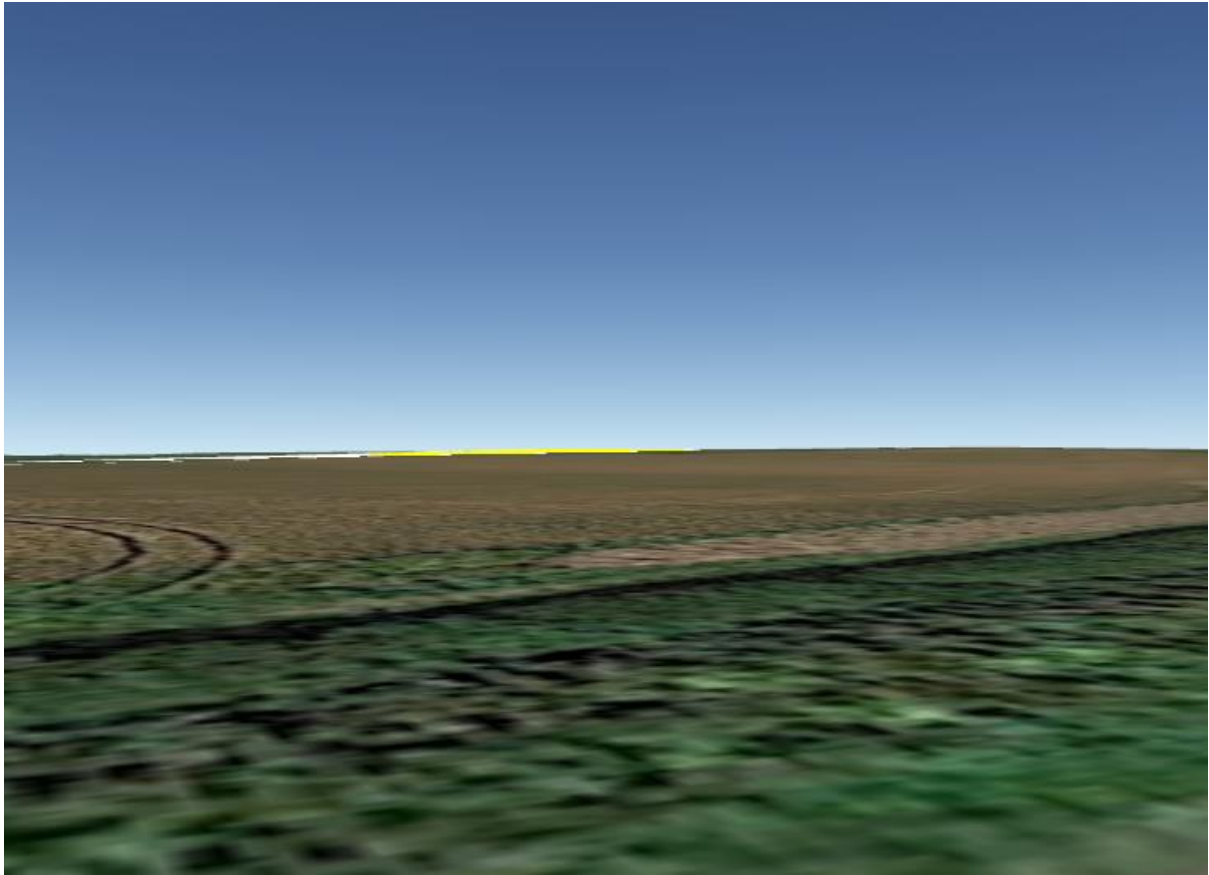
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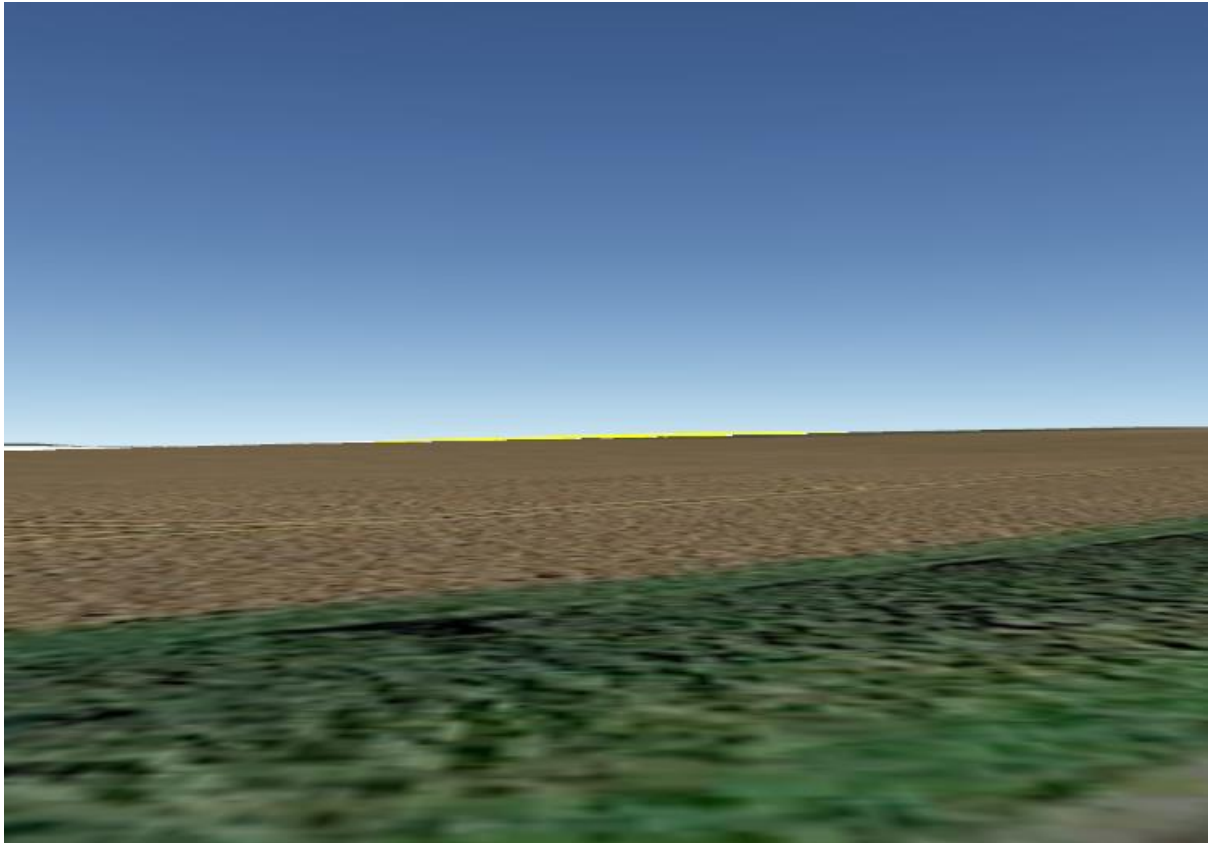
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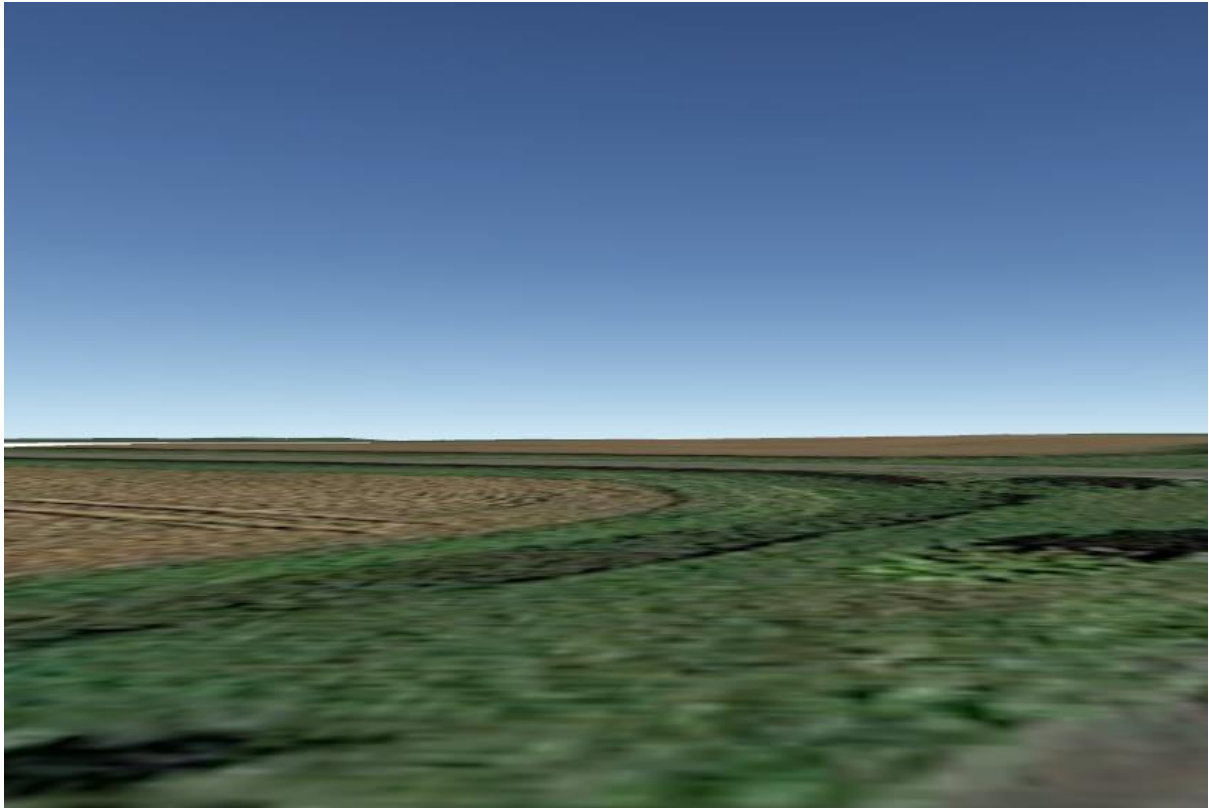
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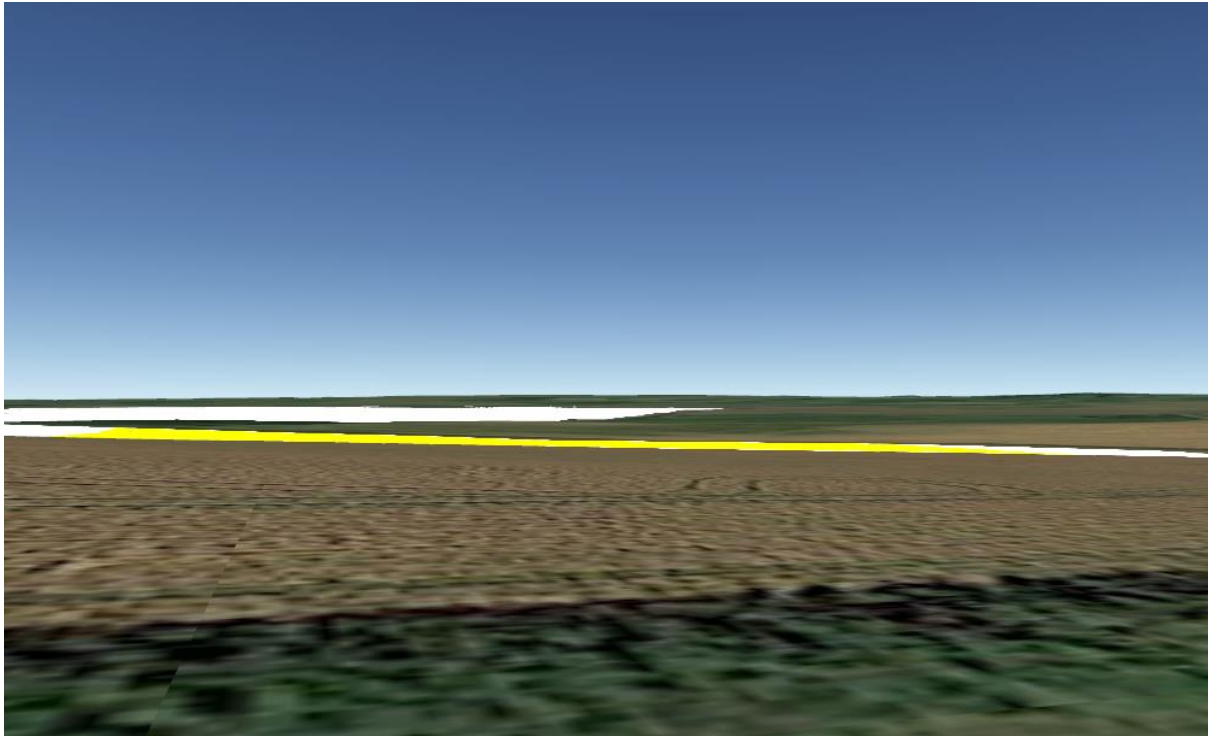
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Receptor 37



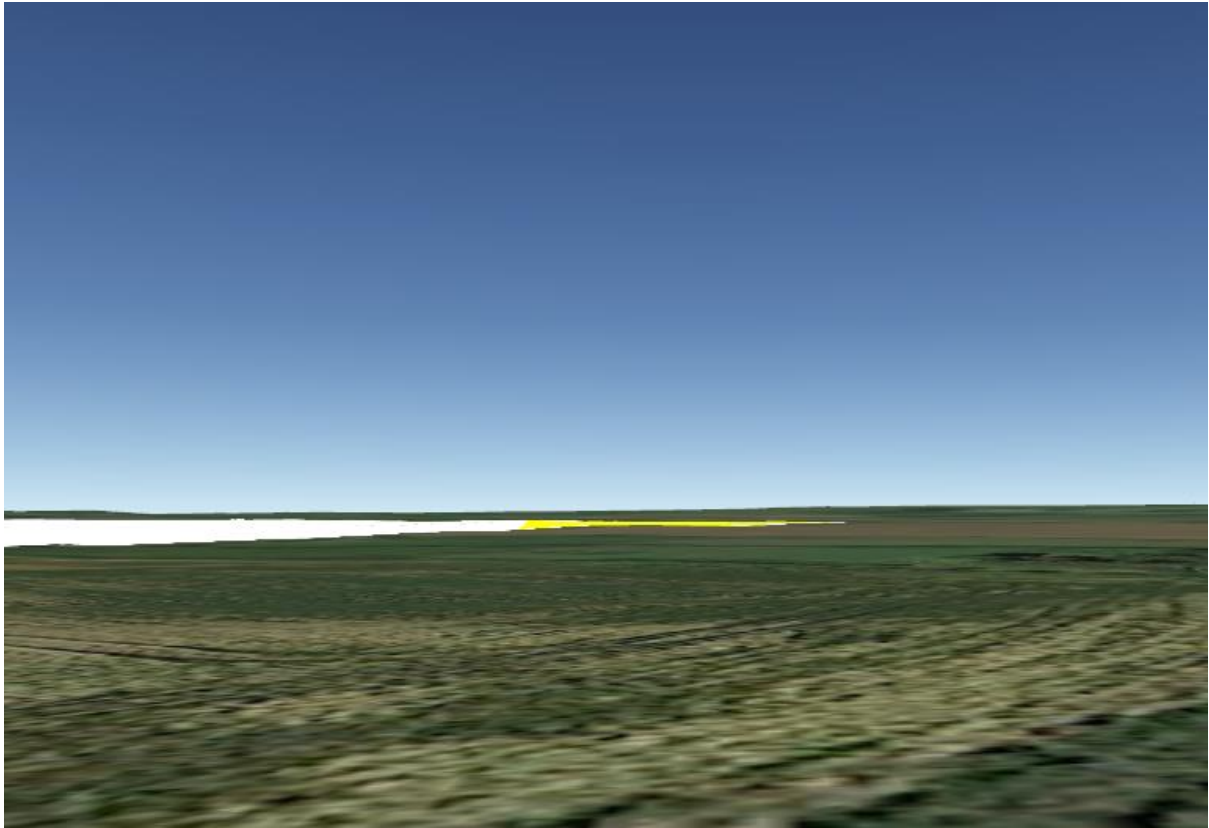
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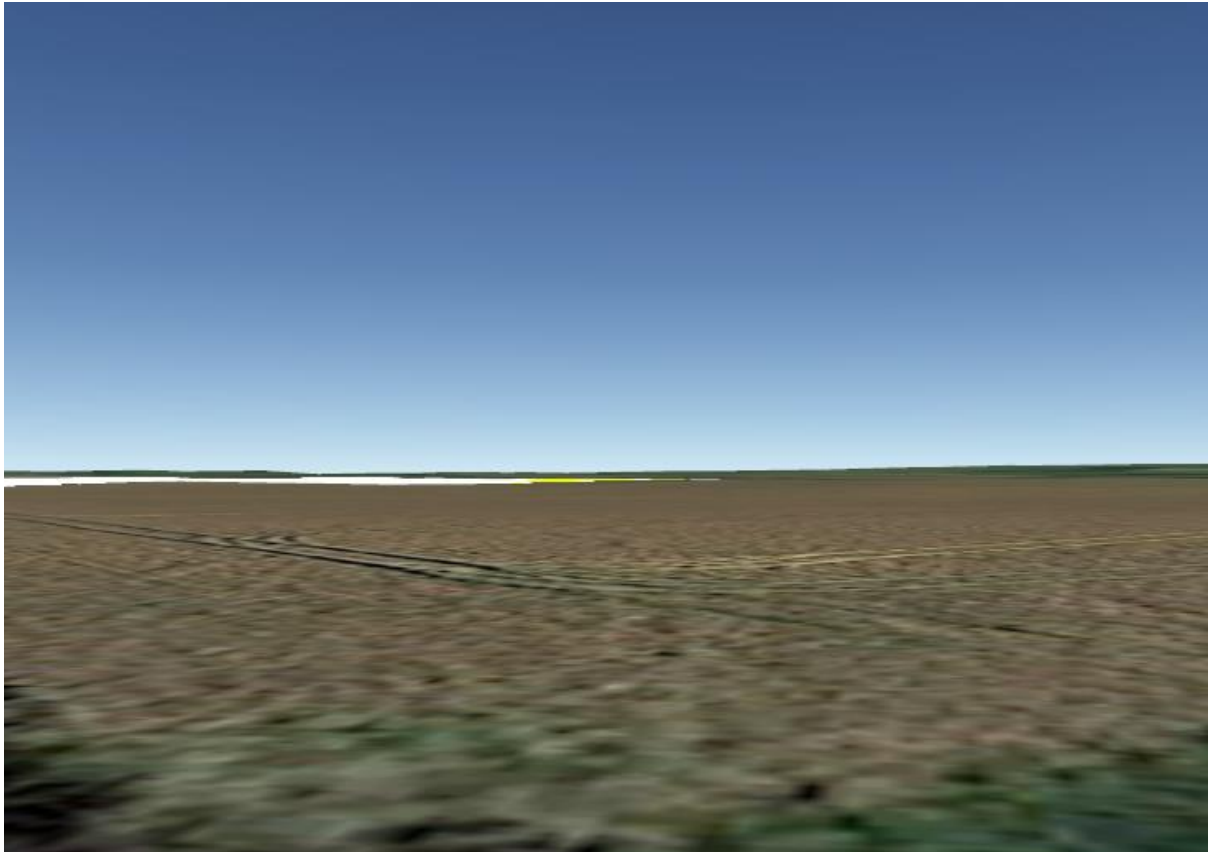
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Receptor 40



Receptor 41



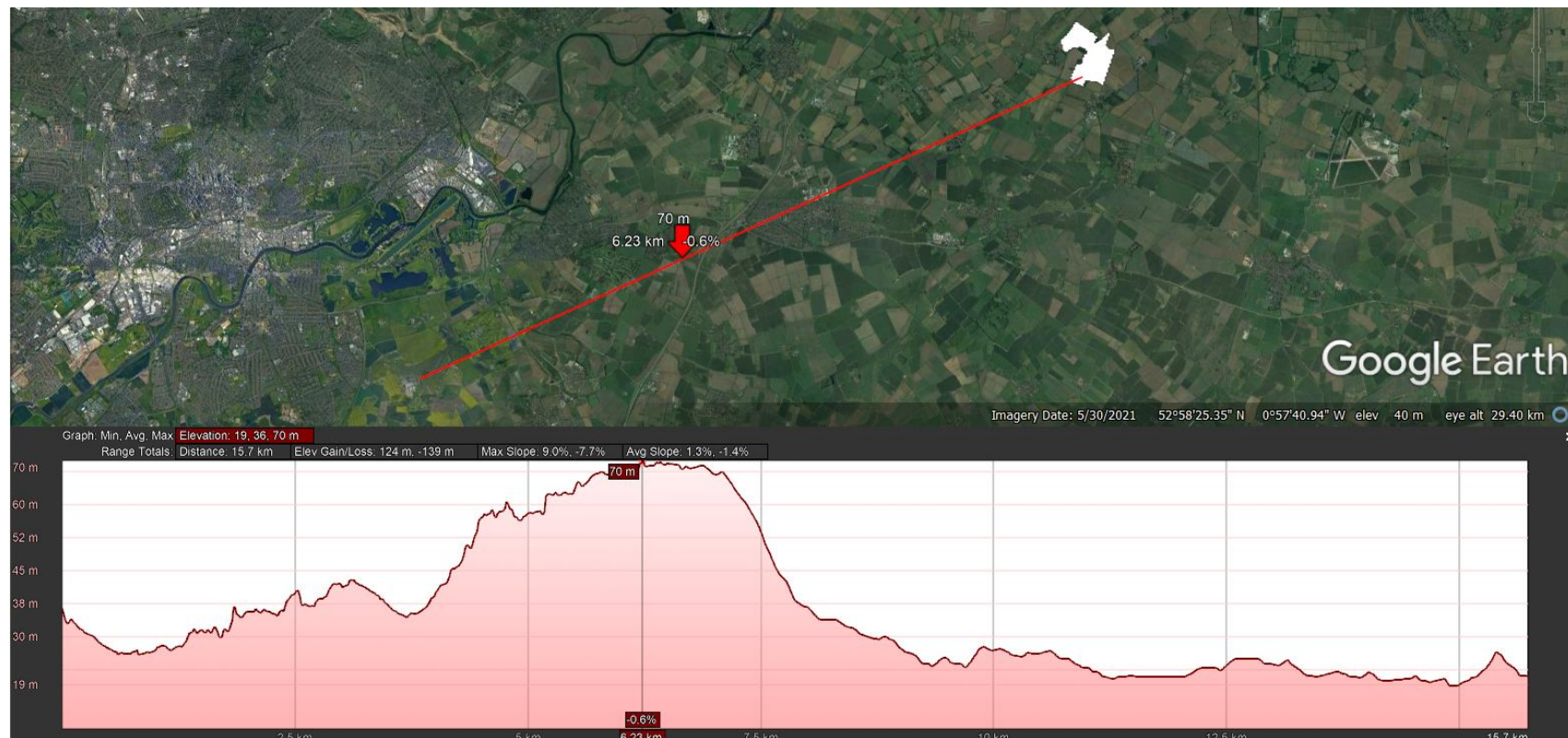


Appendix 6I - Ground Elevation Profile



Appendix 6I: Ground Elevation Profile

ELEVATION PROFILE BETWEEN PROPOSED DEVELOPMENT AND NOTTINGHAM CITY ATCT



Nottingham City ATCT

High Point

Proposed Development



Appendix 6J - Solar Module Glare and Reflectance Technical Memo



Solar Module Glare and Reflectance Technical Memo



Technical Notification

TITLE: SunPower Solar Module Glare and Reflectance**AUTHORS:** Technical Support**APPLICATION:** Residential/ Commercial**SCOPE:** SunPower Modules**SUMMARY:**

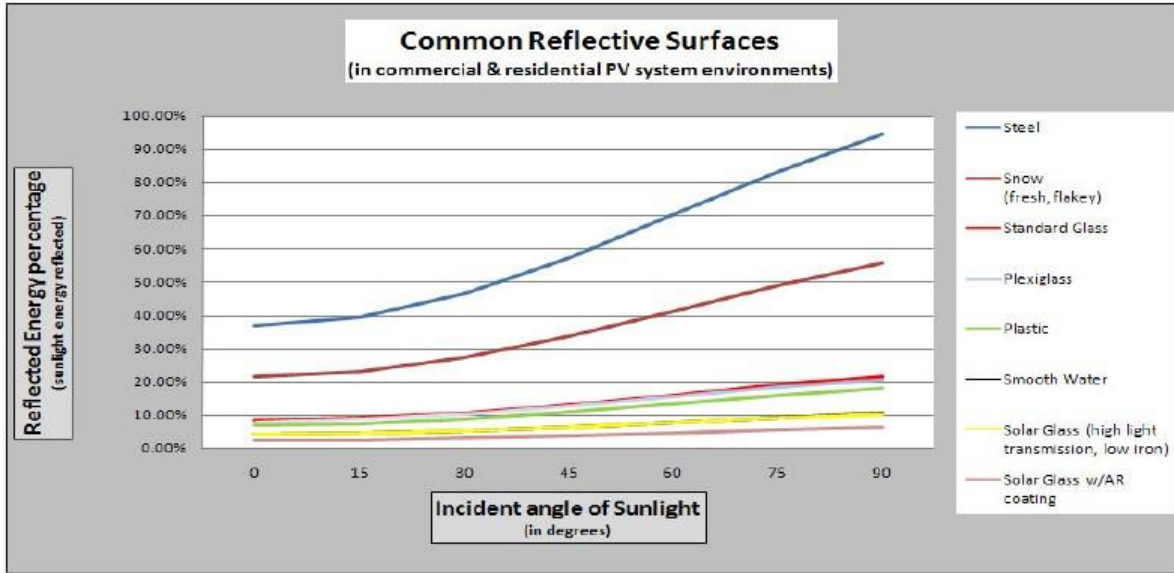
The objective of this document is to increase awareness concerning the possible glare and reflectance impact of PV Systems on their surrounding environment.

The glare and reflectance levels from a given PV system are decisively lower than the glare and reflectance generated by the standard glass and other common reflective surfaces in the environments surrounding the given PV system. Concerning random glare and reflectance observed from the air: SunPower has several large projects installed near airports or on air force bases. Each of these large projects has passed FAA or Air Force standards and all projects have been determined as "No Hazard to Air Navigation". Although the possible glare and reflectance from PV systems are at safe levels and are usually decisively lower than other standard residential and commercial reflective surfaces, SunPower suggests that customers and installers discuss any possible concerns with the neighbors/cohabitants near the planned PV system installation.

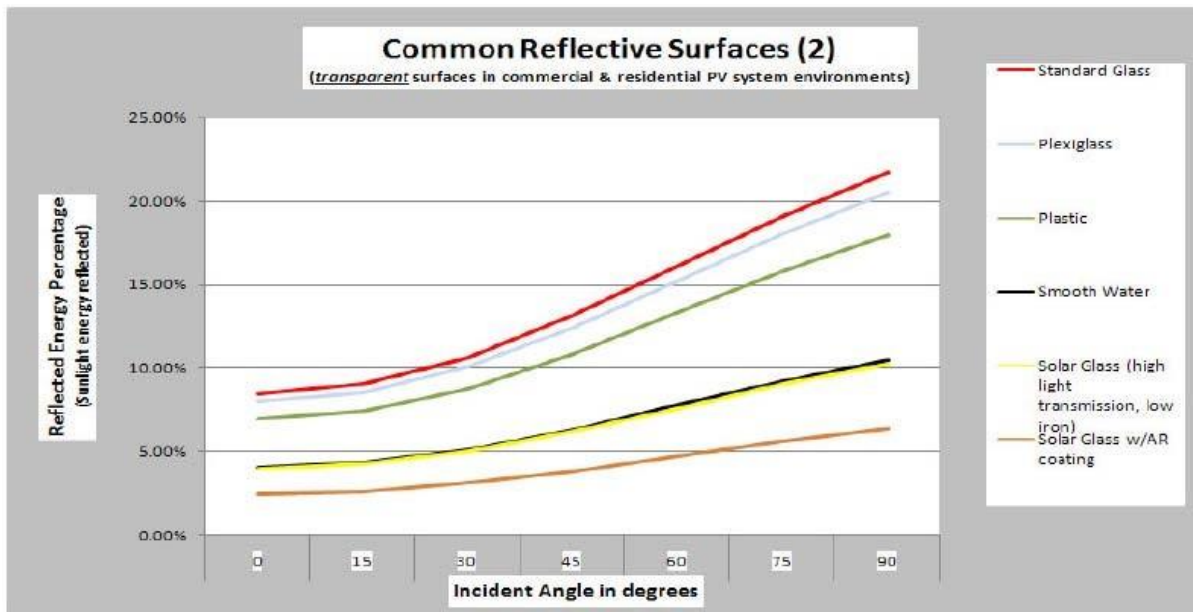
DETAILED EXPLANATION:

In general, since the whole concept of efficient solar power is to absorb as much light as possible while reflecting as little light as possible, standard solar module produces less glare and reflectance than standard window glass. This is pointed out very well in US Patent #6359212 which explains the differences in the refraction and reflection of solar module glass versus standard window glass. Solar modules use "high-transmission, low iron glass" which absorbs more light, producing small amounts of glare and reflectance than normal glass.

In the graph below, we show the reflected energy percentages of sunlight, of some common residential and commercial surfaces. The legend and the graph lists the items from top to bottom in order of the highest percentage of reflected energy.



It should be noted that the reflected energy percentage of Solar Glass is far below that of a standard glass and more on the level of smooth water. Also, below are the ratios of the common reflective surfaces:



Light beam physics resolves that the least amount of light is reflected when the beam is the normal, in other words, least light energy is reflected when the beam is at 0 degrees to the normal. The chart below is a result of light beam physics calculations:

| Common Reflective Surfaces (in surrounding environments for PV systems) | | Incident angle in degrees | | | | | | |
|--|---|---------------------------|--------|--------|--------|--------|--------|--------|
| | | 0 | 15 | 30 | 45 | 60 | 75 | 90 |
| Material Reflectivity (percent of incident light reflected) | Steel | 36.73% | 39.22% | 46.34% | 57.11% | 70.02% | 83.15% | 94.40% |
| | Snow (fresh, flakey) | 21.63% | 23.09% | 27.29% | 33.63% | 41.23% | 48.96% | 55.59% |
| | Standard Glass | 8.44% | 9.01% | 10.65% | 13.12% | 16.09% | 19.10% | 21.69% |
| | Plexiglass | 8.00% | 8.54% | 10.09% | 12.44% | 15.25% | 18.11% | 20.56% |
| | Plastic | 6.99% | 7.46% | 8.82% | 10.87% | 13.33% | 15.83% | 17.97% |
| | Smooth Water | 4.07% | 4.35% | 5.14% | 6.33% | 7.76% | 9.22% | 10.47% |
| | Solar Glass (high light transmission, low iron) | 3.99% | 4.26% | 5.03% | 6.20% | 7.61% | 9.03% | 10.26% |
| | Solar Glass w/AR coating | 2.47% | 2.64% | 3.12% | 3.84% | 4.71% | 5.59% | 6.35% |

(Note: Index of refraction values may vary slightly depending on suppliers and reference documentation. The values for the above calculations are averages or single values obtained from the list of references for this document).

Important reference – “Stipples glass”: In addition to the superior refractive/reflective properties of solar glass versus standard glass, SunPower uses stippled solar glass for our modules. Stippled glass is used with high powered telescopes and powerful beacons and lights. The basic concept behind stippling is for the surfaces of the glass to be textured with small types of indentations. As a result, stippling allows more light energy to be channeled/ transmitted through the glass while diffusing the reflected light energy. This concept is why the reflection of off a SunPower solar module will look hazy and less-defined than the reflection from standard glass, this occurs because the stippled SunPower glass is transmitting a larger percentage of light to the solar cell while breaking up the intensity of the reflected light energy.

SUMMARY/ACTION REQUIRED:

The studies, data and light beam physics behind the charts and graphs prove beyond a reasonable doubt that solar glass has less glare and reflectance than standard glass. The figures also make it clear that the difference is very decisive between solar glass and other common residential/commercial glasses. In addition, not to be lost in the standard light/glass equations and calculations, the SunPower solar glass is stippled and has a very photon-absorbent solar cell attached to the back side, contributing two additional factors which results in even less light energy being reflected.

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