



## DigitalGlobe Contributions to Risk Management in Global Climate Change

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VP, head of APAC Sales

**DigitalGlobe Inc.**

DIGITAL GLOBE

# Highlight of **DigitalGlobe Contribution** space in Climate Change related Applications

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- Landuse / Landcover Change
  - Deforestation,
  - Reforestation,
  - Desertification
  - Urbanization
- Hydrology
- Carbon related studies
- Coastal Environment studies
- Hazard monitoring

# DigitalGlobe Introduction

## Where We've Been

Advancing our industry one milestone at a time

# A history of innovation and leadership

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- ▶ **First** company to receive a high-resolution commercial remote sensing license from the U.S. Government
- ▶ **First** company to offer online, subscription-based access to imagery with web services (GlobeXplorer acquisition)
- ▶ **First (and only)** company to provide high-resolution 8-Band Imagery (WorldView-2 satellite)
- ▶ **First** company to launch sub-meter highest-resolution commercial satellite (QuickBird satellite)
- ▶ **Largest** commercial imagery library in the world



A satellite image of Barrow, Alaska, showing a coastal town with numerous buildings, roads, and several large, irregularly shaped ponds. The town is situated on a narrow strip of land, with a dark blue body of water to the left. The land is a mix of brown and green, indicating tundra and vegetation. A small, white, irregularly shaped object is visible in the water to the left of the town.

# DigitalGlobe Constellation

The best view of the Earth

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# The best view of the Earth





# Multi-ShotTasking

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An aerial photograph of the Golden Gate Bridge in San Francisco, California. The bridge's red-orange structure is visible in the lower right corner, spanning across the deep blue-green waters of the bay. White-capped waves are breaking against the rocky shoreline on the left. In the upper right, a multi-lane highway with cars and surrounding urban development are visible. A semi-transparent dark green rectangular box is overlaid on the left side of the image, containing the text 'Content' and 'The world's largest, consistently refreshed commercial imagery library'.

# Content

The world's largest, consistently refreshed  
commercial imagery library

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# The world's **largest**, consistently **refreshed** commercial imagery library



## What it is

Premium imagery covering major operating areas worldwide that has the ability to integrate with existing GIS implementations.

- **Base Products**
- **Stereo**
- **Ortho Series**
- **Global Basemap**
- **Aerial**

## Who it's for

Professionals who need to:

- **Identify the world's natural resources, monitor pipelines and facilities**
- **Understand the earth's environmental condition**
- **Respond to emergencies and natural disasters; then recover**
- **Plan investments in multi-million dollar infrastructure development**



An aerial photograph showing a wide, light-colored river curving through a dense, green forested landscape. The forest appears thick and continuous, with some variations in green tones suggesting different vegetation types or perhaps a digital overlay. The river's surface is relatively calm, reflecting the sky.

# 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 1.8 billion km<sup>2</sup>
- **Two million km<sup>2</sup> added each day** – roughly the size of Mexico

DIGITALGLOBE<sup>®</sup>

# Currency

See the Earth now



DIGITALGLOBE®



# See the Earth now

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Deliver images within  
hours after collection



Offer unparalleled  
on-demand access and  
download



Refresh imagery from the same  
location almost daily



An aerial photograph of Cairo, Egypt, showing a dense urban landscape with numerous buildings, roads, and a large highway interchange in the lower-left corner. The image is taken from a high angle, providing a clear view of the city's layout and infrastructure.

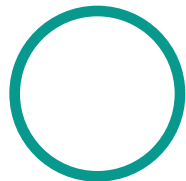
# Accuracy

See the Earth the way it is

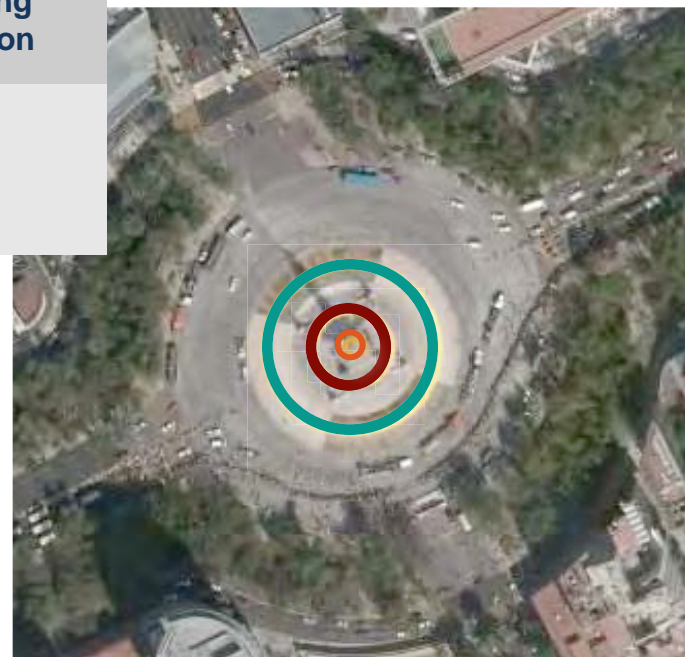
DIGITALGLOBE



# See the Earth the way it is



Platform	Accuracy Levels
QuickBird	<ul style="list-style-type: none"><li>• 23m CE90 or better</li><li>• Quick production</li></ul>
WorldView-1 WorldView-2	<ul style="list-style-type: none"><li>• 5.0m CE90 or better</li><li>• Broad coverage with high accuracy for mapping and feature extraction</li></ul>
Precision Aerial	<ul style="list-style-type: none"><li>• 2.6m CE90</li><li>• United States and Western Europe</li></ul>





An aerial photograph of Mount Merapi, Indonesia, taken on November 11, 2010, at a resolution of 50cm. The image shows a rugged, mountainous landscape with a prominent red overlay on the right side, highlighting a specific area of interest. The red area appears to be a large, irregularly shaped region, possibly a forest or a specific land use. The rest of the image is in grayscale, showing the terrain and some structures. A semi-transparent dark gray box is overlaid on the left side of the image, containing the text "Information/Insight" and "Analyzing the past to prepare for the future". The DigitalGlobe logo is in the bottom right corner.

# Information/Insight

Analyzing the past to prepare for the future

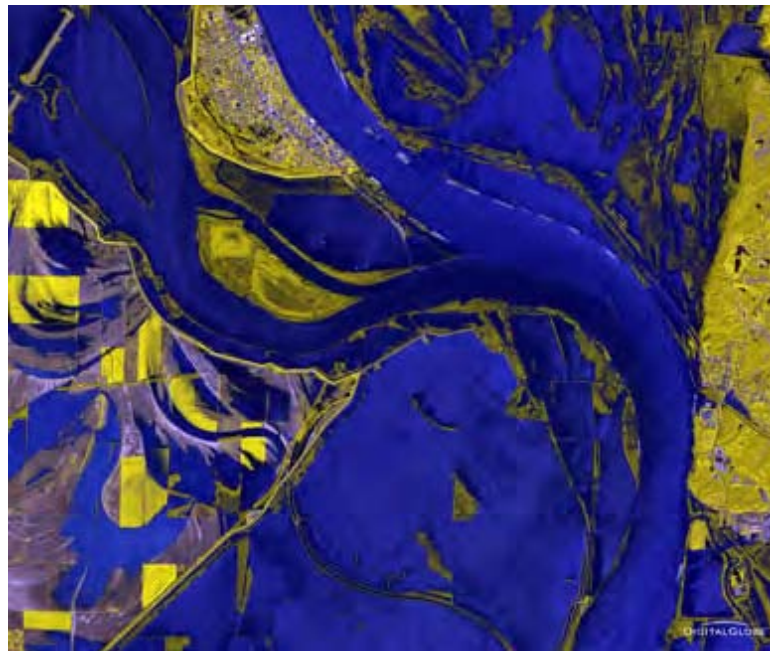
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# Analyzing the past to prepare for the future



Flooding in the Midwest (Cairo, Illinois)



This multispectral band combination illuminates the flooded areas. In this instance, the flooded areas are blue while the healthy vegetation is yellow.

## What it is

Analytical insights of global events and changes to support decision-making

- Custom Analysis
- Vegetative Analysis
- Change Detection
- Volumetrics

## Who it's for

Government agencies and other organizations with the need to monitor and analyze long-term trends—defense, homeland security, economic, and environmental.

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# DigitalGlobe's Analysis Center



Unlimited and direct access to the world's largest and most comprehensive library of sub-meter satellite imagery dating to 2002



The ability to collect and analyze imagery repeatedly of any point in the world—no matter how inaccessible due to political or geographic conditions



A team of experienced imagery analysts, geospatial analysts and regional experts, all supported by an extensive in-house scientific, R&D and technical organization



A federated network of regional, market, industry and subject matter experts



# Urban Growth (2002-2011)

## Hyderabad, India (17 26 46N 78 34 15E)



**Before**

**After**

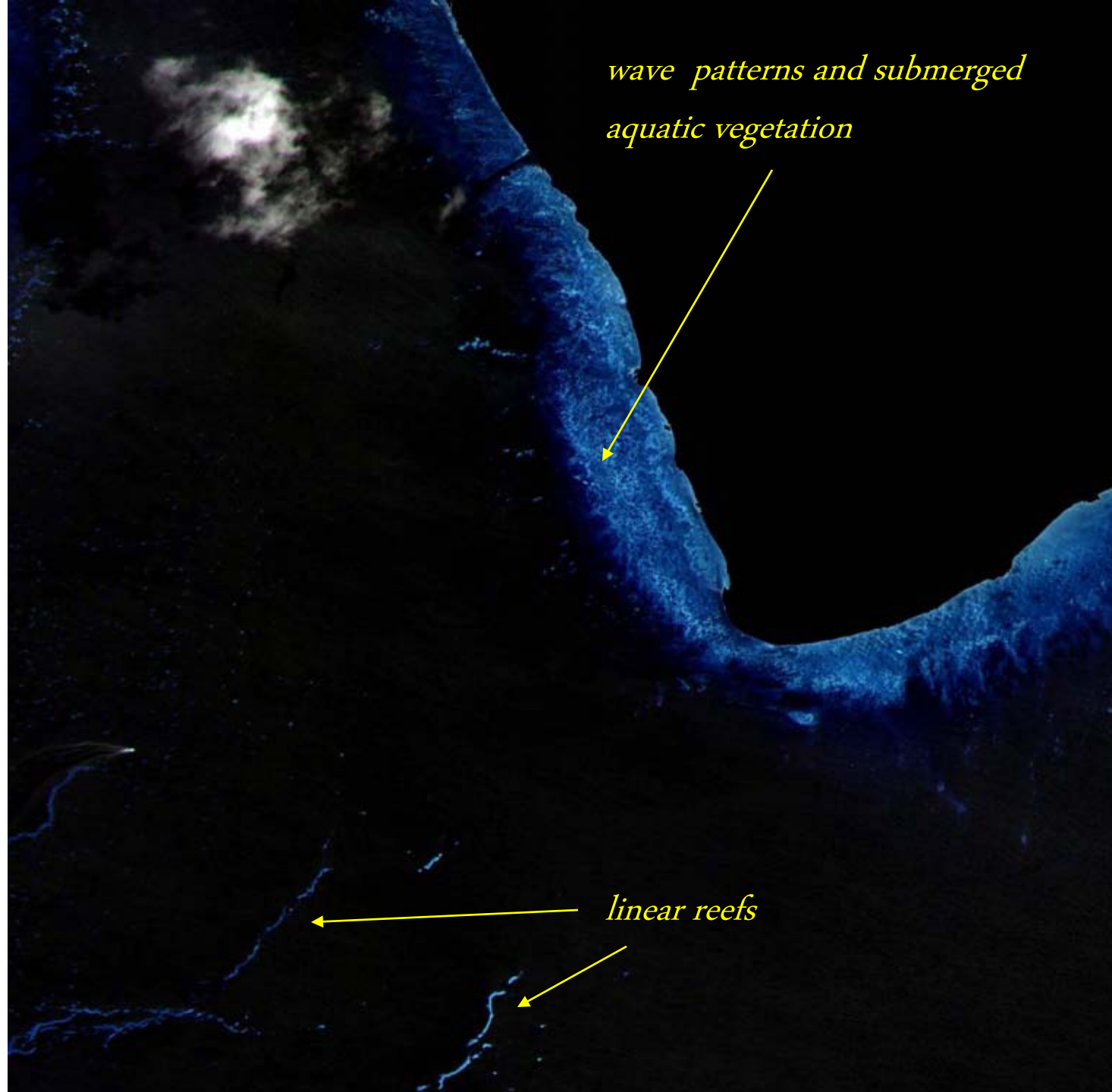
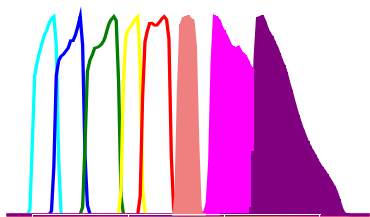
DigitalGlobe's Panchromatic Satellite Image  
April 5, 2002

DigitalGlobe's Panchromatic Satellite Image  
April 2, 2011

**WorldView-2**  
**First Images**

RE, NIR1, NIR2  
2m Image  
November 23, 2009

**Aitutaki**  
**Lagoon**





**WorldView-2  
First Images**

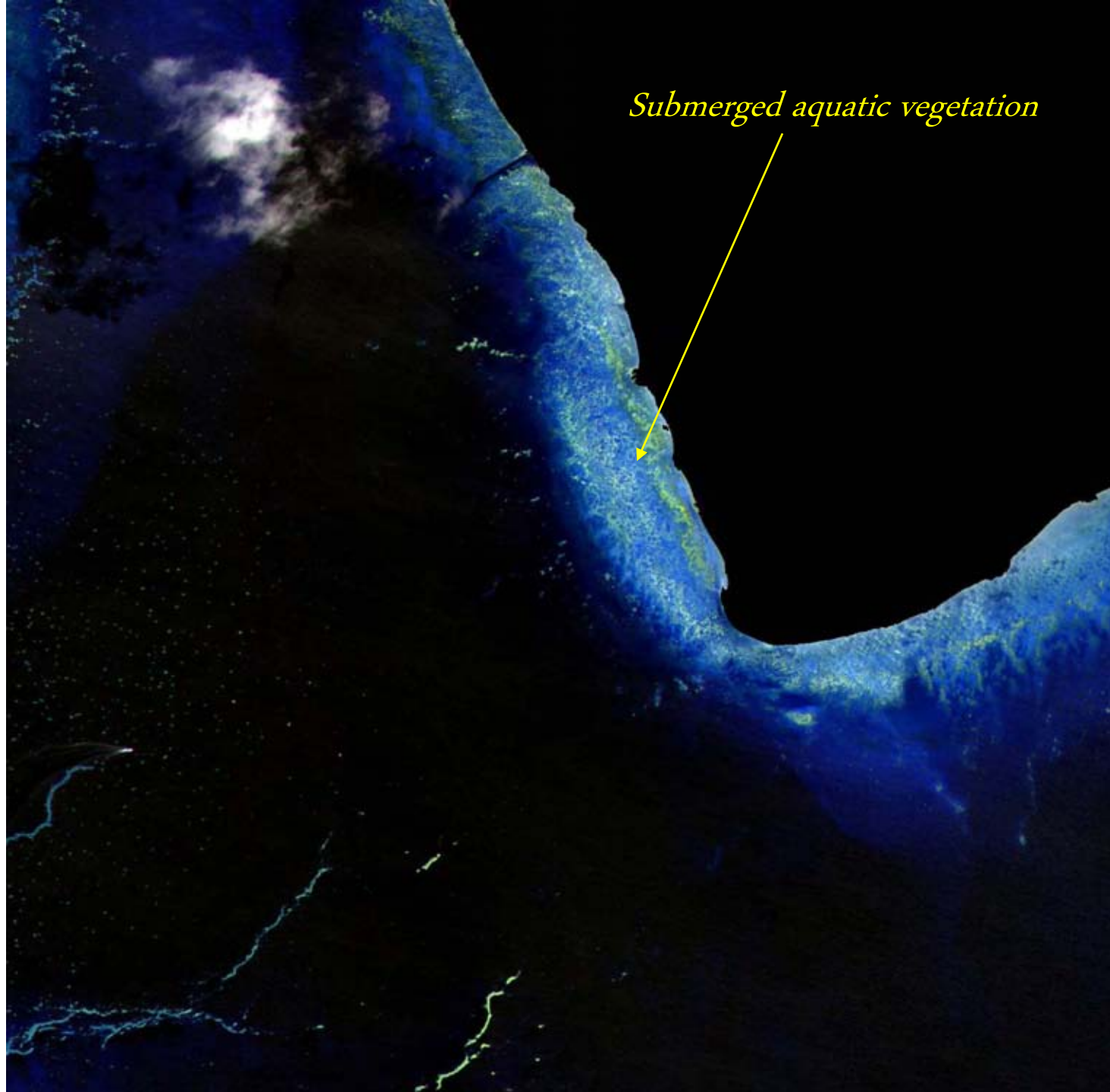
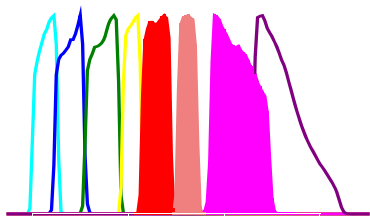
R, RE, NIR1

2m Image

November 23, 2009

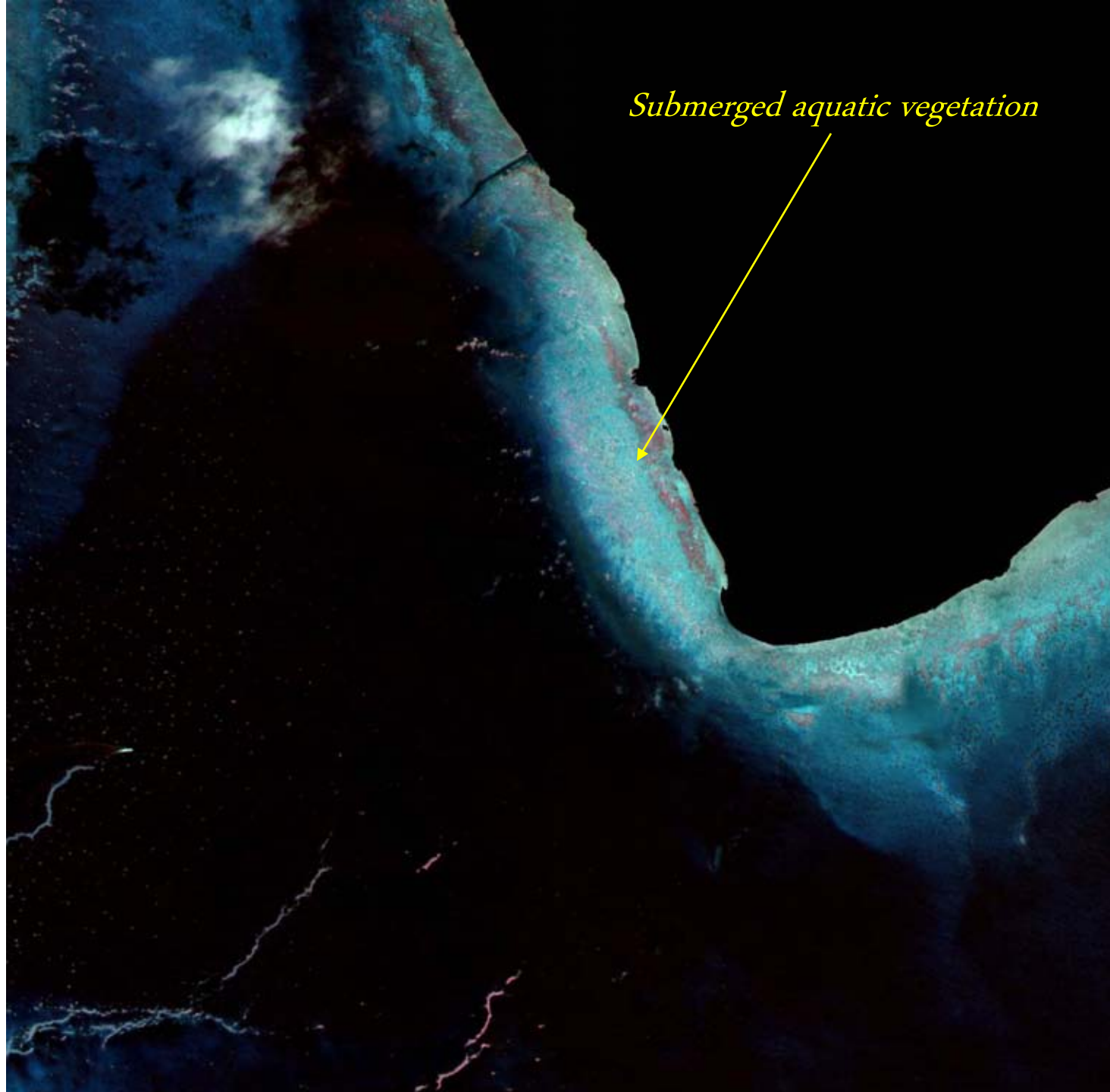
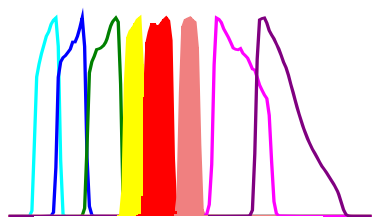
**Aitutaki  
Lagoon,**

**Cook  
Islands**



**WorldView-2**  
**First Images**  
Y, R, RE  
2m Image  
November 23, 2009

**Aitutaki**  
**Lagoon**



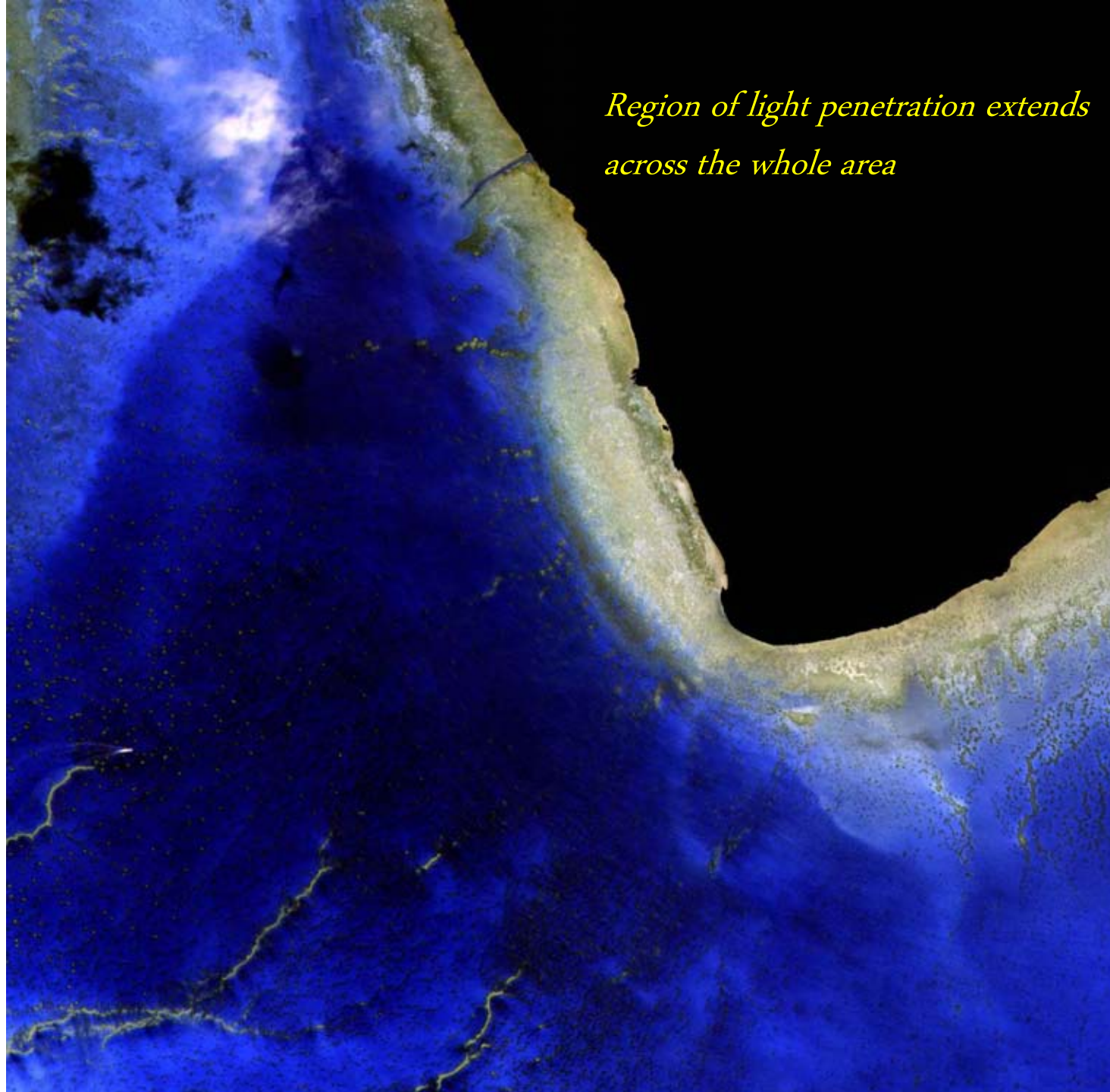
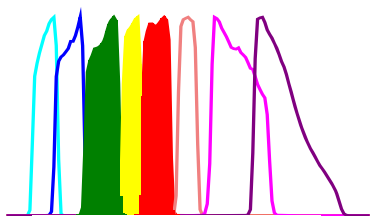
*Submerged aquatic vegetation*



**WorldView-2  
First Images**

G, Y, R  
2m Image  
November 23, 2009

**Aitutaki  
Lagoon**

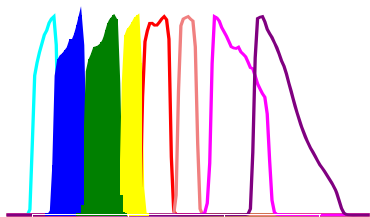


*Region of light penetration extends  
across the whole area*

**WorldView-2  
First Images**

B, G, Y  
2m Image  
November 23, 2009

**Aitutaki  
Lagoon**



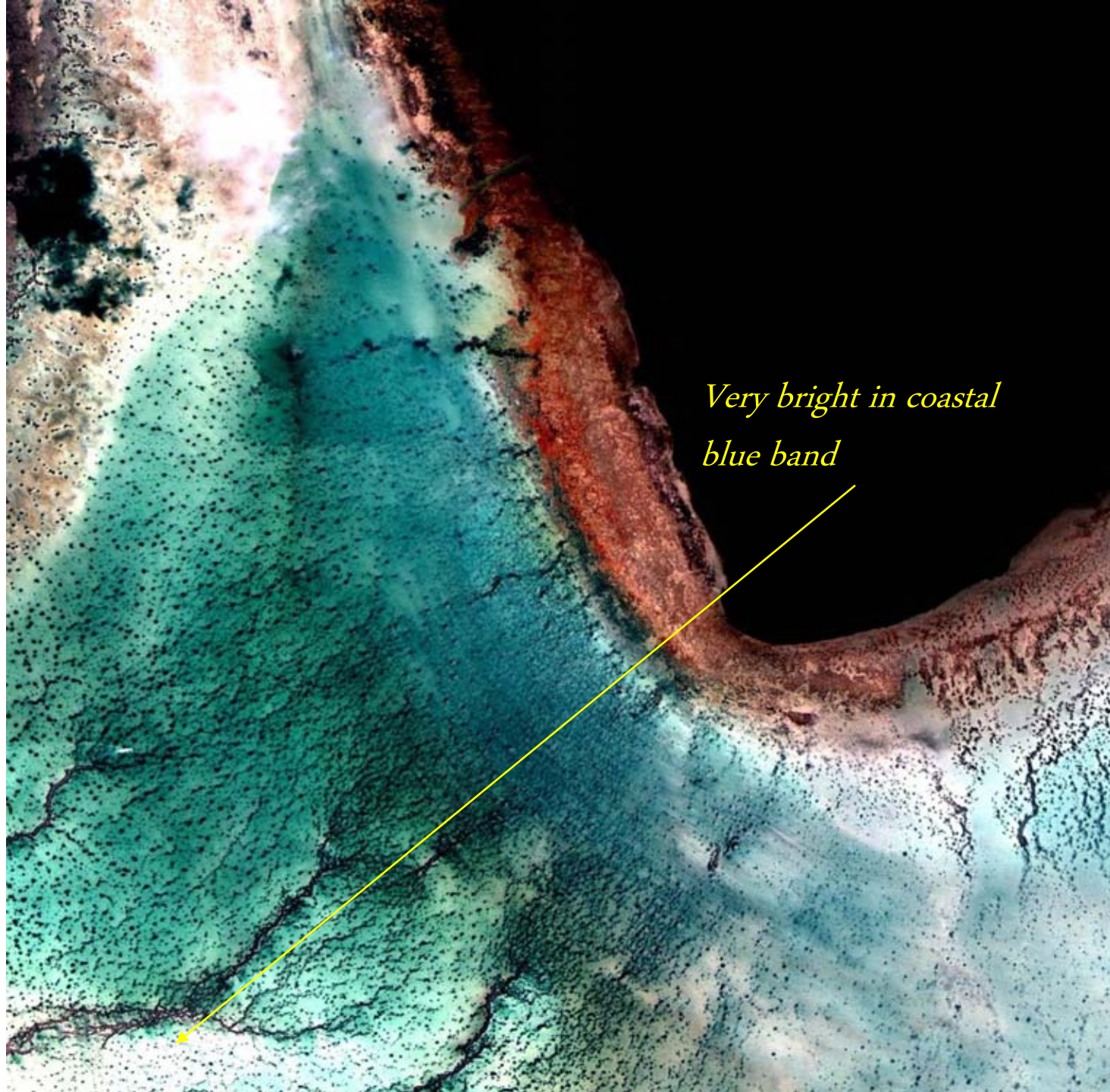
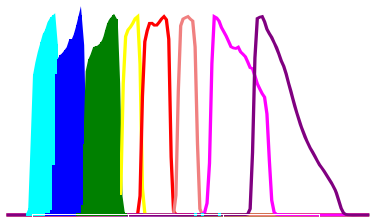
*Submerged features  
visible everywhere*



**WorldView-2**  
**First Images**

C, B, G  
2m Image  
November 23, 2009

**Aitutaki**  
**Lagoon**



*Very bright in coastal  
blue band*

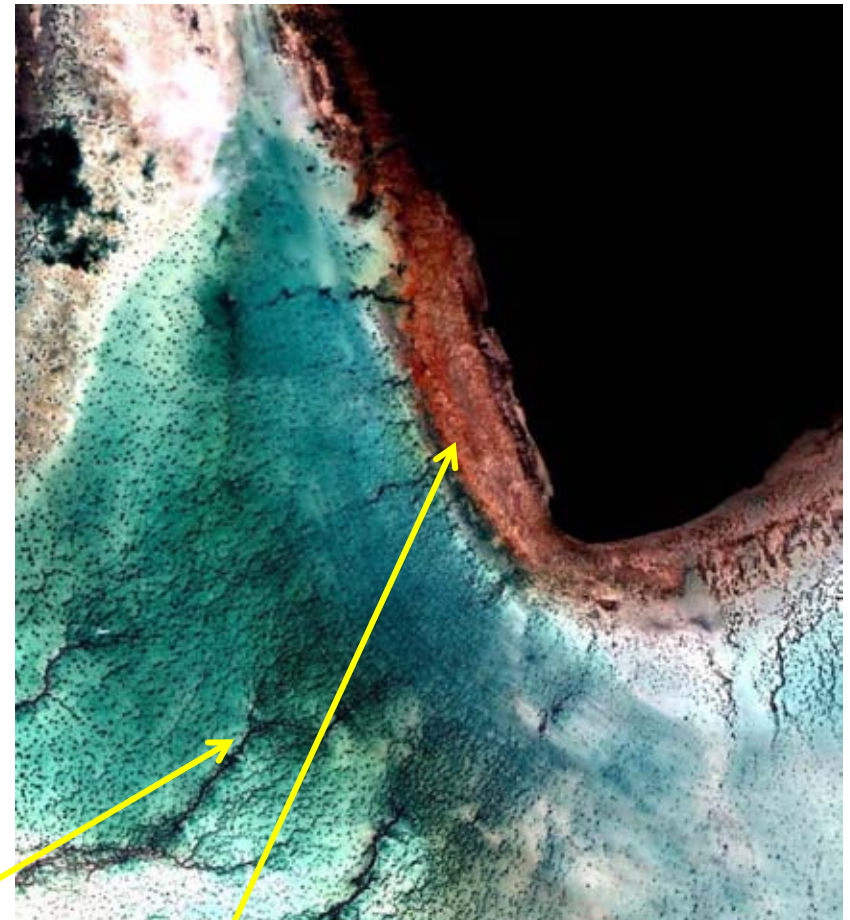


# BATHYMETRY

Natural Colour



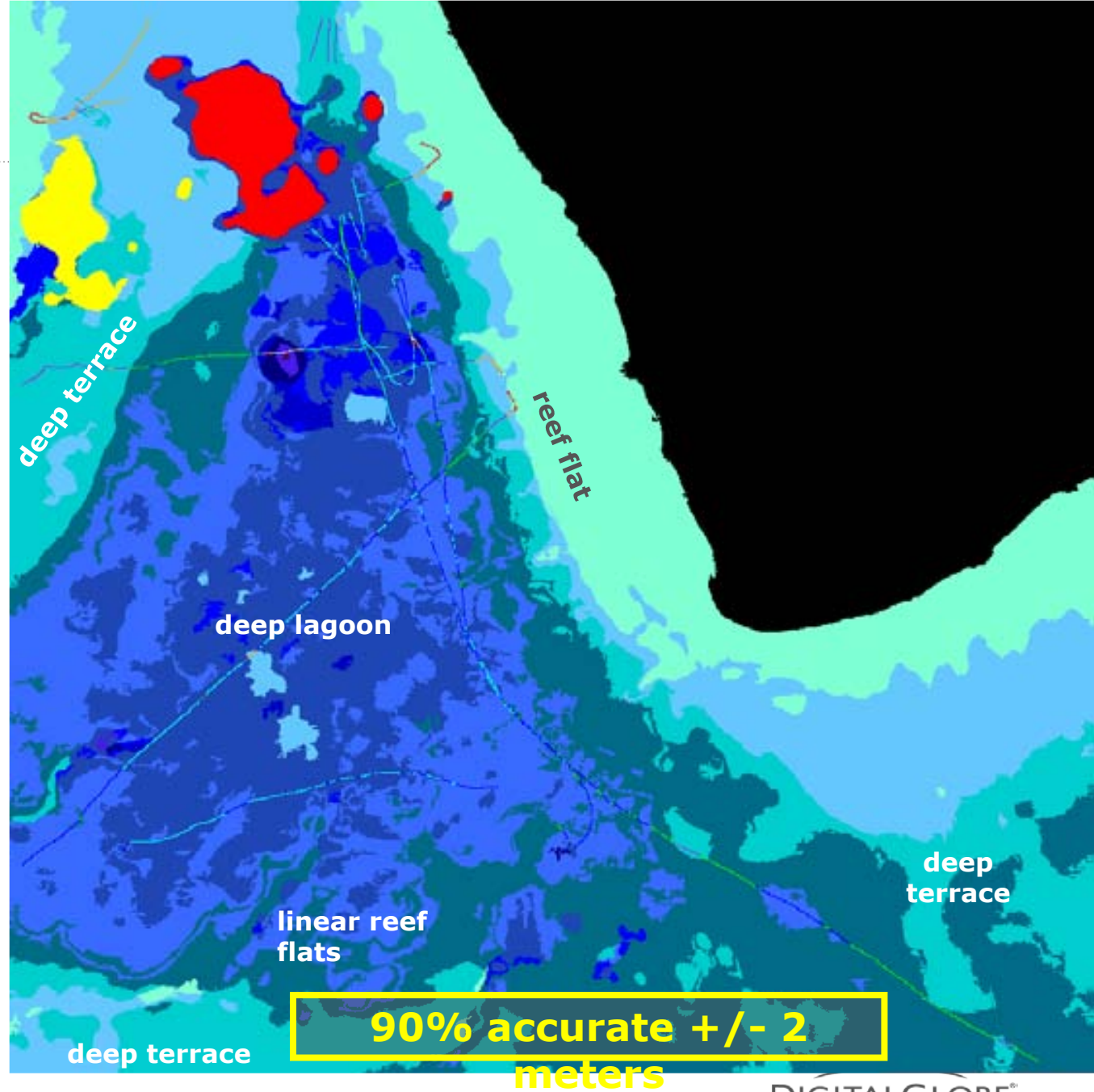
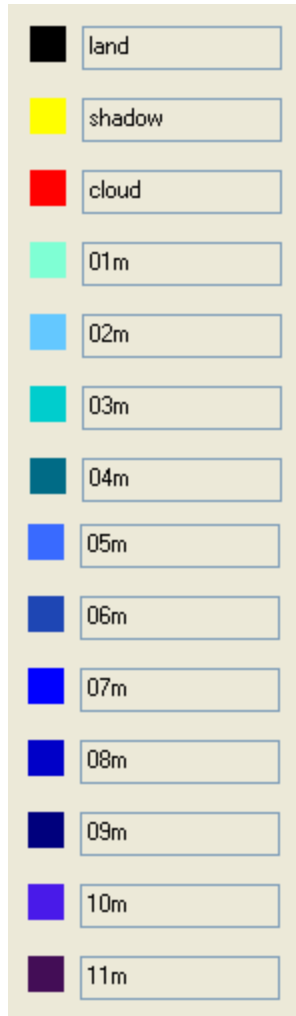
Coastal Blue Green



Enhanced Sea Floor and Aquatic Vegetation Detail



# WV2 Bathymetry



# DigitalGlobe supports variety of decisions and actions for pre/post disaster cases

- Days to Hours
- Rapid Delivery
- Agility
- Single to Multi Source

**INSIGHT for your  
Decisions**

- 8-Band
- Analysis
- Monitoring

**ASSURANCE**

Coverage  
and  
Currency

IMAGERY

**UNDERSTANDING**

Information  
Exploitation

Accessibility

Open Platform

**ONLINE  
ON-DEMAND**

PROCESS

**GROWING  
TRUST**

**PROBLEM  
SOLVING**

- Fusion Platform
- Security

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- Cloud Services
- Base Layer to Currency
- HPC/Automation
- Applications



An aerial photograph of the Golden Gate Bridge in San Francisco, California. The bridge's red-orange structure is visible in the lower right, spanning the deep blue-green waters of the bay. White-capped waves are seen crashing against the rocky shore on the left. In the upper right, a highway with multiple lanes and some surrounding greenery are visible. A semi-transparent dark green rectangular box is overlaid on the upper left portion of the image, containing text.

## Showcasing DigitalGlobe Actions for Humanitarian Assistance and Disaster Response, Risk Management

Contribution to Risk Management decision and  
action

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# Enabling Disaster Management

## A Decade of Humanitarian Assistance And Disaster Response

**Operation Iraqi Freedom:  
DigitalGlobe's Quick Look  
Experiment**

**Gulf of Mexico**

**Tsunami Aftermath: Banda Aceh,  
Indonesia**  
QuickBird Imagery  
28 December, 2004

**Fence Secured Facility  
Qom, Iran**

**Harare, Zimbabwe: Operation  
"Drive Out Rubbish"**  
QuickBird Imagery  
June 4, 2005

**Nigeria**

**Continuing Coverage of the Fourmile Canyon Wildfire**  
Boulder, Colorado

**NATO Supply Traffic  
Halted at Pakistan Border**

**Torkham, Pakistan**

<sup>1</sup> David B. Sandalow; Assistant Secretary for Oceans and International Environmental and Scientific Affairs; June 6, 2000



# Kalutura, Sri Lanka: Receding Waters from Tsunami



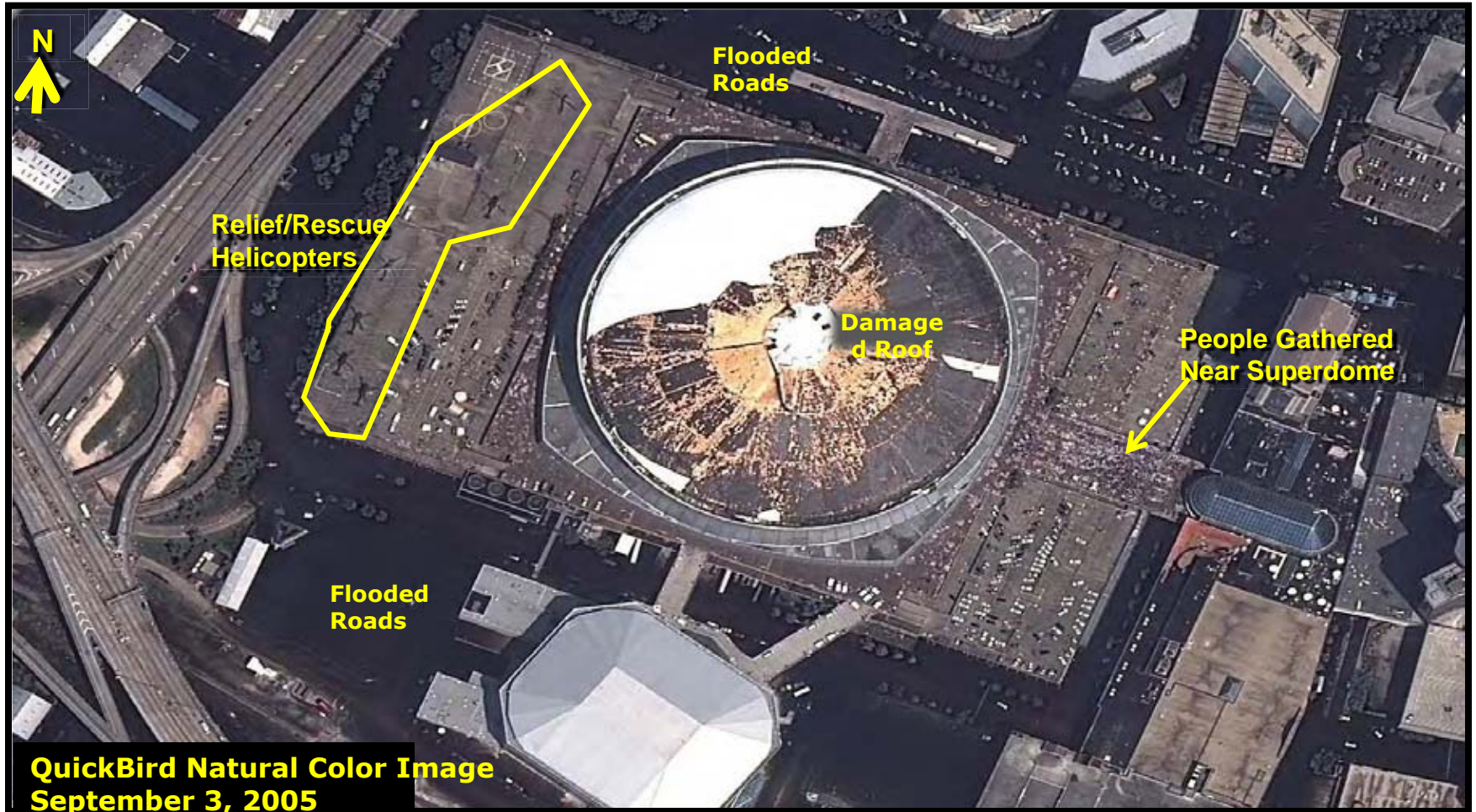


# Banda Aceh, Indonesia : After the Tsunami





# New Orleans: Aftermath of Hurricane Katrina



# Gulf of Mexico: Oil Spill

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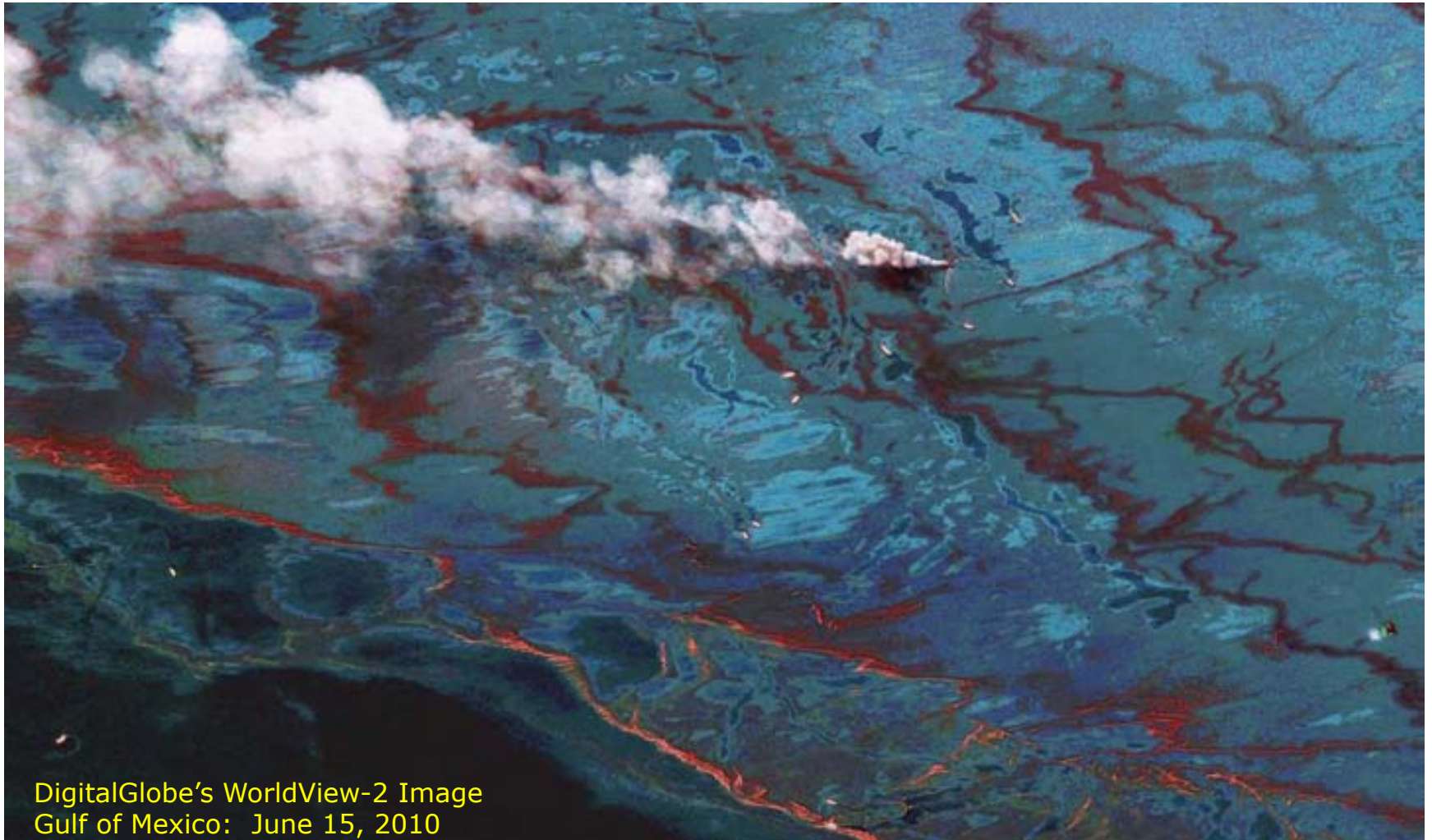


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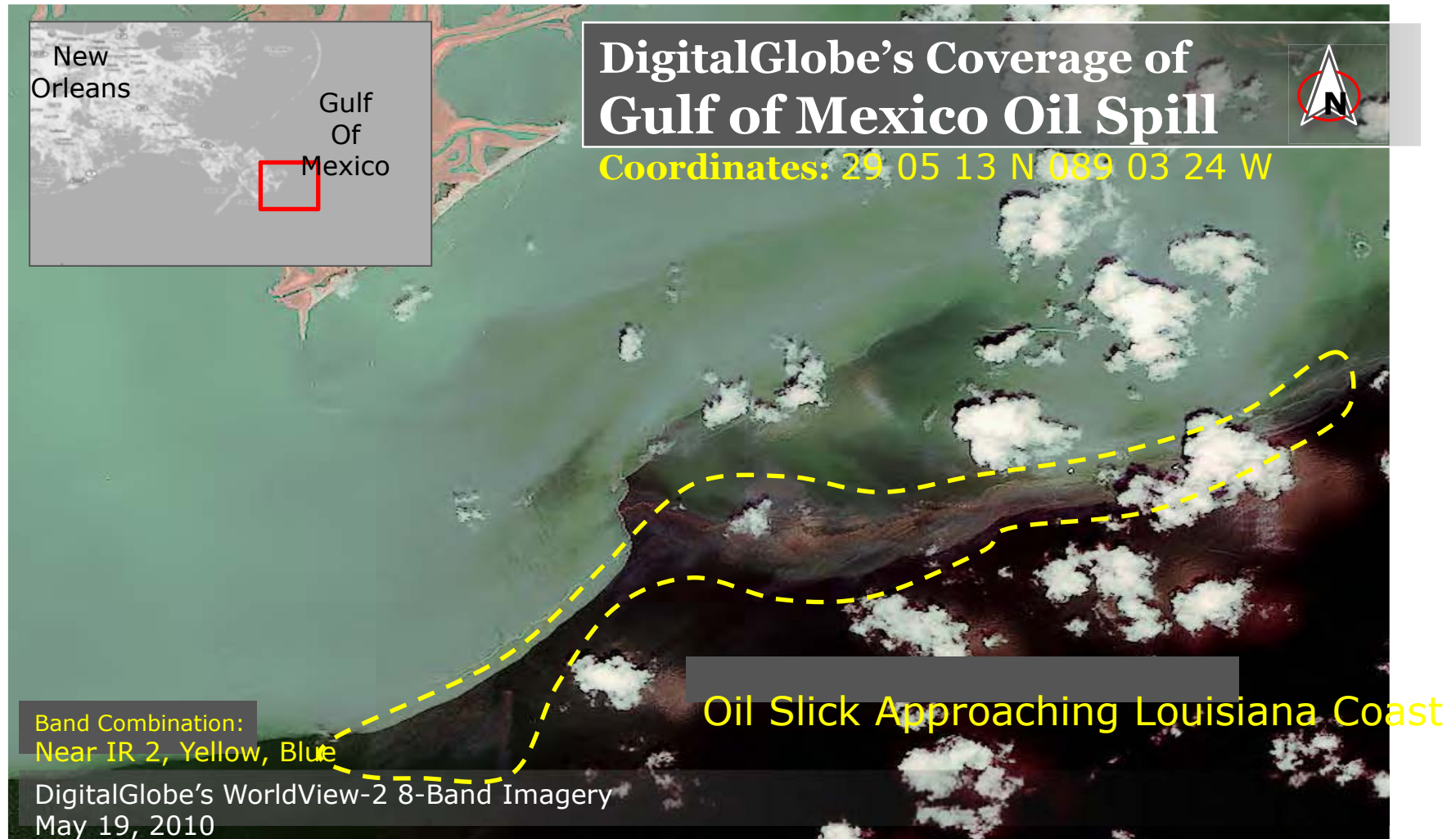
# Gulf of Mexico: Oil Spill

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# Gulf of Mexico: Oil Spill





# Concepcion, Chile: Aftermath of Earthquake

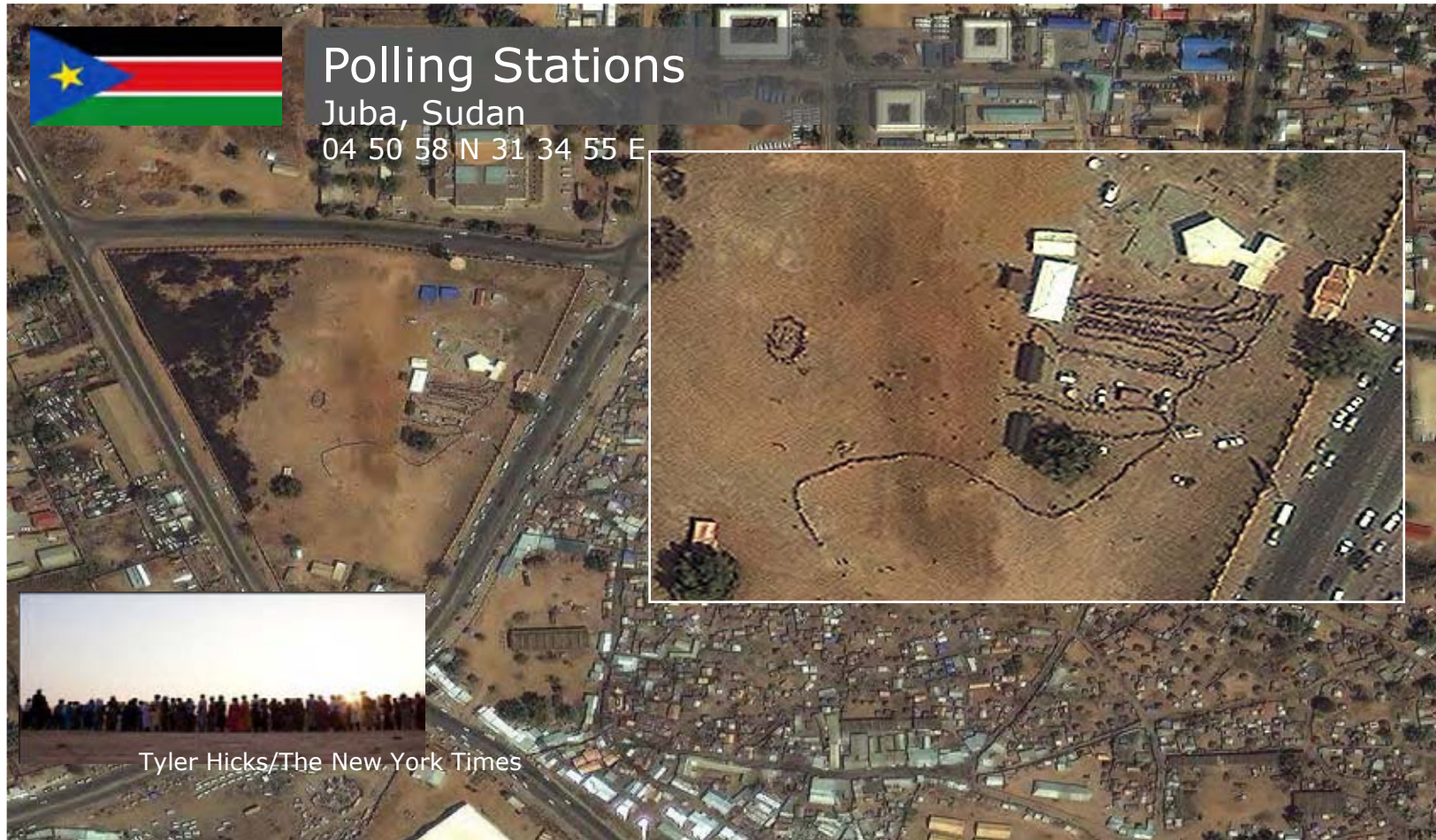


# Sudan: Monitoring



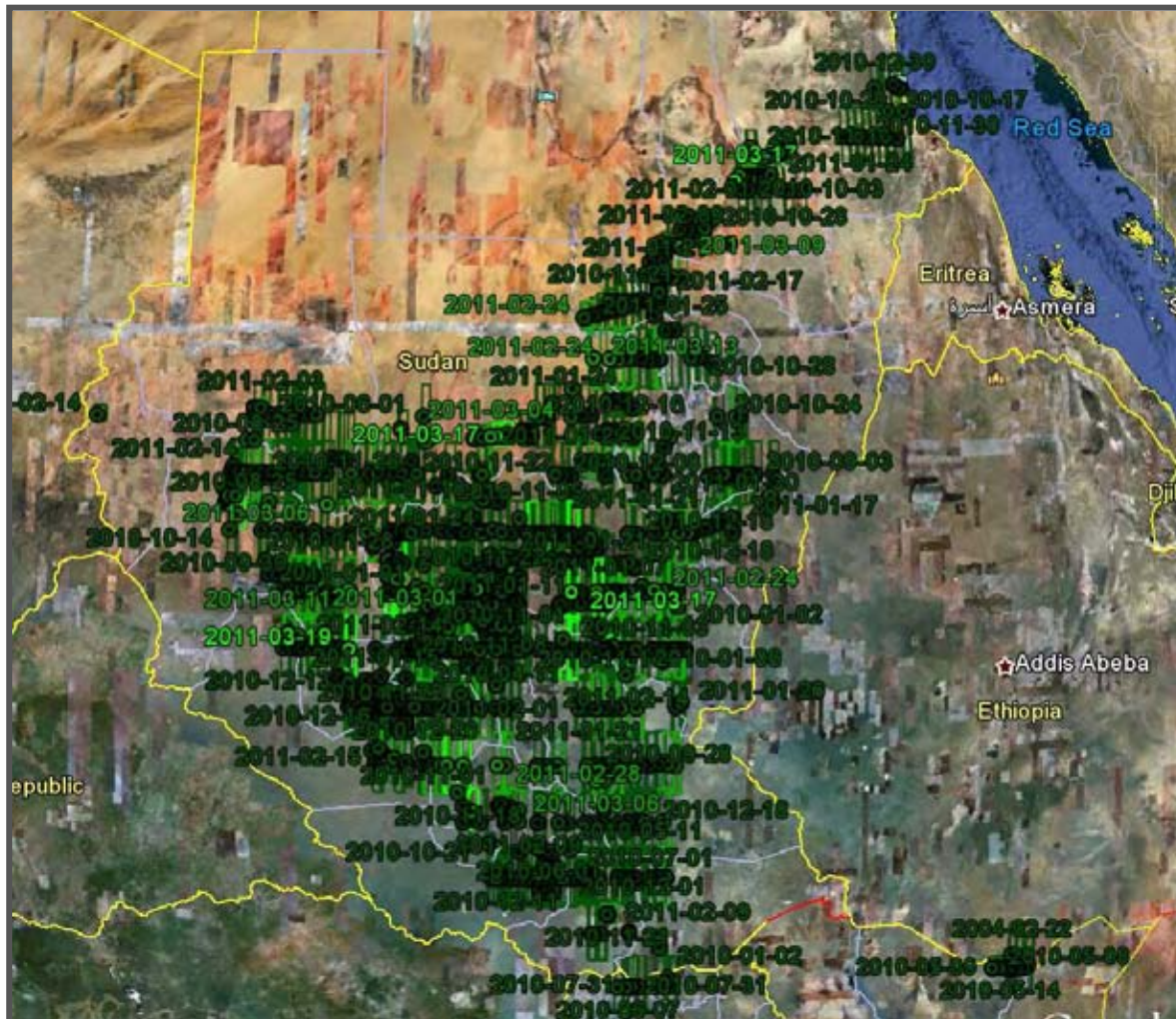


# Sudan: Monitoring





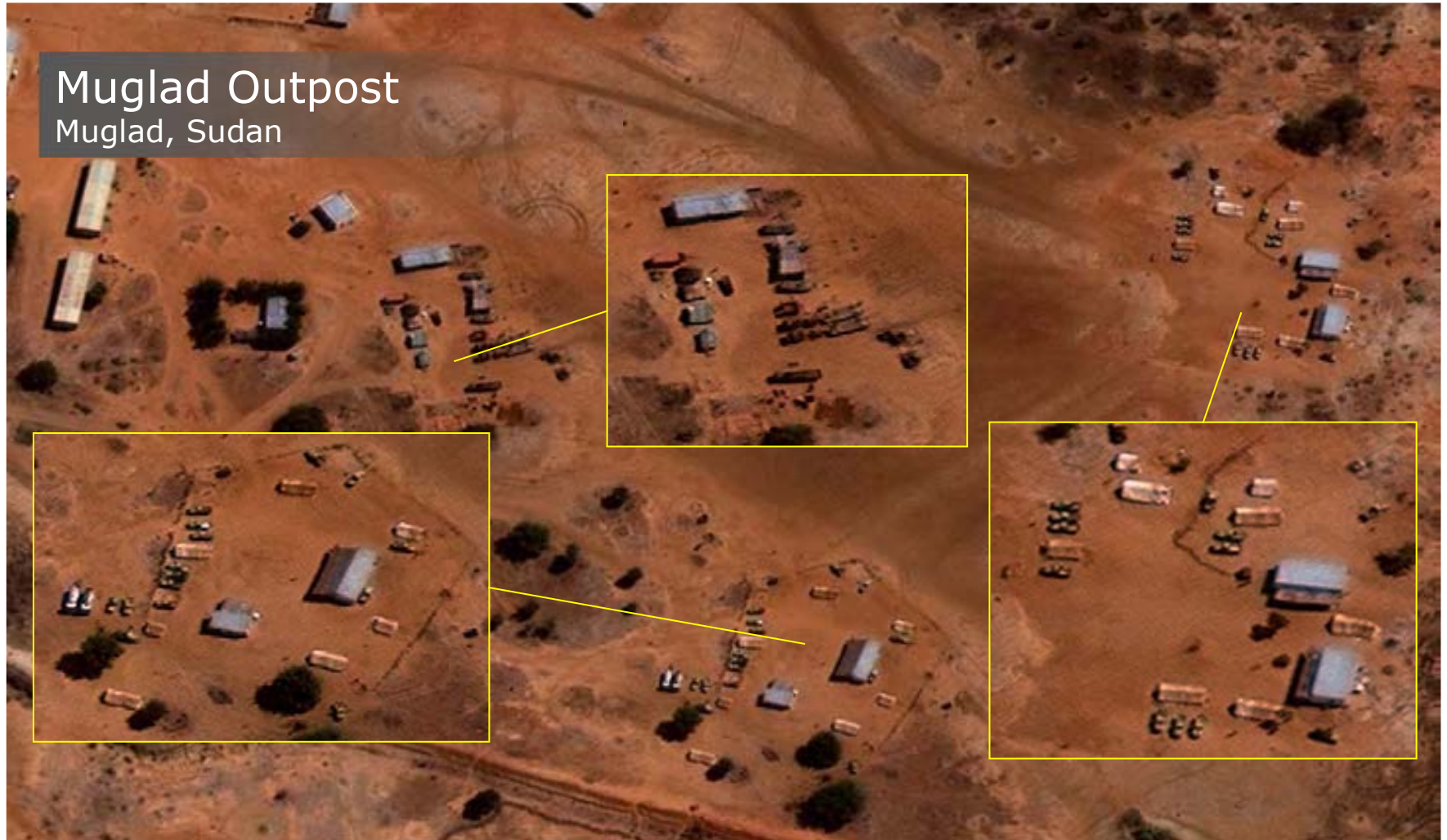
# Sudan: Monitoring



DigitalGlobe  
collected  
**2 million Km2**  
of imagery  
over Sudan  
in **90 days**.



# Sudan: Monitoring



# Sudan: Monitoring



## Burned Village

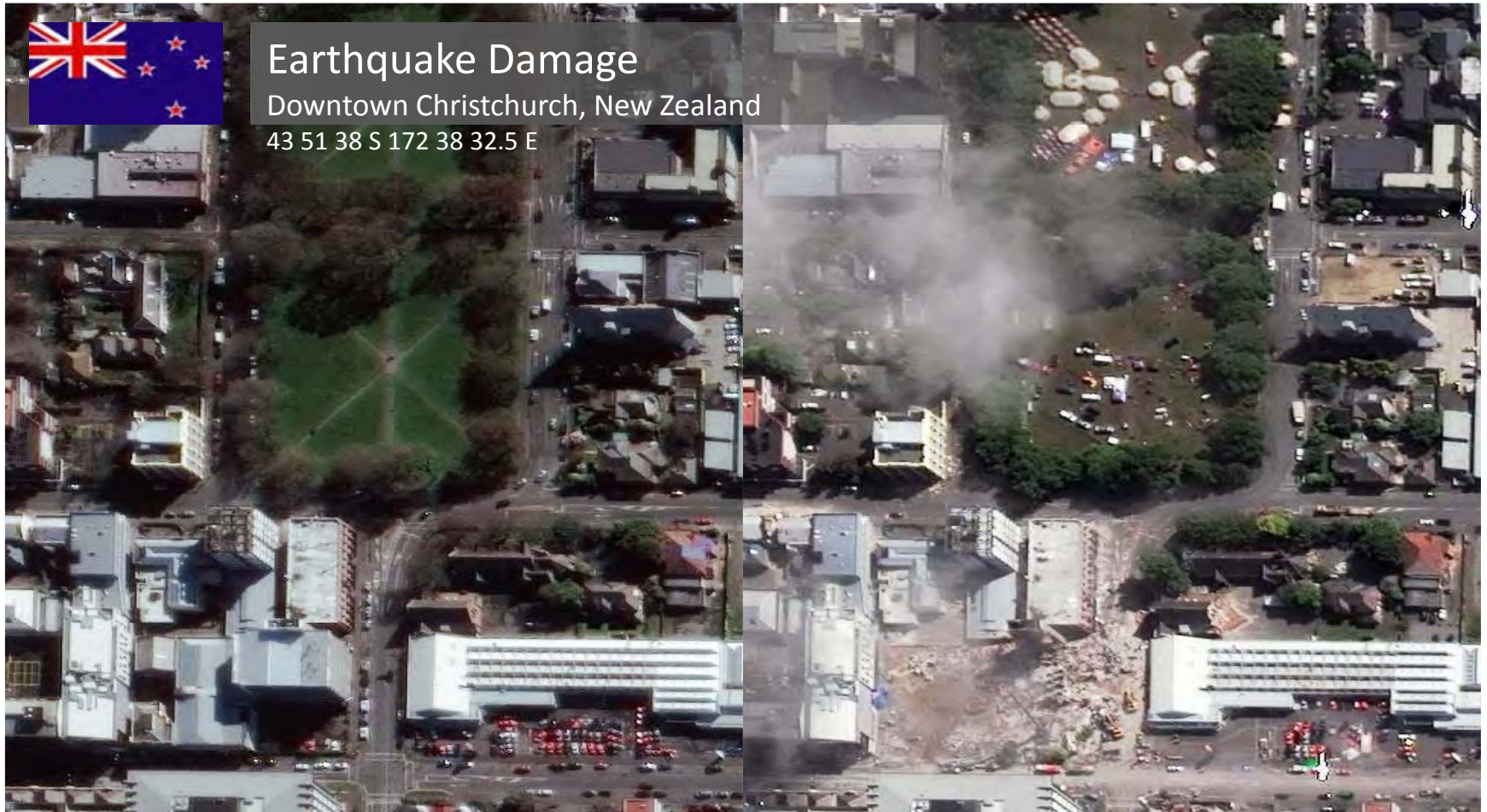
Tajalei, Sudan

9 39 55N 28 35 35E





# NZ Downtown Christchurch: After Earthquake



# Japan : After Tsunami



## Flooding Caused by Tsunami

Minamisoma, Japan

37 37 50N 141 00 15E



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# Japan : After Tsunami



## Piles of Debris Caused by Tsunami

East of Natori, Japan  
38 10 19N 140 56 45E



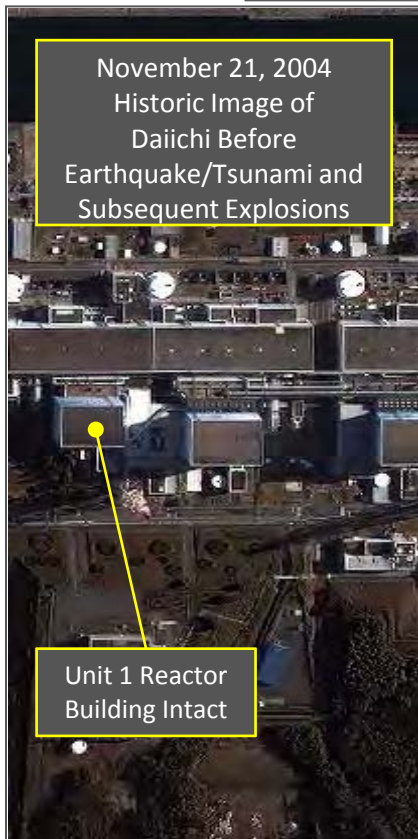
# Japan : After Tsunami



## Fukushima Daiichi Nuclear Power Plant

Okuma, Japan

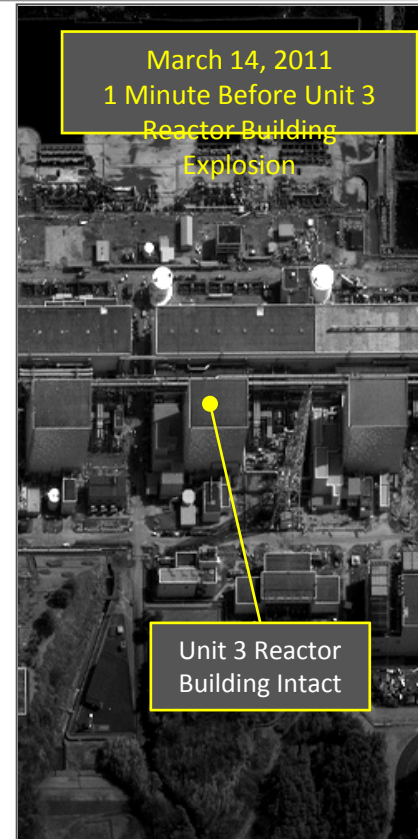
37 25 18N 141 01 56E



DigitalGlobe's Natural Color Satellite Image  
November 21, 2004



DigitalGlobe's Natural Color  
Satellite Image  
March 13, 2011 (00:52 GMT)



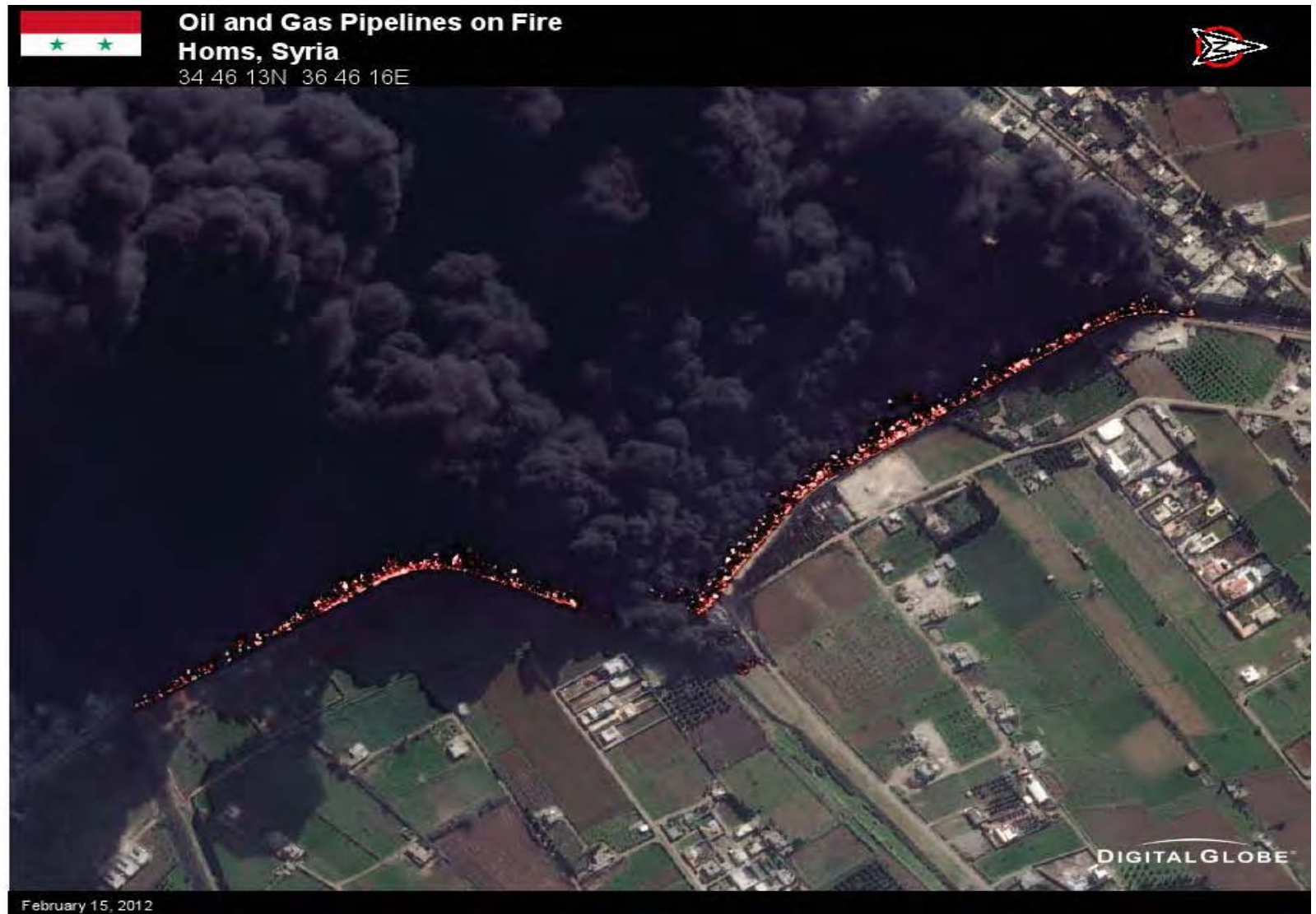
DigitalGlobe's Panchromatic  
Satellite Image  
March 14, 2011 (02:00 GMT)



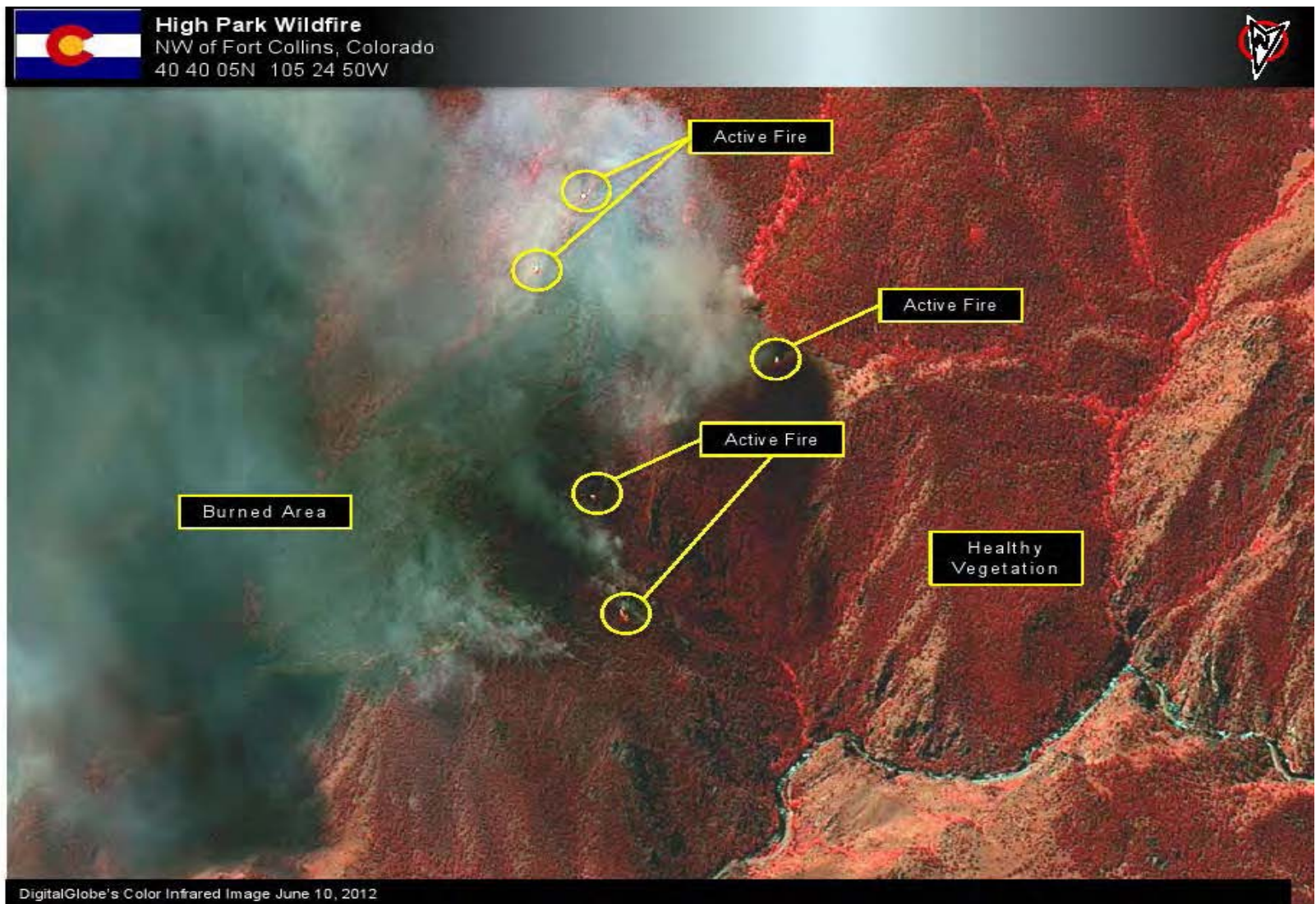
DigitalGlobe's Natural Color  
Satellite Image  
March 14, 2011 (02:04 GMT)



# Syria : Oil and Gas Pipeline on Fire



# Colorado : High Park Wildfire

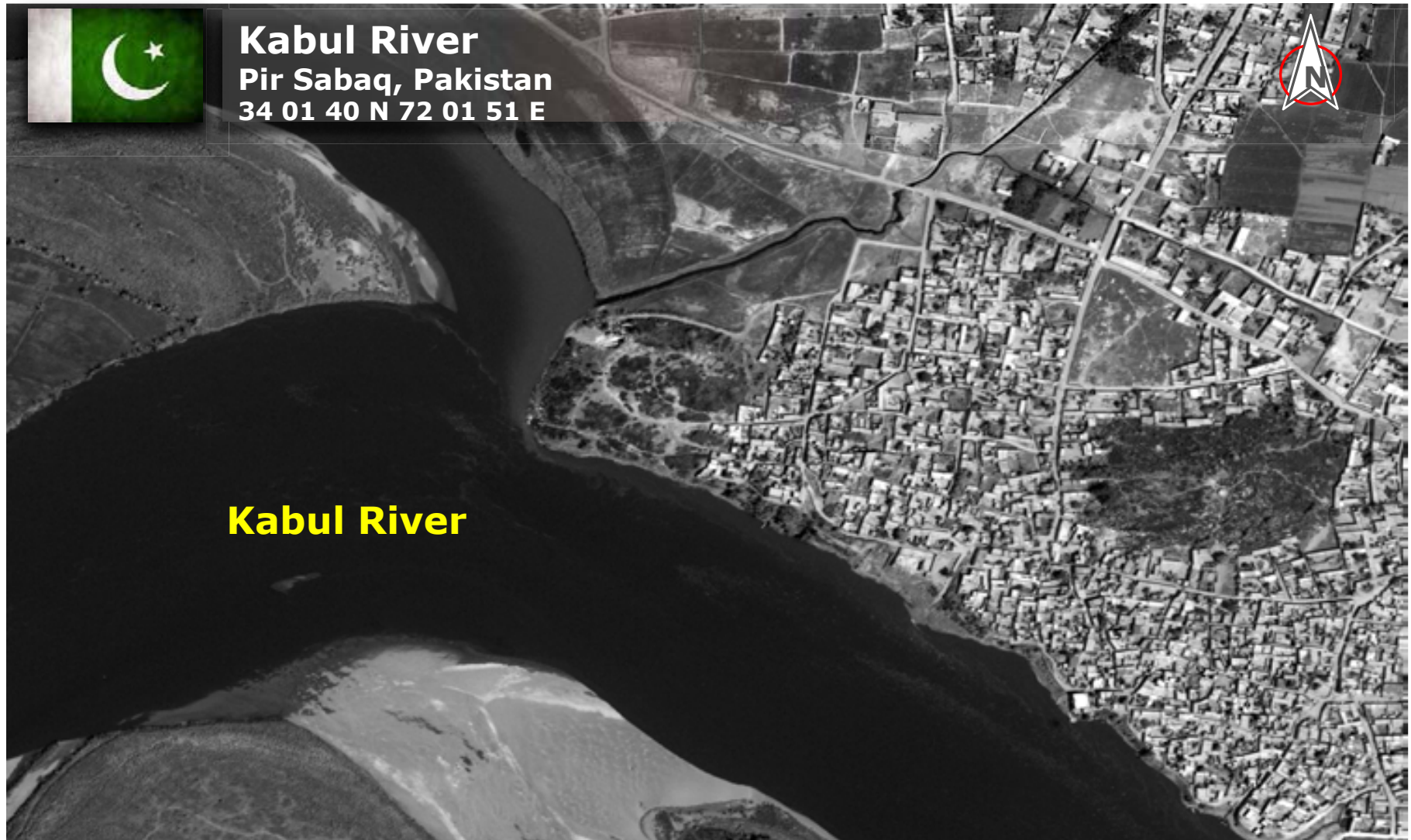




# Bangkok : After Flooding



# Pakistan : Before Flooding





# Pakistan: After Flooding



**Kabul River (Flooded)**

**Pir Sabaq, Pakistan**

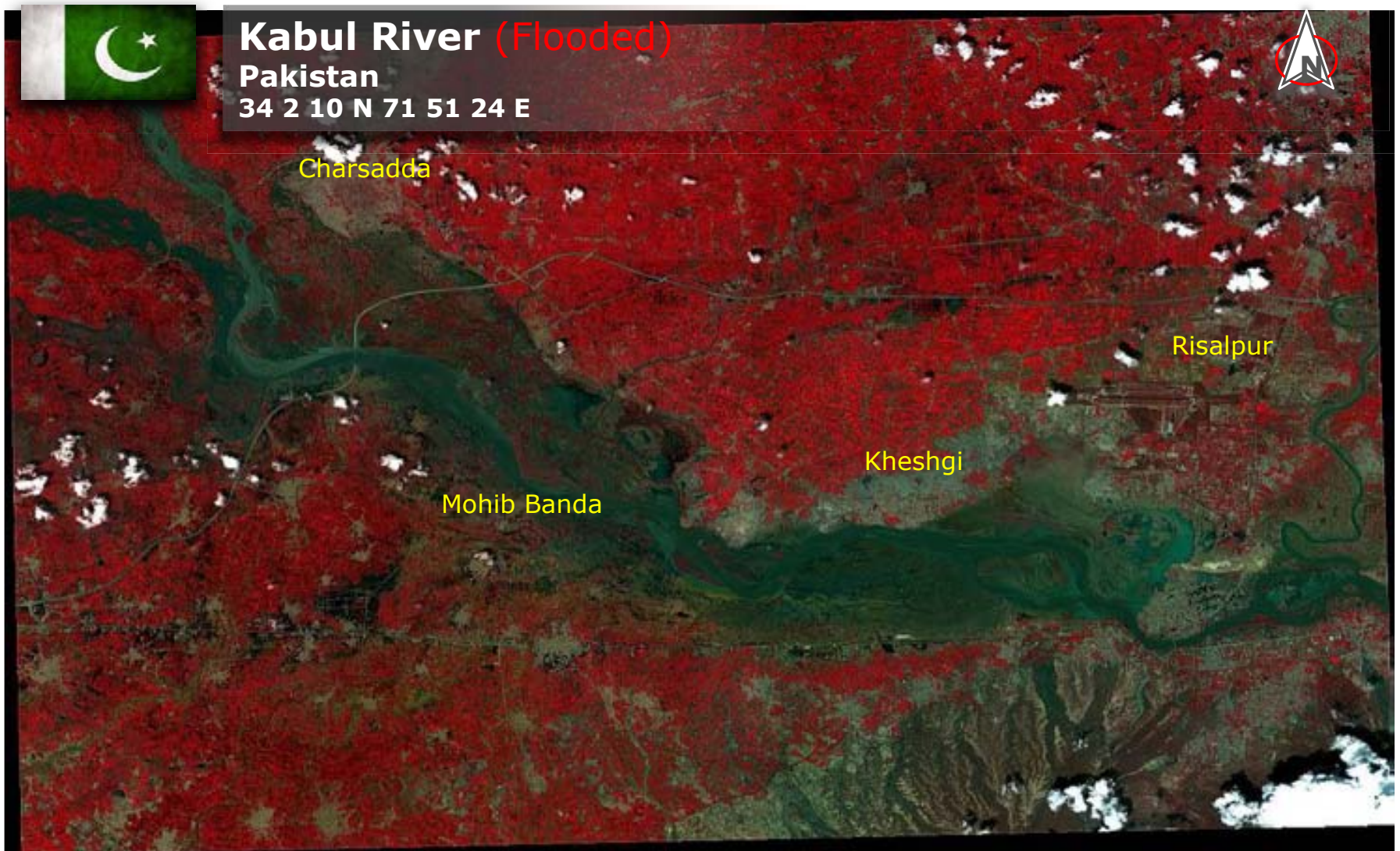
**34 01 40 N 72 01 51 E**



Flooded Area

Flooded Area

# Pakistan: After Flooding





# China : Before Mudslide



## Zhouqu County (Before Mudslide)

China

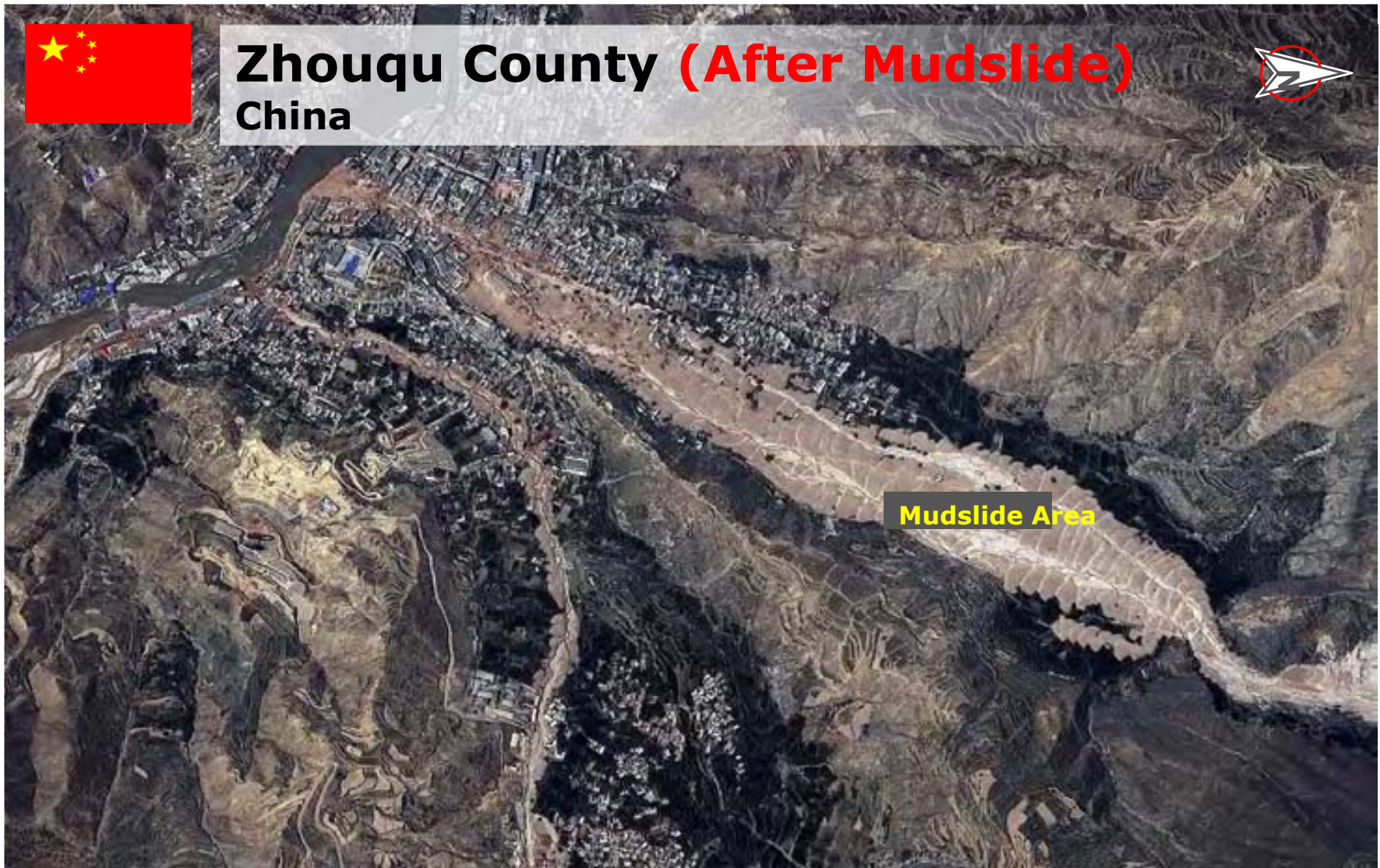




# China: After Mudslide



**Zhouqu County (After Mudslide)**  
China



**Mudslide Area**

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# China: Before Mudslide



## Zhouqu County (Before Mudslide) China



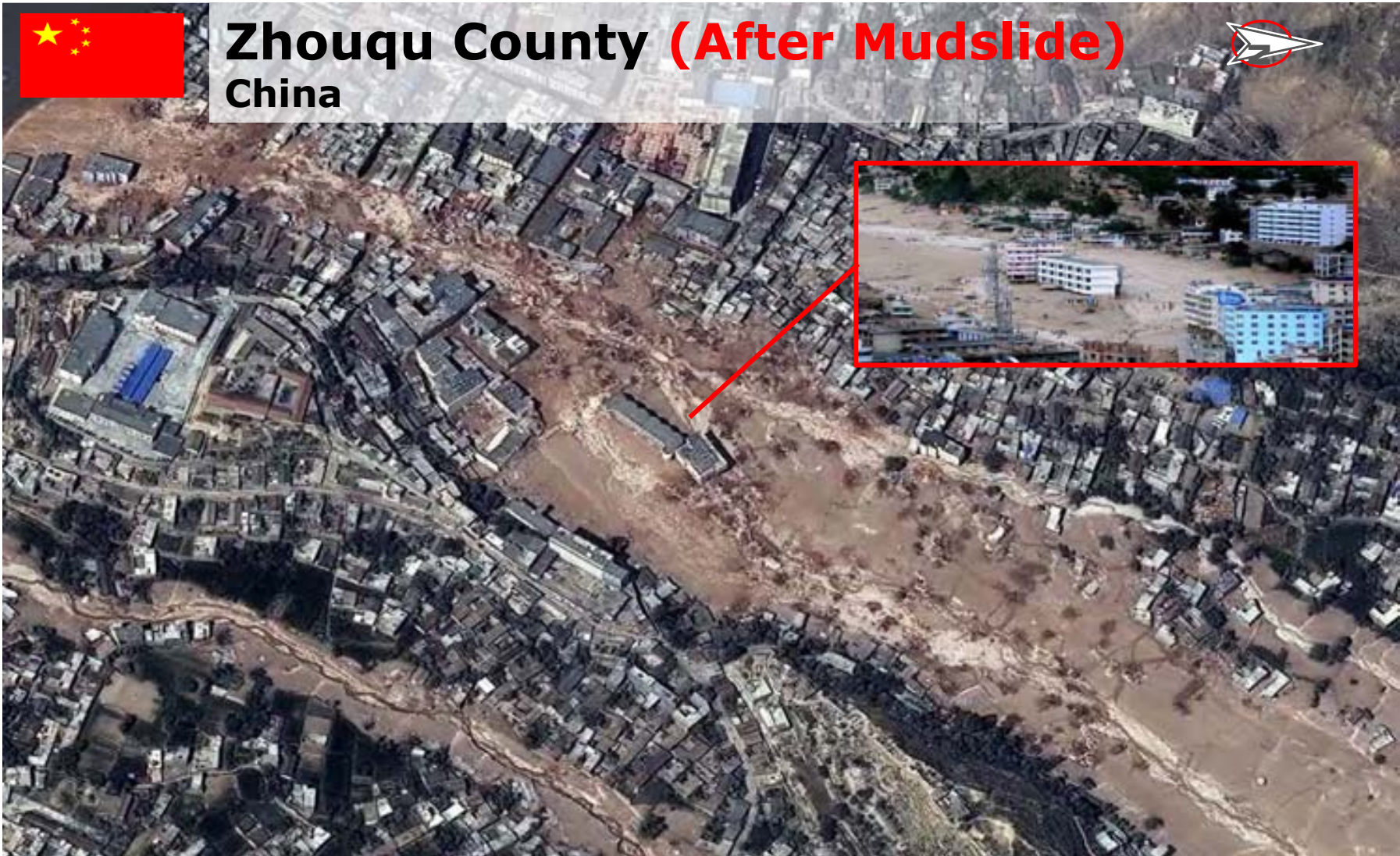
DIGITALGLOBE®



# China: After Mudslide




## Zhouqu County (After Mudslide) China



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The background of the slide is a high-resolution aerial satellite image. The left side shows a coastal area with a green golf course, sandy dunes, and a river or coastline. The right side is dominated by a large, dark, textured area that appears to be a forest or a large body of water with intricate patterns.

# DigitalGlobe Commitment to Disaster management actions

Visualizing a better world

  
DIGITALGLOBE®

# Visualizing a better world

Being **the Ultimate Space based, Geographic Information Provider, DigitalGlobe** shall continue carrying **high commitment to Disaster Risk Management, for everyone's better life**

**Accelerating** the delivery of relevant, refreshed imagery to customers in the way they choose

**Pioneering** new, faster, higher-value analytics capabilities to expand the Industry and drive new growth

**Launching** new solutions to help customers solve their large-scale challenges faster

**Thank you**  
**謝謝！**

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