

USGS Satellite Remote Sensing IDIQ Contracts Summary

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Summary of USGS Commercial Remote Sensing Data Contract Advantages

- Single point access to commercial satellite imagery
- Eliminates the need for multiple FedCiv agencies to establish data-purchase contracts
- Technical analysis of customer requests, ensuring the right product the first time
- Imagery support for science and operational applications
- Provides multi-resolution data
- Negotiated discounts
- Supports the goals of the Commercial Remote Sensing Space Policy (CRSSP)
- Multiple agency requirements are coordinated whenever possible through the CRSSP Imagery-Derived Requirements (CIDR) collection tool
- Properly licensed imagery is added to the USGS Commercial Data Purchases (UCDP) archive



USGS CRS Data Contract Info

- The Commercial Remote Sensing Data Contracts (CRSDC) includes contracts with five satellite vendors. The contracts are for one base year with four option years for a total of five years. The contract awardees are
 - SPOT Image Corp. (Astrium)
 - DigitalGlobe
 - GeoEye ICS Inc.
 - MDA Inf. Systems Inc.
 - RapidEye US



GeoEye Imagery Collection Systems Inc.

- **USGS special discount on all invoices**
- **Supplemental to NGA's EnhancedView contract**
- **Available image products (Ikonos and GeoEye-1) include:**
 - **0.5 and 1 meter resolution panchromatic**
 - **2 and 4 meter resolution multispectral**
 - **.5 and 1 meter resolution pan-sharpened color**
 - **Stereo products**
 - **Georectified and orthorectified processing**
 - **Other commercial catalog offerings**



GeoEye (cont.)

- **Available licenses include:**
 - Federal Civil
 - Federal Civil & State/Local /Tribal Governments
 - Federal Civil & Cooperators (may include university and international partners)
 - Additional licenses may be negotiated

Note : USGS has purchased the global OrbView-3 archive, licensed for public use.



IKONOS EXAMPLE

Grand Canyon, AZ



Pixel Resolution
(at nadir)

1m – Pan

4m -- B,G,R,NIR

Scene Size

11km x 11km



GEOEYE-1 EXAMPLE

View of Old and New Yankee Stadiums

February 21, 2009

Pixel Resolution

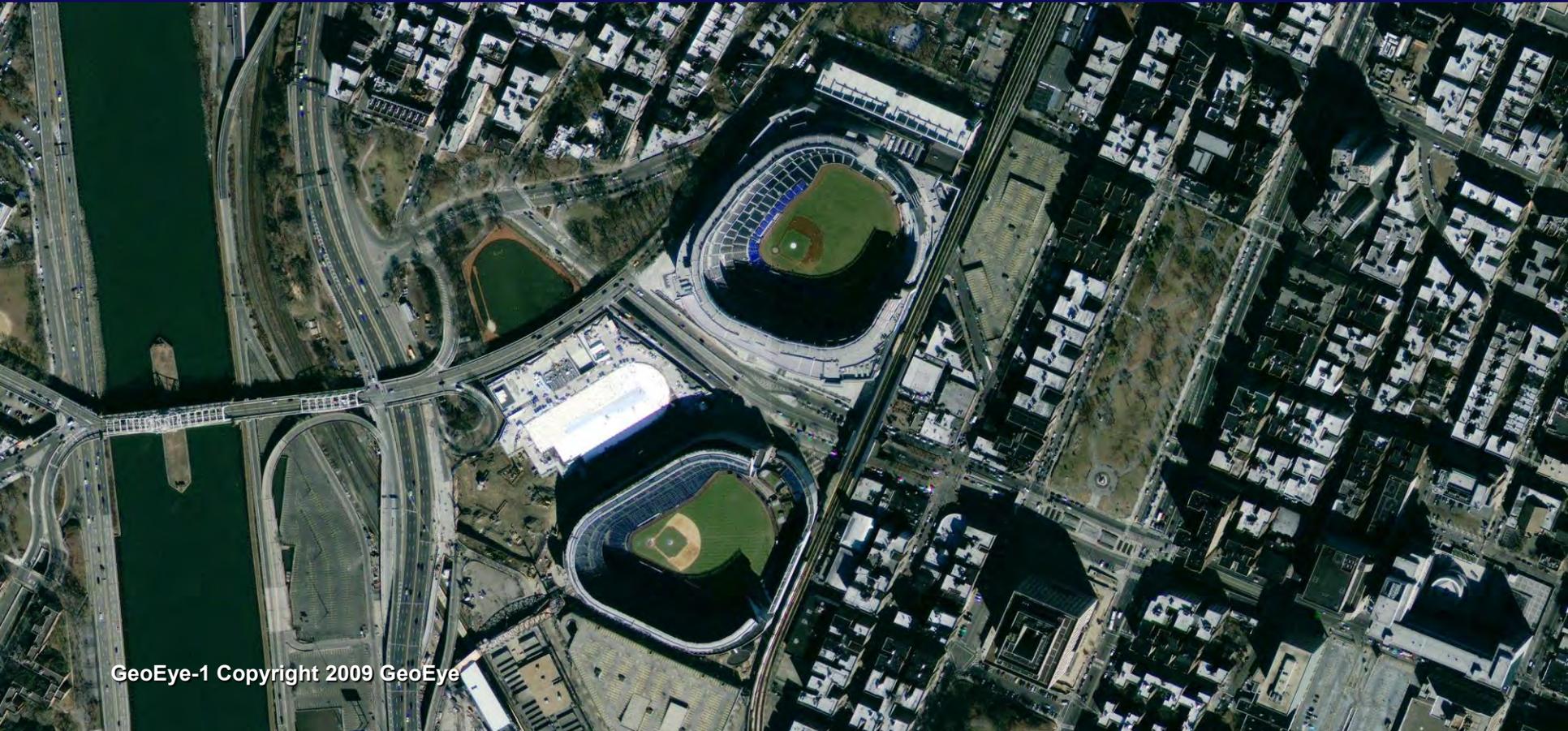
(at nadir)

*.41 m – Pan**

1.65 m - MS

Swath Width

15.2km at nadir



GeoEye-1 Copyright 2009 GeoEye



Digital Globe, Inc.

- **USGS special discount on all invoices**
- Supplemental to NGA's EnhancedView contract
- **Available image products (Quickbird and WorldViews 1 and 2) include:**
 - .5 to 1 meter resolution panchromatic
 - 2 to 4 meter resolution multispectral
 - .5 to 1 meter resolution pan-sharpened color
 - Stereo products
 - Other commercial catalog offerings (e.g. advanced ortho series vision products)



<http://www.digitalglobe.com/products>

Partner Login
Contact

PRODUCTS INDUSTRIES GALLERY PURCHASE PARTNERS ABOUT US RESOURCES INVESTORS

PRODUCTS

DigitalGlobe is simply the best at identifying the world's natural resources, monitoring pipelines and facilities, understanding the earth's environmental condition, protecting homelands and borders, responding to emergencies and natural disasters; then rebuilding, and planning investments in multi-million dollar infrastructure developments.

TASKING SERVICES	MAPPING PRODUCTS	ANALYSIS SERVICES	DELIVERY SERVICES
	<ul style="list-style-type: none">BASIC SATELLITE IMAGERYSTANDARD SATELLITE IMAGERYSTEREO IMAGERYADVANCED ORTHO SERIESGLOBAL BASEMAPPRECISION AERIALADVANCED ELEVATION SERIESWORLDVIEW ELEVATION SUITEDIPLOMATIC FACILITY SUPPORT PKG		
Our Coverage	Resources	Related Industries	How To Purchase

GLOBAL BASEMAP

Global Basemap is an off-the-shelf product delivering baseline context that enables users to better understand and analyze specific geographic areas of interest, whether they be state-wide, county-wide, nationwide, or global.

[Details](#)

ADVANCED ORTHO SERIES

The DigitalGlobe Advanced Ortho Series provides unparalleled coverage, speed, accuracy, and aesthetics - resulting in the best quality orthos available in a faster and easier method than ever before. Additionally, workflow integration becomes truly effortless, eliminating the need for any additional image processing or manipulation.



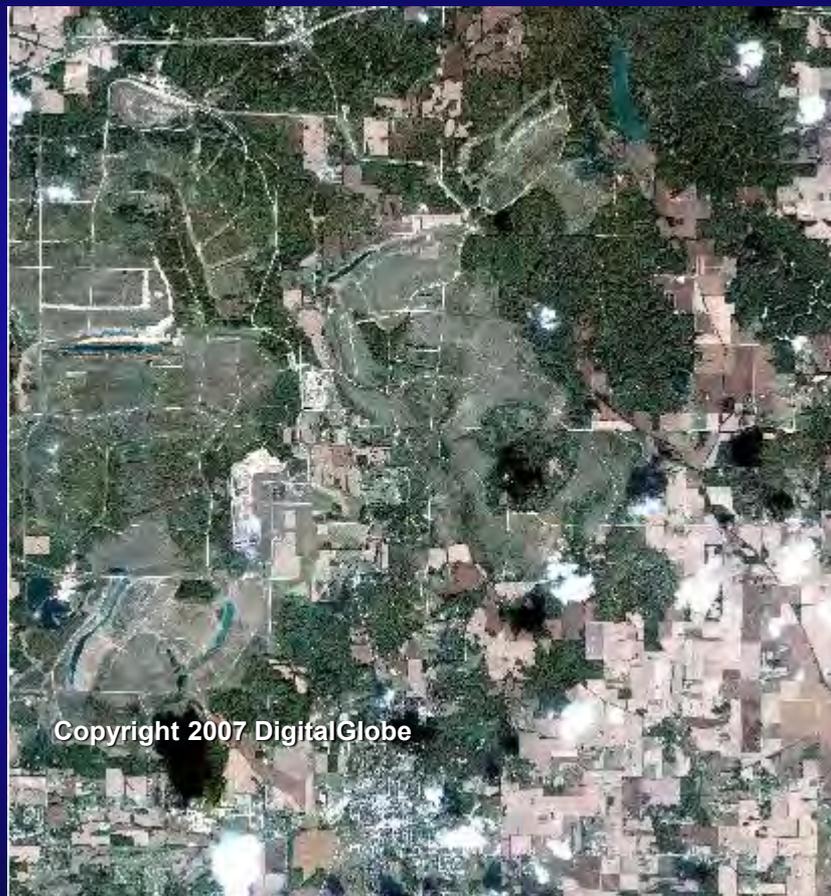
DigitalGlobe (cont.)

- **Available licenses include:**
 - Federal Civil
 - Federal Civil & State/Local /Tribal Governments
 - Federal Civil & Cooperators (may include university and international partners)
 - Additional licenses may be negotiated
 - Soon to be included – uplift license from NextView to the DG Enterprise Premium license
 - For planning purposes, estimate \$3 per sq km for this uplift

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

Reforestation Assessment on Indiana Coal Mines in – SW Indiana

**DigitalGlobe
Quickbird
Example**



*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**

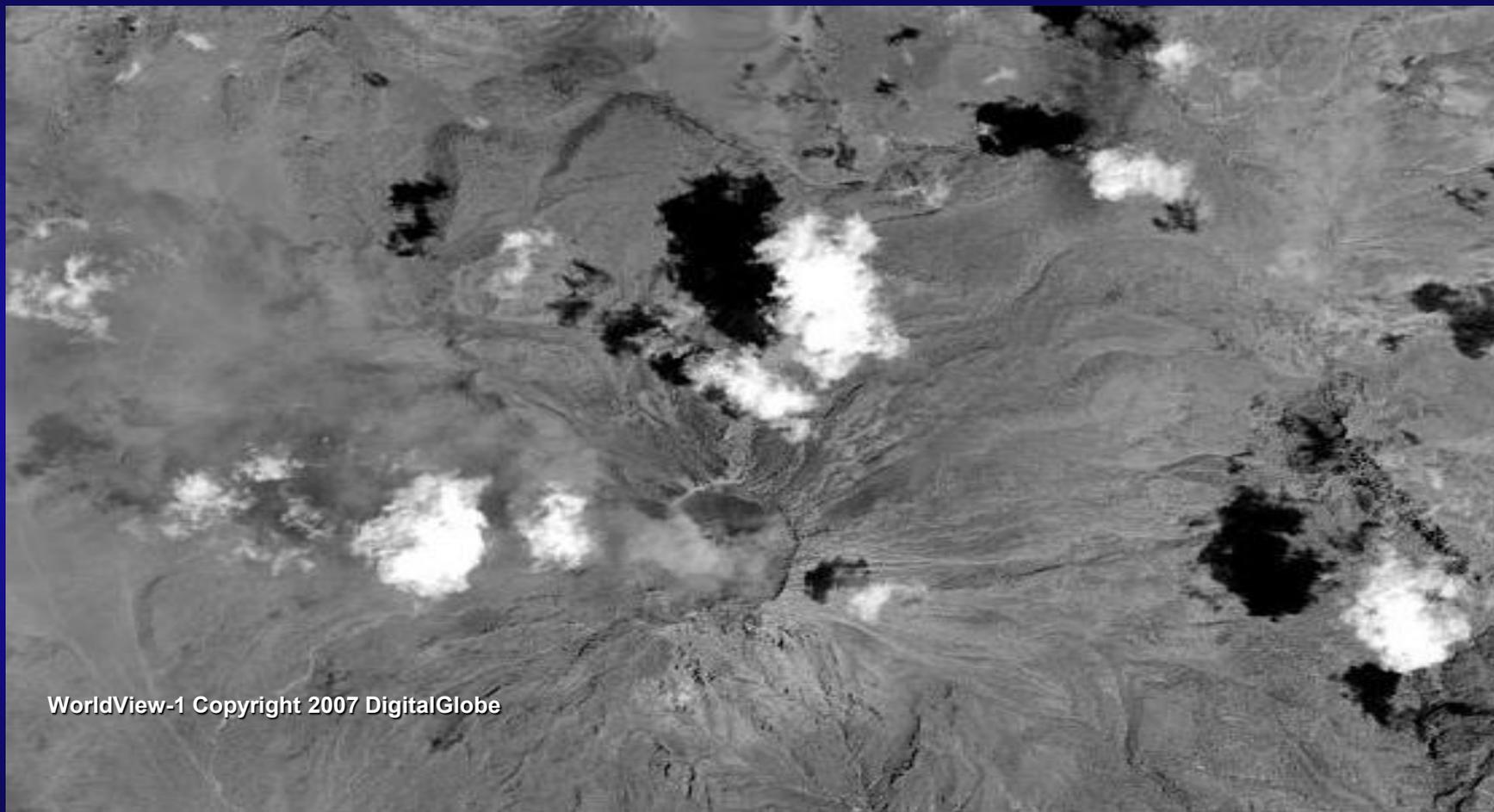
CIDR Requirement 1567 – Ubinas Peru

*Pixel Resolution
(at nadir)*

*Swath Width
17.6km at nadir*

.5 m – Pan

Scene Length - 14km



WorldView-1 Copyright 2007 DigitalGlobe



DG – WorldView-2

WORLDVIEW-2 SATELLITE SENSOR

DigitalGlobe's WorldView-2 is anticipated to launch during the fall of 2009. WorldView-1 was launched in September 2007 providing 0.5m Panchromatic (B&W) mono and stereo Satellite Image data.



WorldView-2

Coastal Band (400 - 450 nm):

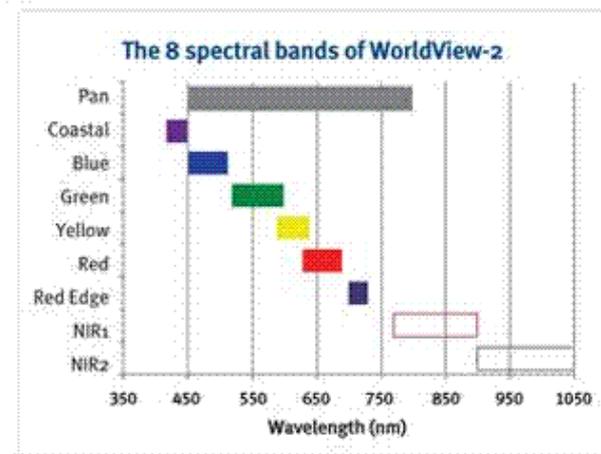
This band supports vegetation identification and analysis, and supports bathymetric studies based upon its chlorophyll and water penetration characteristics. Also, this band is subject to atmospheric scattering and will be used to investigate atmospheric correction techniques.

Yellow Band (585 - 625 nm):

Used to identify "yellow-ness" characteristics of targets, important for vegetation applications. Also, this band will assist in the development of "true-color" hue correction for human vision representation.

Red Edge Band (705 - 745 nm): Aids in the analysis of vegetative condition. Directly related to plant health revealed through chlorophyll production.

Near Infrared 2 Band (860 - 1040 nm): This band overlaps the NIR 1 band but is less affected by atmospheric influence. It supports vegetation analysis and biomass studies.



Sensor Resolution GSD

Multispectral: 1.8 meters GSD at Nadir, 2.4 meters GSD at 20° Off-Nadir
(note that imagery must be resampled to 0.5 meters for non-US Government customers)

Dynamic Range

11-bits per pixel

Swath Width

16.4 kilometers at nadir

Revisit Frequency

1.1 days at 1 meter GSD or less 3.7 days at 20° off-nadir or less (0.52 meter GSD)

Geolocation Accuracy

(CE 90) Specification of 12.2m CE90, with predicted performance in the range of 4.6 to 10.7 meters (15 to 35 feet) CE90, excluding terrain and off-nadir effects

With registration to GCP's in image: <2.0 meters (6.6 ft)

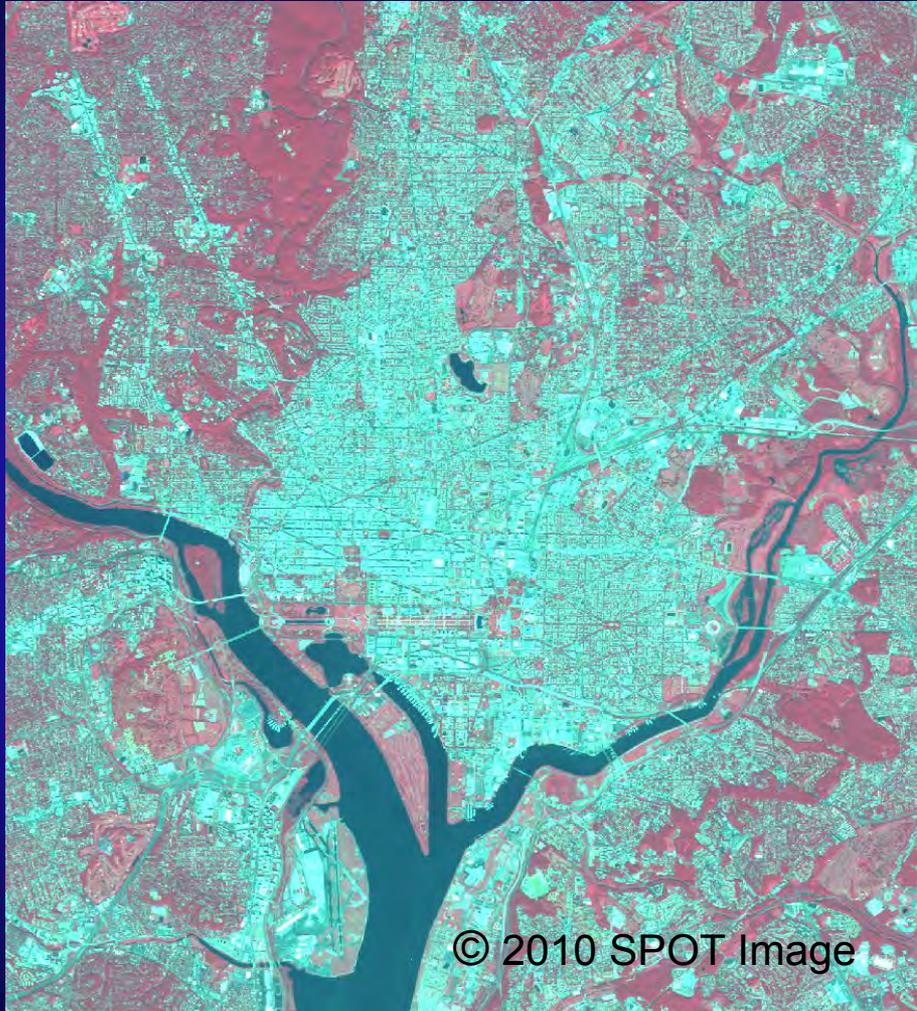


SPOT Image Corp. (Astrium)

- USGS discount based on annual aggregate total of orders
- Available image products (SPOT 2, 4 & 5) include:
 - 2.5, 5, and 10 meter resolution panchromatic
 - 10 and 20 meter resolution multispectral
 - 2.5, 5, 10, and 20 meter resolution color
 - Georecified and ortho-rectified processing
 - 20-meter posting Digital Elevation Models
 - Vegetation Instrument 1 kilometer resolution multispectral
 - Other commercial catalog offerings
- **Note 1: USGS and USDA have partnered to purchase SPOT imagery for the entire U.S. plus portions of Canada and Mexico available to all Federal Civil, State, Local and Tribal government users free of charge. The current task order runs through January 2013.**
- **Note 2: USGS has purchased the SPOT archive over the U.S. covering 1986 – 1998 licensed for users physically in the U.S.**
- SPOT 2 retired July 2009



SPOT-5 EXAMPLE (G,R,NIR – 10m) Washington DC region



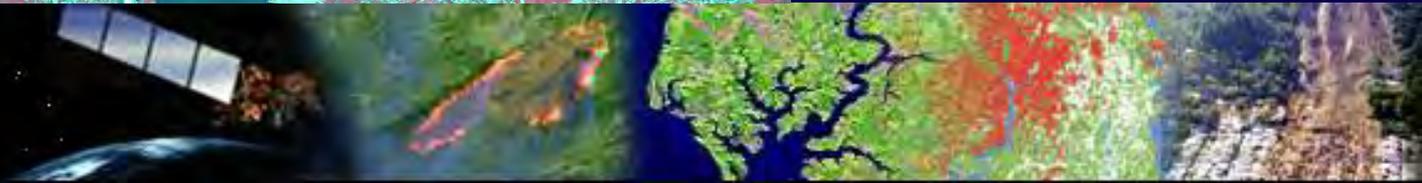
*Pixel Resolution
(at nadir)*

2.5m, 5m – Pan

10m – G,R,NIR,SWIR

Scene Size

60km x 60km



SPOT Image Corp. (cont.)

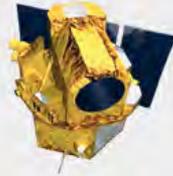
- Available image products (Formosat-2) include:
 - 2 meter resolution panchromatic
 - 2 meter resolution color
 - 8 meter resolution multispectral
 - DIMAP Geotiff format
 - Data delivered as Level 1A or 2A (UTM WGS84)



SPOT Image Corp. – Formosat-2

FORMOSAT-2

High-resolution change detection



FORMOSAT-2 is a high-resolution optical satellite able to revisit the same point on the globe every day in the same viewing conditions.

Its unique orbit and 2-metre resolution are well suited to change detection and rapid coverage of large areas.

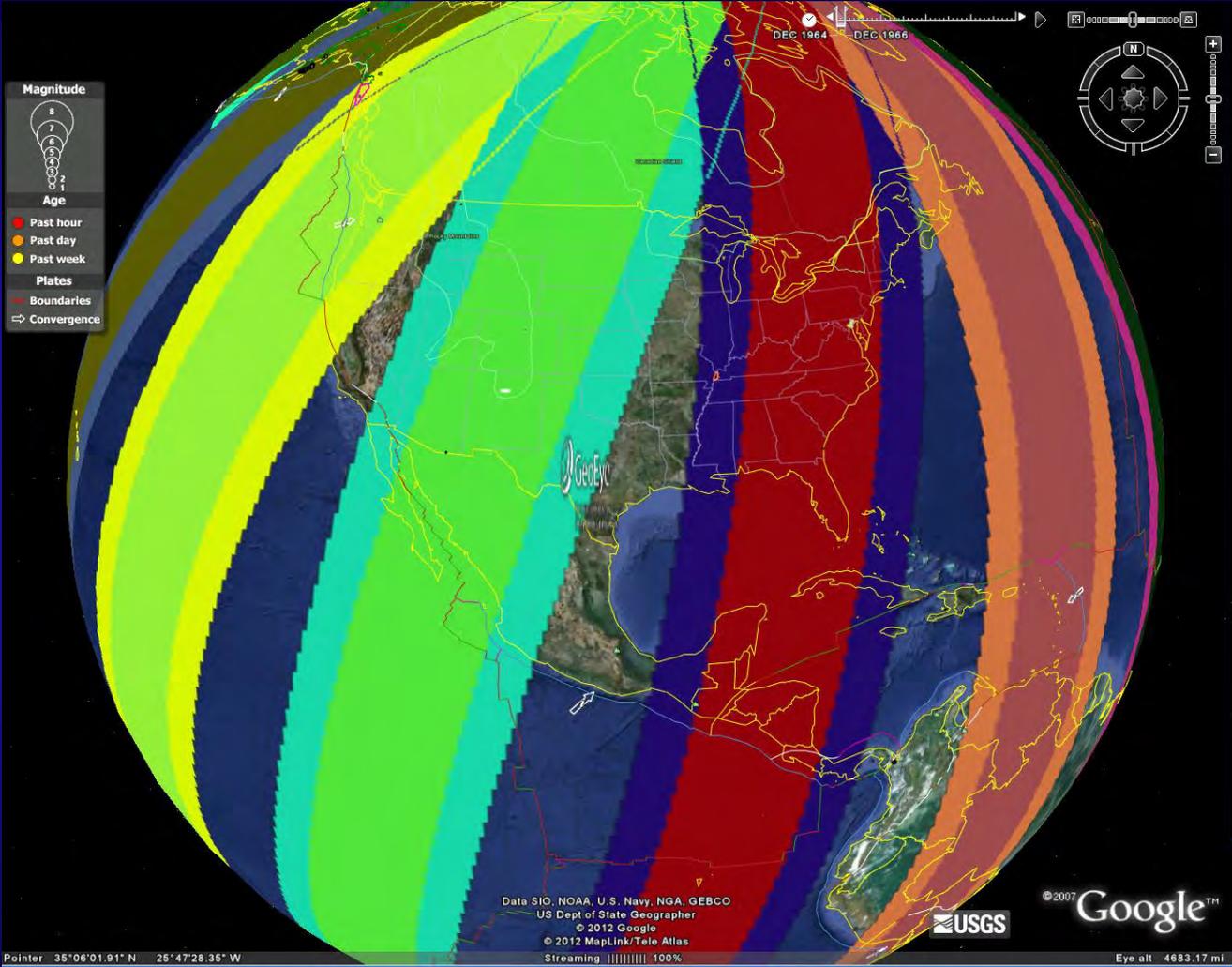
High resolution

Products	B&W: 2 m Colour: 2 m (merge) Multispectral (R, G, B, NIR): 8 m Bundle (separate Pan and MS images)
Spectral bands	P : 0,45 – 0,90 μm B1 : 0,45 – 0,52 μm (Blue) B2 : 0,52 – 0,60 μm (Green) B3 : 0,63 – 0,69 μm (Red) B4 : 0,76 – 0,90 μm (Near-infrared)
Sensor footprint	24 km x 24 km
Revisit rate	Daily
Viewing angles	Cross-track and along-track (forward/aft): +/- 45°
Pre-processing levels	Level 1A, 2A and Ortho
Delivery	Data are posted on an FTP site within 48 hours of acquisition



FORMOSAT-2 satellite image, natural colours - Chuquicamata, Chile © NSPO

Formosat-2 Coverage



SPOT Image Corp. (cont.)

- Available image products (Deimos-1) include:
 - 2.5, 5, and 10 meter resolution panchromatic
 - 10 and 20 meter resolution multispectral
 - 2.5, 5, 10, and 20 meter resolution color
 - Georecified and ortho-rectified processing
 - 20-meter posting Digital Elevation Models
 - Vegetation Instrument 1 kilometer resolution multispectral
 - Other commercial catalog offerings

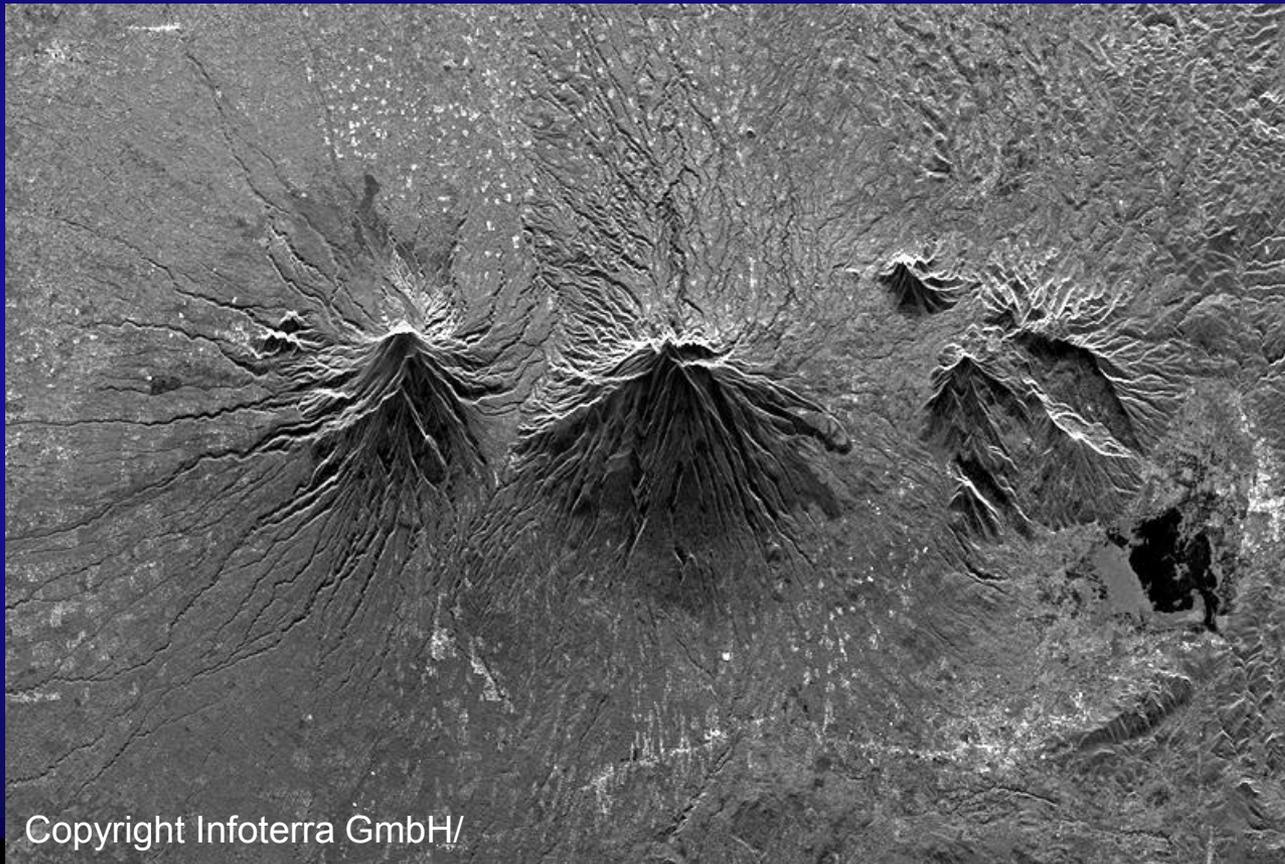
SPOT Image Corp. (cont.)

- Available image products (TerraSAR-X, TANDEM-X) include:
 - **SpotLight Mode**
 - 10km x 5km scene size
 - 1-meter resolution
 - **StripMap Mode** (approx \$4500 per scene for single user license)
 - 30km x 50 km scene size
 - 3-meter resolution
 - **ScanSAR Mode**
 - 100km x 150km
 - 16-meter resolution
 - Other commercial catalog offerings



SPOT Image Corp. SAR Product Example

- TerraSAR-X image of Merapi Volcano, Indonesia

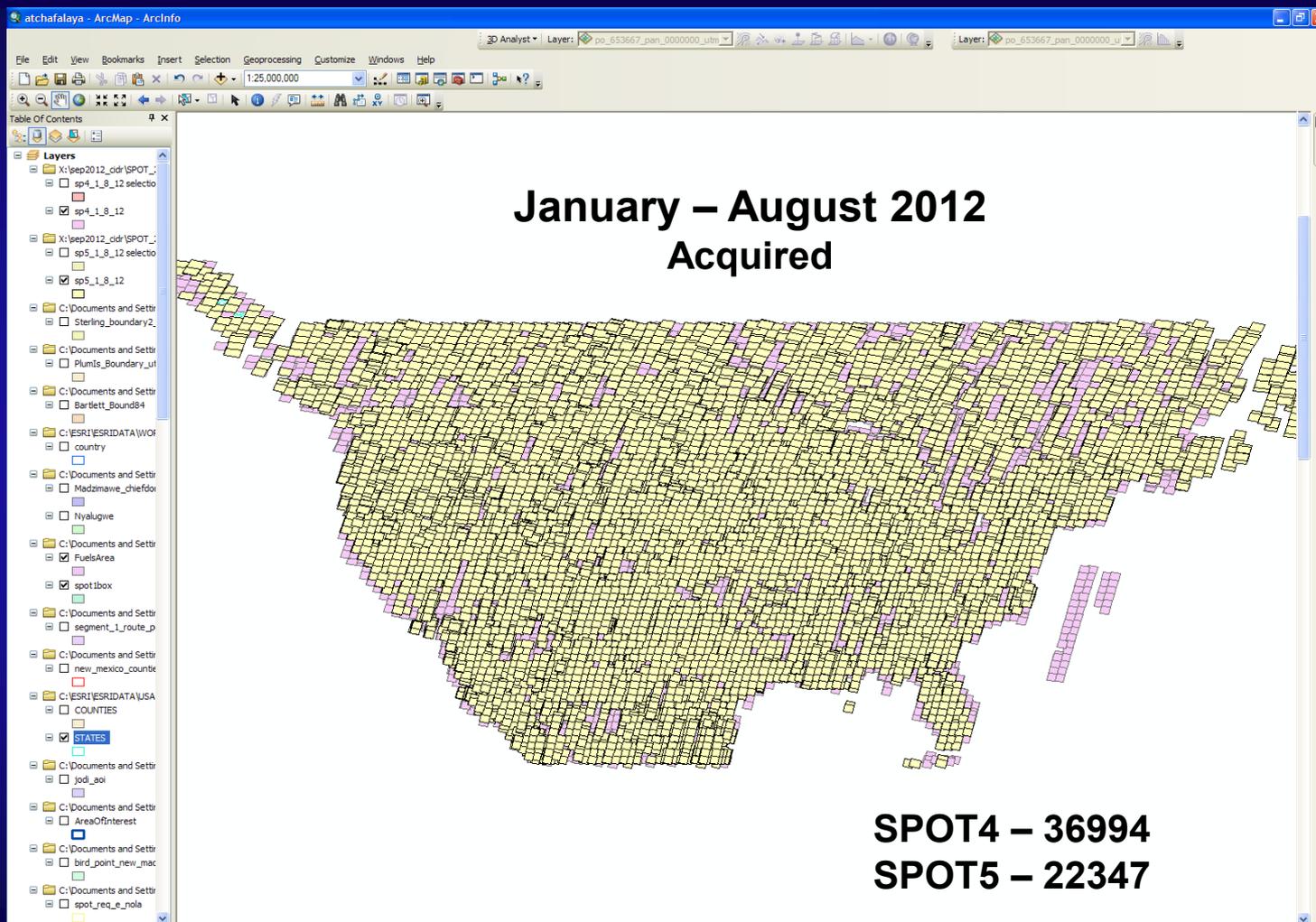


Copyright Infoterra GmbH/

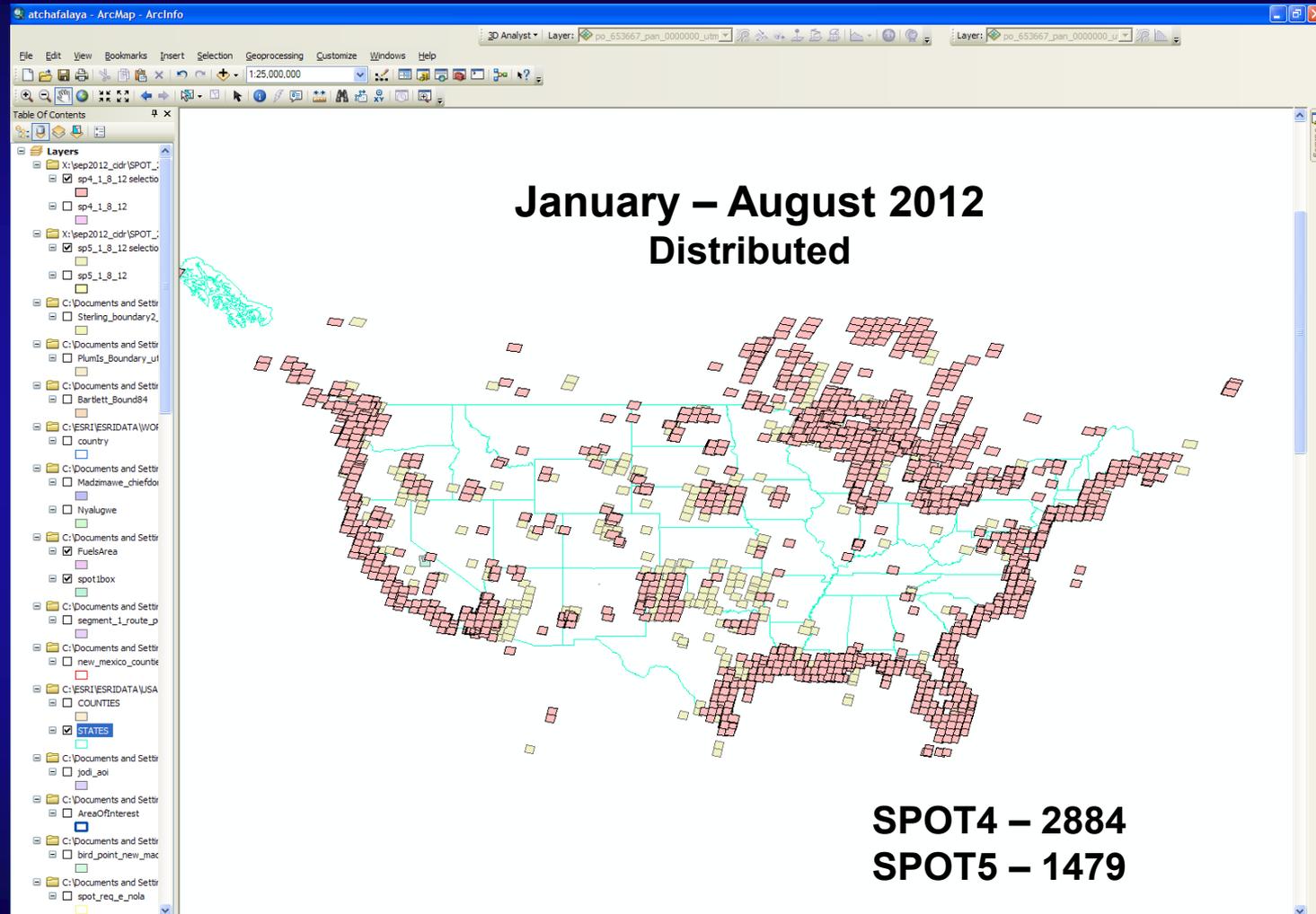
SPOT

- **Available licenses through the CRSDC contract vehicle include:**
 - **Single Organization**
 - **Federal Civil**
 - **Federal Civil & State/Local Governments**
 - **Federal Civil & International Partners**
 - **Federal Civil Premier**
 - **U.S. Governments, International Partners, & non-government organizations**
 - **DoD**

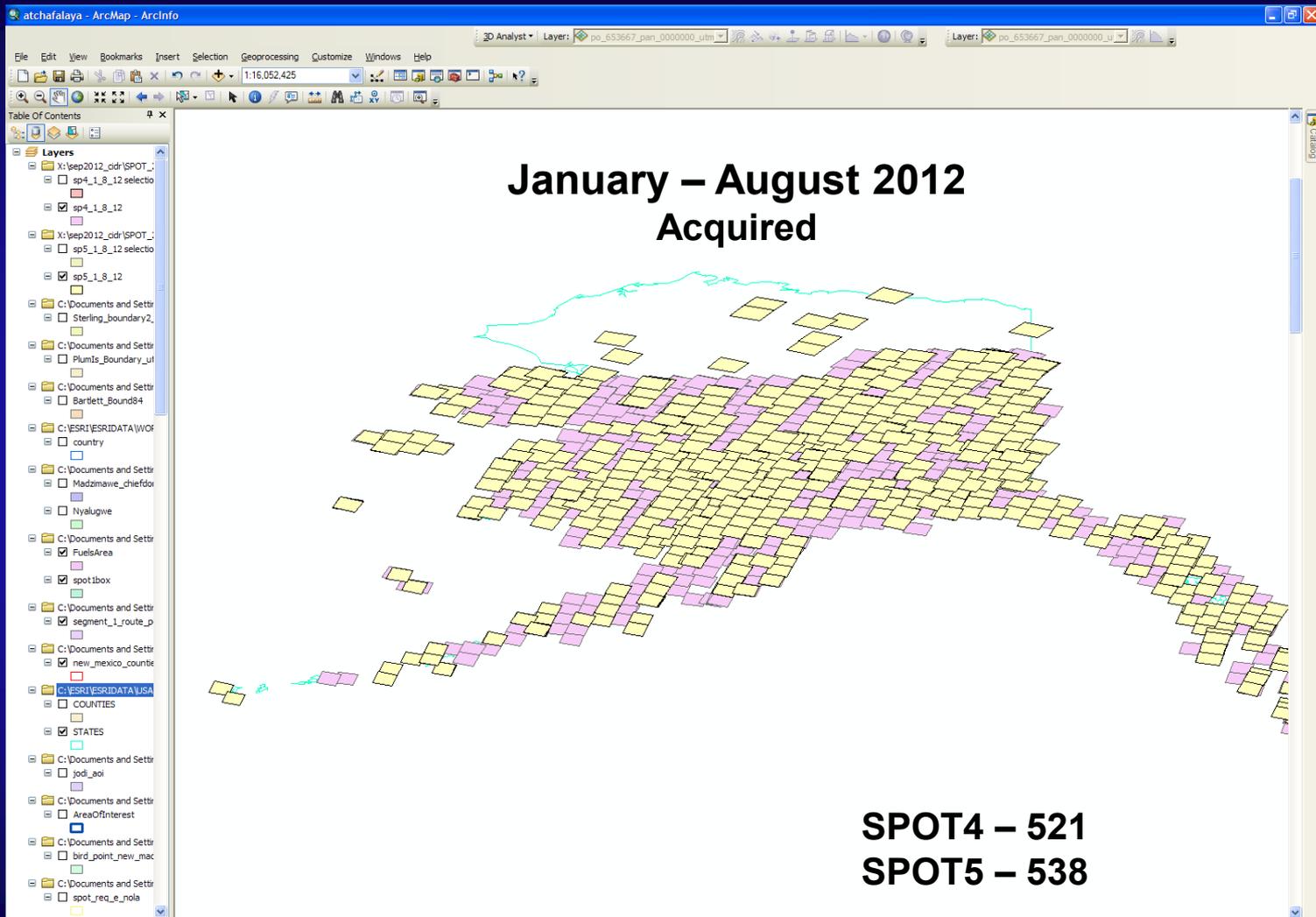
Current Data Buy Task Order



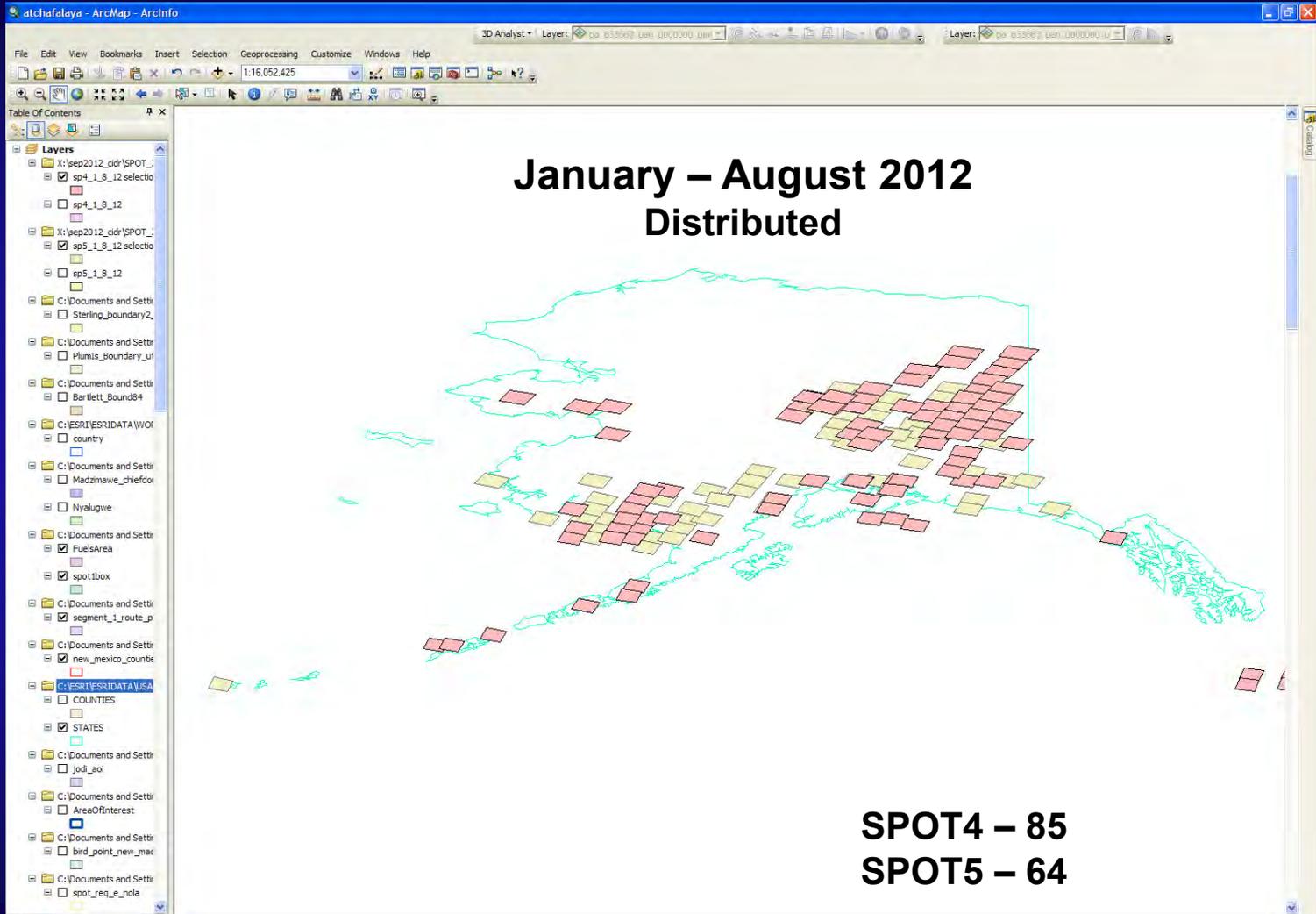
Current Data Buy Task Order



Current Data Buy Task Order



Current Data Buy Task Order



MDA Information Systems Inc. & RapidEye US

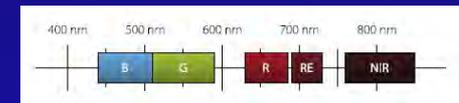


RapidEye

5 Satellites

77km swath

Spectral Bands:



GSD 6.5m, Pixel Size 5m

Revisit 5.5 days (nadir)

12 bit

Minimum Purchase:

500 sq km (archive)

3,500 sq km (tasking)

MDA Information Systems Inc. & RapidEye US (cont.)

- **Available licenses include:**
 - Federal Civil
 - Federal Civil & State/Local /Tribal Governments
 - Federal Civil & Cooperators (may include university and international partners)
 - Additional licenses may be negotiated

CRSDC Contact Information

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