EVWHS FOR PGC USERS
Webinar Training

How to access high-resolution satellite imagery directly online
Basic training for PGC Users to utilize EnhancedView Web-Hosting Service (EVWHS) provided by Maxar’s DigitalGlobe and the National Geospatial-Intelligence Agency.

Background Information
- PGC Introduction
  - Products & Services, NextView License
- DigitalGlobe Overview
  - About Sensors, EGD, EVWHS

Live Demo
- Navigation Controls
- Bookmarks & Alerts
- Search & Ordering
- Useful Links
The Polar Geospatial Center is a polar science and logistics support organization at the University of Minnesota with core funding provided by the National Science Foundation’s (NSF) Office of Polar Programs (OPP).

**MISSION**

- Domain and institutional knowledge to solve a broad range of polar geospatial problems
- Access to sub-meter commercial satellite imagery for the Antarctic and Arctic and the expertise to task, manage, process, and deliver high-level, value-added products
- Educational courses and online material to transfer PGC’s knowledge and experience to the community
PGC Products & Services

Satellite Imagery
High-resolution (sub-meter) commercial satellite imagery from DigitalGlobe available for the entire Arctic and Antarctic

Terrain Models
High-resolution Digital Elevation Models (DEM) derived from Stereoscopic DigitalGlobe Imagery

Digital Maps
Historical and custom map products for logistics planning, field site selection, publications, reference, etc.

Geospatial Support
Advanced solutions and expertise for novel or challenging remote sensing and geospatial problems
PGC website provides exhaustive information about PGC: background, data, services, news, and tutorials.

Check out our growing online Guides section pgc.umn.edu/guides
**NextView License**

**LICENSE TERMS**
- Imagery available for a U.S. Government purpose only (civilian researchers, contractors included)
- Derived Products (e.g. DEMs, NDVI, feature extraction) are **not** subject to the license, but must include acknowledgement
- Must not compete with the “commercial interest” or share publicly

**USER REQUIREMENTS**
- Supply proper copyright and acknowledgement
- Use for the intended purpose (project) only while actively funded

**PGC’S ROLE**
- Provide the imagery to NSF-OPP actively-funded researchers & contractors
- Provide approachable reference documentation (e.g. PGC Acknowledgement Policy, Imagery Eligibility, Usage Guidelines guides online)
- Coordinate “Public Release” approval with NGA (required)

**NextView License and You**

**You must:**
- Properly attribute (mark) all NV imagery and imagery derived products (IDPs) with its Copyright information and educate anyone shared with on the license terms. Example of proper attribution: Copyright 2011, DigitalGlobe, Inc.
- Share imagery or IDPs with anyone directly working with the USG, including:
  - U.S. Government Employees/Contractors
  - Universities supporting USG via contract(s)
- Share imagery or IDPs with those supporting USG interests
  - State/Local Governments
  - Foreign Governments
  - Intergovernmental Agencies
  - NGO’s & Non-profit Organizations
- Post properly attributed reduced-resolution non-manipulatable imagery on public web sites
- Post disseminate imagery using access-controlled webFTE sites
  - Contractors’ Government sponsor must provide oversight and approve for this sharing arrangement

**You must not:**
- Provide/share imagery or IDPs made from NV licensed imagery with anyone planning to sell it or use it for commercial gain
- Post-full resolution imagery on a web site

**You should seek clarification (see POC list) before:**
- Publicly releasing or openly disseminating imagery or IDPs with image metadata
- Sharing with Educational Institutions for strictly educational/research purposes [not connected with the Government]
- Sharing with a company or other entity that might profit from the imagery shared
- Posting imagery to a web site without access controls
- Allowing imagery or IDPs to be shared with a third party
- Sharing Imagery or IDPs with Universities with USG grant(s)
- Contacting the Vendors directly

**Definitions:**
- Imagery is the image and associated metadata. Imagery can be further manipulated, enhanced, & processed. Example: GeoPDF, GeoTIFF, NTIF.
- Image Derived Product (IDP) – any product created from raw imagery – could include metadata, but generally does not and often referred to as “dumb” image
- Third Party Partner – Party otherwise affiliated with the original USG sharing partner, but not the USG directly.

**NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY**
Know the Earth. Show the Way. Understand the World

UNCLASSIFIED
About:
DigitalGlobe, Inc., is a commercial satellite imagery company founded in 2001 and merged into the Maxar Technologies family in 2017. They are currently headquartered in Westminster, CO.

Imagery Specifications:
- Resolution of 32-50 cm panchromatic and 1.2-2 m multispectral
- 4 and 8 multispectral bands in visible and near-infrared
- 17 km wide images up to 100 km long (postage stamps vs strips)
- Polar orbiting satellites with ~100 min orbits
DigitalGlobe G-EGD
(Global Enhanced GEOINT Delivery)

- NGA sponsored program
- Generates millions of square kilometers of DigitalGlobe sub-meter satellite imagery products
- U.S. Government uses and purposes
- Began in 2009 as the Rapid Delivery of Online GEOINT (RDOG)
DigitalGlobe EVWHS
(EnhancedView Web-Hosting Services)

- Subscription service for EGD users to access DigitalGlobe sub-meter satellite imagery via web-based application
- Quickly and easily view, analyze and download DG data
- Access to over 900 million square kilometers of content, including DG archive
- Over 1 million square kilometers of new imagery coverage is added daily (often less than one hour from satellite acquisition!)
Image Strips
- Global Daily Intake is 800-1,000 strips per day
- Cloud cover 50% equatorial, 35% elsewhere
- Typical delivery timeline
  Sometimes less than 15 minutes
  65% < 3 hours
  88% < 6 hours
  99% < 18 hours

Orthomosaics
- ¼ - full geocells
- UTM WGS84
- Cloud cover 5% or better

Accuracy
- Without Ground Control Points = CE90 at 6.429 m
- With Ground Control Points = CE90 at 4.054 m

DEMs Used
- SRTM90 (moving to SRTM30)
- USGS NED 30 m over CONUS & AK, NED 10 m over HI
- InterMap World30m, ASTER-based, north of 60°
<table>
<thead>
<tr>
<th>Core Products</th>
<th>Accuracy Specifications</th>
<th>Processing</th>
<th>Geographic Availability</th>
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<tr>
<td></td>
<td>CE90/LE90</td>
<td>RMSE</td>
<td>NMAS Scale</td>
</tr>
<tr>
<td>System-Ready (Basic)</td>
<td>5 m²</td>
<td>2.3 m²</td>
<td>N/A</td>
</tr>
<tr>
<td>System-Ready (Basic stereo pair)</td>
<td>5 m²/5 m</td>
<td>2.3 m</td>
<td>N/A</td>
</tr>
<tr>
<td>View-Ready (Standard)</td>
<td>5 m²</td>
<td>2.3 m²</td>
<td>N/A</td>
</tr>
<tr>
<td>View-Ready (Ortho Ready Standard)</td>
<td>5 m²</td>
<td>2.3 m²</td>
<td>N/A</td>
</tr>
<tr>
<td>View-Ready (Ortho Ready Stereo)</td>
<td>5 m²/5 m</td>
<td>3.3 m</td>
<td>N/A</td>
</tr>
<tr>
<td>Map-Ready (Map Scale Ortho)</td>
<td>4.2 m</td>
<td>2.0 m</td>
<td>1:5,000</td>
</tr>
<tr>
<td>Map-Ready (Map Scale Ortho)</td>
<td>10.2 m</td>
<td>4.8 m</td>
<td>1:12,000</td>
</tr>
<tr>
<td>Map-Ready (Map Scale Ortho)</td>
<td>25.4 m</td>
<td>11.8 m</td>
<td>1:50,000</td>
</tr>
</tbody>
</table>

Table 1: WorldView product summary

Source: DigitalGlobe, Inc.
3rd PARTY Capabilities

OGC Services:
ESRI ArcMap, BAE GXP Explorer, Intergraph, GeoMedia, FalconView

Earth Services: GoogleEarth
USG Mobile Support
External Portal Integration
Account requests are made directly through DigitalGlobe (not PGC)

PGC serves as an access point for eligible PGC users (NSF-OPP or NASA Cryo)
LIVE DEMO
THANK YOU

Useful Links

PGC  https://www.pgc.umn.edu/
PGC Guides  https://www.pgc.umn.edu/guides/
PGC Acknowledgement Policy  https://www.pgc.umn.edu/guides/user-services/acknowledgement-policy/
PGC Citation & Publication Approval  https://www.pgc.umn.edu/guides/commercial-imagery/citation-and-publication-approval/
EVWHS Login  https://evwhs.digitalglobe.com
EVWHS User Documentation  https://gcs-docs.s3.amazonaws.com/EVWHS/Home.htm