

Sources of Free Imagery

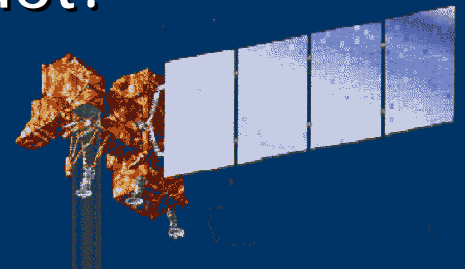
Glenn Bethel

glenn.bethel@usda.gov

Dec 2, 2008

Landsat Web-Enabled Data

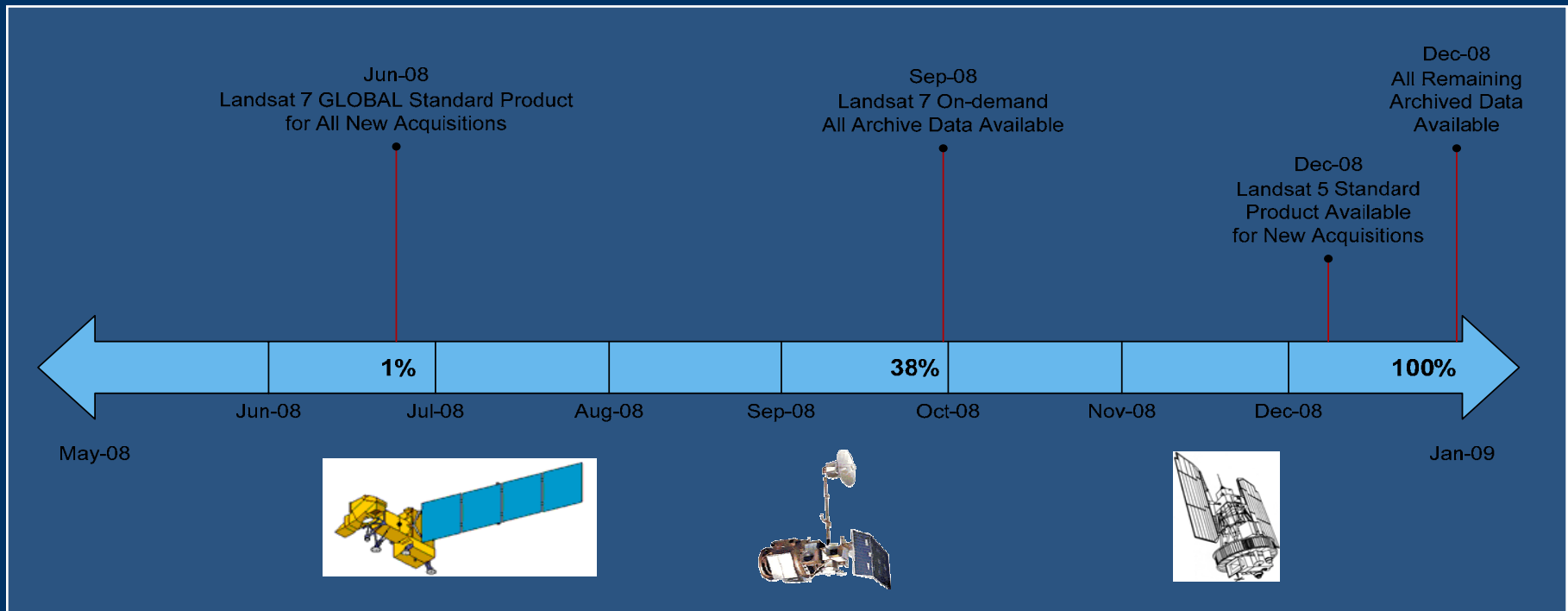
- The initial release of the Web-Enabled data included only the United States, but the Landsat Project has gradually expanded processing to global coverage.
- All data that are high quality, with less than 20 percent cloud cover are automatically processed to standard L1T product.



Landsat Standard L1T

- Newly acquired data that will be automatically processed
 - $\leq 20\%$ cloud cover, 9 quality
- All other data (and archive data) can be ordered at no-charge
 - L7: Sep 30, 2008
 - L5 TM, L4 TM, L1-5 MSS: Dec 31, 2008
- Pixel size: 15m/30m/30m
- Media type: Download (web-enabled)
- Product type: L1T (terrain-corrected)
- Output format: GeoTIFF
- Map projection: UTM
- Orientation: North up
- Resampling: Cubic convolution
- DEM: GLS DEM (SRTM, NED, CDAD, DTED, GTOPO 30)

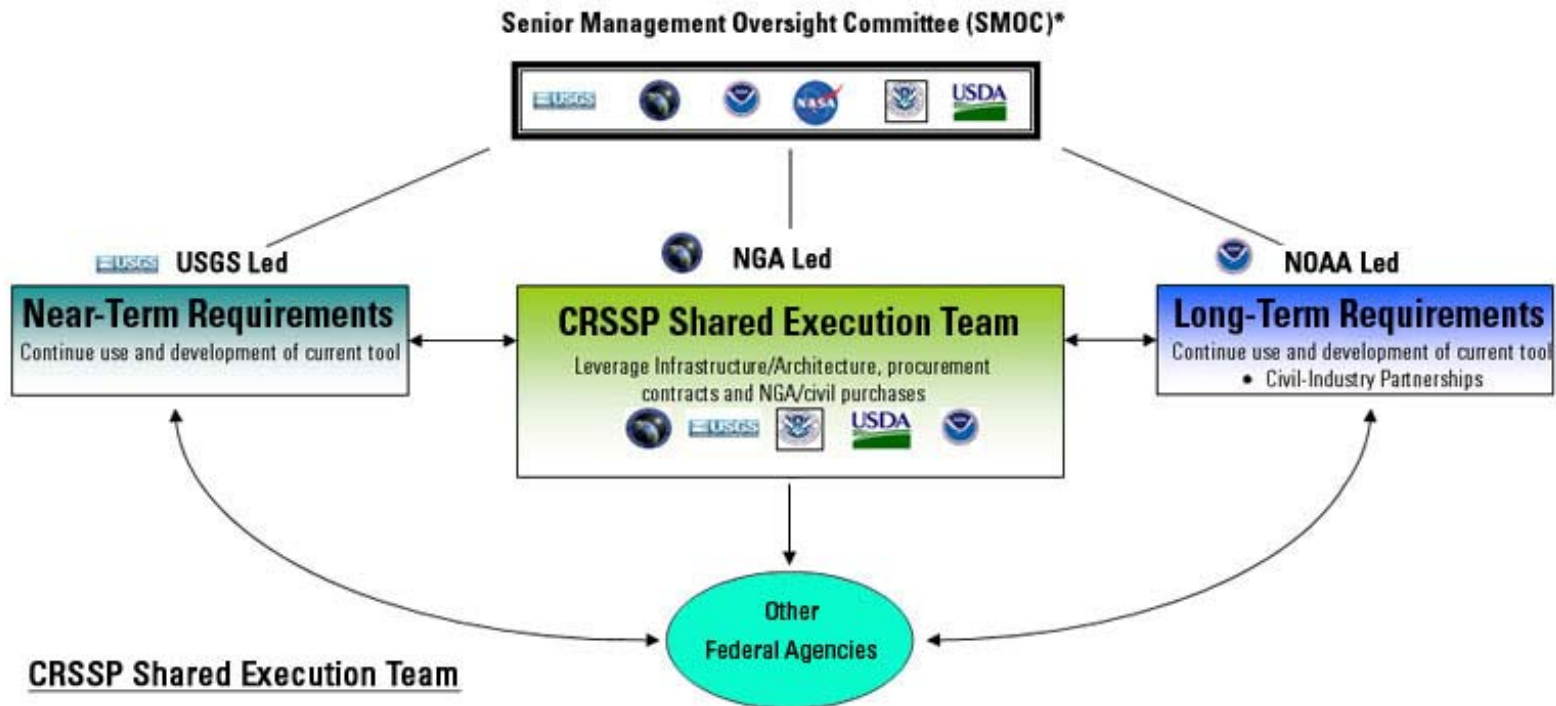
Landsat Web-Enabling Timeline



Supporting the Commercial Remote Sensing Space Policy (CRSSP)

“The fundamental goal of this policy is to advance and protect U.S. national security and foreign policy interests by maintaining the nation’s leadership in remote sensing space activities, by sustaining and enhancing the U.S. remote sensing industry.”

CRSSP Civil/NGA Shared Execution Construct



CRSSP Shared Execution Team

- **Infrastructure/Architecture [I/A] (NGA/USGS)**
 - NGA provides for leveraging of its I/A and technology
 - USGS provides for leveraging of its I/A and technology
- **Contracts (NGA/USGS)**
 - Coordinate procurement vehicles
 - Ensure broad distribution options for civil needs
 - Bonus off NGA contracts
- **Purchase (NGA/civil agencies)****
 - Leverage NGA/civil purchases in areas of common interest
 - Upgrade licenses when additional needs can be met

- USGS
- NOAA
- NASA
- DHS
- USDA

CRSSP Participants



Department of Commerce

Census Bureau



National Oceanic and
Atmospheric Administration



Department of Defense

National Geospatial
Intelligence Agency



US Army Corps of Engineers



Department of Energy



Department of Interior

Bureau of Land Management



US Fish and Wildlife Service

National Park Service



US Geological Survey



Office of Surface Mining



Department of Homeland Security

Federal Emergency
Management Service



Transportation Safety
Administration



US Coast Guard



US Customs and Border
Protection



Department of Transportation



Federal Geographic Data Committee



National Aeronautics and Space
Administration



National Capital Planning Commission



US Department of Agriculture

Natural Resources Conservation Service



US Forest Service



Foreign Agricultural Service



Farm Service Agency



National Agricultural Statistics Service



US Environmental Protection Agency



Department of State



Department of Justice

Department of the Interior, USGS
Volcano Disaster Assistance Program

Krakatau Indonesia



Pixel Resolution
(at nadir)

1m – Pan

4m -- B,G,R,NIR

Scene Size

11km x 11km

Department of the Interior - Office of Surface Mining, Reclamation & Enforcement

Reforestation Assessment on Indiana Coal Mines in – SW Indiana



Pixel Resolution
(at nadir)

.61m – Pan

2.44m -- B,G,R,NIR

Scene Size

16.5km x 16.5km

Department of the Interior, USGS
Volcano Disaster Assistance Program

CIDR Requirement 1567 – Ubinas Peru

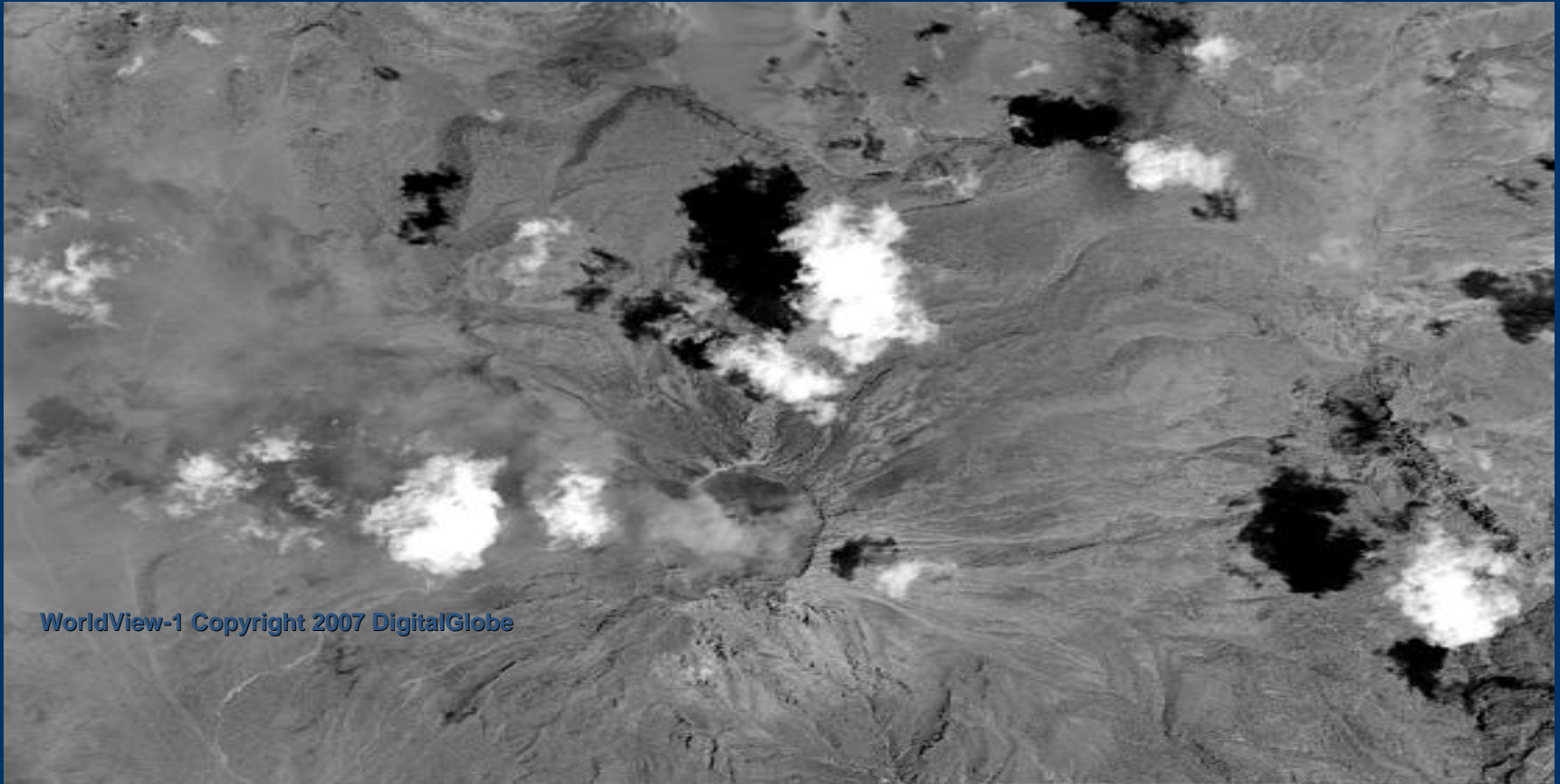
Pixel Resolution
(at nadir)

.5 m – Pan

Swath Width

17.6km at nadir

Scene Length - 14km



WorldView-1 Copyright 2007 DigitalGlobe

Context

- Recently NGA has been providing considerably more data for civil needs (no cost)
 - WorldView-1 and GeoEye-1 add considerable capacity
 - Includes new collects, NGA archive, vendor archive, reprocessed scenes
 - Data comes with NextView licenses

Customers and products

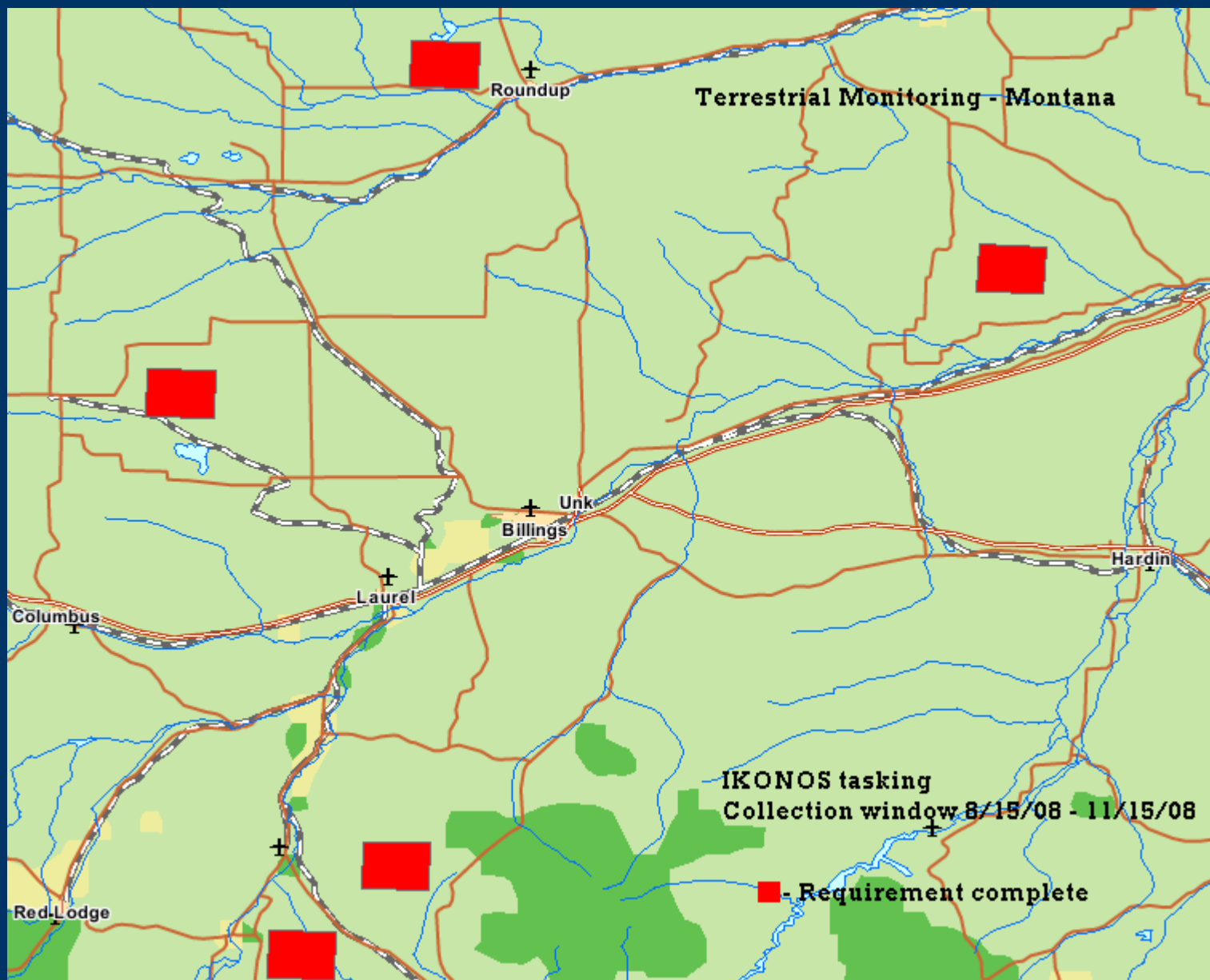
- Customers include DOI (USGS, NPS, OSM, BLM) USDA (FS, NASS, FSA, NRCS), NOAA and other agencies
- USGS is the focal point interfacing with NGA for many civil requirements
- NGA and USGS partner on user outreach
- Turn around time – depends on product, weather, area demand, tasking window
 - Archive very quick to immediate from UNIL via WARP
 - New collects sometimes within days of order

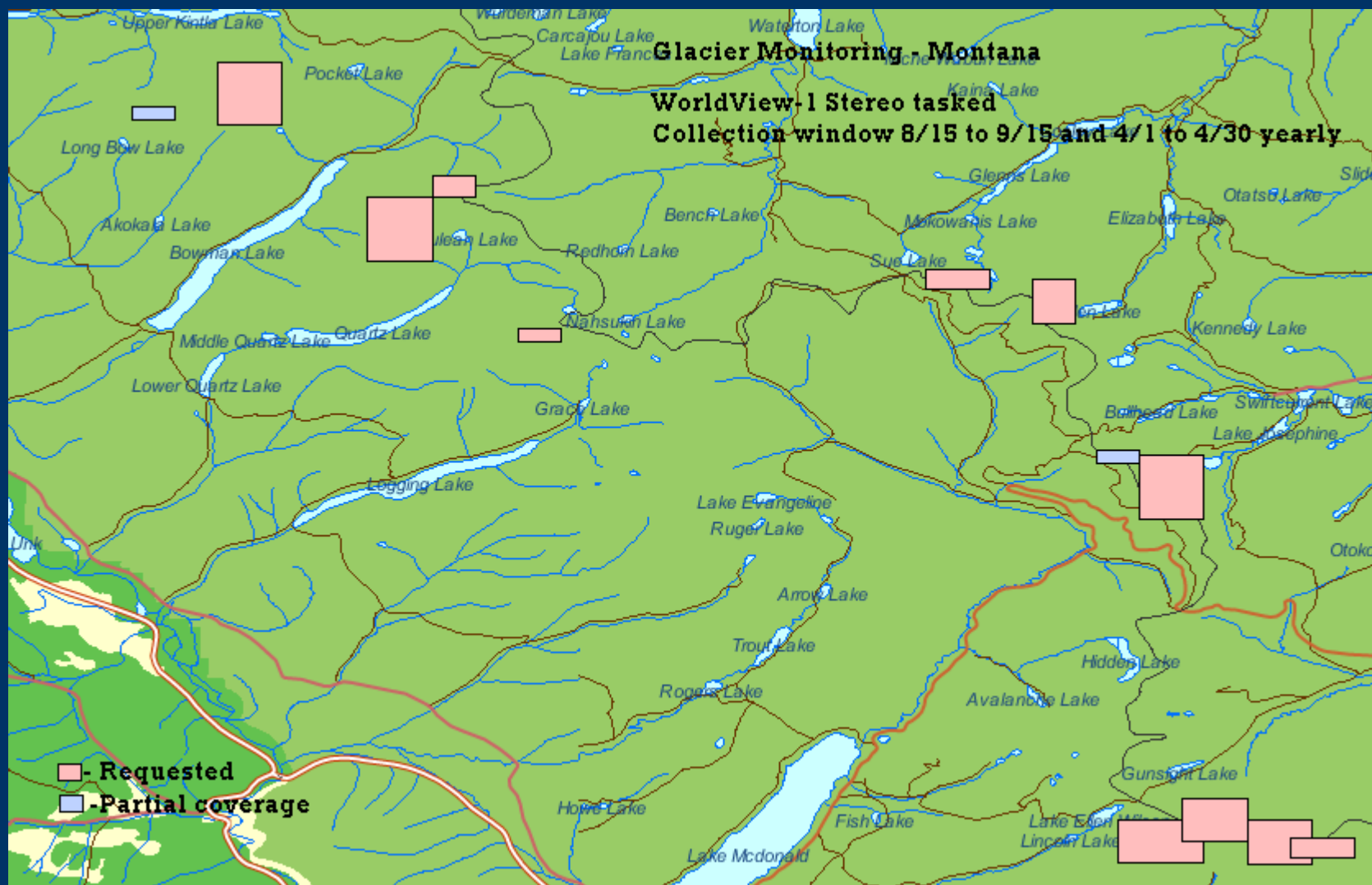
Applications

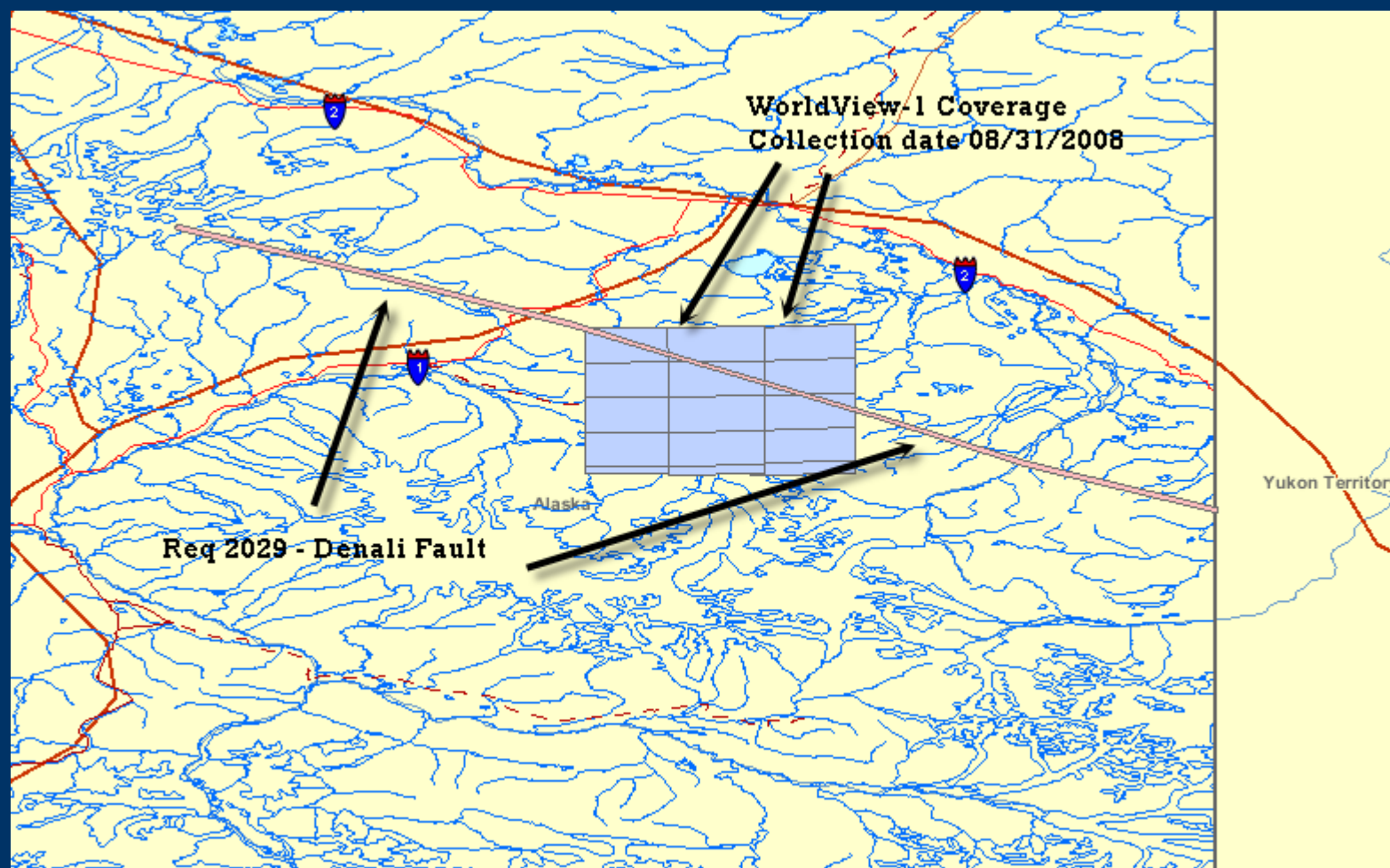
Wide range of domestic and international science, environmental, hazards, resource, and other applications for example:

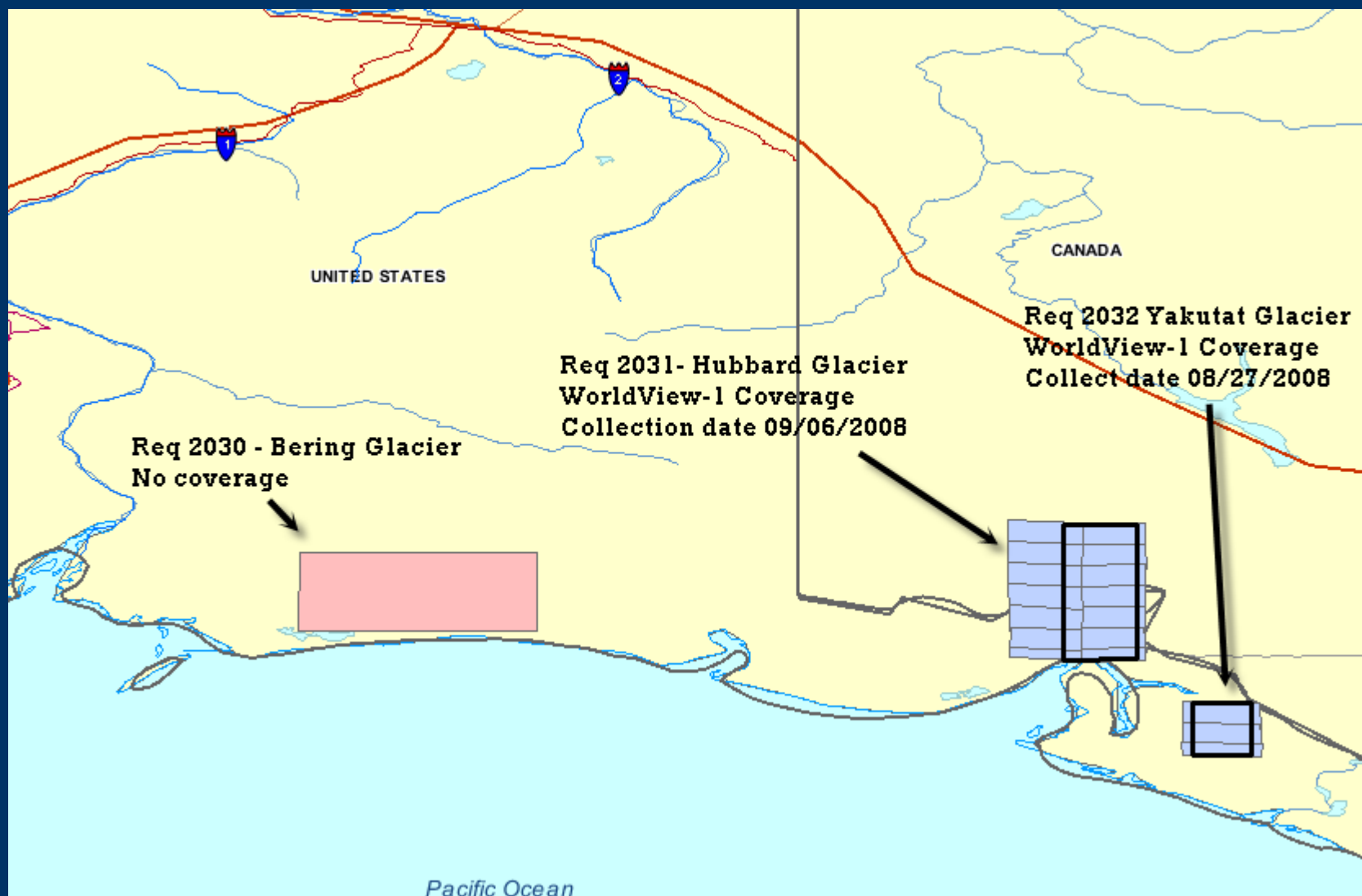
- World heritage site monitoring
- Glacier studies
- Volcano monitoring
- Improving land management practices, Reservation planning, environmental monitoring
- Identify vegetative health, urban sprawl
- Climate change study
- Energy and energy infrastructure
- Alaska energy infrastructure, resource surveys and inventories

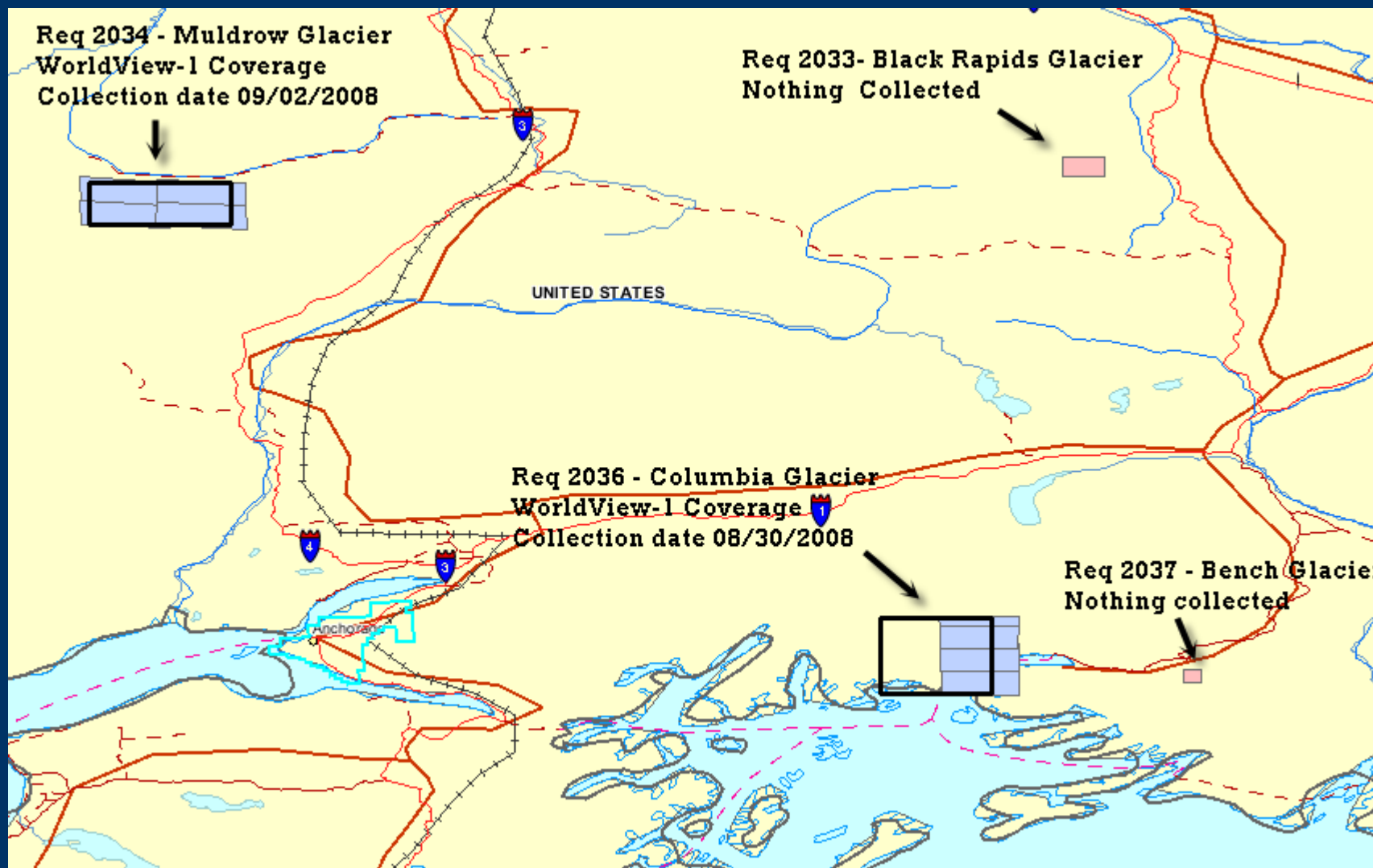
to name just a few



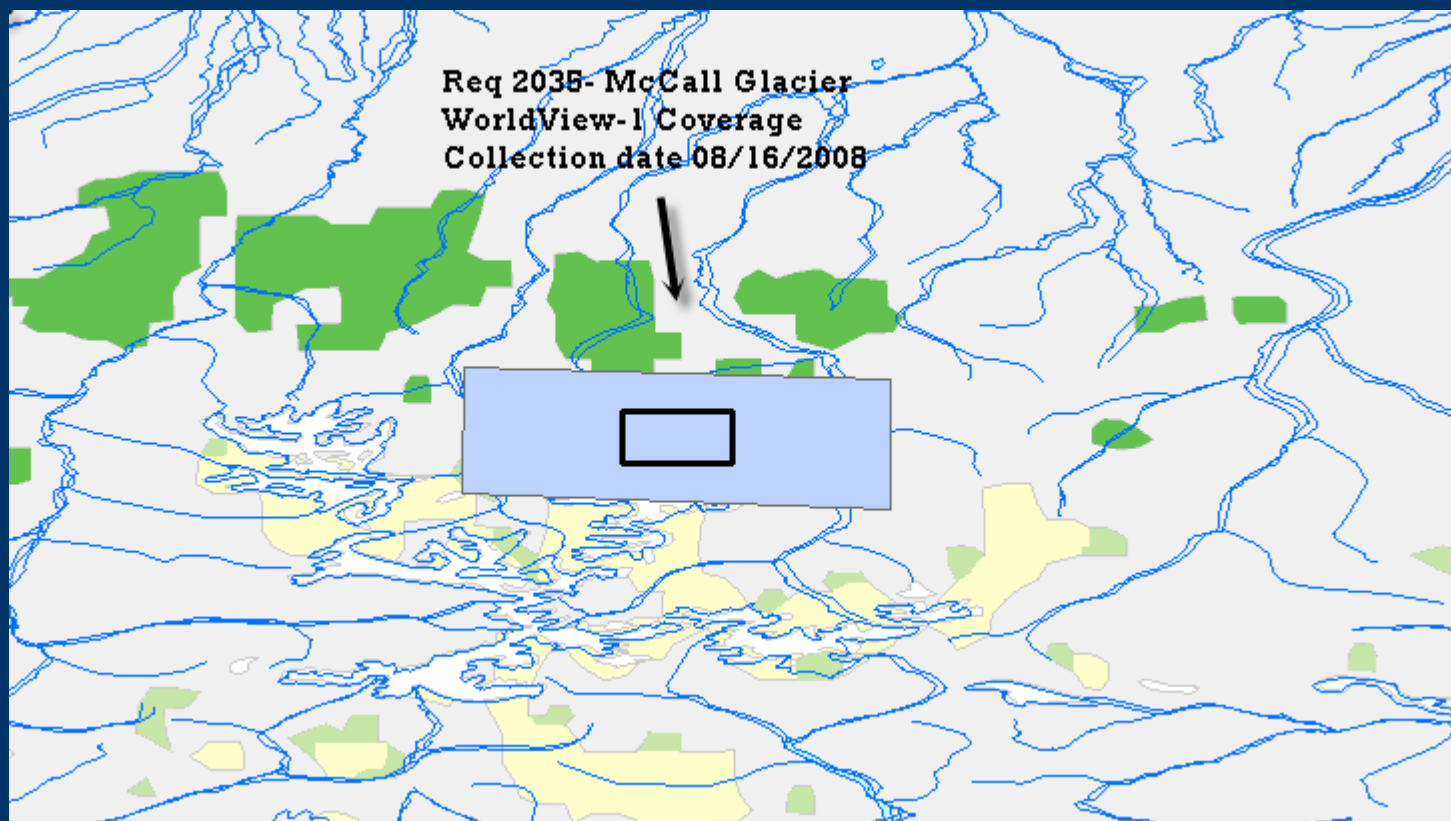


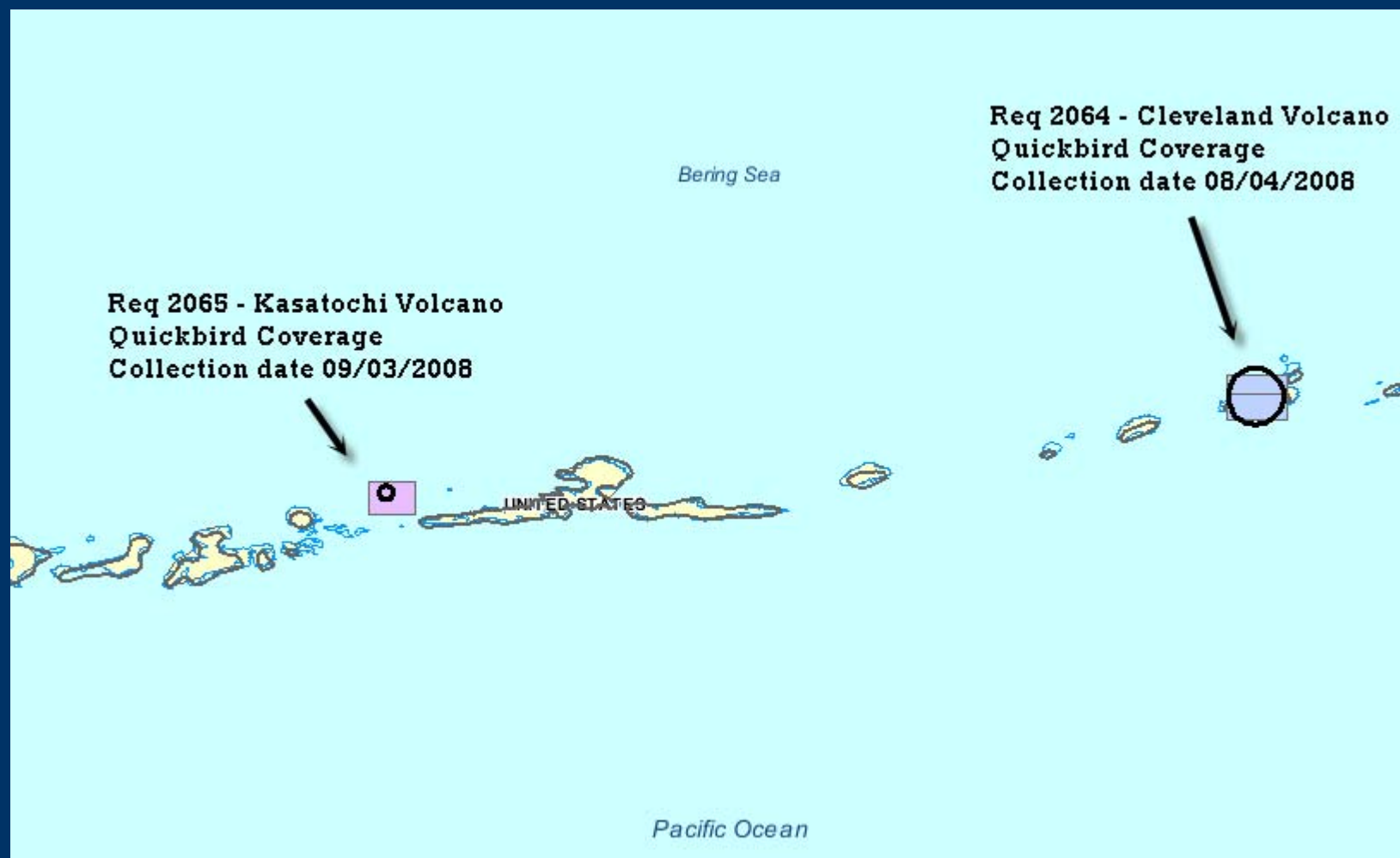


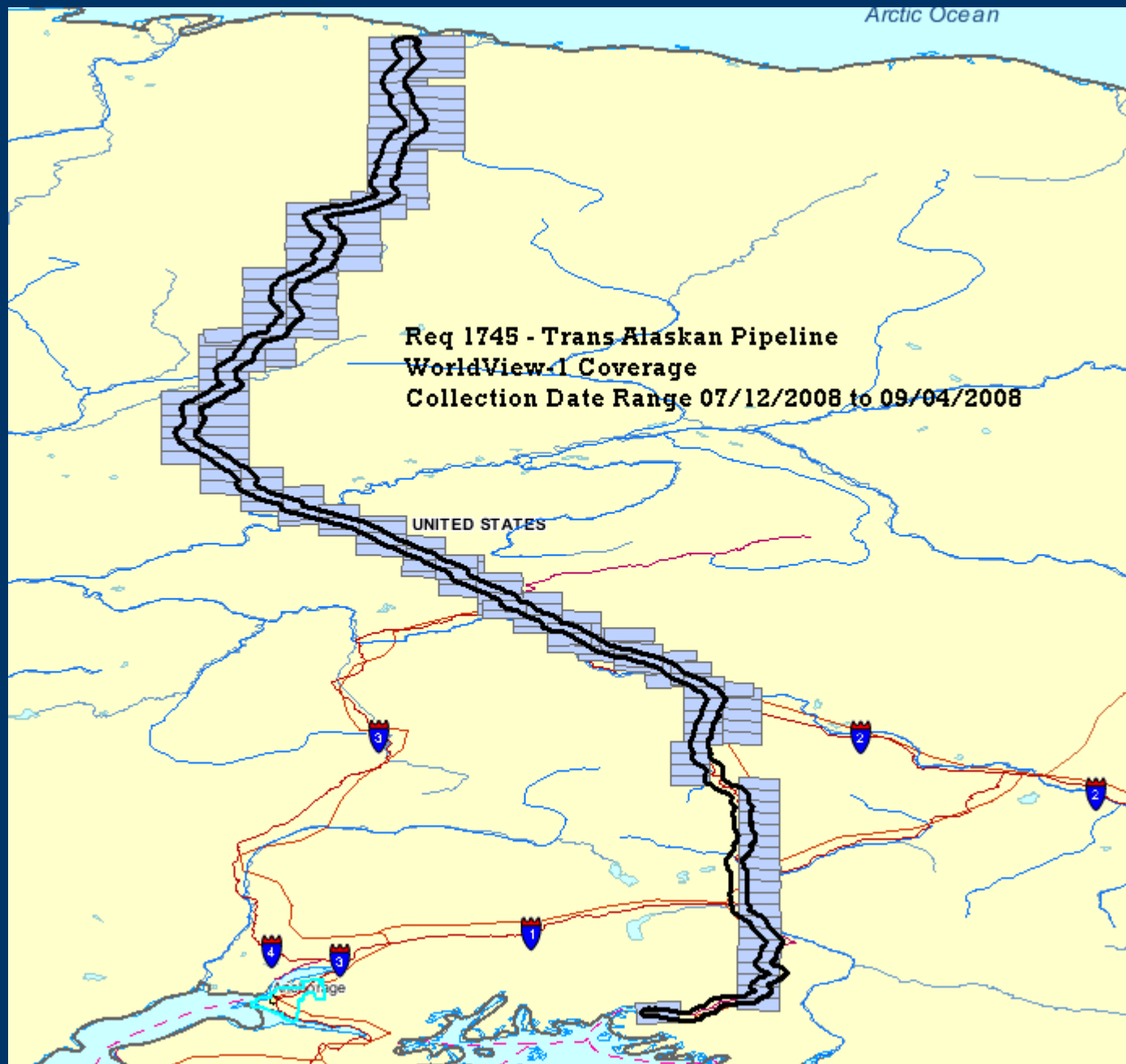




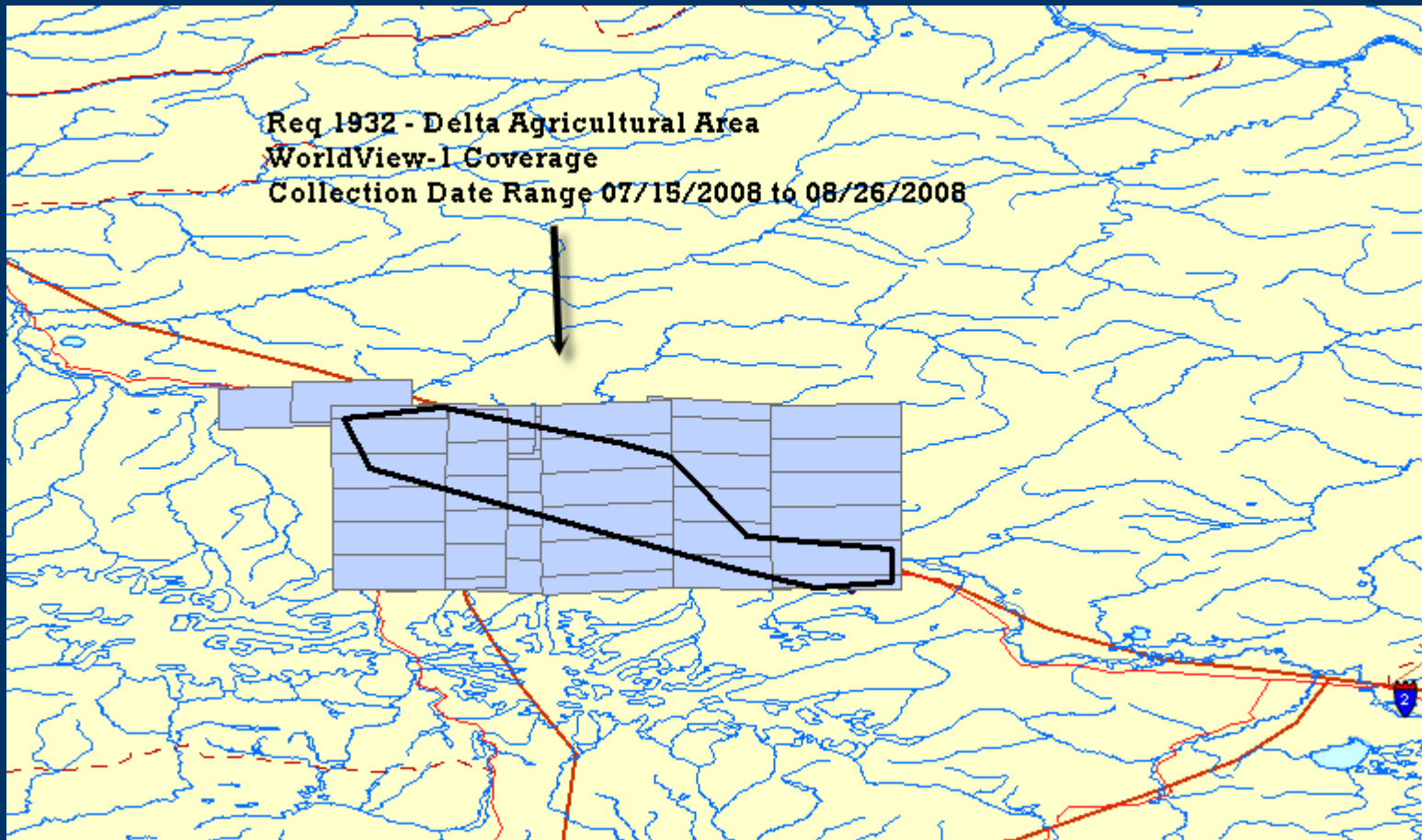
Req 2035- McCall Glacier
WorldView-1 Coverage
Collection date 08/16/2008









Req 1932 - Delta Agricultural Area
WorldView-1 Coverage
Collection Date Range 07/15/2008 to 08/26/2008



Imagery Archive Discovery Tools-WARP

**NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY**
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QUERY OPTION	QUERY PARAMETER
<input type="text" value="IMAGE_ID"/>	Query Value: <input type="text"/>

SENSOR OPTIONS
☒ ANY ☒ QB02 ☒ IK01 ☒ OV30

PRODUCT OPTIONS
☒ NITF ☐ MSI-QB ☐ MSI-IK ☐ MSI-OV

WARP LOCATION OPTIONS
☒ WARP-UNIL

DATE OPTION	DATE PARAMETERS
<input type="radio"/> All	
<input checked="" type="radio"/> Last N Days	Days Back From Today: <input type="text" value="1"/>
<input type="radio"/> Interval	Starting Date (ddMONyy): <input type="text"/> Ending Date (ddMONyy): <input type="text"/>

<https://warp.nga.mil>

WorldView

- All WorldView imagery has a NextView License
- If you can use Panchromatic imagery for your application, you can expect to get free imagery.
- Search Digital Globe or WARP for existing imagery.

Vendor archives

- DigitalGlobe: <http://www.digitalglobe.com>
- GeoEye: <http://www.geoeye.com>
- MacDonald Dettwiler & Associates (MDA)
Federal: <http://gs.mdacorporation.com>
- SPOT: <http://www.spot.com>

USDA Imagery Archive

- FAS serves as the repository and manager of the USDA Satellite Imagery Archive. Access is available to USDA subscribers only. The USDA Imagery Archive is the repository for all acquired USDA satellite imagery. The Archive was established in 2001 as a cost-sharing agreement among the various subscribers.
- Link: [Archive Explorer](#) (USDA subscribers only)
- **Wednesday, December 3, 2008 @9:00**