



GeoEye

See our World...Better than Ever

GeoEye High Resolution Satellite Imagery for Africa

Ms. Andrea Cook

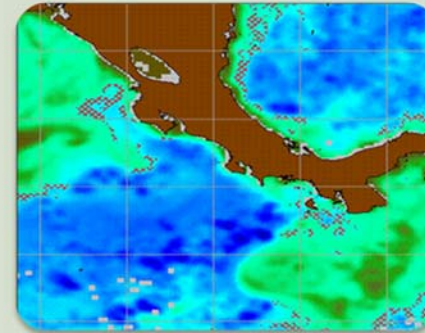
UN SPIDER Regional Conference

9 July 2010



What We Do

Our mission is to enable
Timely, Accurate and Accessible Location Based Products and Information



Satellite &
aerial
***Collection
Services***

Precision
geospatial
***Production
Services***

A provider of
location based
***Information
Services***

Customers

Domestic

Government



- Direct Sales to NGA (National Geospatial-Intelligence Agency)
- Other USG agencies

Commercial

Direct



- Direct Sales to key customers

Reseller



- Value-added Channel Resellers for commercial sales

International

Government



- Direct Sales to Foreign Governments

Commercial

Direct

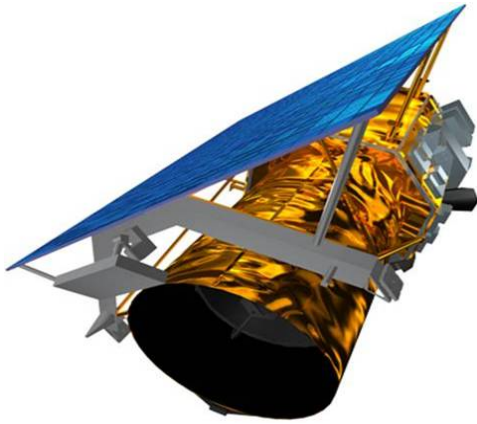


- Direct Sales to Regional Affiliates
- Channel Resellers for commercial sales

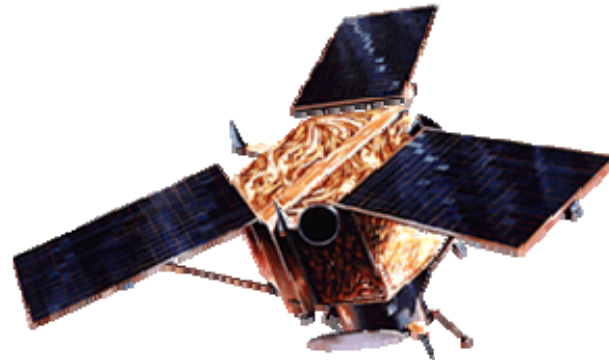
Reseller



GeoEye Sensors



GeoEye-1



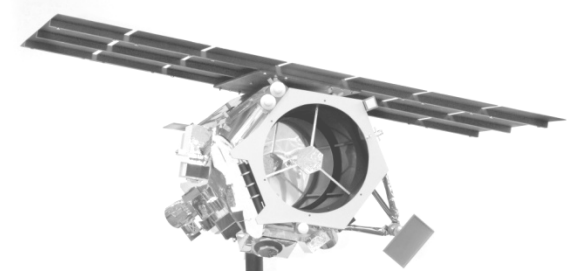
IKONOS



**MJ Harden Digital Mapping
Camera & LiDAR sensors**



OrbView-2



GeoEye-2




Imagery Collection

Satellite Sensors



OrbView-2

- 1 km resolution
- Aug 1997



IKONOS

- .82-m resolution
- Sept 1999



GeoEye-1

- .41-m resolution
- Sept. 6, 2008



GeoEye-2
[2013]


- .25-.36-m resolution
- 2013 timeframe

Aerial Sensors



Digital Mapping Camera

- 1.2 inch resolution
- 2007



LiDAR (Laser Sensor)

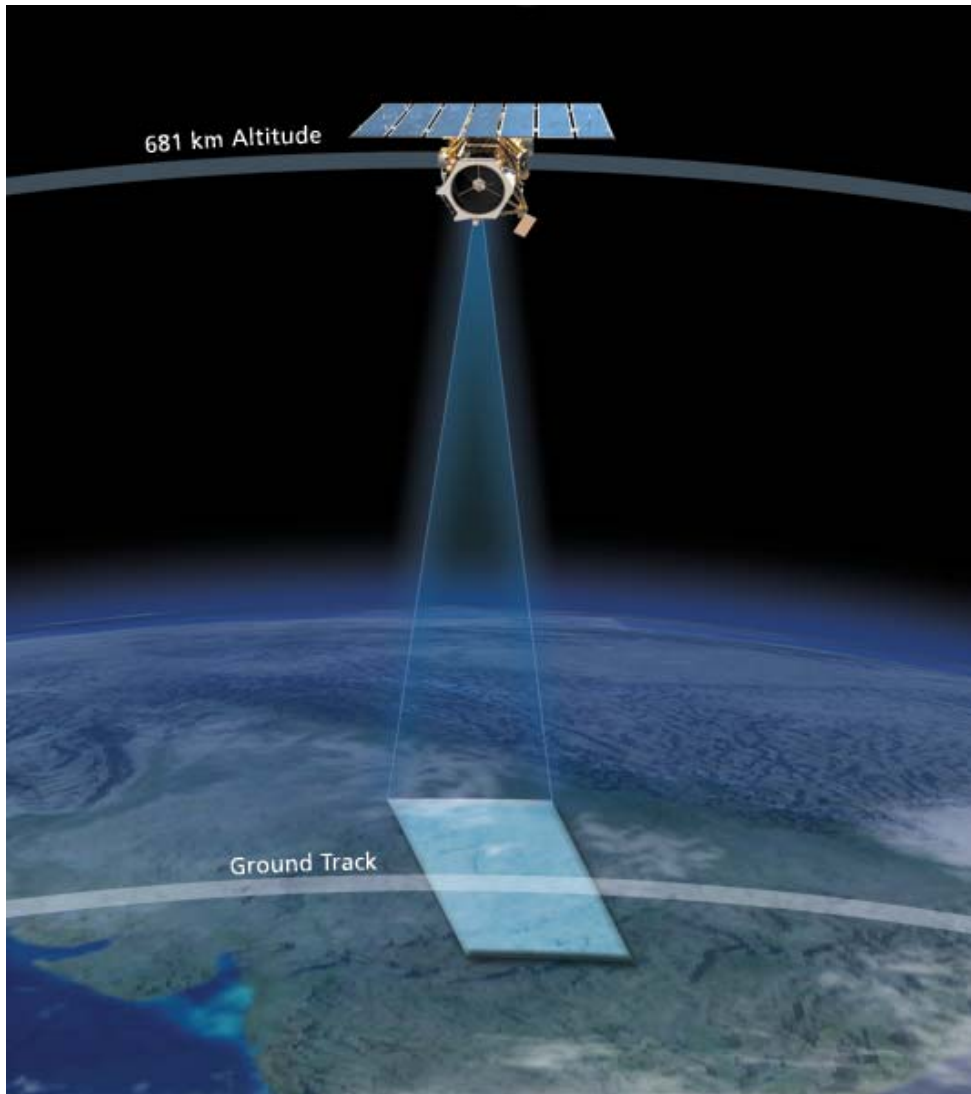
- Light Detection and Ranging
- 2008



Digital Mapping Camera II

- 1.2 inch resolution
- Spring 2009

Imagery Collection & Sales



How do we sell imagery?

- Access minutes **(time)** to our high resolution electro-optical satellites
 - IKONOS and GeoEye-1
 - Government Affiliates
- Square kilometers **(data)** from our satellites
 - Rights to resell GeoEye-1 data collected anywhere
 - Both newly collected and archive
 - Both Government and Commercial Customers



IKONOS: Built by Lockheed Martin

World's First Commercial Sub-Meter Resolution Satellite



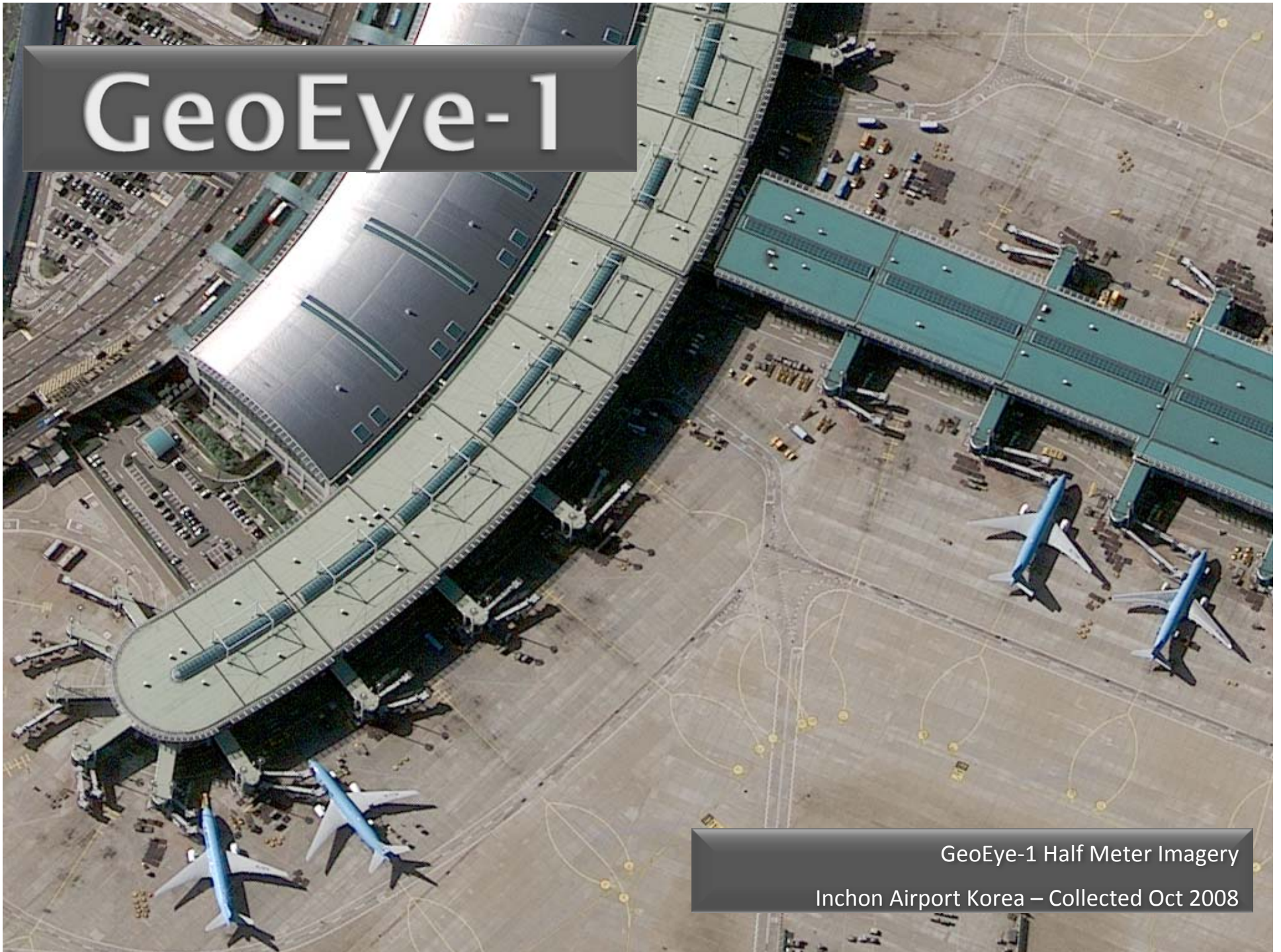
Capabilities

- <0.8-meter resolution
- Agility; point and shoot
- Increased imaging volumes
- Direct regional tasking and imagery downlink



More than 10 years of on-orbit operational excellence

GeoEye-1



GeoEye-1 Half Meter Imagery
Inchon Airport Korea – Collected Oct 2008

GeoEye-1 Key Features

Highest resolution, most accurate commercial sensor

Resolution

.41-meter at nadir

.50-meter at 26°

1.0-meter at 50°

Accuracy

Performance to date:

3.5m CE90

Commercial spec: 5m

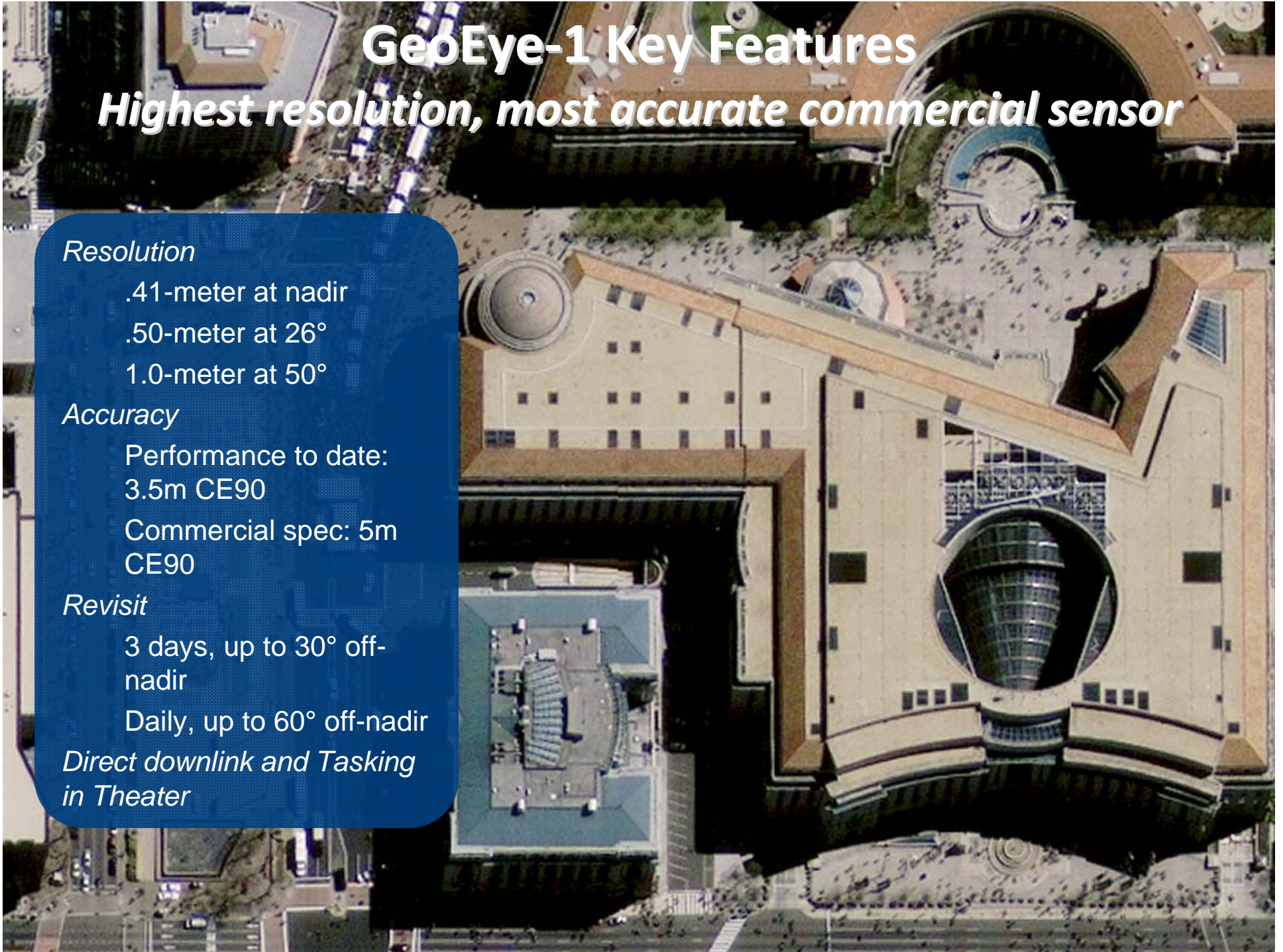
CE90

Revisit

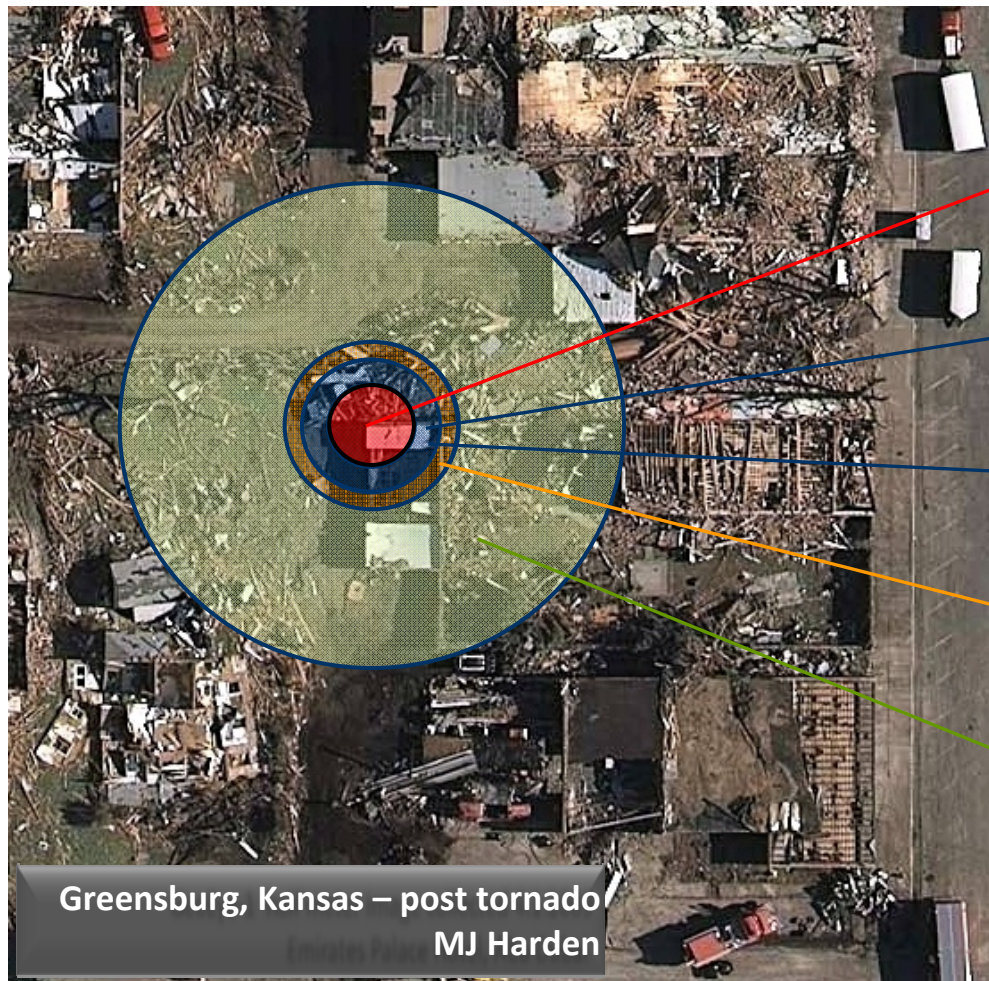
3 days, up to 30° off-nadir

Daily, up to 60° off-nadir

Direct downlink and Tasking in Theater



GeoEye-1 is the World's Most Accurate Commercial Imaging Satellite



Greensburg, Kansas – post tornado
MJ Harden

| Satellite | Accuracy |
|--------------------|---|
| GeoEye-1 | <3.5 meter actual <5.5 meters (spec) |
| WorldView-1 | 6.5 Meters (spec) |
| WorldView-2 | 6.5 Meters (spec) |
| IKONOS | 7.8 meters (actual) 15m (spec) |
| Quickbird | 23 meters (spec) |

GeoEye collection assets shown at actual accuracy, others at specified; representation of accuracy on imagery

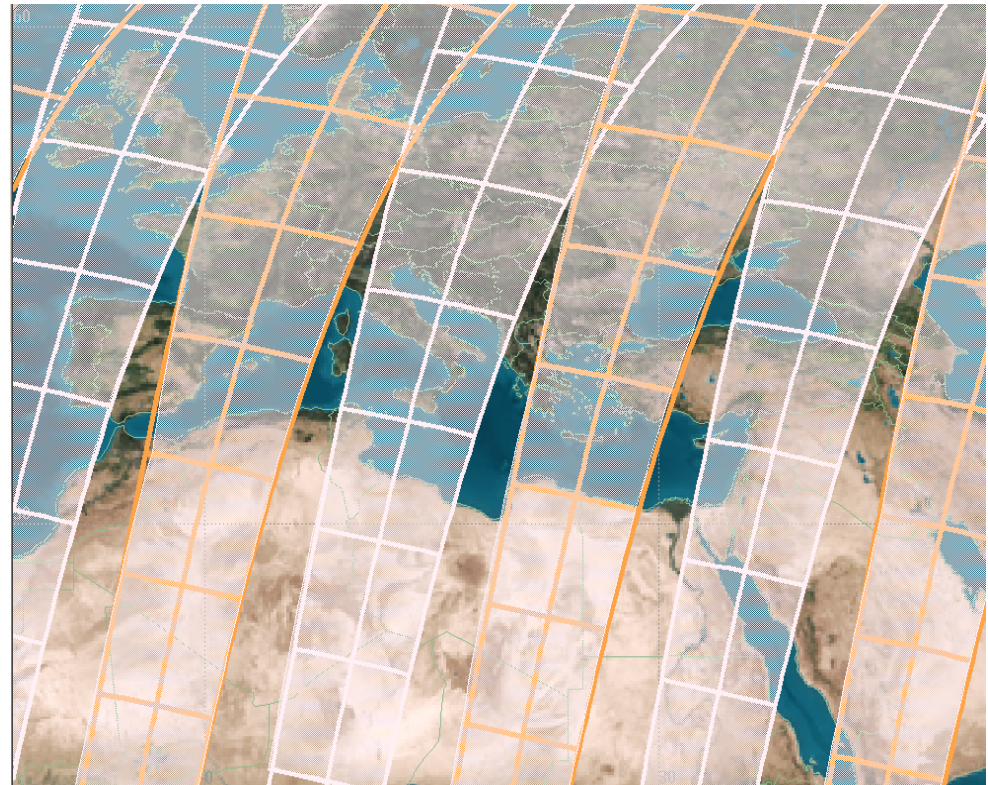


GeoEye's satellite imagery has *twice* the accuracy of its nearest competitor

Collection Capacity

Faster Response Times
Faster Project Completions
More Opportunities Served

- GeoEye Constellation Collection Capacity
 - GeoEye-1
 - Image 350,000 km²/day in multi-spectral mode
 - 700,000 sq km/day panchromatic mode
 - IKONOS
 - 150,000 sq km/day
- True Constellation Operations for GeoEye-1 and IKONOS
 - Phased orbit
 - Access to all locations nearly every day

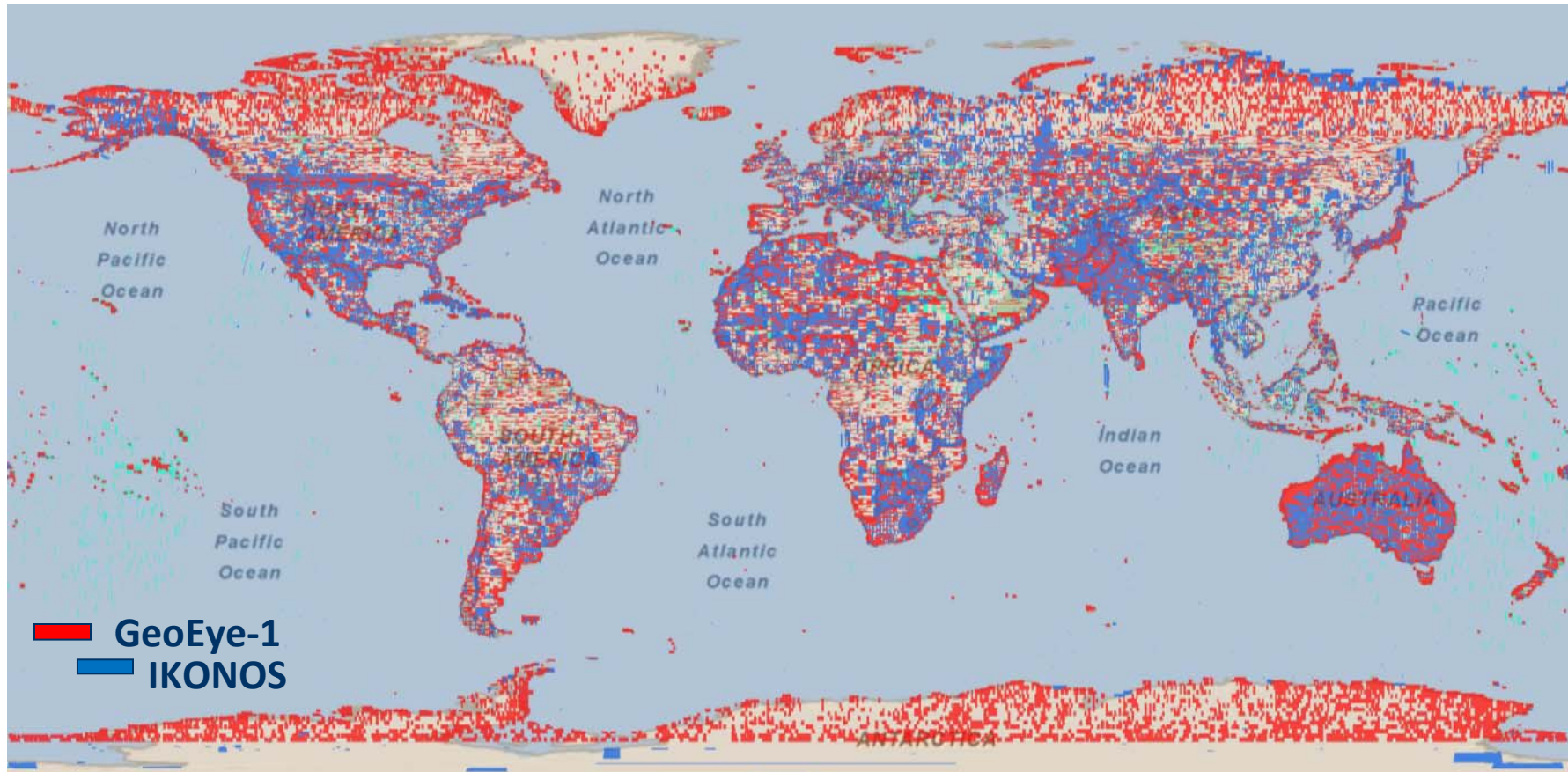


White = GeoEye-1 Collection path

Orange = IKONOS collection path



Color Satellite Imagery Archive



GeoEye-1 and IKONOS archive contains over *420 million sq km* of color imagery as of Spring 2010

Archive imagery is especially valuable for *Before and After* analysis to detect change

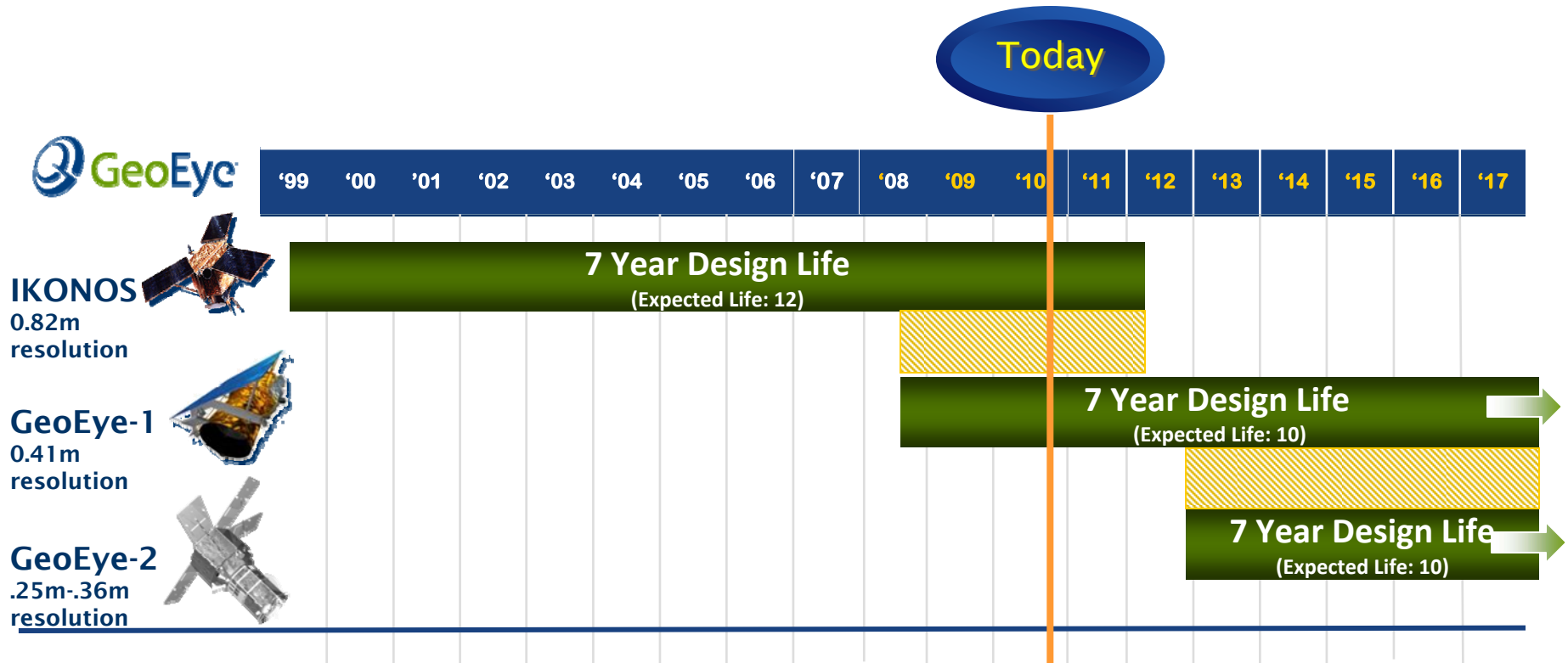




GeoEye-2

GeoEye Selects Lockheed Martin to Begin Engineering and Manufacturing of GeoEye-2, the Company's Next Commercial Earth-Imaging Satellite

Continuity of Imagery



Assured access to uninterrupted High-resolution imagery

Commercial Imagery Products

Geo™ Map Oriented Imagery

For those who want satellite imagery for visual and interpretive applications that are geometrically accurate and cost effective.

Typical Applications

- ▶ Environmental monitoring
- ▶ Image interpretation
- ▶ Photogrammetric applications
- ▶ Disaster response



GeoProfessional™ Terrain Corrected Imagery

Perfect for anyone demanding greater image positional accuracy. The optimal choice for regional mapping or for tasks requiring terrain-corrected imagery.

Typical Applications

- ▶ Base mapping
- ▶ Planning
- ▶ Infrastructure management
- ▶ Location services
- ▶ Visualization and simulation
- ▶ Online mapping

GeoStereo™ Imagery

For those requiring images that deliver three-dimensional viewing, feature recognition and feature extraction.

Typical Applications

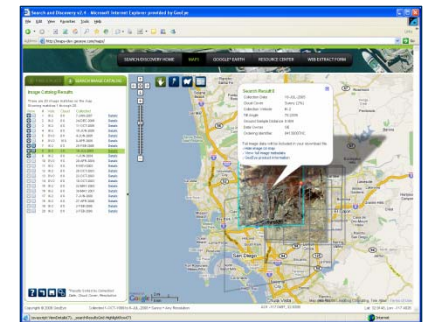
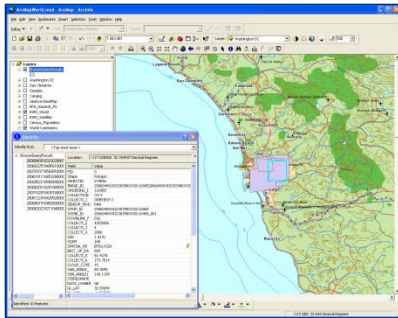
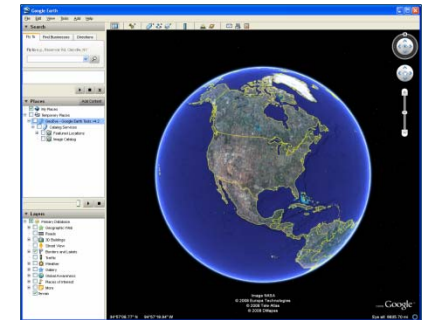
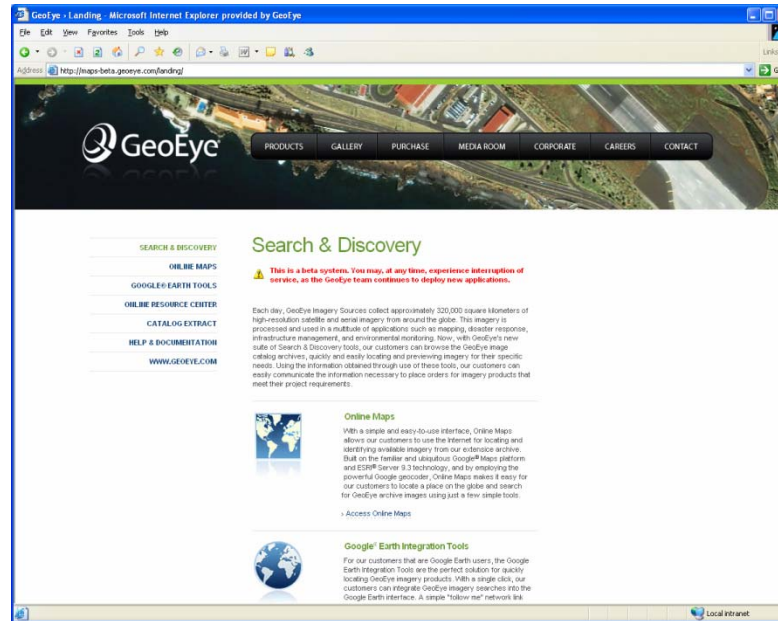
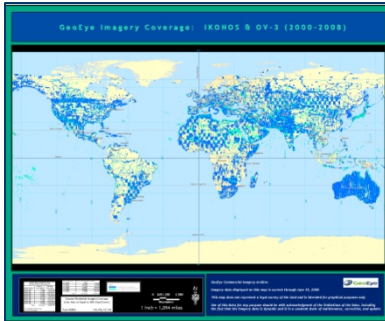
- ▶ 3-D feature extraction
- ▶ DEM extraction
- ▶ Stereo visualization of natural features
- ▶ Building height extraction

Search for Imagery



www.geoeye.com

GeoFuse: New Online Search Tool



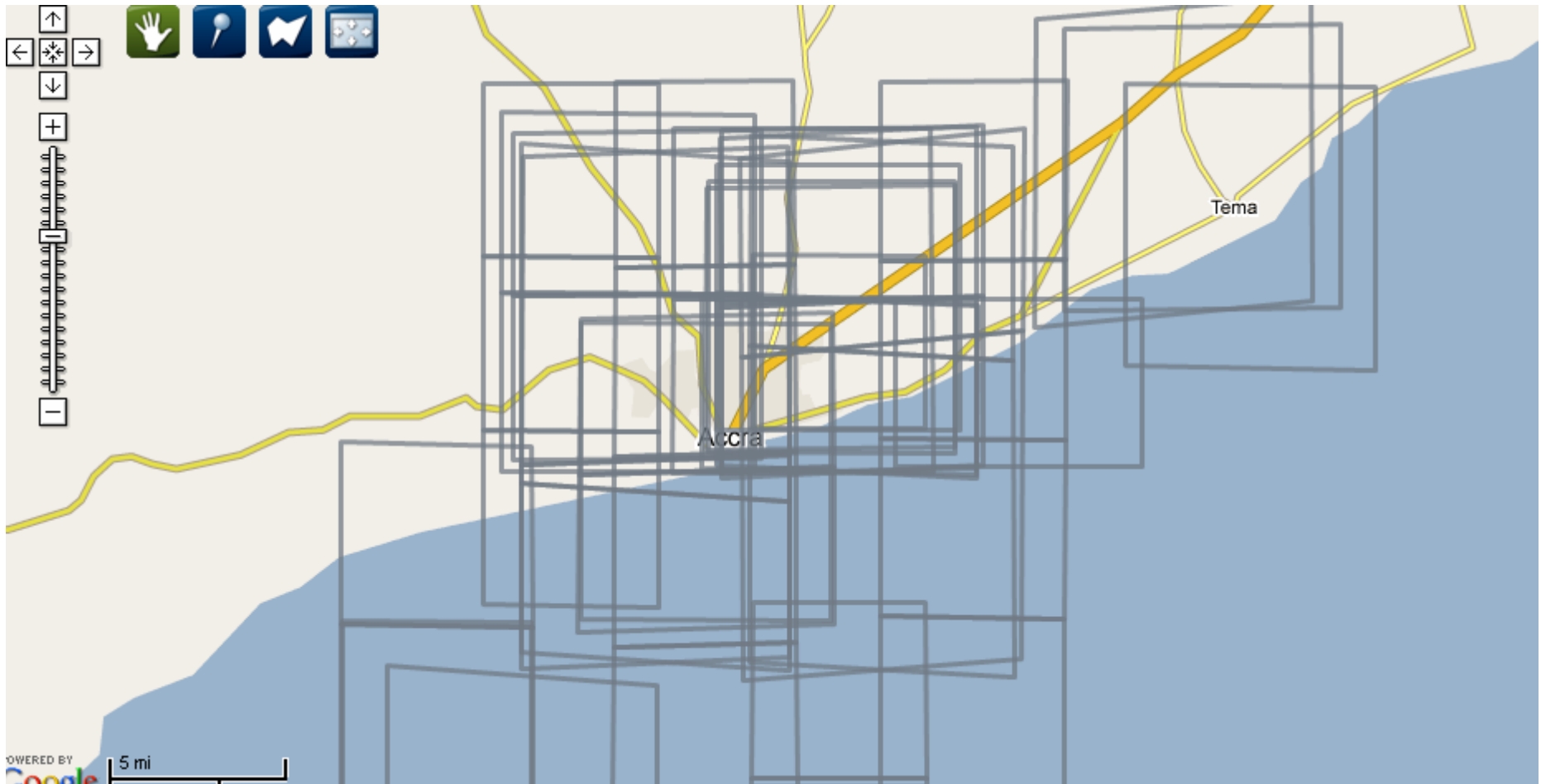
www.geoeye.com



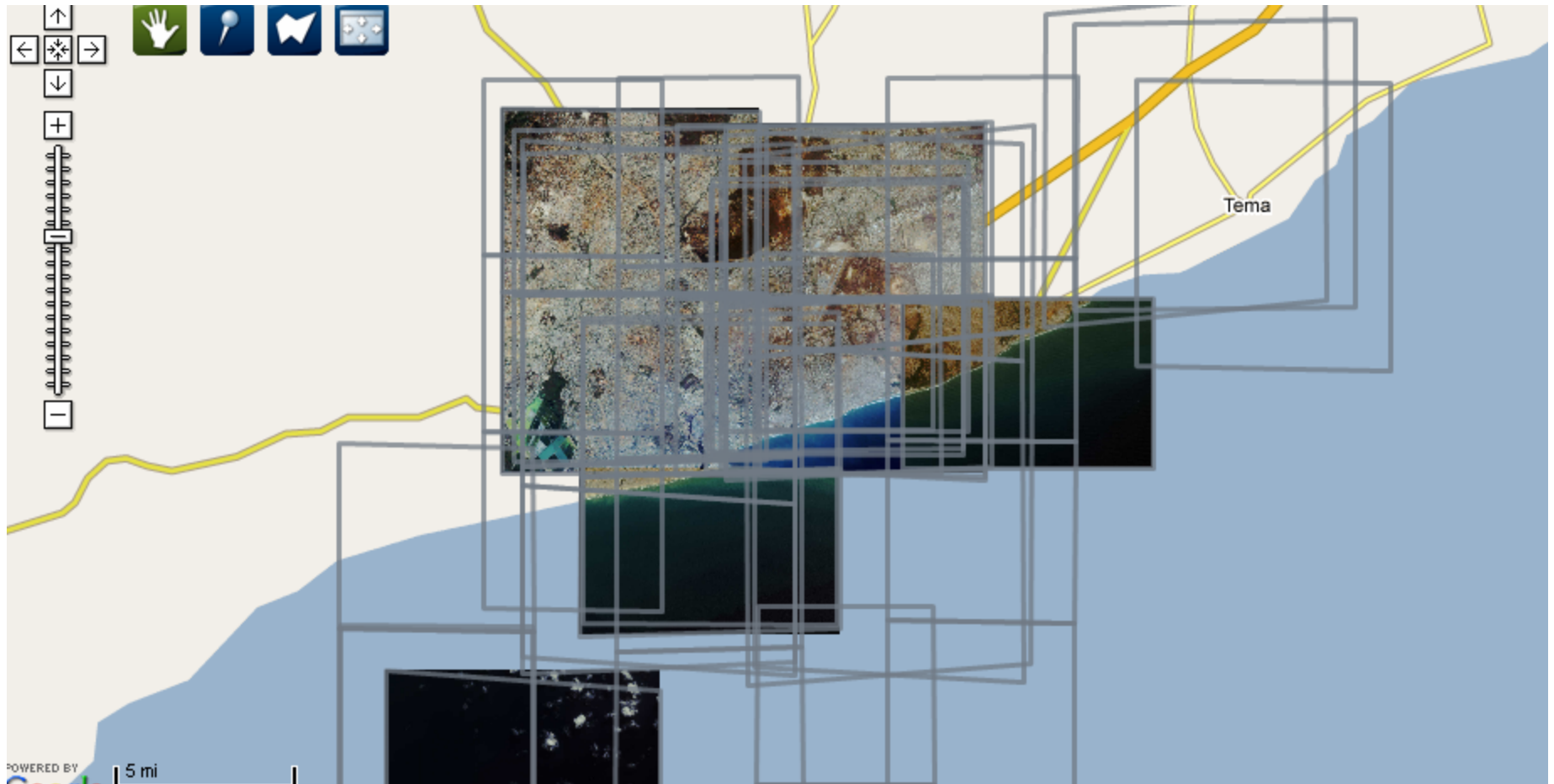
Pick your location - Greater Accra area



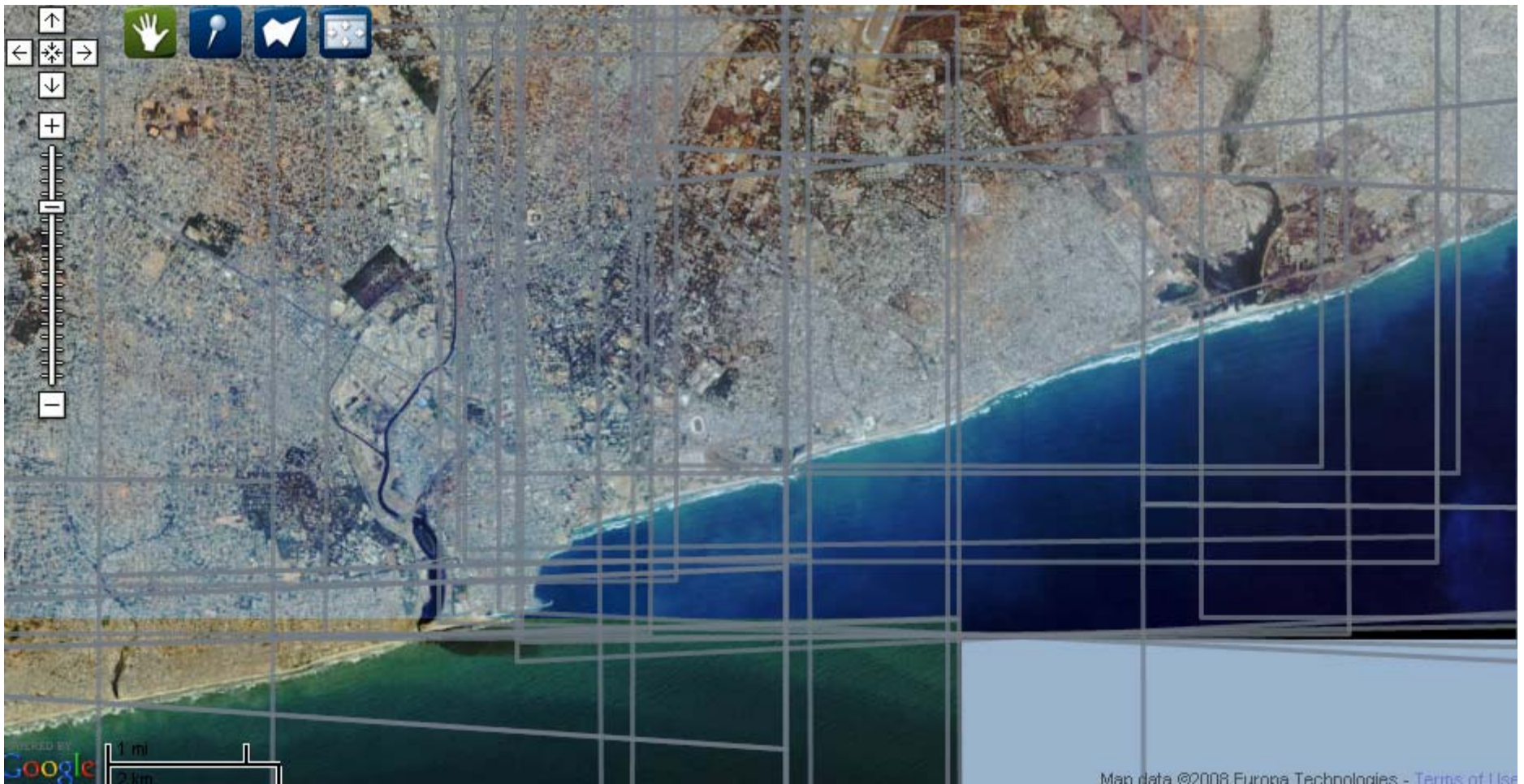
Search for available archive



Show footprints of imagery (1/16 resolution)



Select required scene – area, time, cloud cover



Full resolution 1 meter imagery



Zoom into your Area of Interest



Imagery Collection for Disaster Response



GeoEye-1 Collection Plan

Port Au Prince, Haiti



Cuba opens airspace to evacuation flights

Haitians struggle to find the dead and keep survivors alive; relief efforts slow to reach needy.
» Manuel Roig-Franzia, Mary Beth Sheridan and Michael E. Ruane | 9:13 a.m. ET

Front fold of the Washington Post
January 15, 2010

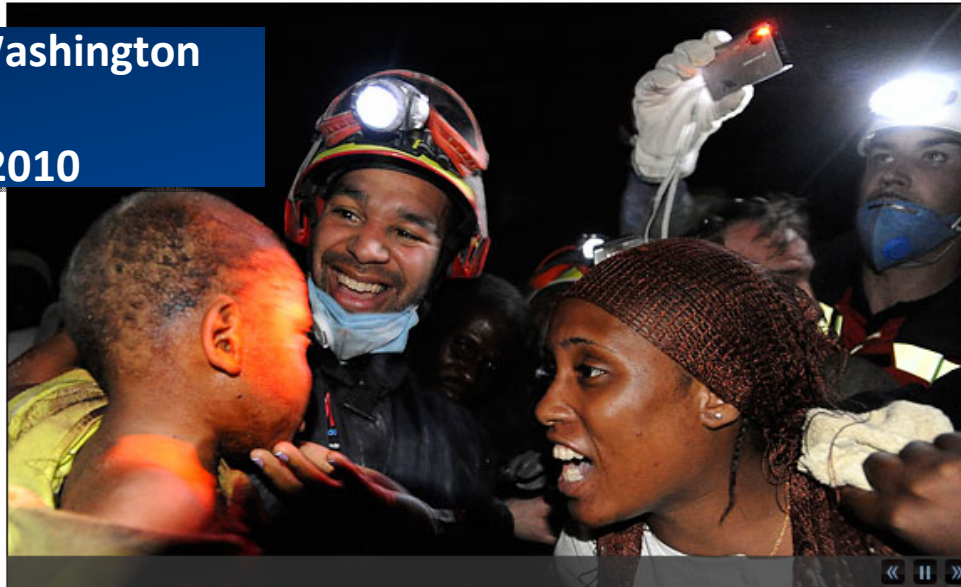


Photo gallery: Massive earthquake devastates Haiti

Reggie Claude, greeted by his mother, is rescued from the rubble of his home. (Photo: Carol Guzy/Post)

'Government doesn't exist at all'

Throughout destroyed city, ordinary Haitians struggle to cope with tragedy, scenes of horror.

» Mary Beth Sheridan, William Booth and Manuel Roig-Franzia

- U.I.: Looters break into U.I. warehouses
- Latest updates: Aristide wants to return

'You've seen the pictures'

Former president Bill Clinton urges Americans to donate money to relief groups.

» Philip Rucker | 9:21 a.m. ET

- Coast Guard officer: "We saved a lot of lives"
- Time and coordination are of the essence
- ABC: Adopted Haitian orphan found unharmed

New start for 'uneasy neighbors'

Disaster may provide a chance for the U.S. and Haiti to improve their star-crossed relationship.

» Glenn Kessler

- Days into job, USAID chief tackles quake response
- Legal status sought for Haitians illegally in U.S.
- Comments on Haiti draw fire from both sides | 44
- New technology speeds donations | Dvorak

GeoEye satellite view of damage

Interactive image of Port-au-Prince after quake.

- [Imp. view the destruction in Port-au-Prince](#)
- [The world reacts to crisis | Post your photos](#)
- [A harrowing journey to Haiti](#)
- [Competition for supplies | More videos](#)



The New York Times

January 14, 2010

The New York Times Search All NYTimes.com

World

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AFRICA AMERICAS ASIA PACIFIC EUROPE MIDDLE EAST

Published: January 14, 2010

The Destruction in Port-Au-Prince

View satellite photos from GeoEye that show Port-au-Prince before and after the Jan. 12 earthquake. [Related Article »](#)

ZOOM TO AN AREA: USE THE SLIDER TO COMPARE BEFORE AND AFTER SATELLITE IMAGES

- National Cathedral**
- National Palace
- [Hotel de Ville](#)
- National Penitentiary
- Teleco building
- Stadium Sylvio Cator
- Justice Ministry
- Military barracks
- Tax office
- Ste. Anne Church
- Full View of City Center

GeoEye imagery of Port Au Prince, before and after the 7.0 earthquake disaster

The Wall Street Journal

January 15, 2010

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Before and After

A powerful earthquake Tuesday crushed thousands of structures in Port-au-Prince, Haiti, from schools to parts of the National Palace and the headquarters of the U.N. peacekeeping operation there. Below, examine the damage. ([More coverage](#) | [See larger image of the damage from GeoEye](#) »)

Click on an icon to see before and after pictures. Use navigation tools at right to move around and zoom in and out. Background satellite image shows Port-au-Prince before the earthquake.



Examining the damage by using GeoEye imagery





Before

**After the Jan. 12th
earthquake, the Port Au
Prince National
Cathedral
still remains standing
but terribly damaged**



After

January 14, 2010



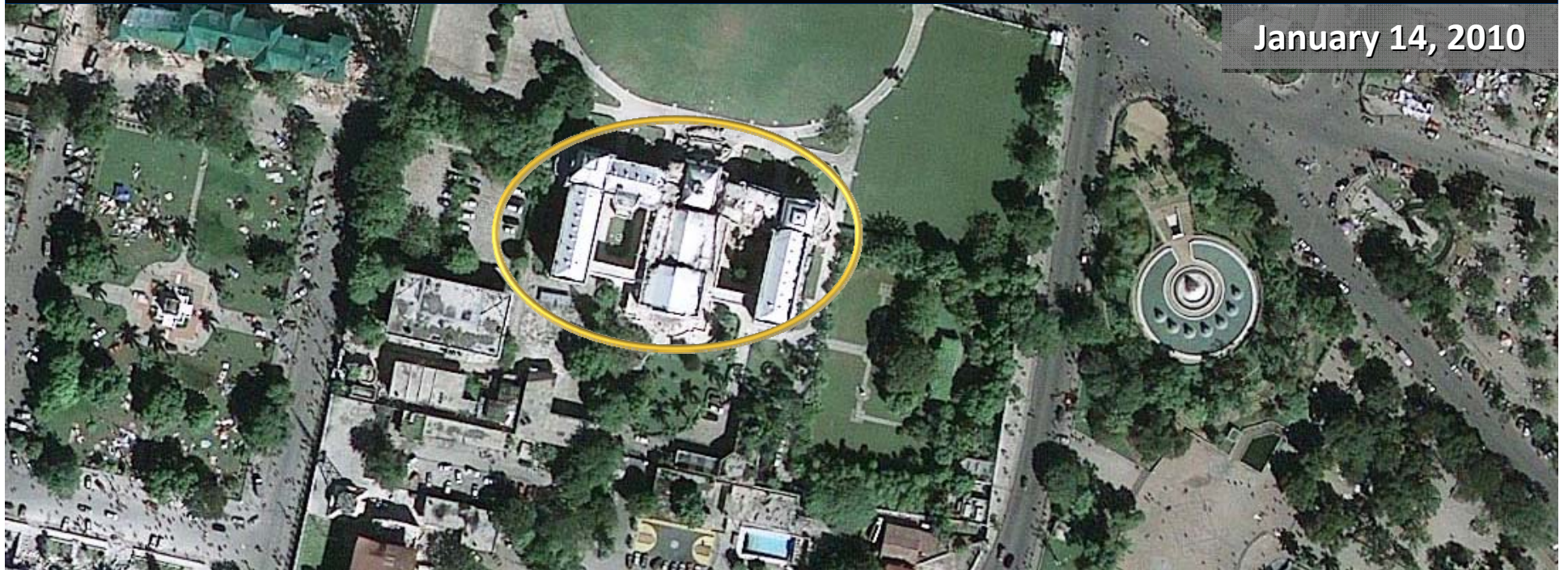


Before

**The front of the
Presidential
Palace crumbled
to the ground**



After



January 14, 2010

**The National Penitentiary,
constructed in 1918 collapsed
during the earthquake crisis in Port-
Au-Prince, Haiti on January 12th,
2010 resulting in numerous escapes
& deaths**



Oil Spill
Gulf of Mexico
April 20th, 2010



Advantages in Africa

- Strong Demand
 - Commercial and Government
 - Mapping, Census projects, Environmental, Multi-National Corporations, Oil and Gas
- Visual Product
 - 1000 words
 - Imagery provides fast and understandable information to decision makers
- Google Earth, etc.
 - Awareness of industry and imagery available
- Satellite vs. Aerial
 - Less restrictions, higher accuracy, less ground truth

Challenges

- Cost
 - High resolution is still expensive
- Time for project development
 - Projects can take time to define, develop and fund
 - Commercial companies don't always have patience
- Data storage and Training
- Procurement system
 - Satellite imagery is a big purchase – use for many groups
 - Centralize procurement group, storage and distribution

Moving forward in Africa

- GeoEye has a large source of imagery
 - Want to strengthen commercial relationships
 - Government and Commercial organizations
 - Develop new applications
 - Education and training

Open to new partnerships and collaborations to help get data in the hands of end users

GeoEye Foundation

Educate Innovate Inspire



- The Foundation awards imagery grants from the GeoEye archive to university students and researchers
 - Over 100 imagery grants since 2007
 - Over 100 thousand sq km of imagery
 - Fields of study include:
 - archaeology, human rights, land cover assessment, climate change, forestry, health, fishery management, national security, disaster response & recovery, water & natural resource management
 - Scholarships
 - George Mason University
 - University of Missouri



"We are proud that we can use our technology to help inspire and educate young people and to help them use the world's best imagery to solve real world problems."

-Matt O'Connell, GeoEye President & CEO

Harvard research project
on monitoring malaria -
Mali, Africa





GeoEye

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