

FirstLook at Global Disasters: rapid response and monitoring

Roberto Varela – Regional Sales Manager

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Advancing our industry one milestone at a time

1993

U.S. Dept. of Commerce grants DigitalGlobe
first private enterprise license



2001

Quickbird, **the world's highest-resolution commercial satellite, launches**

2008-2011

Major agreements expand high-resolution imagery availability

2007

DigitalGlobe acquires
GlobeXplorer, a leading
online imagery provider

WorldView-1 launches

1992

DigitalGlobe founded



2003

DigitalGlobe wins contract
to **build WorldView-1 and WorldView-2**

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Advancing our industry one milestone at a time

2009

DigitalGlobe **opens London office** and expands Singapore office

DigitalGlobe begins trading as DGI on NYSE



2010

DigitalGlobe **surpasses one billion km² of earth imagery**

2014

Estimated launch of **WorldView-3**

2009

WorldView-2 successfully launches

FirstLook launches

to provide the industry's first information product

2011

New products launched, including **Global Basemap, Aerial, Elevation, and Analysis Center**

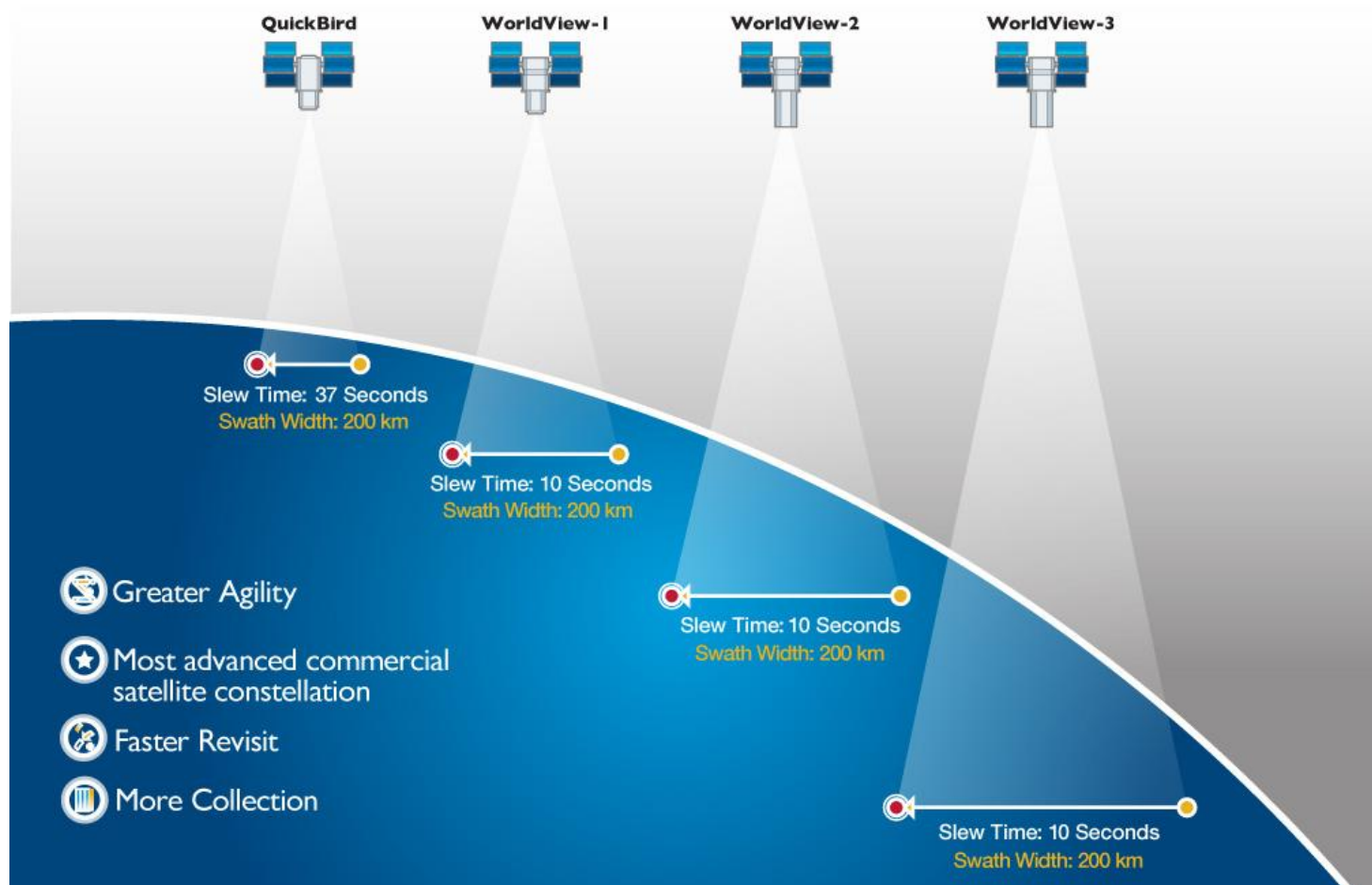
DigitalGlobe Constellation

The best view of the Earth

A satellite image of Barrow, Alaska, showing a coastal town with buildings, roads, and several large green ponds. The town is situated on a narrow strip of land that tapers to the right. The surrounding area is a mix of brown and green terrain. The sky is dark blue with some white clouds. The DigitalGlobe logo is visible in the bottom right corner.

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The best view of the Earth



An aerial satellite image showing a wide river delta with dense green forest and yellow-green fields. The river is a light brown color. The land is covered in a mix of green and yellow-green, indicating different types of vegetation or agricultural land. The image is taken from a high angle, showing the intricate patterns of the river and the surrounding land.

Coverage

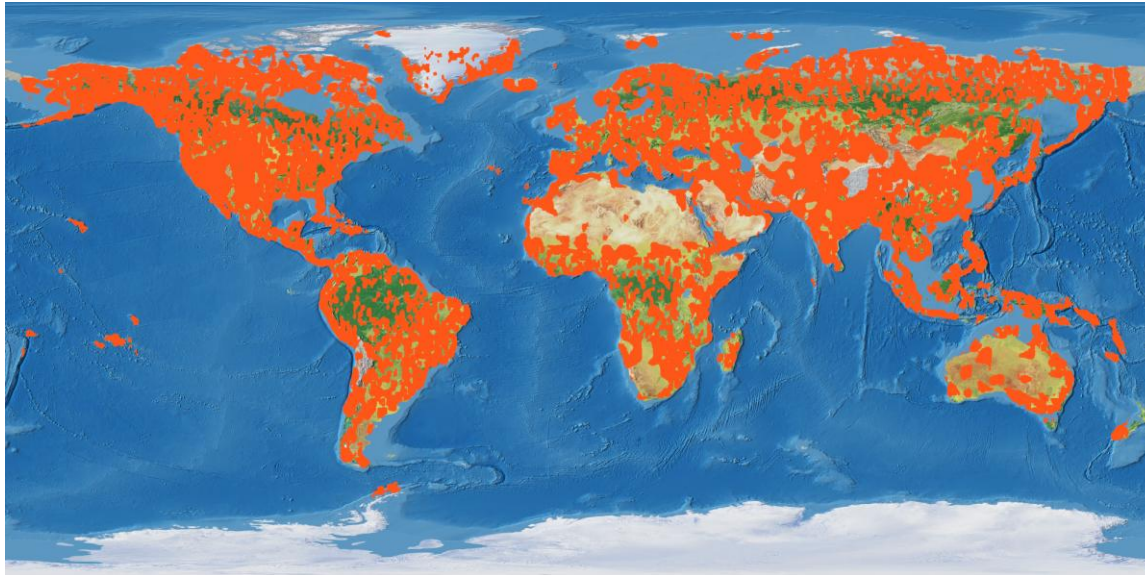
See more of the Earth

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See more of the Earth

Coverage

30 days collection



- **More access** – three satellites with the most agile technology
- **Better collection** – 2/3 of the earth's landmass captured every 90 days
- **Faster refresh** – 33% of archive is less than one year old
- **Content leader** – with more than 1.2 billion km²
- **Two million km² added each day** – roughly the size of Mexico

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Industry leading Agility



WorldView-2

28 images taken in
Sequence on the same
pass over Rio de
Janeiro Airport











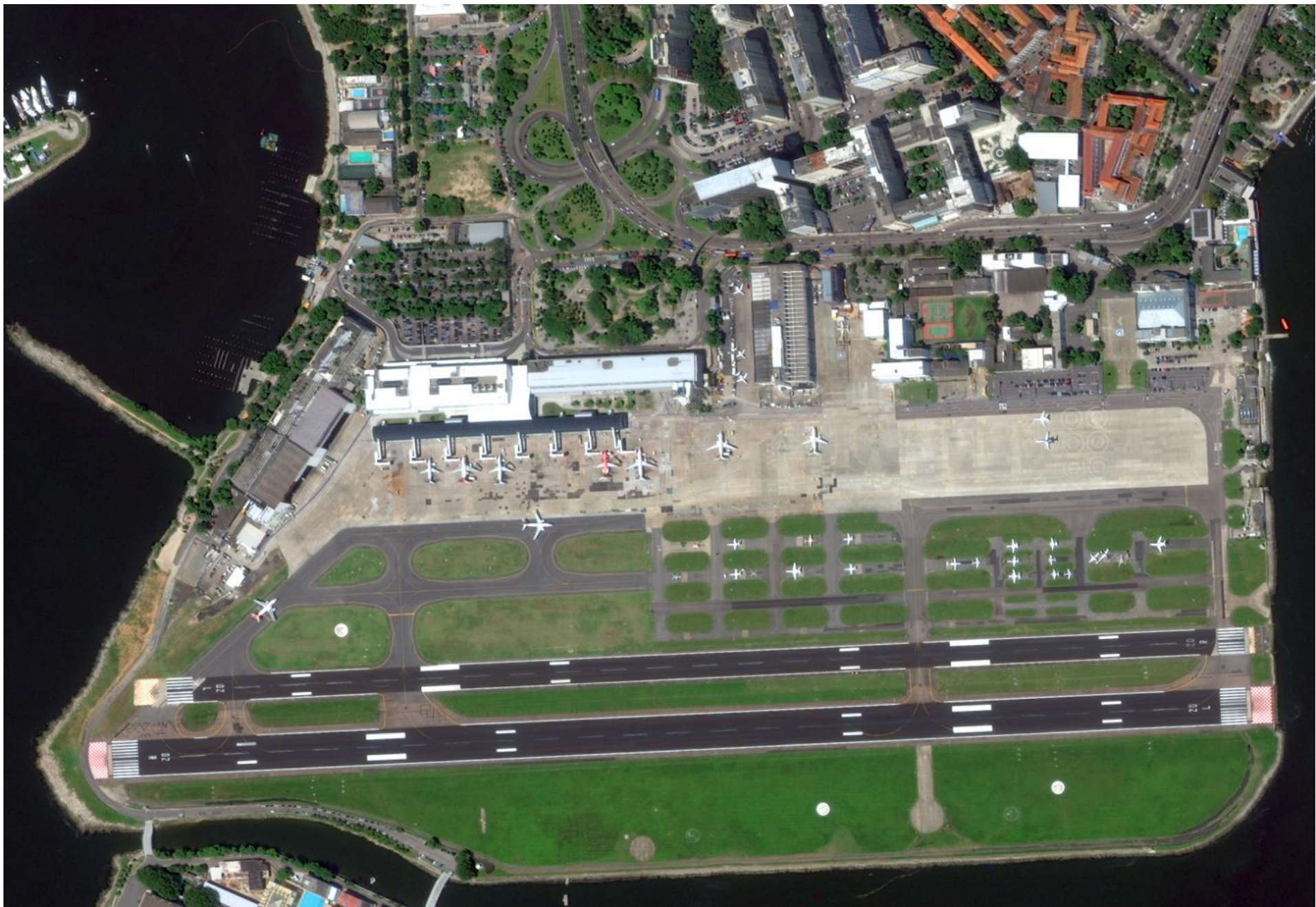




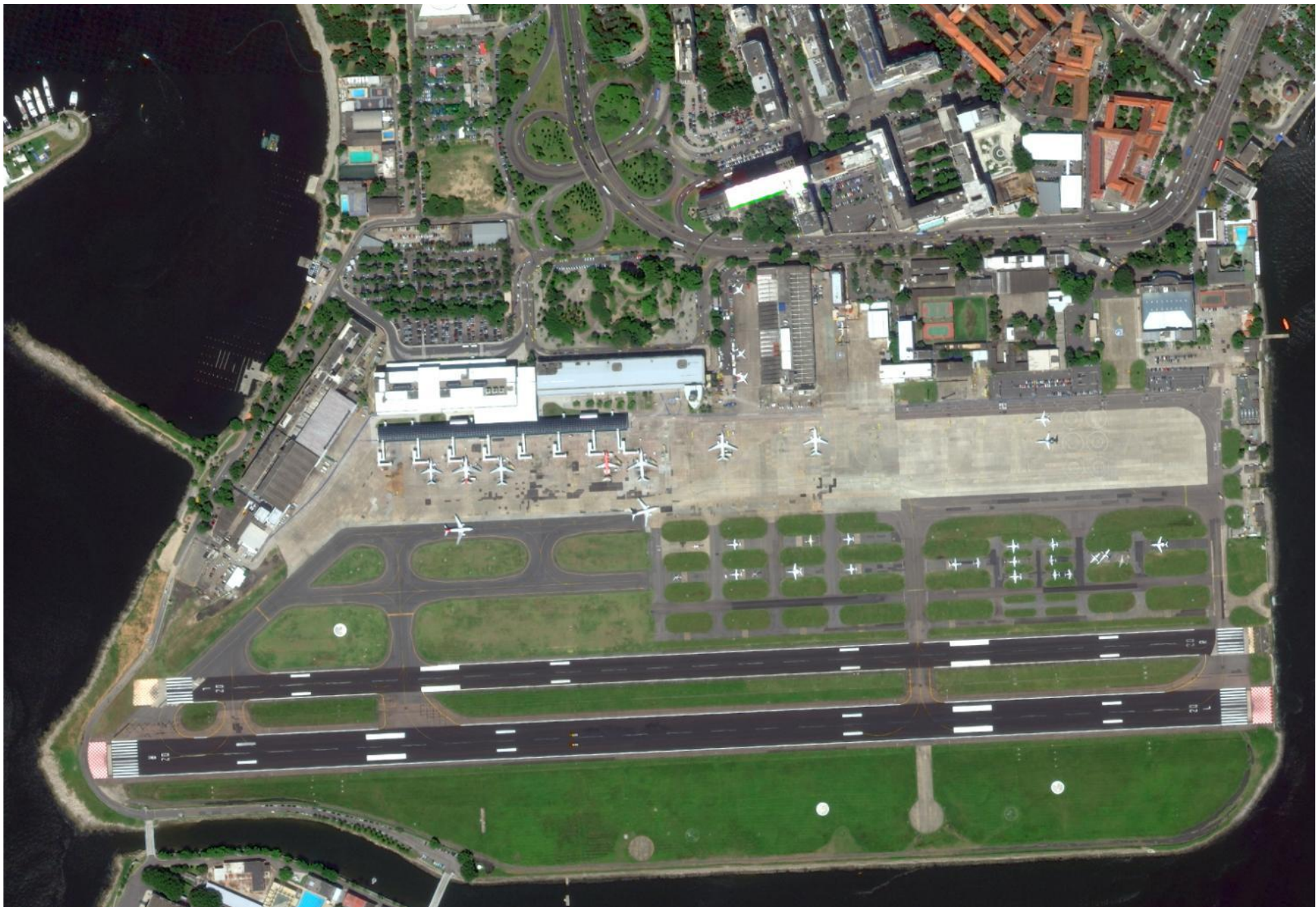


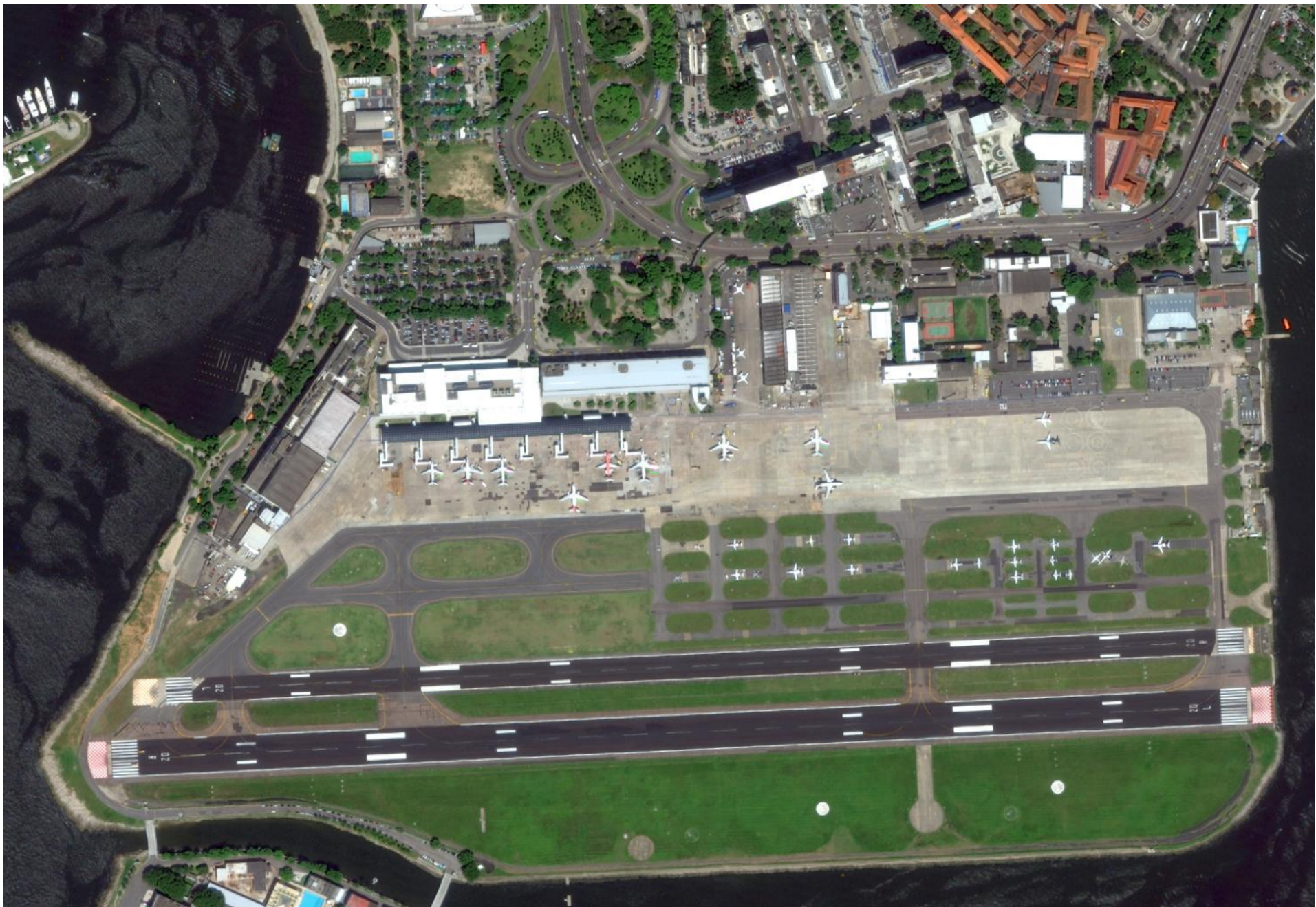


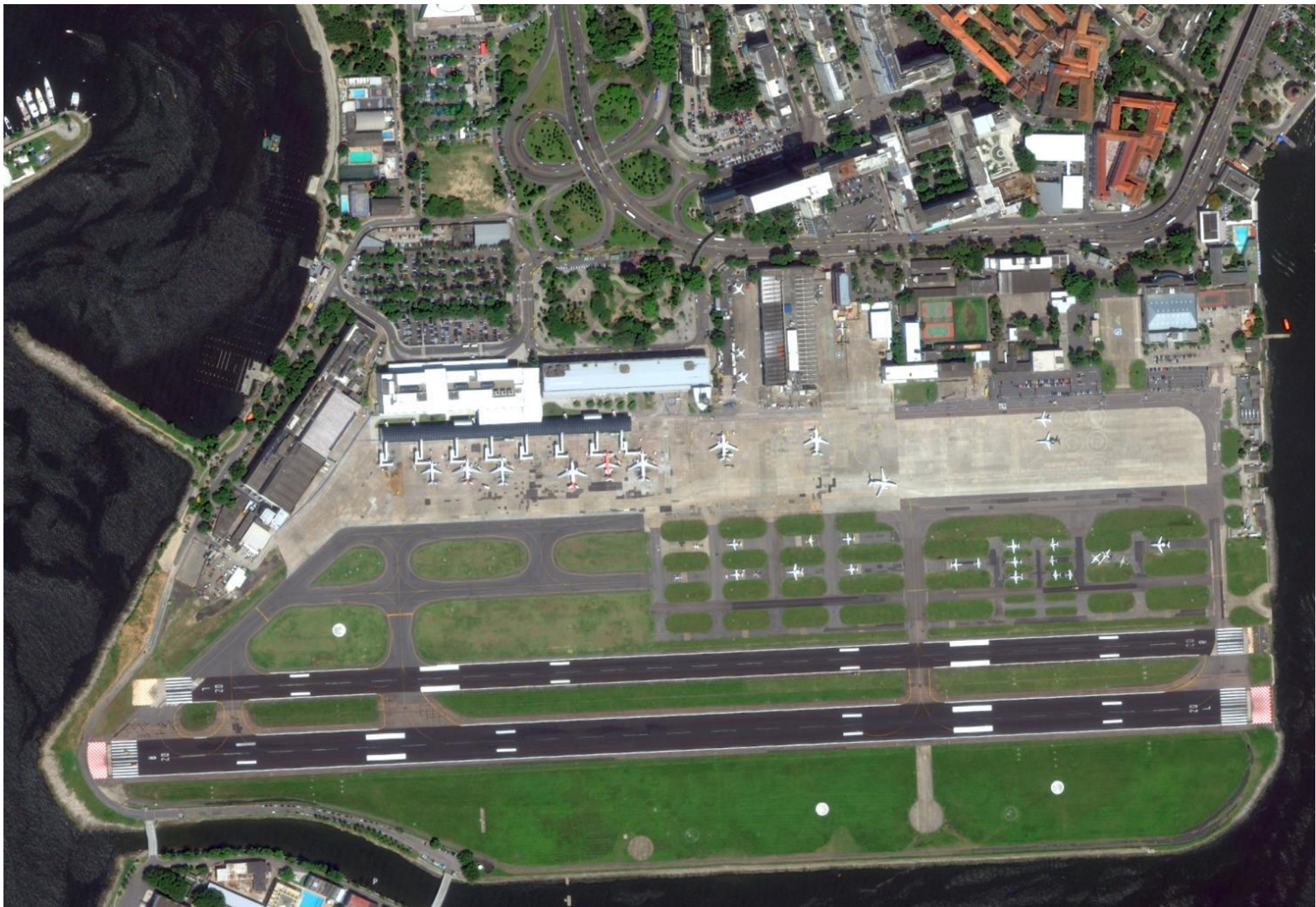


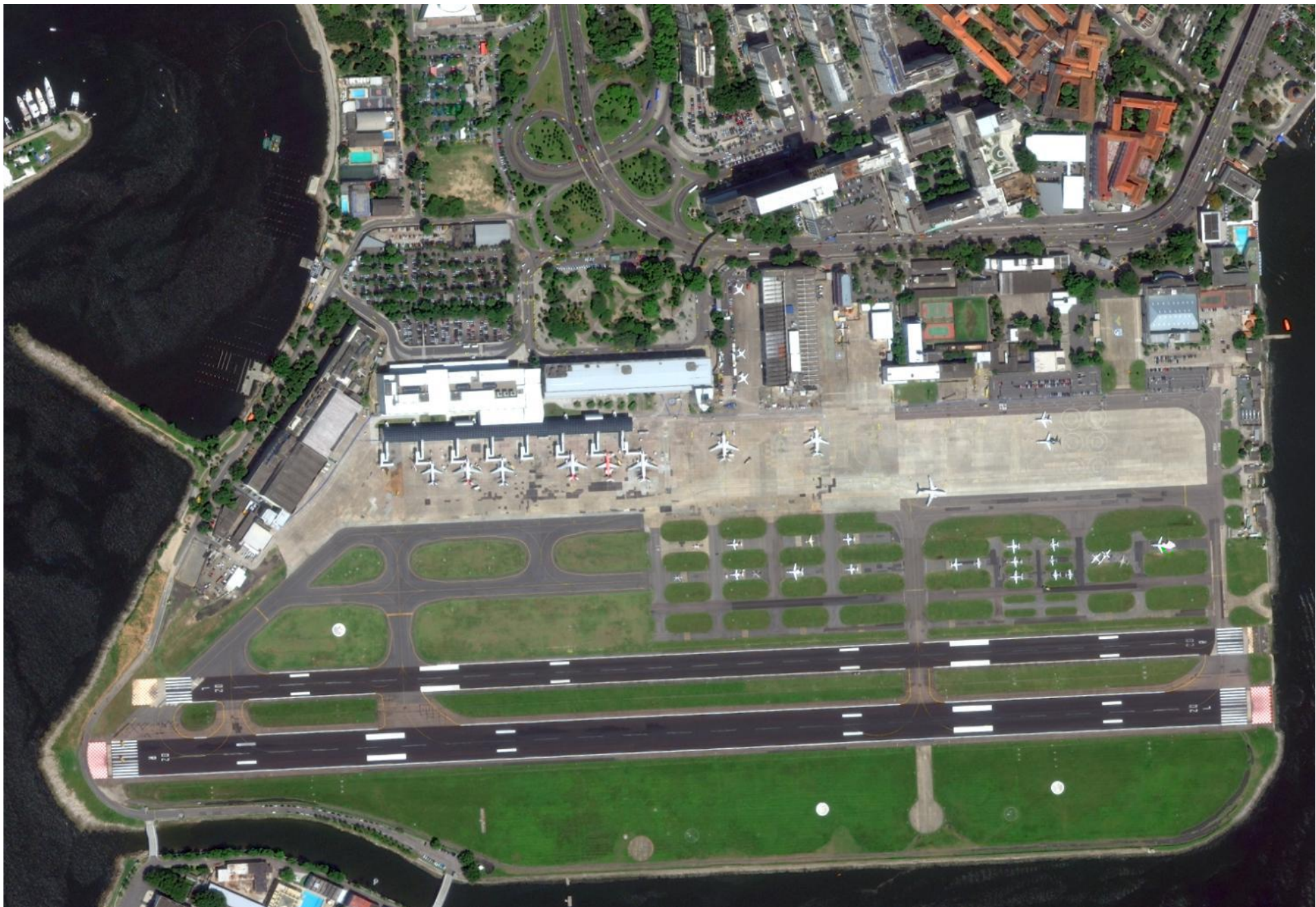


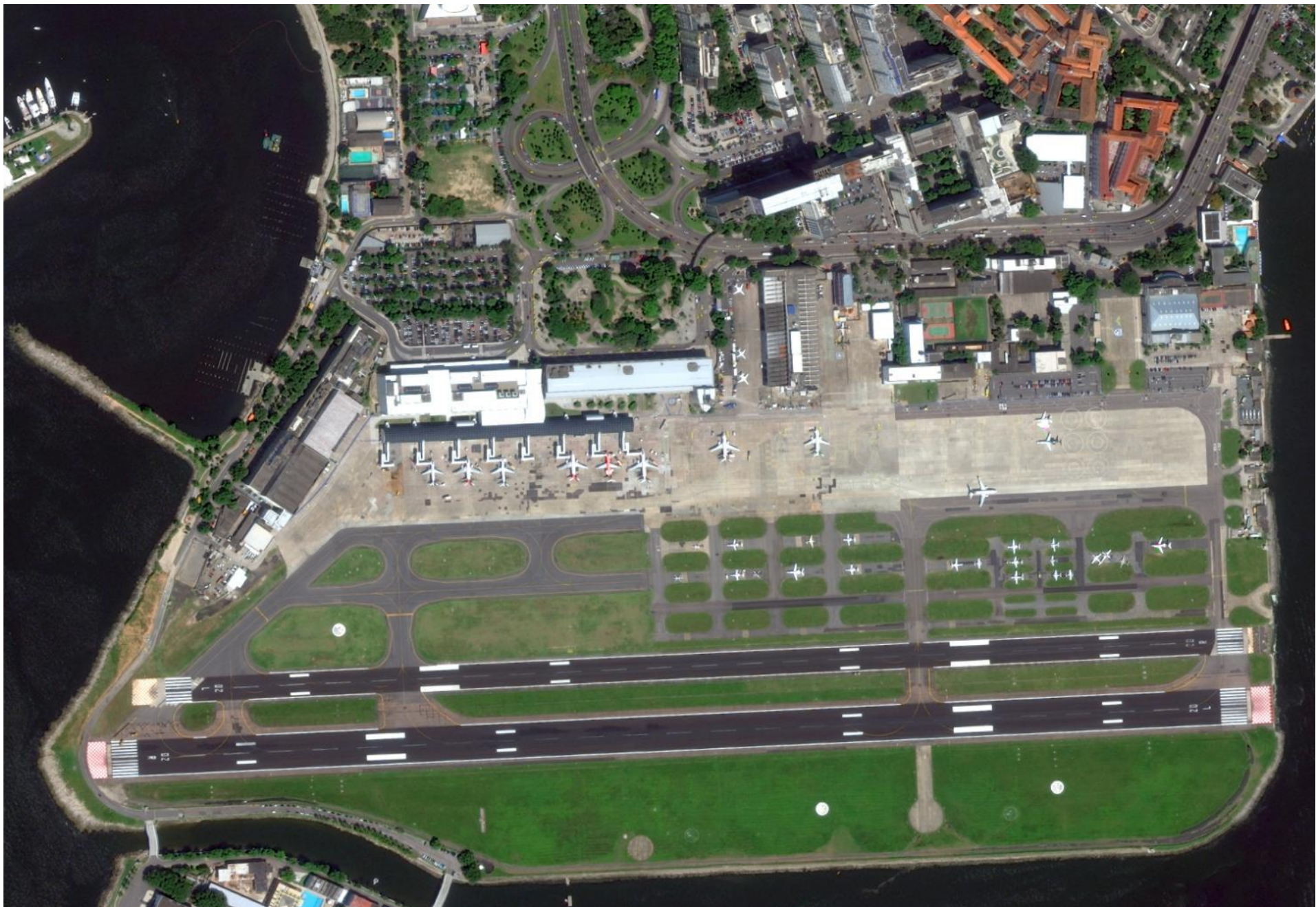










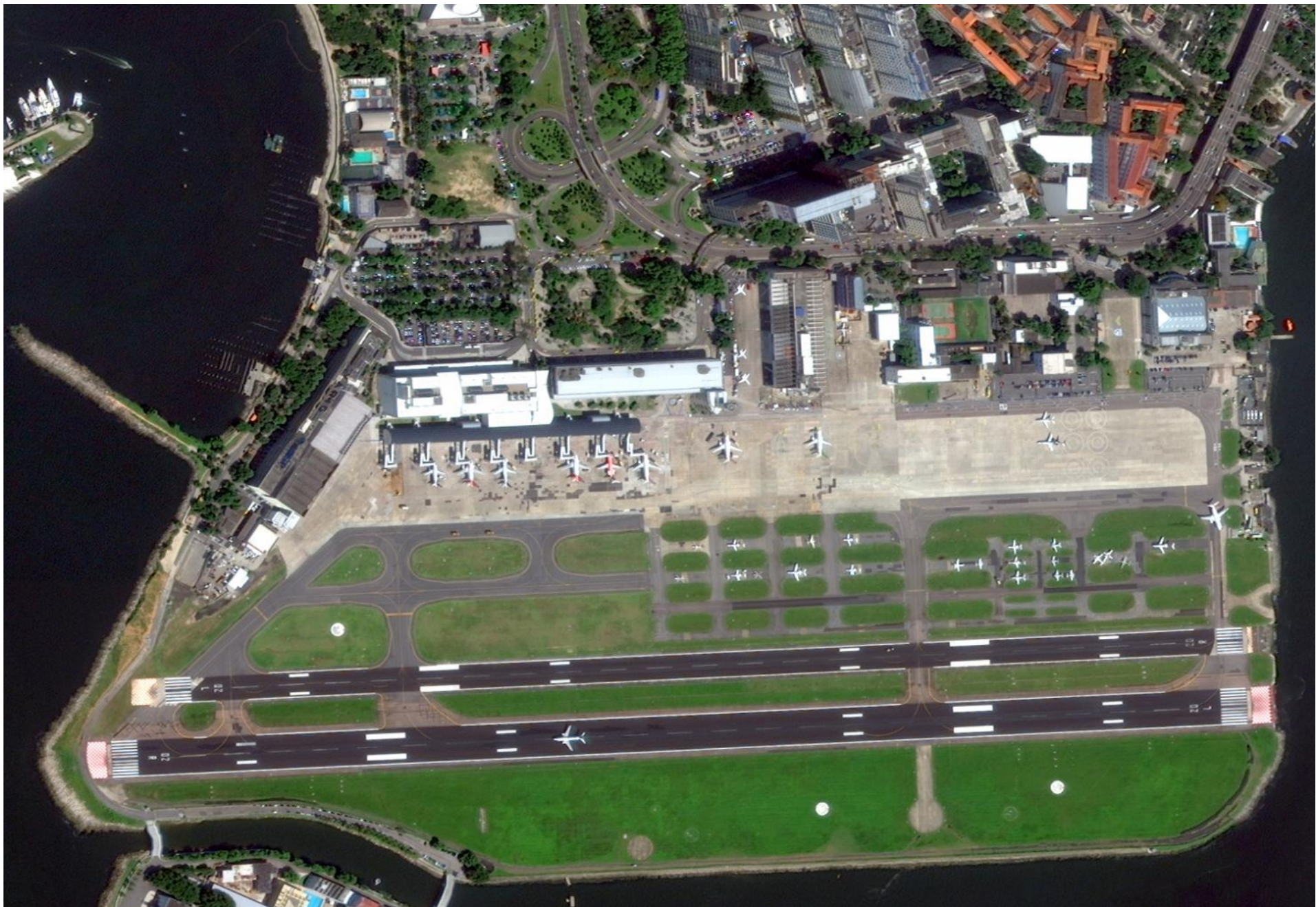


























Where We're Going

Leading the evolution of imagery analytics

**DIGITALGLOBE®**

Leading the evolution of analytics

The Commercial Geospatial Intelligence industry has experienced four eras:

1st Era: Resolution

Customer needs evolve beyond aerial



DigitalGlobe drives “one meter” standard

2nd Era: Accuracy

Emergence of map making industry and greater accuracy drives growth



DigitalGlobe drives the 5.0 meter CE90 spec

3rd Era: Speed

Reliance on imagery at an all-time high and customer priority becomes speed and relevancy



DigitalGlobe drives on-demand standard

4th Era: Analytics

New valuable problem-solving uses emerging and priority becomes measuring on surface and below water



DigitalGlobe drives 8-band standard and custom analysis



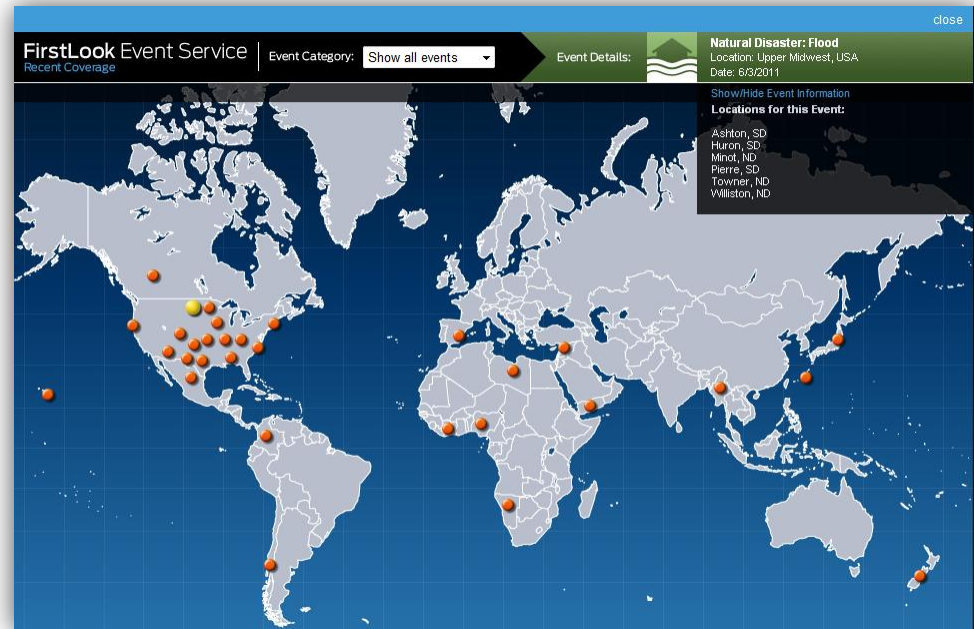
Monitoring

An eye on global events

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FirstLook Overview

- Product provides 24X7 monitoring of world events.
- Centralized one-stop-shop for relevant imagery.
 - Images straight from the source.
 - Direct integration into planning process!
- Provides
 - Central Portal for Viewing all Events Being Covered
 - Online Imagery Viewing Tool
 - Rapid access to current imagery of crisis events.



FirstLook Overview

FirstLook provides rapid, web-based imagery of major global events:

- 1. Natural Disasters**

- Ex: Earthquakes, Fires

- 2. Manmade Crises**

- Ex: Large accidents, terrorism

- 3. Political Instability**

- Ex: Political Unrest, Civil War

- 4. Human Interest**

- Ex: World Cup, Olympics

You benefit from insight for emergency planning, damage assessment and recovery.



Nuclear Reactors - Japan

Event Activations:

- The FirstLook crisis team continuously monitors world situations using scientific sources such as Global Disaster and Coordination System and International Charter.
- Once an event has been identified, DigitalGlobe establishes high priority collection sites over impacted areas.

- Collaboration teams:



Robert T. Stafford Disaster Relief and Emergency Assistance Act



What You Receive With FirstLook

Pre-Event Imagery

From DigitalGlobe Archive



BEFORE:
No damage visible

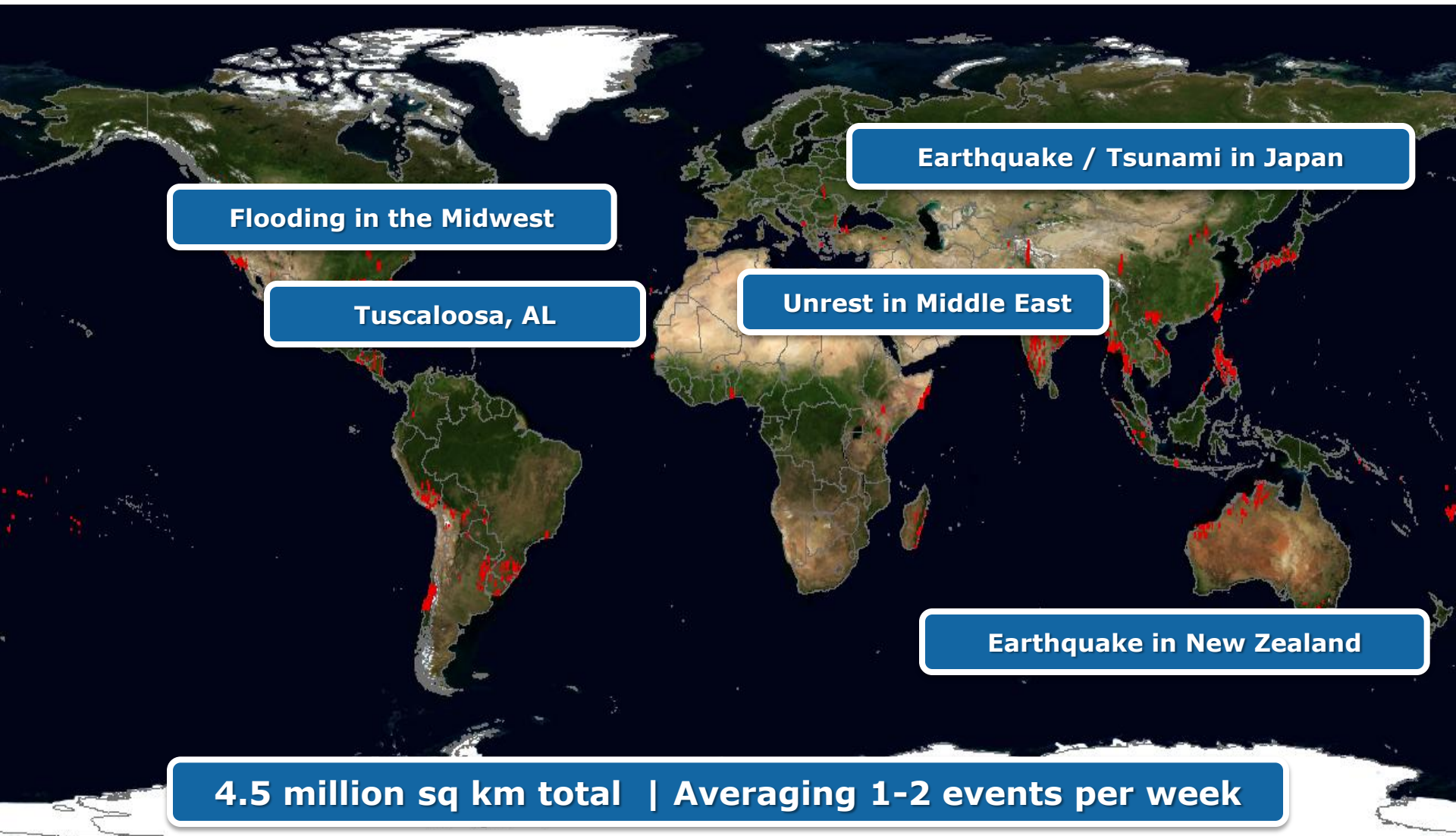
Post-Event Imagery

Updates continue for ~ 30 days



AFTER:
DigitalGlobe FirstLook imagery clearly shows damaged areas

Examples of FirstLook Coverage



4.5 million sq km total | Averaging 1-2 events per week

Industry leading Collections

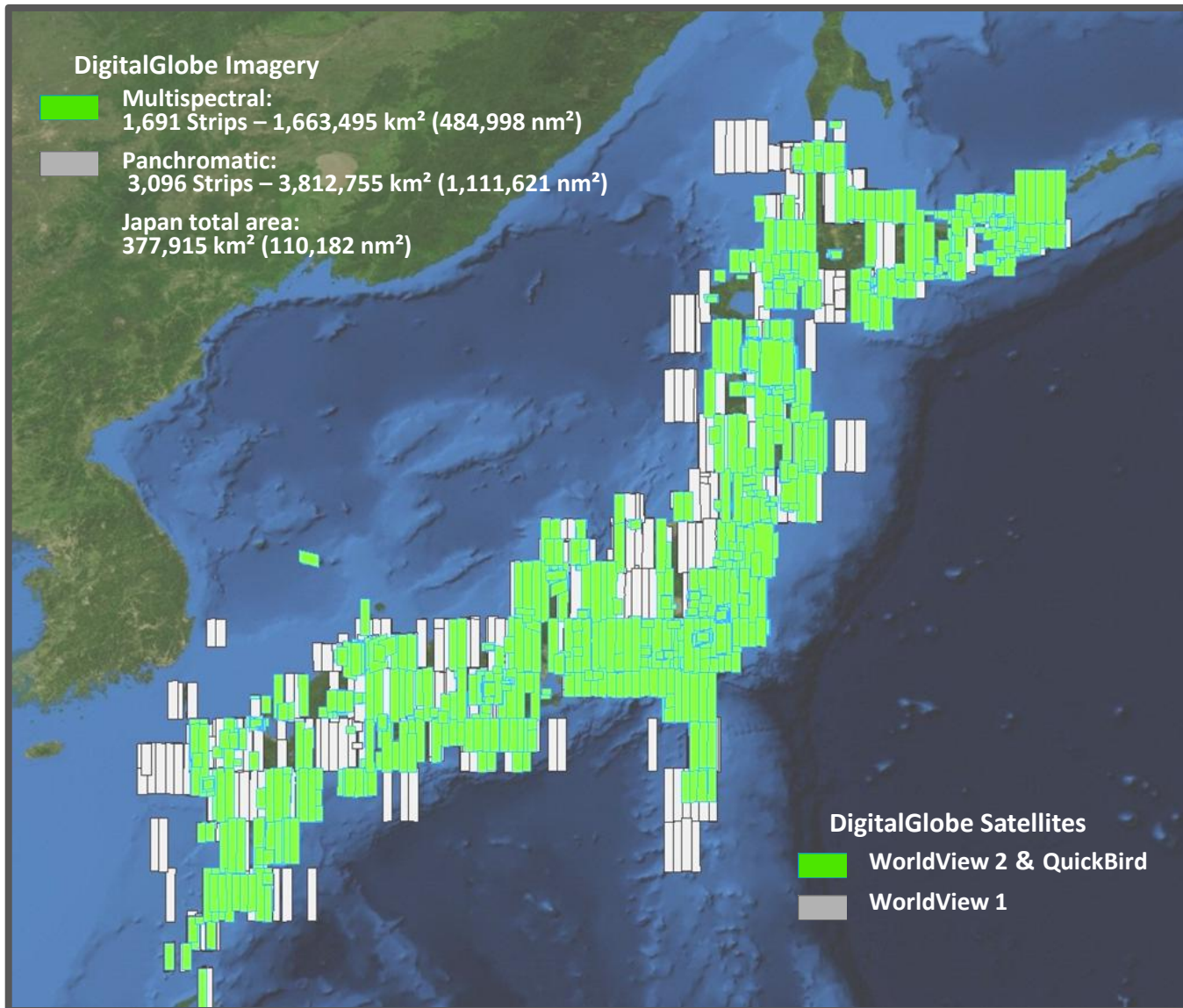
"Rapid"

- Response
- Collection
- Revisit

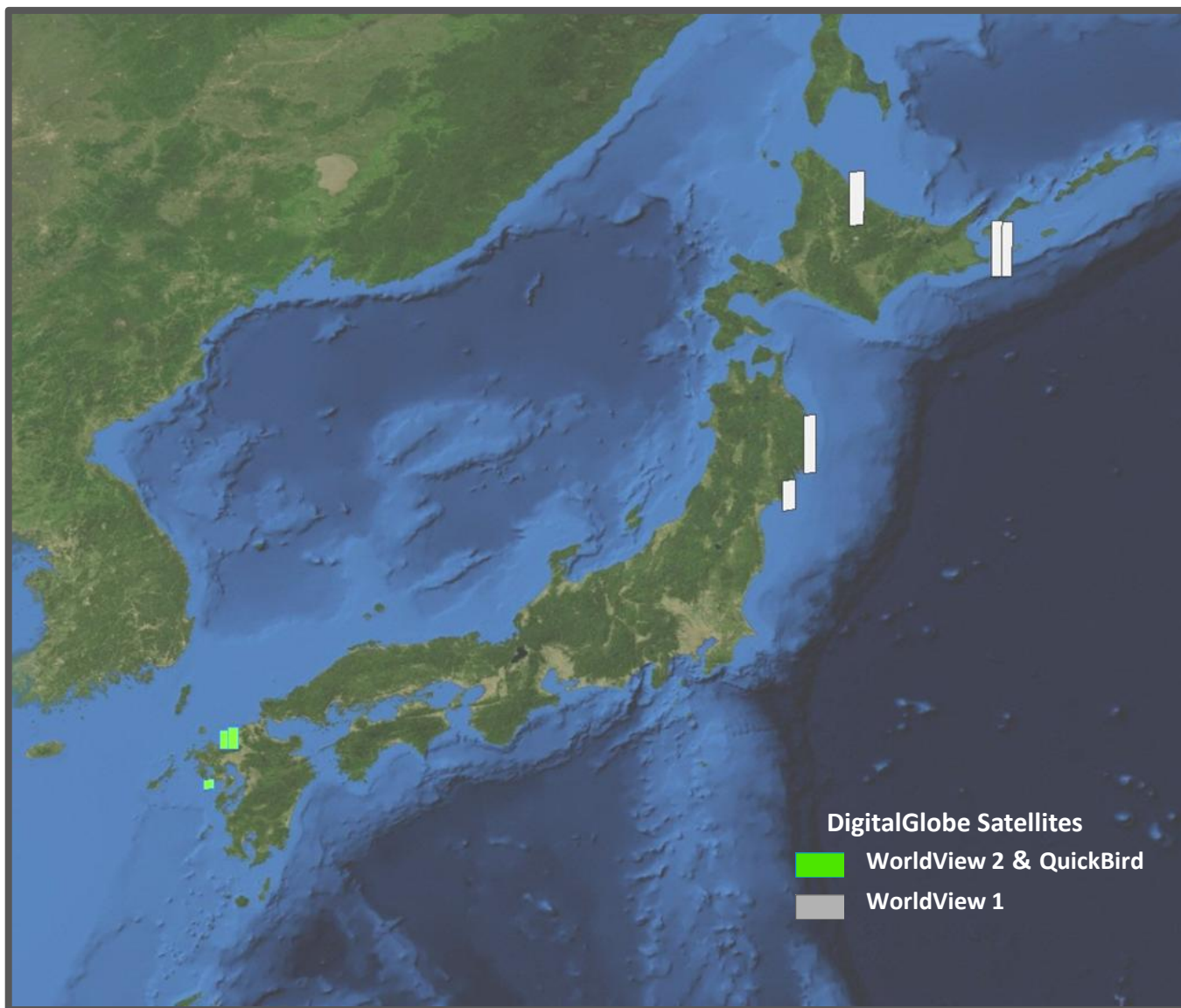
Japan Earthquake

Sendai, Japan

Japan Collections - 1 Year Prior to March 2011 Earthquake



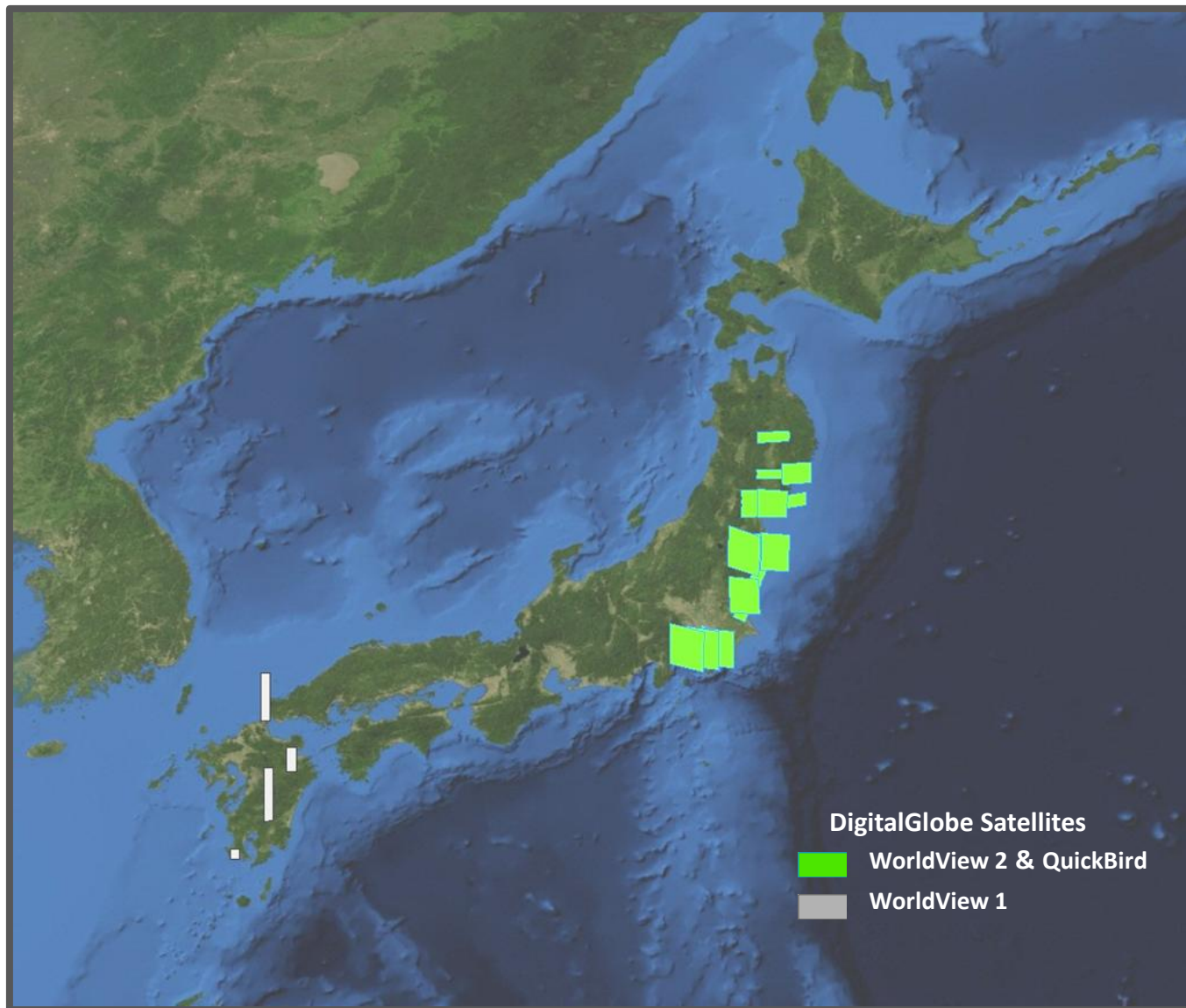
March 11th 2011



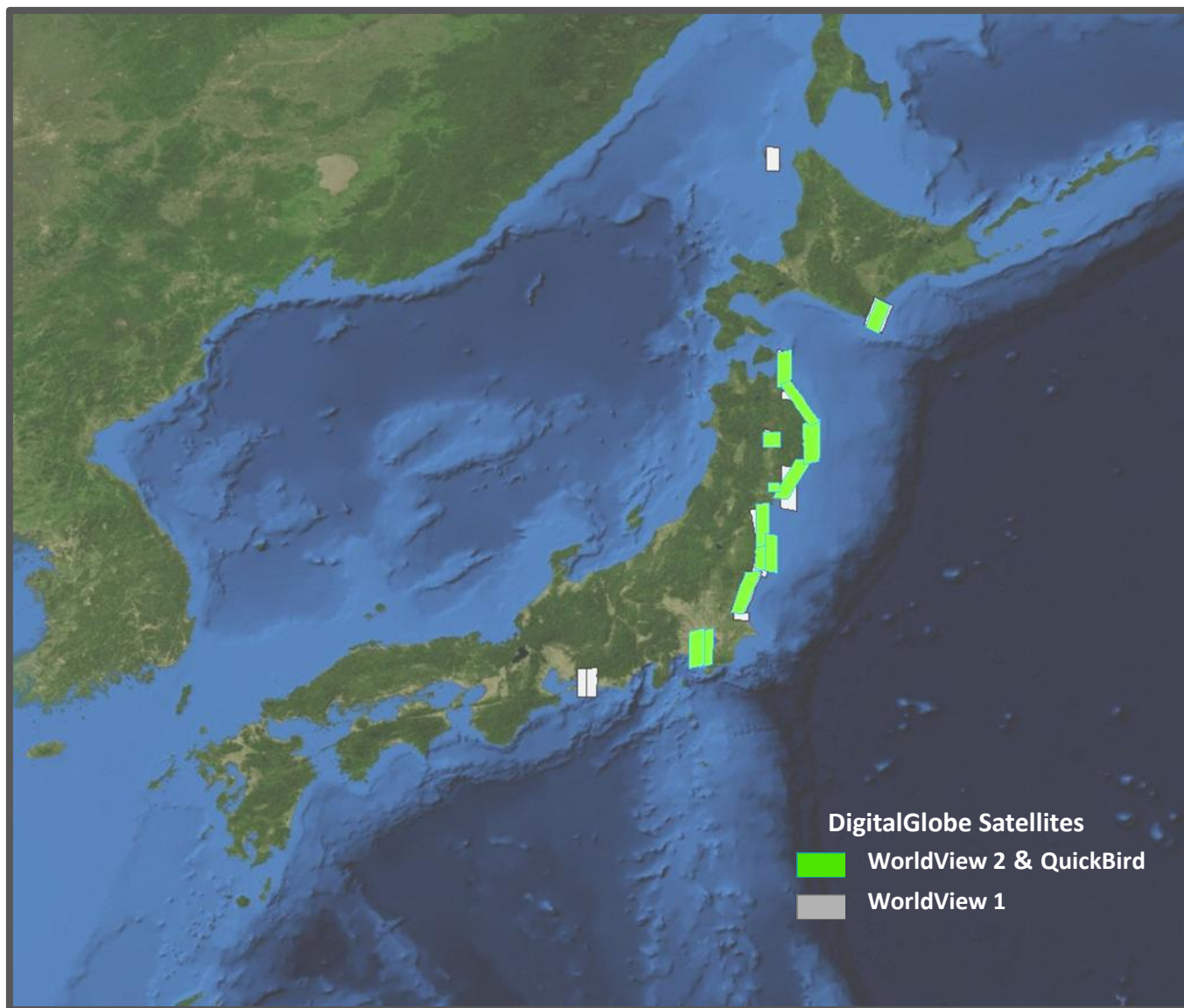
March 12th 2011



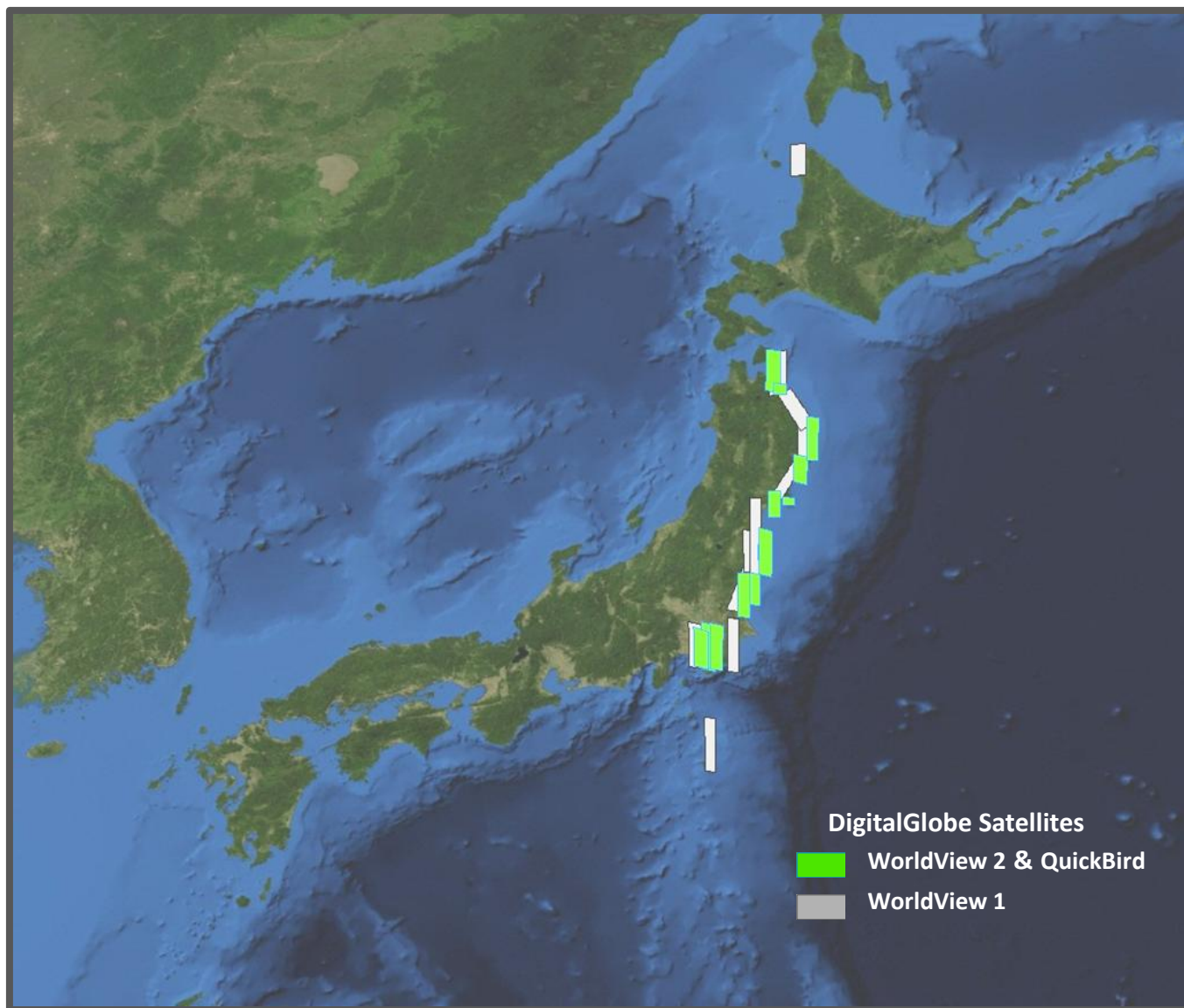
March 13th 2011



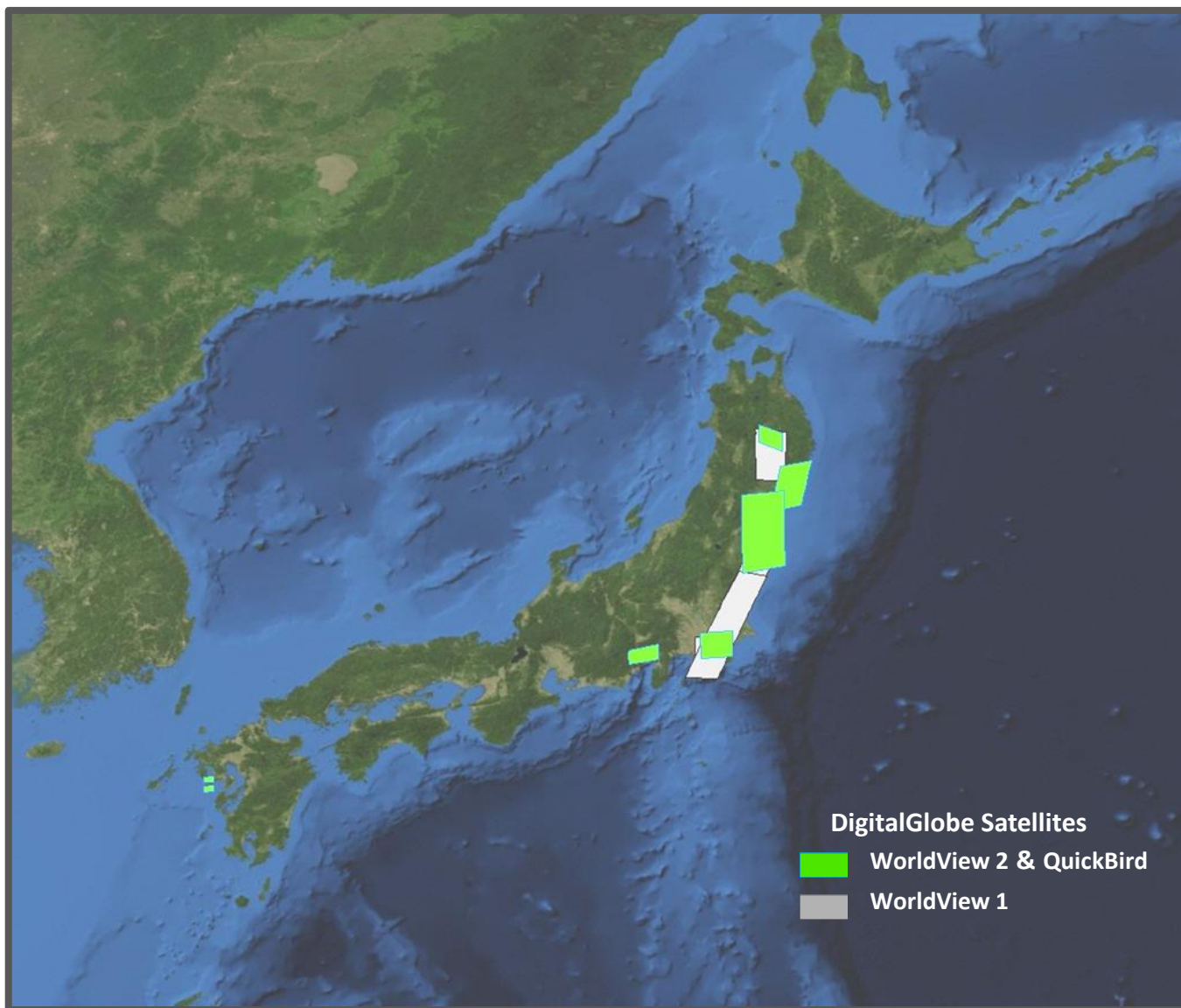
March 14th 2011



March 15th 2011

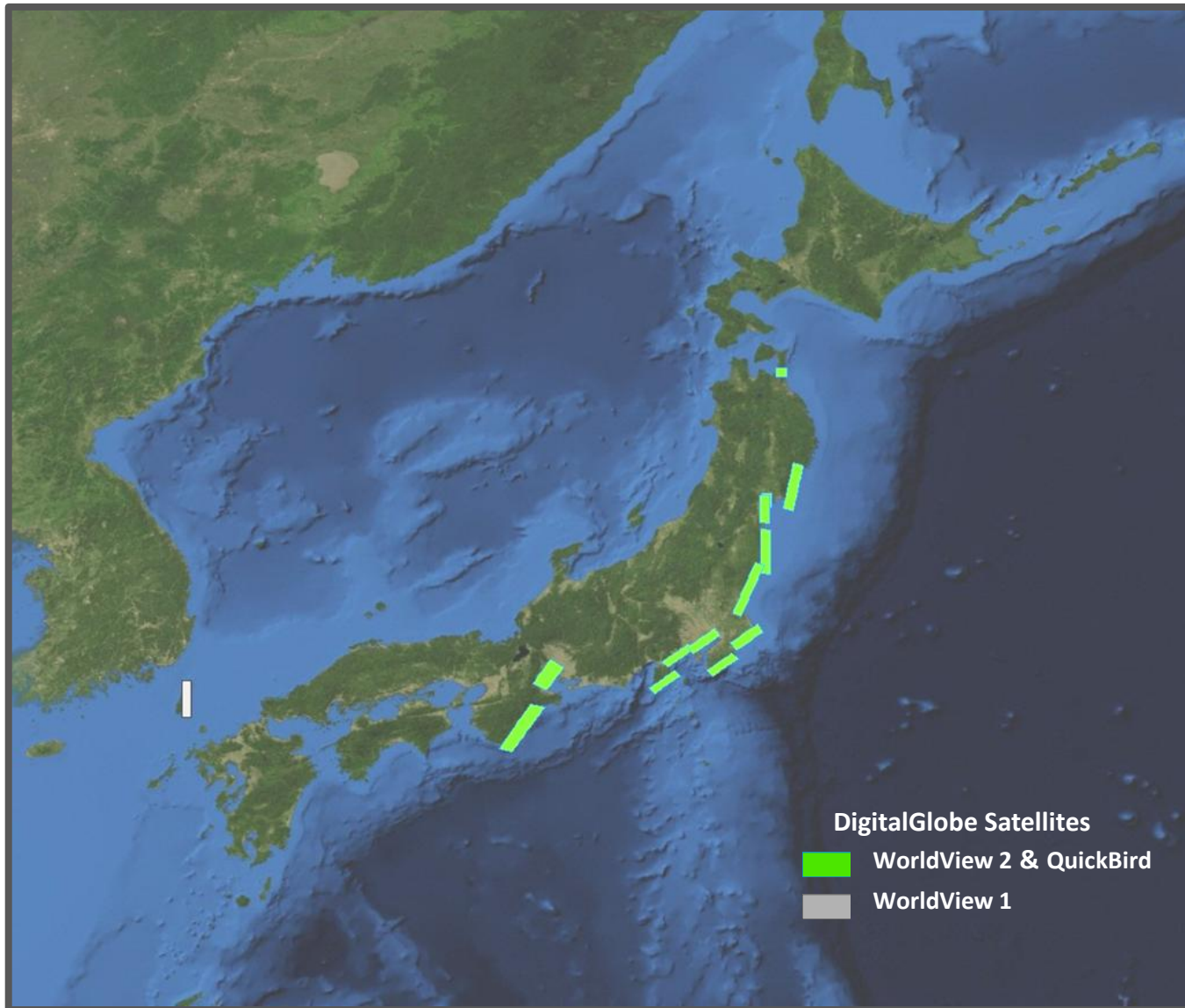


March 16th 2011

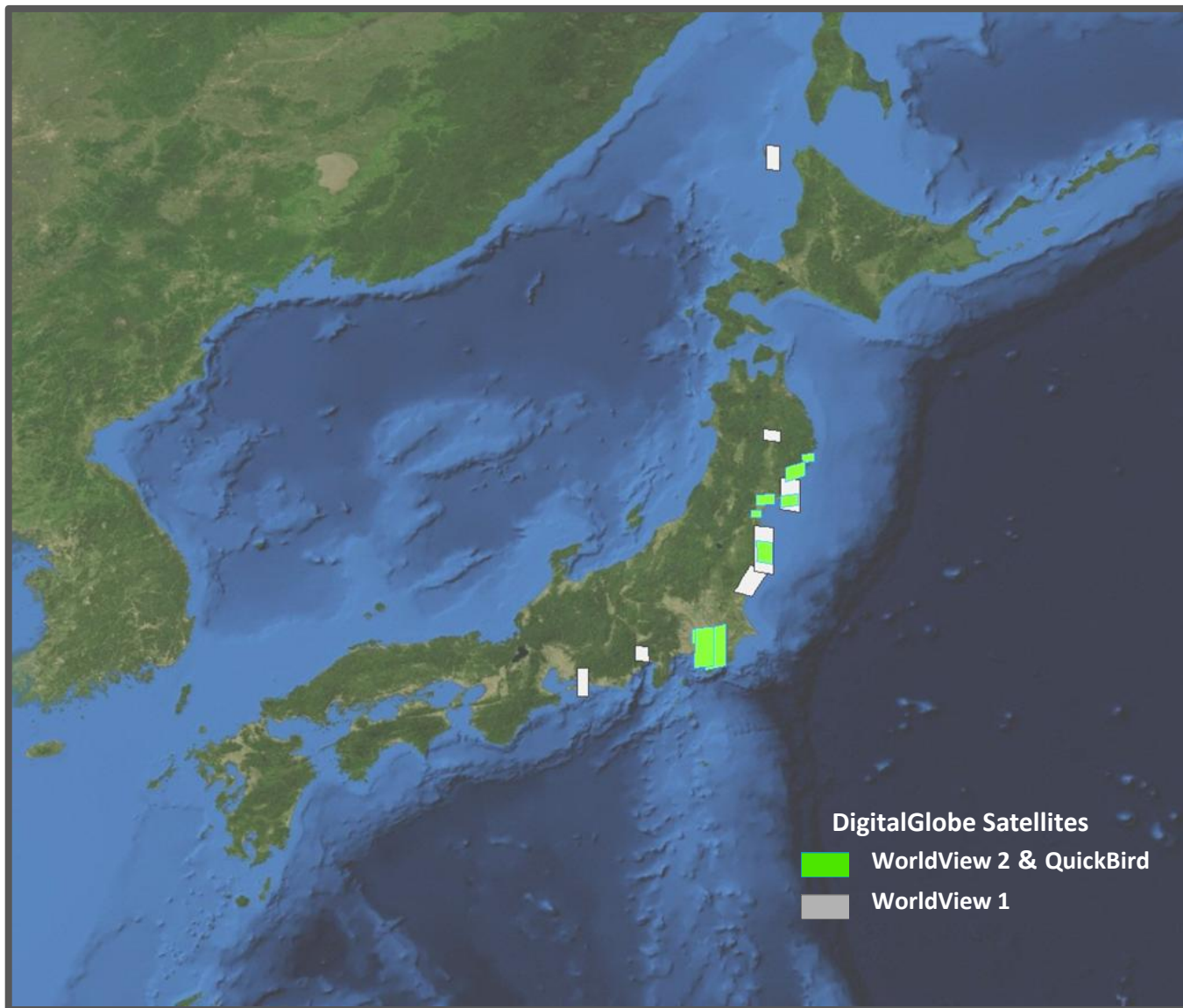


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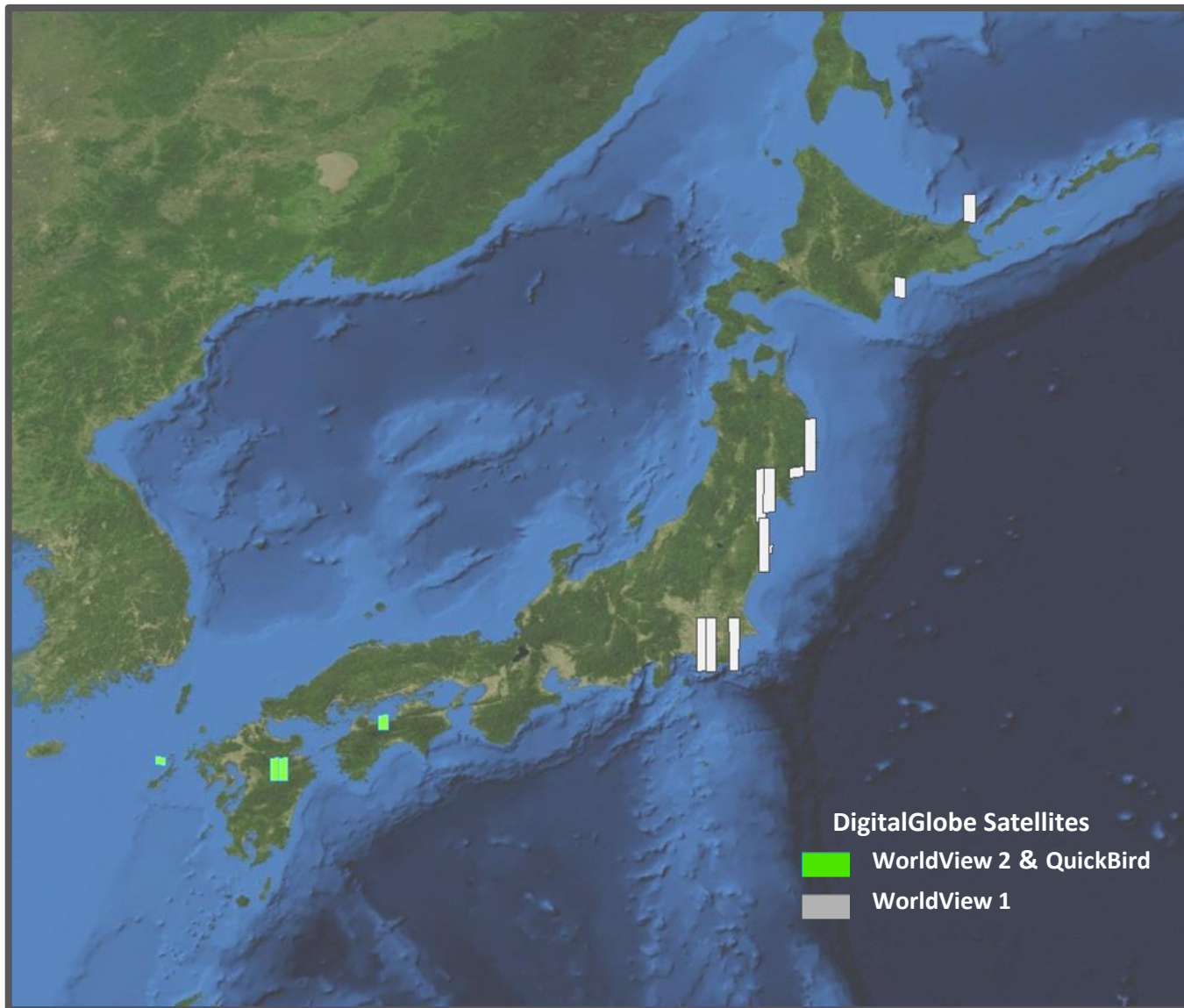
March 17th 2011



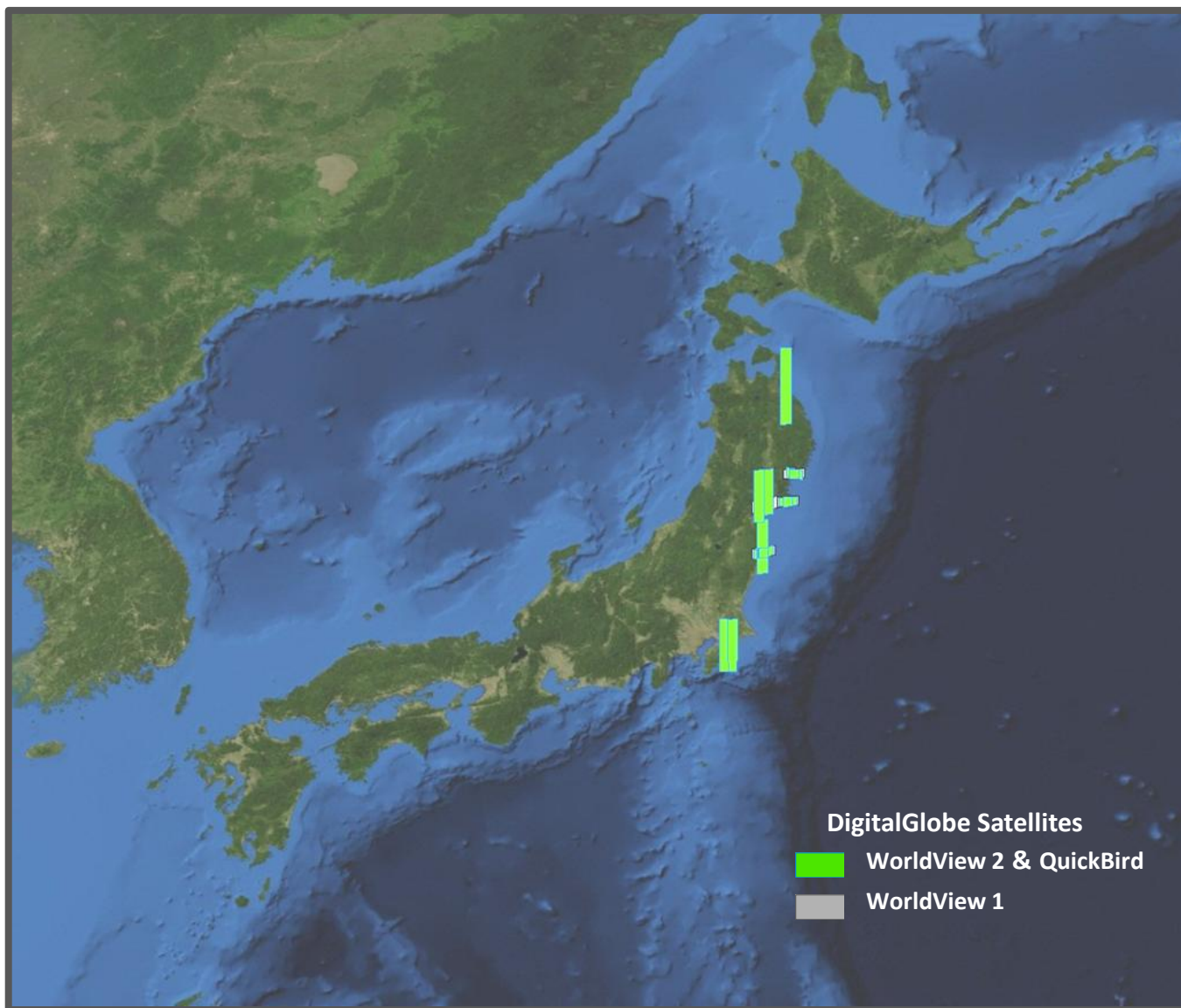
March 18th 2011



March 19th 2011



March 20th 2011

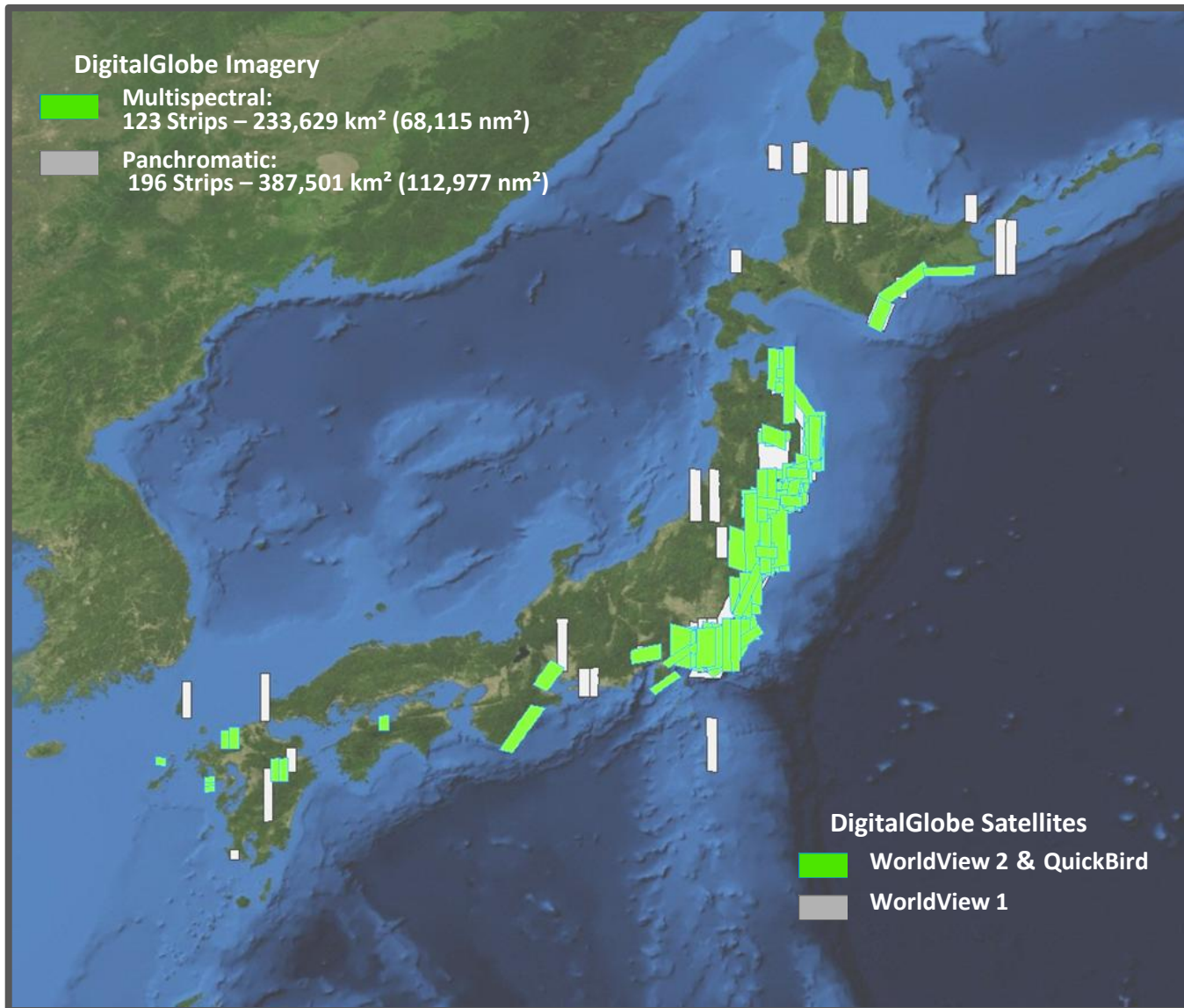


March 21st 2011



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March 11th – 21st 2011



How to Integrate & Use FirstLook

- Collection
 - Post-event imagery taken as soon as the constellation has viable access to the area—within days and often hours
 - Updates typically run through the first 30 days after event
- Notification and Access
 - Notification of event activations.
 - Pre-event imagery available online hours of event.
 - Post-event imagery provided 12 hours after new collections.
 - DG notifies you when imagery becomes available
 - Finished Ortho-rectified imagery delivery ready for use.

FirstLook – Notification Service

- Event Activation Notification:



Name: Souris-Missouri River Flooding

Description: Collection AOIs are defined for Minot ND, Sioux City IA and Fort Calhoun IA.

Latitude: 42.474608

Longitude: -96.385464

Event Date: 2011-06-29 11:15:00 UTC

Active: true

Categories

- Natural Disasters



Online Delivery Options

- **Earth Services**
 - Direct integration into Google Earth.
 - Imagery delivered in a KML structures
 - Ideal for users comfortable with Google Platform.
 - FirstLook data to interact directly with other available Google layers.
- **Map Services**
 - Permits advanced users to integrate technology into existing GIS workflows.
 - Allows for direct connections into OGC Compliant GIS platforms
 - ERDAS, ESRI, BAE GXP, & GIA
- **ESRI ImageConnect Plugin**
 - Provides advanced interaction options with data in the ESRI platform.
 - Direct integration into



Insight

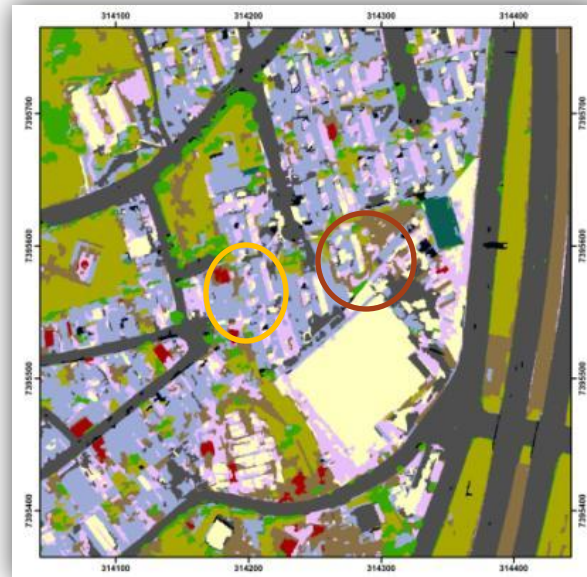
Information extraction

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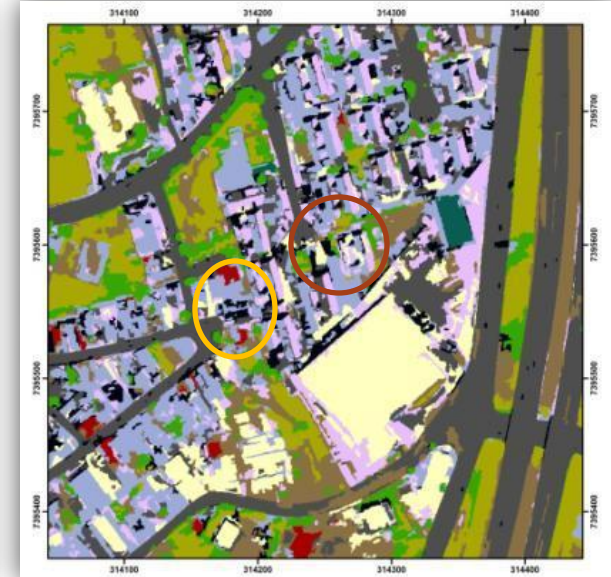
More Information, Higher Accuracy



WorldView-2 Imagery - Sao Paulo, Brazil



4 band accuracy – 70%



8 band accuracy - 90%

More accurate identification of road features; better shadow delineation

Benefits:


- 10% to 20% greater accuracy with additional 4 bands
- Reduces manual editing time by 3-6 months for a 200 sq km area
- Empowers analysts to focus on problems, speed decision-making



Change Detection




Additional Analysis Available

DIGITALGLOBE ► ANALYSIS CENTER ► FIRSTWATCH ► IMAGERY REPORT

 **Fukushima Daiichi Nuclear Power Plant**
Okuma, Japan
37 25 18N 141 01 56E



Damaged Unit 4 Reactor Building
(Roof Blown Off; Panel Walls Blown Out)

Damaged Unit 3 Reactor Building
(Roof Blown Off; Panel Walls Blown Out)

Damaged Unit 2 Reactor Building
(Steam/Smoke Present)

Damaged Unit 1 Reactor Building

DigitalGlobe's Natural Color Satellite Image
March 16, 2011 (00:35 GMT)

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FirstLook Key Benefits

- Monitor World Events
 - Remain informed and up-to-date on current events around the globe
- Priority Tasking
 - Take precedence in image collection scenarios
- Finished Product
 - Spend less time collecting, processing, and analyzing information, and more time making decisions
- Fast Access
 - Online subscription service that provides fast, web-based access to pre- and post-event imagery of world disasters
- Flexible
 - Connect through a suite of online services that sync directly with desktop and enterprise applications
- FirstLook Messaging Service
 - Email and RSS notifications sent for event activations, details, and imagery availability

Thank you!

www.digitalglobe.com

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