WorldView-3 Imagery for Exploration and Mining

Explore the Benefits of WorldView-3

In addition to offering the highest resolution satellite imagery available today, the new WorldView-3 satellite is the first commercial satellite to have twenty-nine high resolution bands that capture information in the visible, near-infrared and short-wave infrared regions of the electromagnetic spectrum. The satellite provides 31-centimeter panchromatic resolution, five times the detail of the company’s nearest competitor, and double the spectral band coverage of DigitalGlobe’s previous industry-leading satellite.

Features

» Highest resolution commercially available
  - Panchromatic 31cm
  - Visible & Near-infrared 1.24m
  - Short-wave infrared 7.5m

» Broadest spectral range commercially available
  - 1 Panchromatic band
  - 8 VNIR bands
  - 8 SWIR bands
  - 12 atmospheric bands

» Superior atmospheric corrections

» Highly accurate geocoding

» Priority satellite tasking for clients of Exploration Mapping Group

Benefits

» Apply the latest technology for competitive advantage

» Map geology, alteration and structures in spectral regions and at scales not possible before

» Streamline work planning for mapping, surveying, sampling and drilling

» Monitor regional environmental state including vegetation, erosion, drainage and wildlife habitat

» Document baseline site and infrastructure conditions

» Measure site development progress

» Prepare disaster response and site reclamation plans

Relative VNIR and SWIR spectral coverage of WorldView-3 compared to ASTER and Landsat

Cuprite, Nevada is one of the most iconic remote sensing sites in the world and has been used as a calibration test site for every major resource satellite ever flown. The yellow, green and brown colors represent high concentrations of silica, iron and clay alteration minerals and are just a few of the 30+ mapping classes produced by Exploration Mapping Group for resource exploration.
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Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swath Width</td>
<td>At nadir: 13.1 km</td>
</tr>
<tr>
<td>Revisit Frequency</td>
<td>1 m GSD: &lt;1.0 day</td>
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<tr>
<td>At (at 40°N Latitude)</td>
<td>4.5 days at 20° off-nadir or less</td>
</tr>
<tr>
<td>Orbit</td>
<td>Altitude: 617 km</td>
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<tr>
<td></td>
<td>Type: Sun-synchronous</td>
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<tr>
<td></td>
<td>Period: 97 minutes for Earth orbit</td>
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<tr>
<td>Geolocation Accuracy</td>
<td>Predicted &lt;3.5 m CE90 without ground control</td>
</tr>
<tr>
<td>Dynamic Range</td>
<td>11-bits per pixel Pan and MS; 16-bits per pixel SWIR</td>
</tr>
<tr>
<td>Sensor Bands</td>
<td>Panchromatic: 450 - 800 nm</td>
</tr>
</tbody>
</table>

8 Visible and Near-Infrared Bands:
- Coastal: 397 - 454 nm
- Blue: 445 - 517 nm
- Green: 507 - 586 nm
- Yellow: 580 - 629 nm
- Red: 626 - 696 nm
- Red Edge: 698 - 749 nm
- Near-IR1: 765 - 899 nm
- Near-IR2: 857 - 1039 nm

8 SWIR Bands:
- SWIR-1: 1184 - 1235 nm
- SWIR-2: 1546 - 1598 nm
- SWIR-3: 1636 - 1686 nm
- SWIR-4: 1702 - 1759 nm
- SWIR-5: 2137 - 2191 nm
- SWIR-6: 2174 - 2232 nm
- SWIR-7: 2228 - 2292 nm
- SWIR-8: 2285 - 2373 nm

12 Atmospheric Bands:
- Desert Clouds: 405 - 420 nm
- Aerosol-1: 459 - 509 nm
- Green: 525 - 585 nm
- Aerosol-2: 635 - 685 nm
- Water-1: 845 - 885 nm
- Water-2: 897 - 927 nm
- Water-3: 930 - 965 nm
- NDVI-SWIR: 1220 - 1252 nm
- Cirrus: 1365 - 1405 nm
- Snow: 1620 - 1680 nm
- Aerosol-1: 2105 - 2245 nm
- Aerosol-2: 2105 - 2245 nm
- NDVI-SWIR: 1220 - 1252 nm
- Cirrus: 1365 - 1405 nm
- Snow: 1620 - 1680 nm
- Aerosol-1: 2105 - 2245 nm
- Aerosol-2: 2105 - 2245 nm

Sensor Resolution (Ground Sample Distance)
- Panchromatic Nadir: 0.31 m
- Multispectral Nadir: 1.24 m
- 20° Off-Nadir: 0.36 m
- SWIR Nadir: 3.70 m
- 20° Off-Nadir: 4.12 m
- CAVIS Nadir: 30.00 m

Processing and Products

- Basic raw imagery products are corrected for radiometric response between detectors, optical sensor corrections and geometric resampling
- Atmospheric bands are used to measure atmosphere and surface properties including cloud, aerosol, water vapor, ice and snow to correct imagery for atmospheric interference
- Standard geoscientific products include natural color and a variety of other color composites to enhance and discriminate geology, lithology and alteration
- Specialized geoscientific products are generated using advanced processing techniques depending on client requirements, target mineralization styles, alteration types present and local terrain characteristics
- Environmental products are designed to support Environmental Impact Assessments, Environmental Management Plans and related ecological and land use measurements and change assessments

Ordering and Deliverables

Contact Exploration Mapping Group to search the archive or task the satellite with a new collection request for your area of interest. Imagery is ordered by the square kilometer with a minimum purchase of 100 sq km per order. Products are delivered by secure ftp and digital media in a variety of geocoded formats compatible with leading commercial GIS and image processing software. All projects include reporting to document the project and all deliverables.