

High-Resolution Satellite Data Open for LCLUC Scientists

Christopher S.R. Neigh¹, Jaime Nickeson^{1,2}, Compton J. Tucker¹, Shannon Franks^{1,2}, Karen Yuan^{1,3}, & Shaun Quartier^{1,2}
 1. NASA Goddard Space Flight Center, Code 618, Hydrospheric and Biospheric Sciences Branch, Greenbelt MD 20771, USA
 2. Sigma Space Corporation, 4600 Forbes Blvd, Lanham MD 20706, USA
 3. Wyle, 1600 International Drive Suite 800, McLean VA 22102 USA



LCLUC Science Team Meeting 04-02-13



Introduction & Objectives

The National Geospatial-Intelligence Agency (NGA), in partnership with the Civil Applications Committee (CAC), of which NASA is a member, provides access to its immense archive of unclassified commercial high-resolution satellite data to civilian agencies under terms of its NextView contract. NextView stipulates that these data can be shared with those supporting U.S. Government interests for non-commercial use. NASA's Goddard Space Flight Center has been tasked with providing an interface to these data holdings for NASA-funded investigators and their teams. The data can be requested via our website (<http://cad4nasa.gsfc.nasa.gov>).

Registration & Free Access

Once your registration is completed and you log in, you can navigate through pages about each of the commercial high-resolution sensors and footprint maps of the NGA archive by sensor and year. You can then place requests for us to search the NGA archive for imagery. We will work with you to find the best results for your research needs. If NGA does not have the imagery you require but the vendor does, we have additional means to acquire this imagery directly from the vendor for you.

Sensors Available & Vendor Archive Coverage

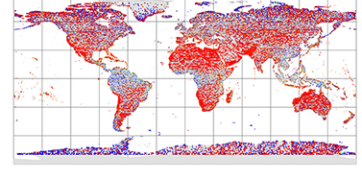
IKONOS-2 launched Jan-2000

Band	1 µm - 0.5 µm	1 µm - 0.5 µm	1 µm - 0.5 µm
1 (Blue)	0.45-0.50 µm	0.45-0.515 µm	-
2 (Green)	-	0.506-0.595 µm	-
3 (Red)	-	0.632-0.698 µm	-
4 (Near IR)	-	0.757-0.893 µm	-



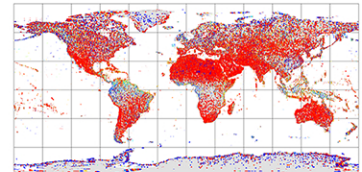
GeoEye-1 launched Aug-2008

Band	0.45-0.69 µm	0.45-0.51 µm	0.51-0.58 µm
1 (Blue)	-	-	-
2 (Green)	-	-	-
3 (Red)	-	-	-
4 (Near IR)	-	-	-



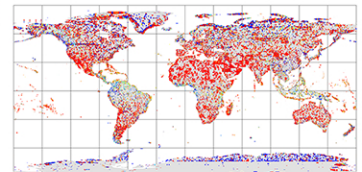
QuickBird launched Oct-2001

Band	0.45-0.69 µm	0.45-0.51 µm	0.51-0.58 µm
1 (Blue)	0.45-0.50 µm	0.45-0.515 µm	-
2 (Green)	-	0.506-0.595 µm	-
3 (Red)	-	0.632-0.698 µm	-
4 (Near IR)	-	0.757-0.893 µm	-



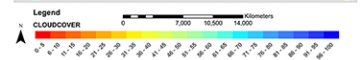
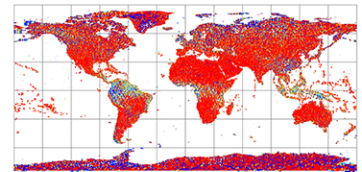
WorldView-2 launched Oct 2009

Band	0.45-0.69 µm	0.45-0.51 µm	0.51-0.58 µm	0.64-0.67 µm	0.67-0.72 µm	0.72-0.74 µm
1 (Blue)	0.45-0.50 µm	0.45-0.515 µm	-	1 (Blue Edge)	0.705-0.745 µm	-
2 (Green)	-	0.506-0.595 µm	-	6 (Red)	0.585-0.625 µm	-
3 (Red)	-	0.632-0.698 µm	-	7 (Green)	0.560-0.600 µm	-
4 (Near IR)	-	0.750-0.895 µm	-	8 (Near IR)	0.860-1.040 µm	-



WorldView-1 launched Sep-2007

Band	0.45-0.69 µm	-	-
1 (Blue)	0.45-0.50 µm	-	-
2 (Green)	-	-	-
3 (Red)	-	-	-
4 (Near IR)	-	-	-



How do I access the Archive?

- 1) Apply for an account: <http://cad4nasa.gsfc.nasa.gov>
- 2) Once your account is activated define your area and time period of interest.
- 3) Make a request, you will be placed in a queue.
- 4) A http link will be sent to you once we receive the data.
- 5) Download the data.



Data Format?

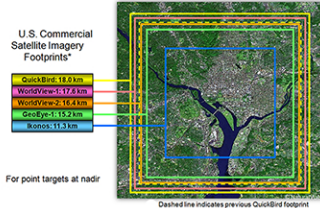
NITF (National Imagery Transit Format)

- Compressed for easy transfer
- Imbedded metadata information
 - Rational Polynomial Coefs
 - Sun/Sensor information
 - Calibration Coefs



- Conversion to other formats available upon request

Commercial Imagery Today



Licensing Guide

These are copyrighted data that require you to adhere to the NextView License agreement.

NextView License and You

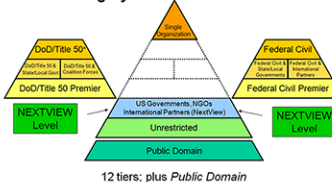
***You must properly attribute (mark) all NV Imagery and imagery derived products (IDP) with its Copyright information and educate anyone shared with on the license terms (see attached language to use)**

- *You may:**
 - Share imagery or any 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
 - Foreign Governments
 - State/Local Governments
 - Intergovernmental Agencies
 - NGO's & Non-profit Organizations
 - Post properly attributed "dummy" IDPs on public web sites
 - Post/disseminate imagery using access-controlled web/FTE sites
 - Contractors' Government sponsor must provide oversight and approval for this sharing arrangement.

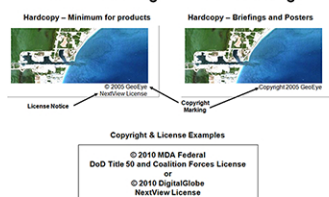
***You must not provide/share imagery or IDPs made from NV licensed imagery with anyone planning to sell or use it for commercial gain**

- *You should seek clarification (see POC list) before:**
 - Publicly releasing or openly disseminating imagery or IDPs with imagery metadata
 - Sharing with Educational Institutions for strictly educational/ research purposes (even with USG grants)
 - 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

Licensing Pyramid



Commercial Image Product Marking



Definitions
 * Imagery is the image and associated metadata. Imagery can be further manipulated, enhanced, & processed. Example: GeoPDF, GeoTIF, NITF.
 * Image Derived Product (IDP) = any product created from raw imagery - could include metadata, but generally does not and often referred to as "dummy-image"
 * Non-literal Imagery Derived Product is a product derived from the imagery but no longer looks like an image. Example: Line-drawings, maps.
 * Third Party Partner = Party otherwise affiliated with the official USG sharing partner, but not the USG directly.