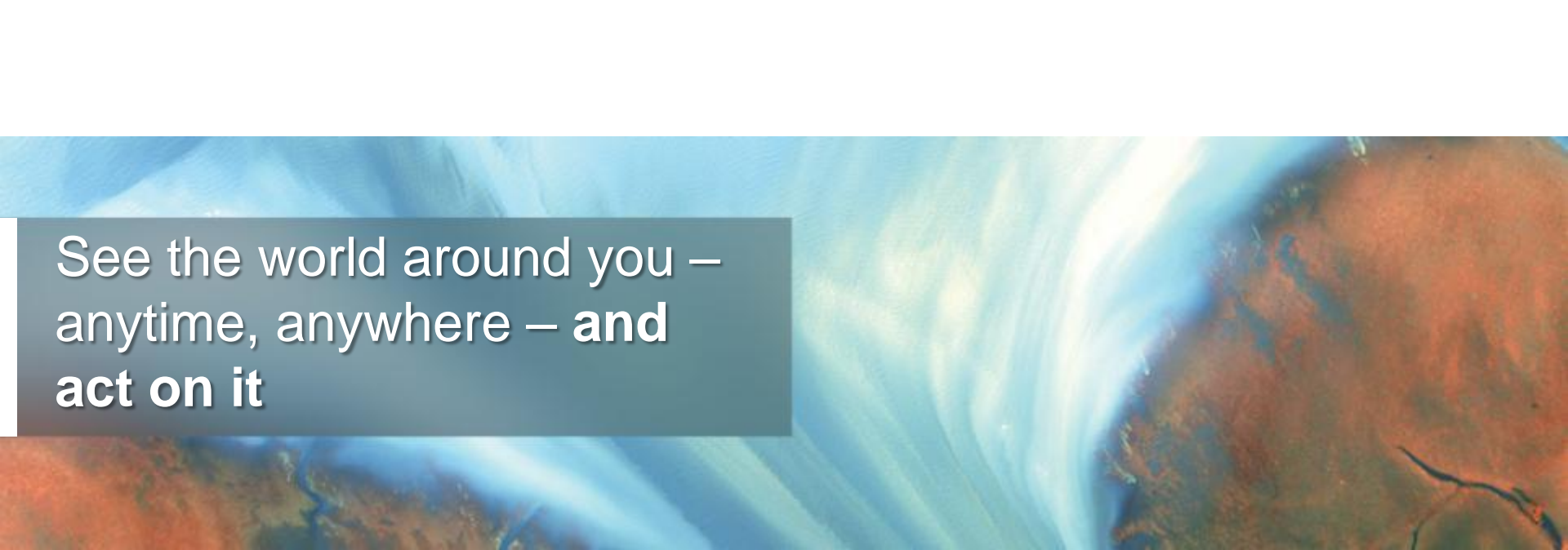




The Value of High Resolution Imagery in Land Administration

DIGITAL GLOBE®



See the world around you –
anytime, anywhere – **and
act on it**

Background

- Founded in 1992
- DigitalGlobe is a leading global provider of commercial high-resolution earth imagery products and services, sourced from our own advanced satellite constellation.
- Global presence with offices in Longmont, Washington D.C., London, Singapore, with 700 global employees
- Listed on NYSE (DGI)

Leading Provider of World Imagery Solutions

- High resolution satellite constellation & advanced aerial program
- Most comprehensive Digital Globe
- Highly scalable Geospatial Cloud Computing capabilities
- Innovative products and services providing insight analysis, saving time, resources and cost.
-

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Challenges for Effective Planning & Digital Mapping

- **Imagery**

- Historical imagery for accurate change detection within infrastructure
- Current imagery updated regularly
- Seasonal consistency

- **Access**

- Distributed access to imagery via online and web based services for in-field, emergency response



- **Cost Efficiency**

- Low cost access to imagery for planning, in-the-moment access of events, post event mobilization and monitoring
- Flexible solutions for ease of automating processes/analysis

- **Comprehensive Baseline Coverage**

- Comprehensive, in-depth world imagery coverage of consistent source, scale and quality

Effective Land Administration Solution



- World's Largest Commercial ImageLibrary = >2.6BN km²
- Most Agile satellite constellation available = Collecting 2.5M km² each day
- World's only 8 band high resolution sensor for better feature extraction and classification
- Digital Elevation Models for elevation and volumetric analysis
- Access offline or online, on mobile devices & desktops

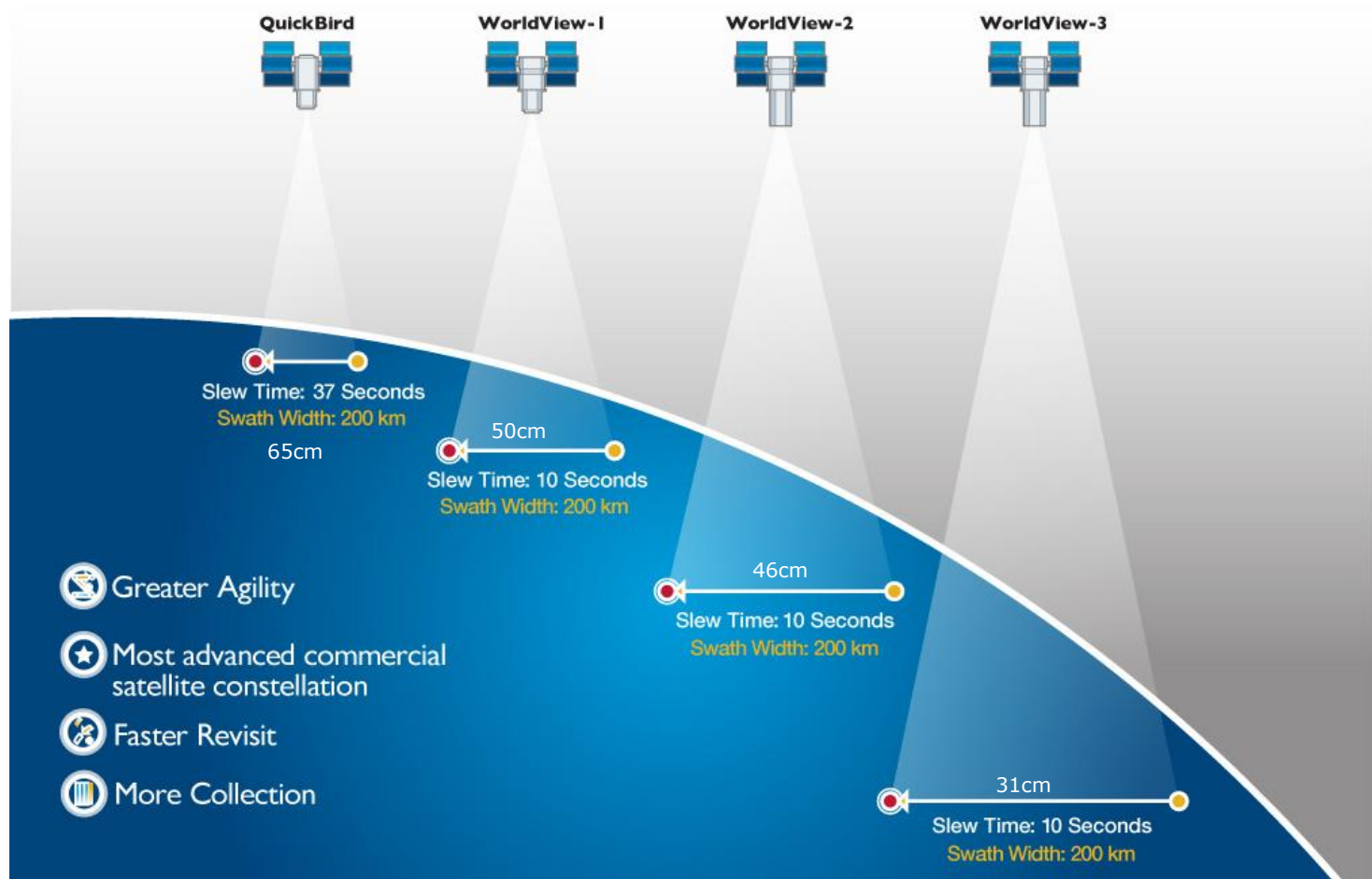
DigitalGlobe Constellation

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 image is taken from a high angle, showing the coastline and the town's layout. The DigitalGlobe logo is visible in the bottom right corner.

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The best view of the Earth



Large Area Collections

Collection Capacity

2.5 million km²
collected daily

Collection Rate

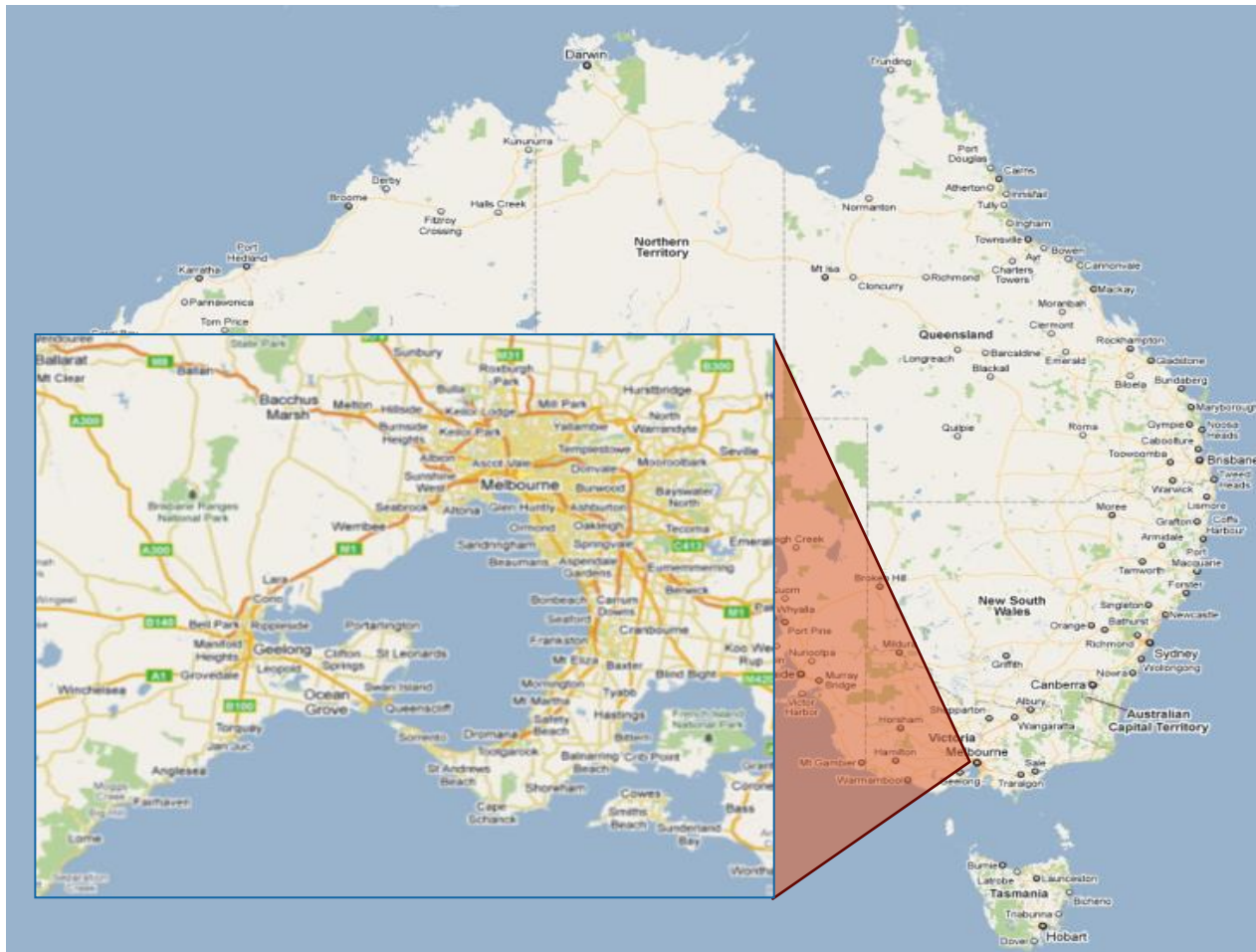
Six times the
world's land mass
each year



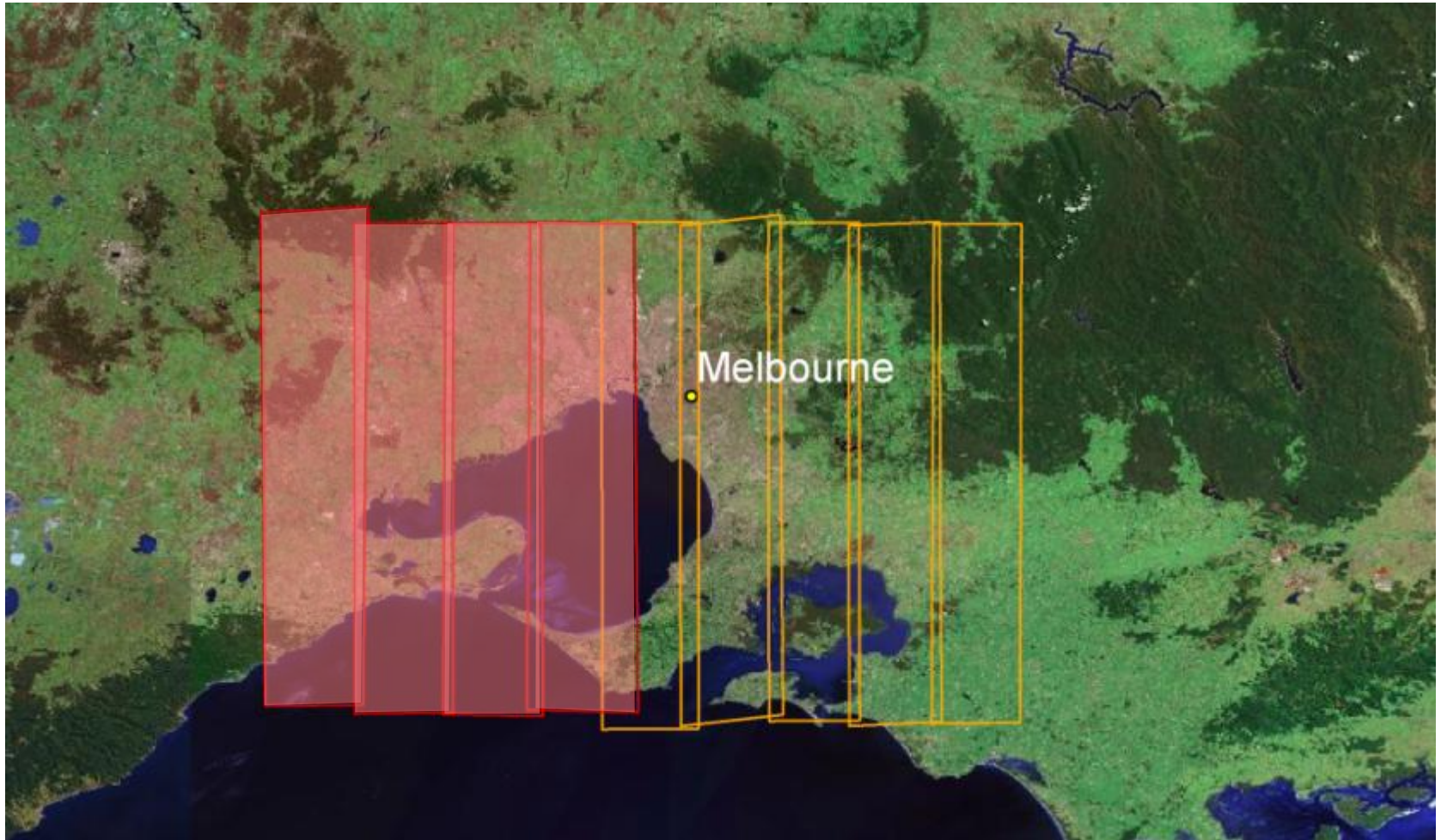
ImageLibrary

2.6 billion km²
to date

Large Area Collection

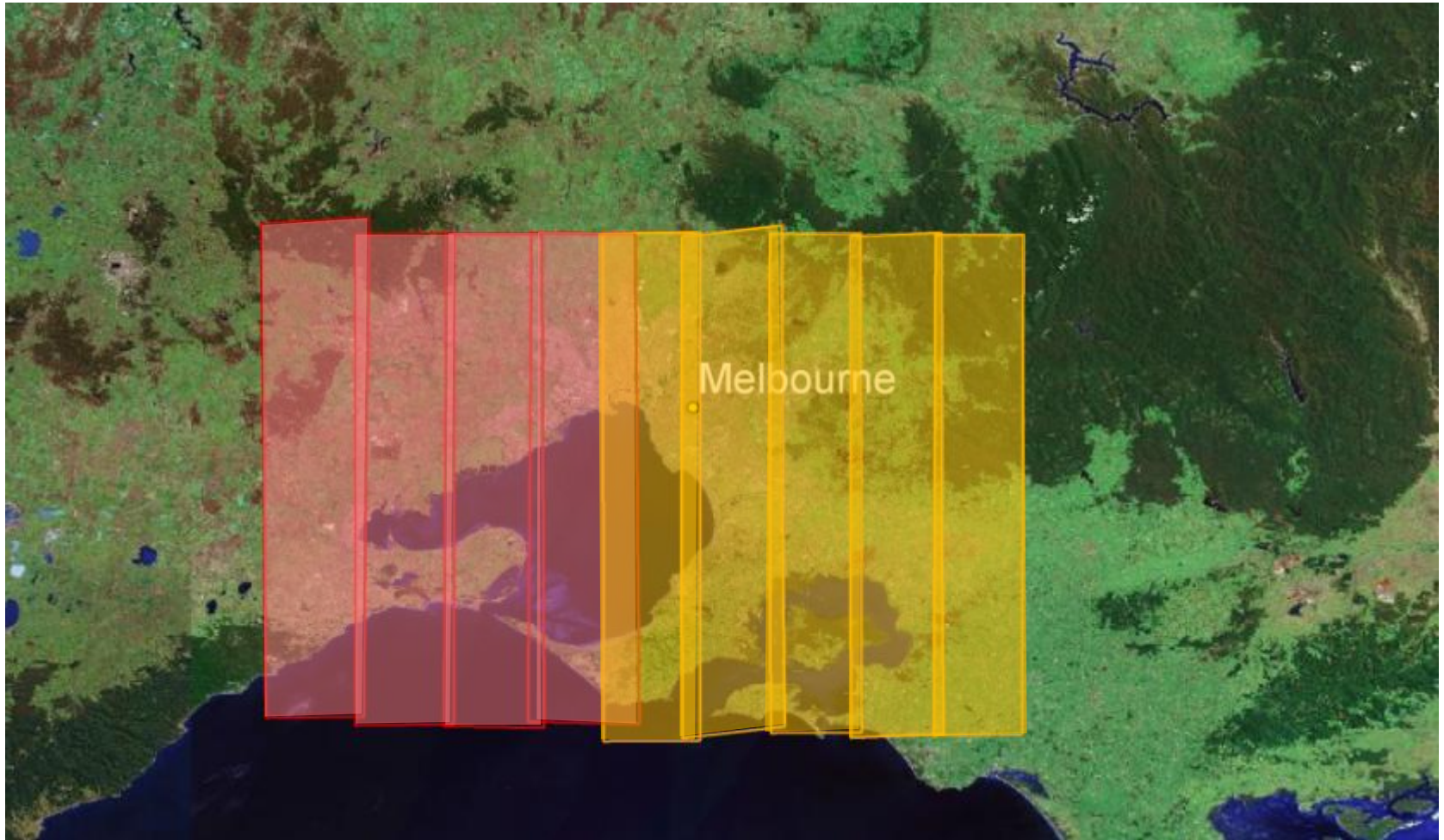


WorldView-1 Single Pass



WorldView-1: 9,018 km² in a single pass

WorldView-2 Single Pass



WorldView-2: 10,662 km² in a single pass

Projects in Brazil

Paraná State Mapping 220.000 km²

Project requirements

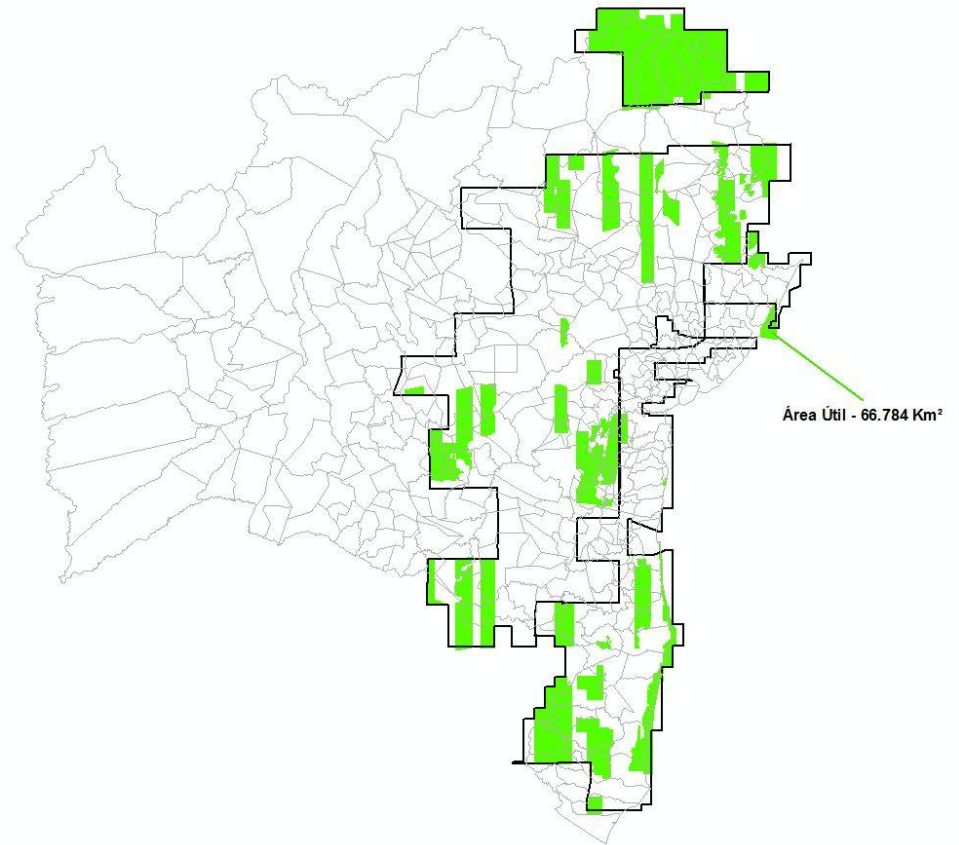
- Area: 220.000 km²
- 2 m resolution, RGB, 5% cloud cover.



Projects in Brazil

DEM for Bahia State

- 225.000 Km²
- Stereo pairs
- 66.000 km² already collected



Projects in South America

DSM and ortho mosaic for IGM Chile

- **185.200 Km2 – (part 1, north of Chile)**
- **Delivery of DSM:**
 - Resolution: 8 meter posting interval
 - Absolute Vertical Accuracy: 8 meter LE90
 - Relative Vertical Accuracy: 5 meter LE90
- **Delivery of ortho-mosaic:**
 - Resolution: .5meter
 - Radiometric Resolution of 8 bit
 - Spectral Resolution of 0.4 to 0.9 micron
 - Accuracy: 6.5m CE90 horizontal.
- **Project schedule (estimated): 9 months**

Industry leading Agility

WorldView-2

Multi-collection over
Downtown Rio de Janeiro































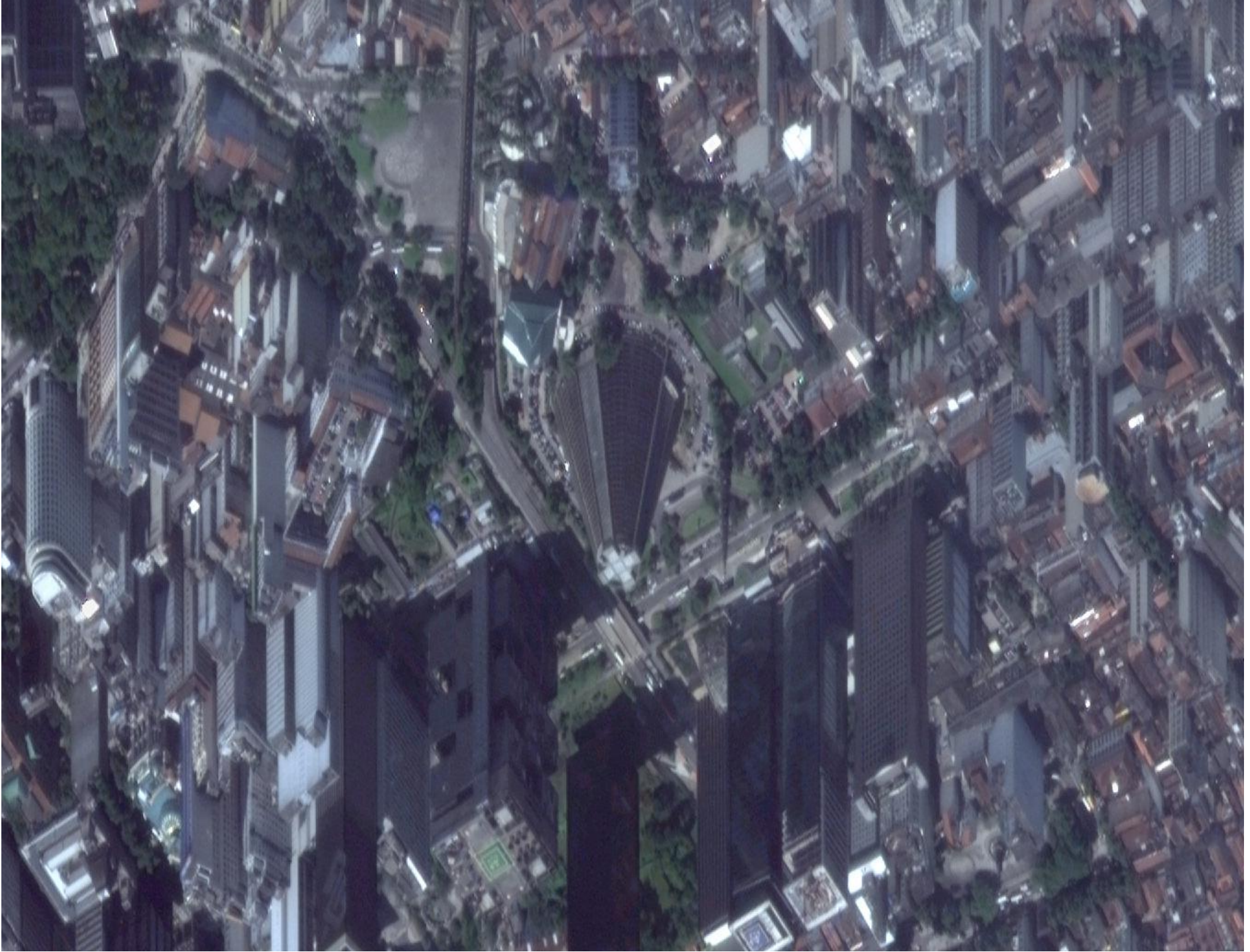














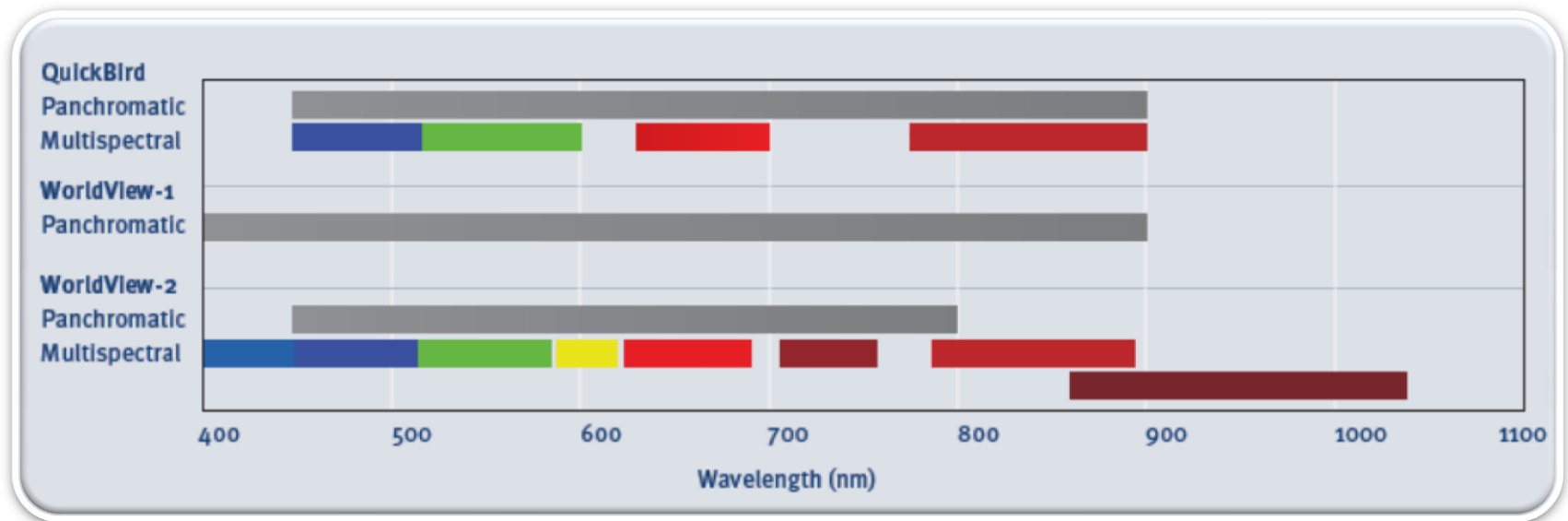
An aerial, top-down view of the Dubai International Airport terminal and its surrounding tarmac. The terminal building is a long, curved structure with a distinctive blue and white facade. Numerous commercial aircraft are parked at gates along the terminal. The tarmac is marked with yellow lines and contains various ground support equipment. In the background, there are taxiways and runways. The overall scene is a detailed representation of a major international airport.

A New Approach to Land Management

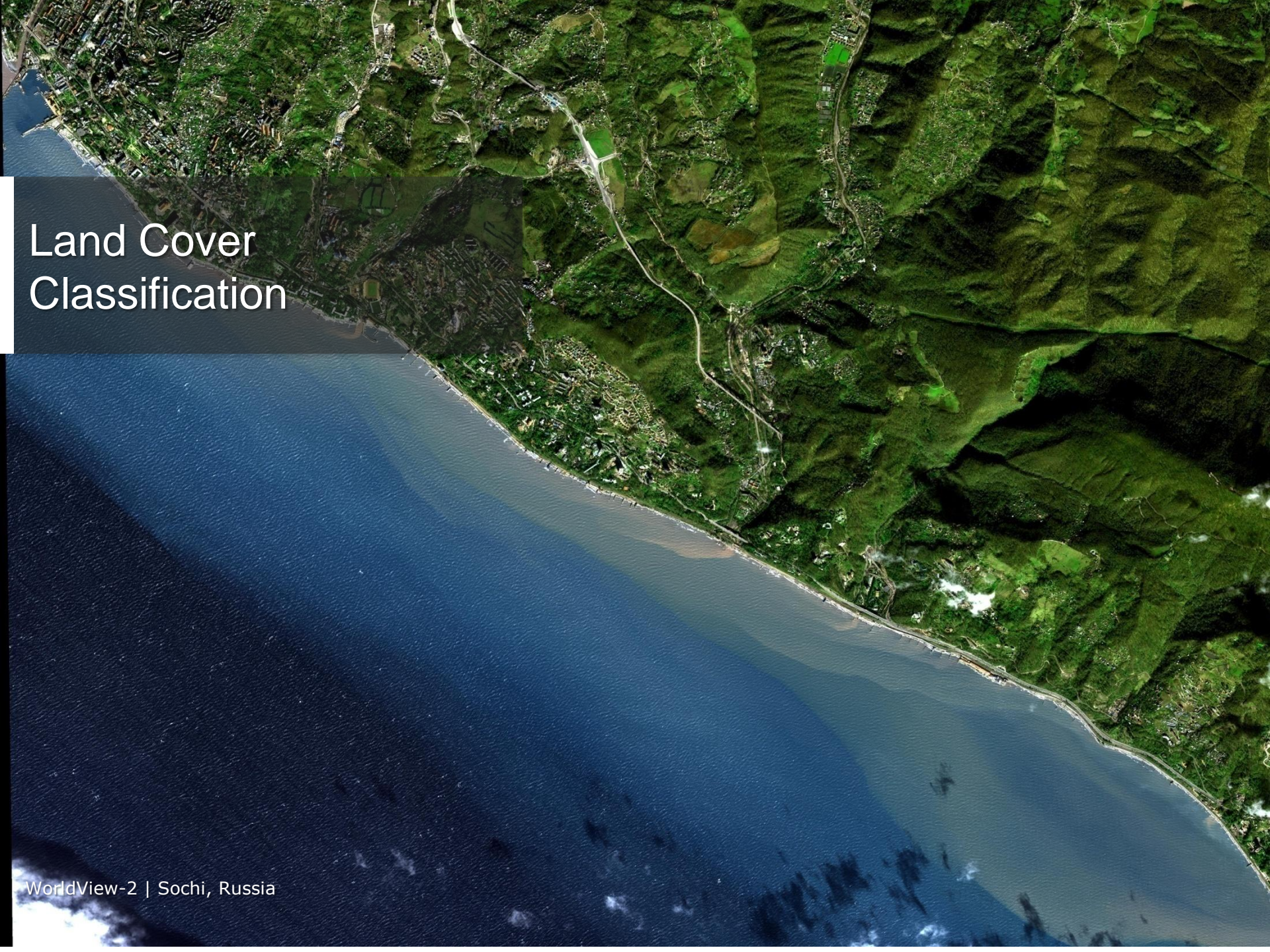
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8 Bands – More Detail, Better Insight

- DigitalGlobe (WorldView-2) has the only commercial high resolution satellite to capture in 8 band imagery, allowing for greater feature extraction, vegetation & bathymetric analysis.



- Additional bands include coastal blue, red edge, yellow and near infra-red 2.



Land Cover Classification



WorldView-2 | Sochi, Russia



+ water



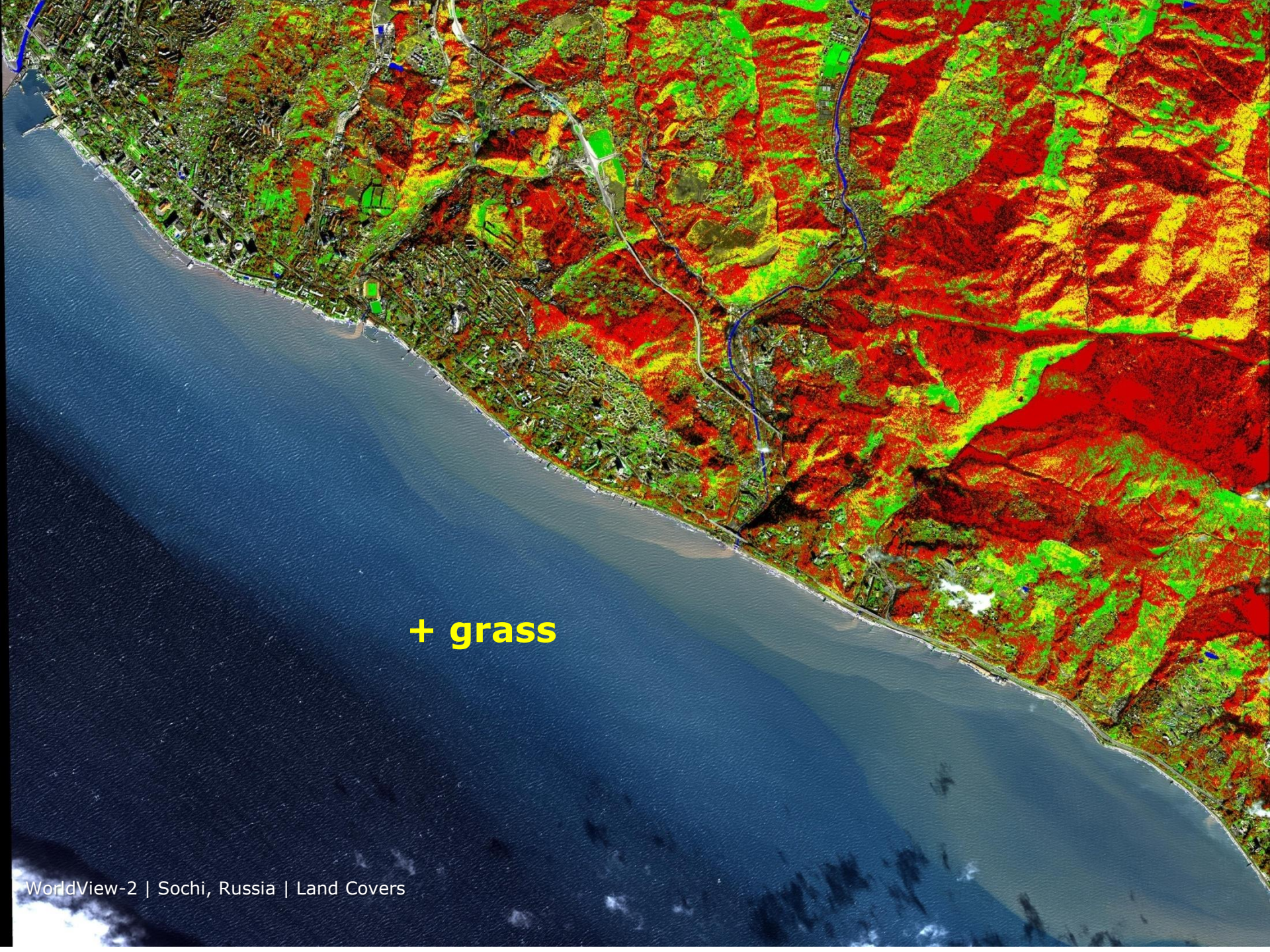
Forest Acreage Determination

**+ conifers
shaded and non-
shaded!**

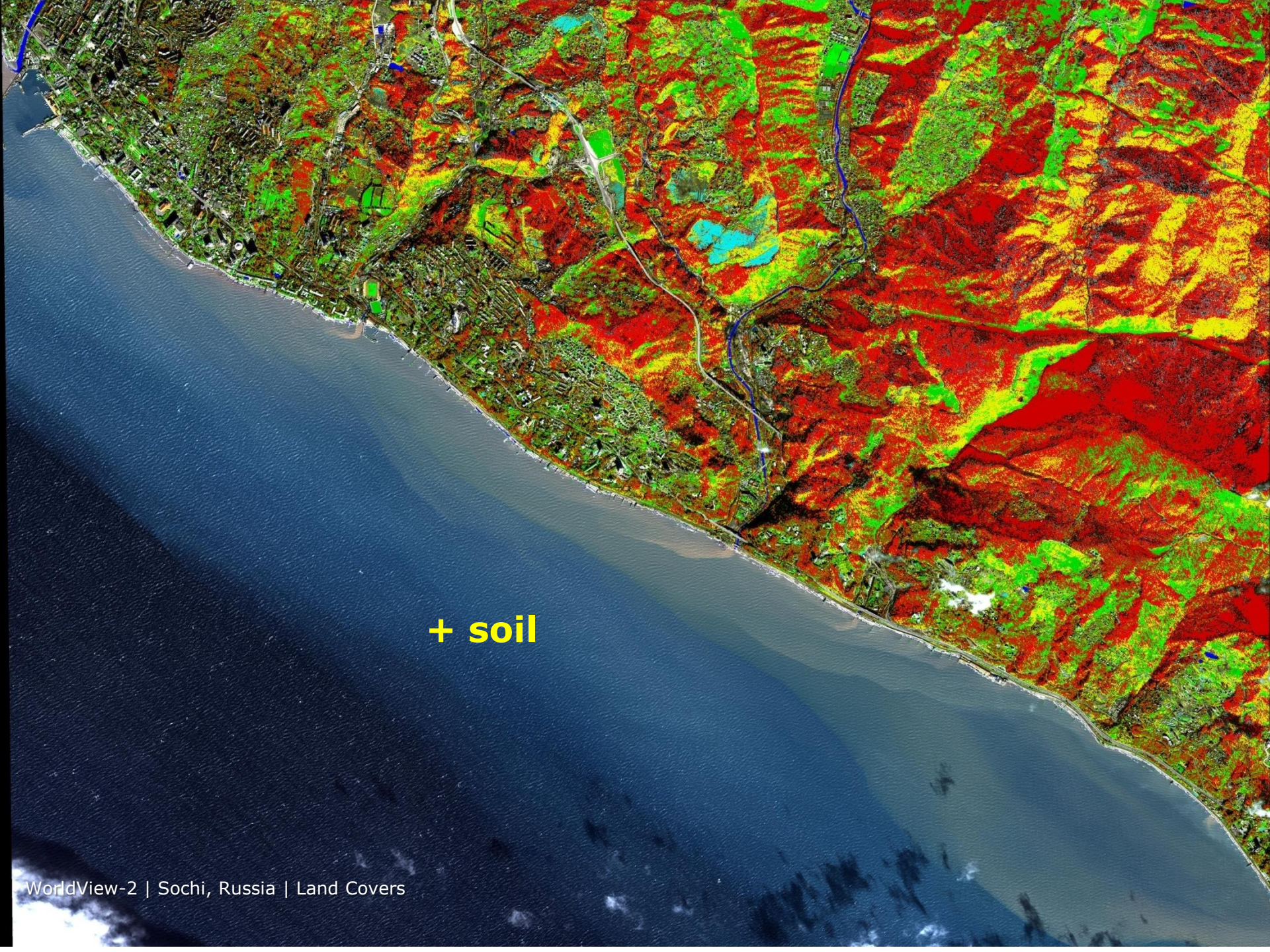
A satellite map of Sochi, Russia, showing forest acreage determination. The map features a color-coded overlay where red and yellow areas represent forested regions, and green areas represent deciduous trees. The city of Sochi is visible on the left side, with a large body of water (the Black Sea) to the south and west. A river flows through the forested areas. The text "Forest Acreage Determination" is overlaid in white at the top center, and "+ deciduous trees" is overlaid in yellow at the bottom center.

Forest Acreage Determination

+ deciduous
trees



+ grass



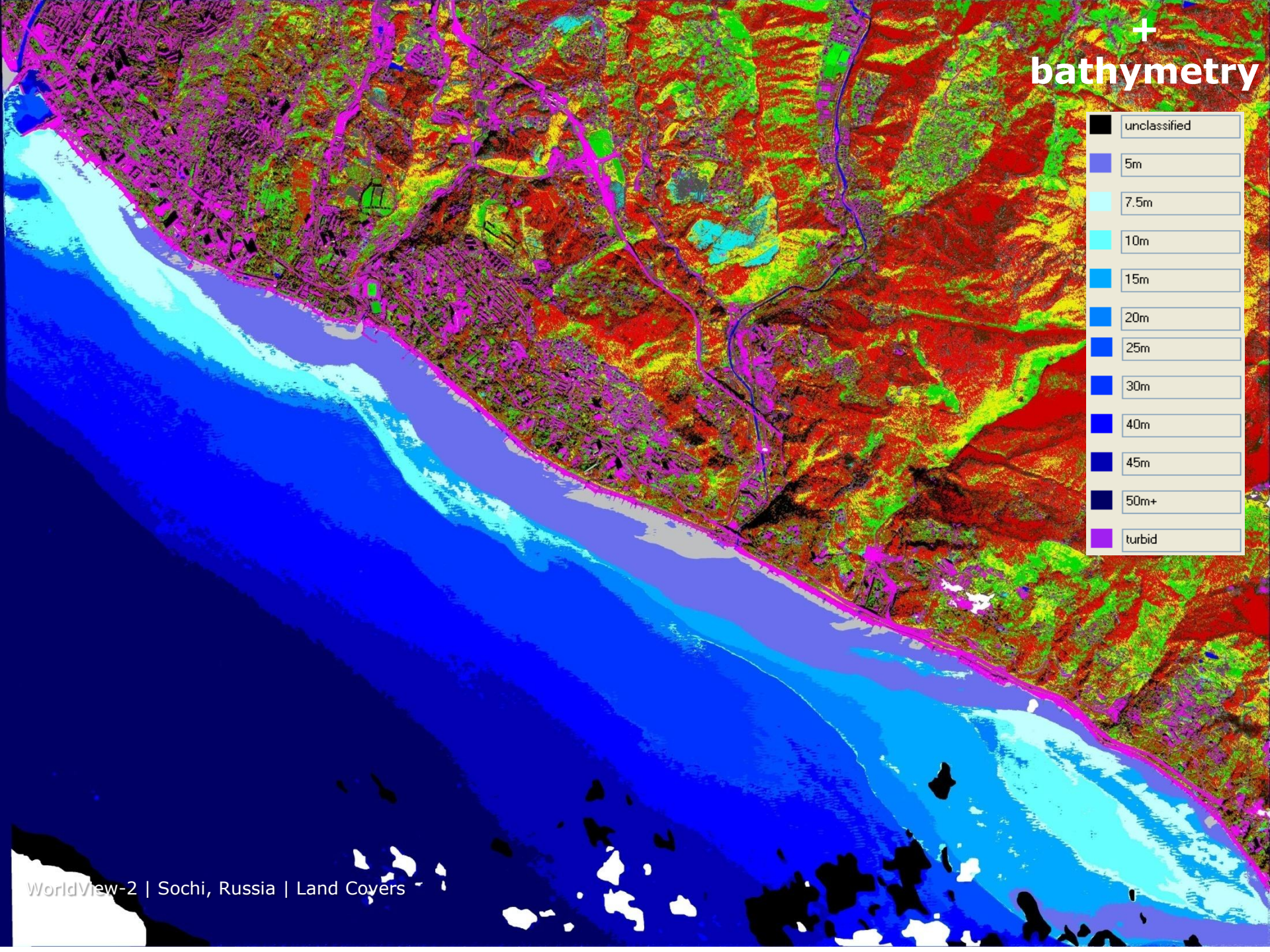
+ soil



+ man-made

+
bathymetry

■	unclassified
■	5m
■	7.5m
■	10m
■	15m
■	20m
■	25m
■	30m
■	40m
■	45m
■	50m+
■	turbid





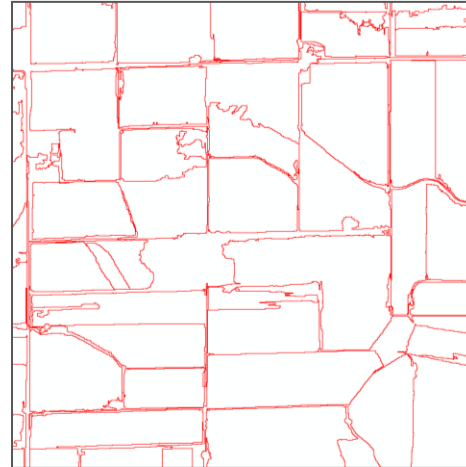
WorldView-2 | Sochi, Russia | Land Covers

Crop Identification and Acreage Estimation

Field Boundary Extraction












Field Boundaries



Crop Identification and Acreage Estimation

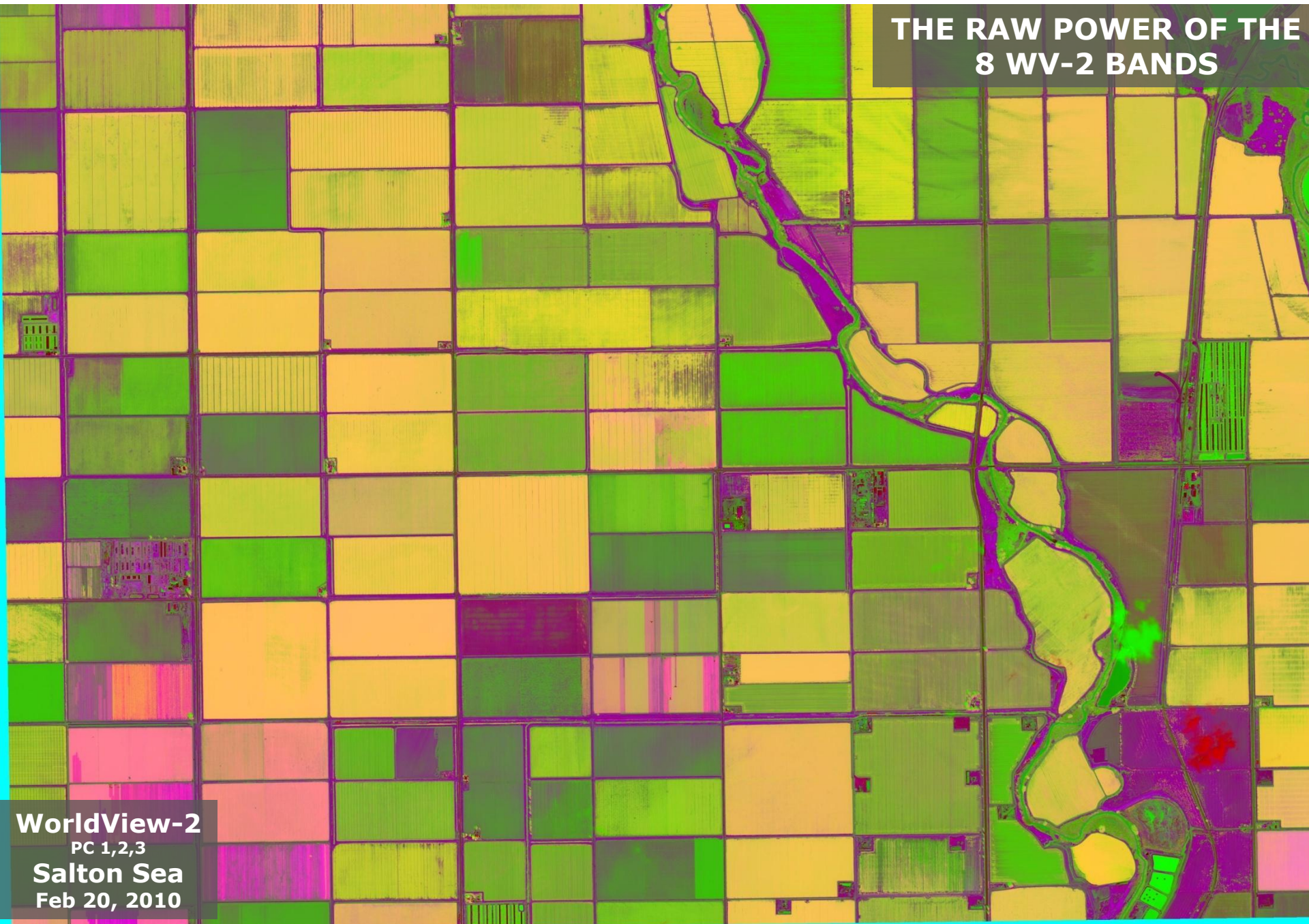


	<i>Cotton</i>
	<i>Wheat</i>
	<i>Tomato</i>
	<i>Alfalfa</i>
	<i>Bare soil</i>
	<i>Garlic</i>
	<i>Pistachio</i>
	<i>Sunflower</i>
	<i>Others</i>



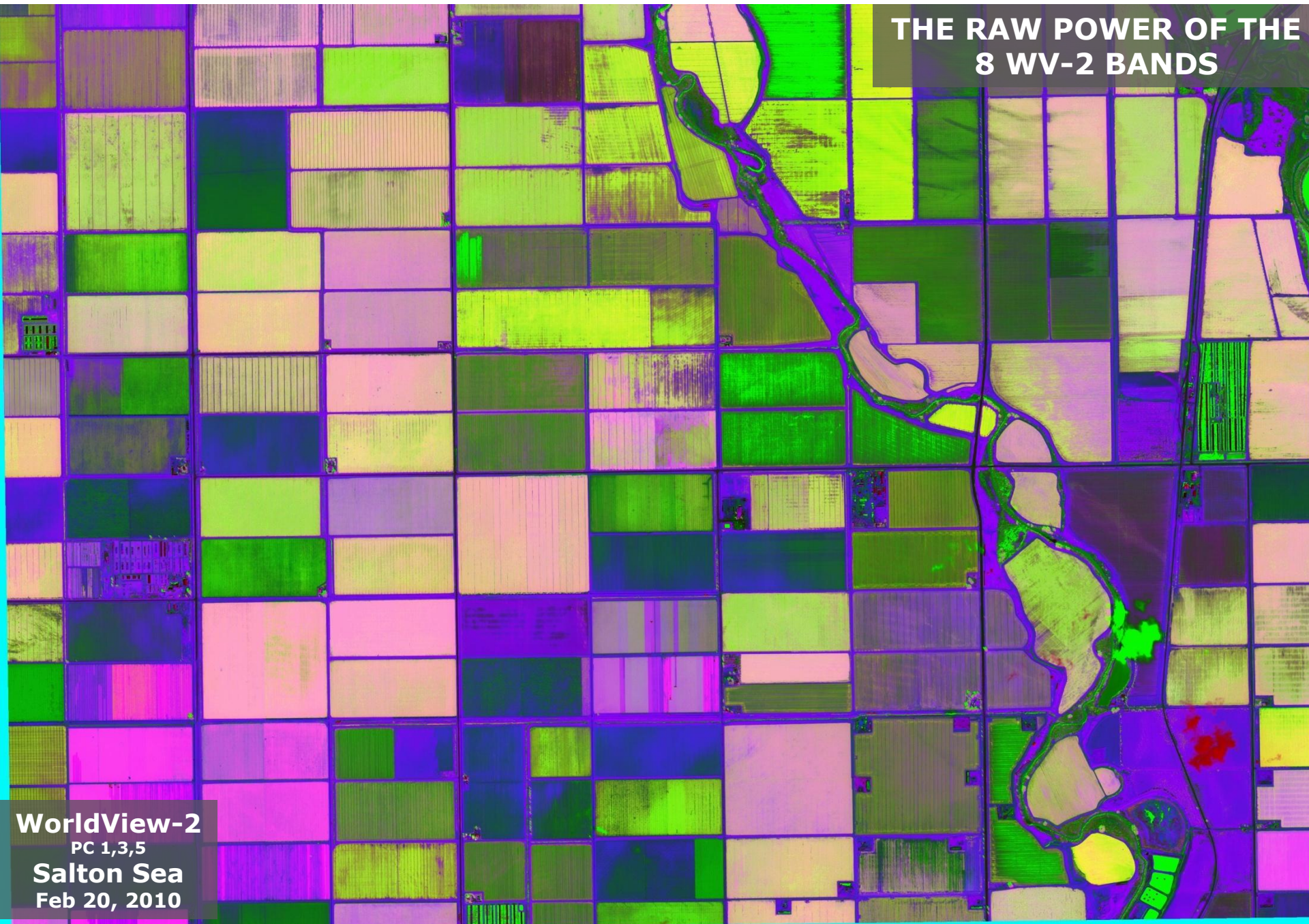
WorldView-2
true color image
Salton Sea
Feb 20, 2010

**THE RAW POWER OF THE
8 WV-2 BANDS**

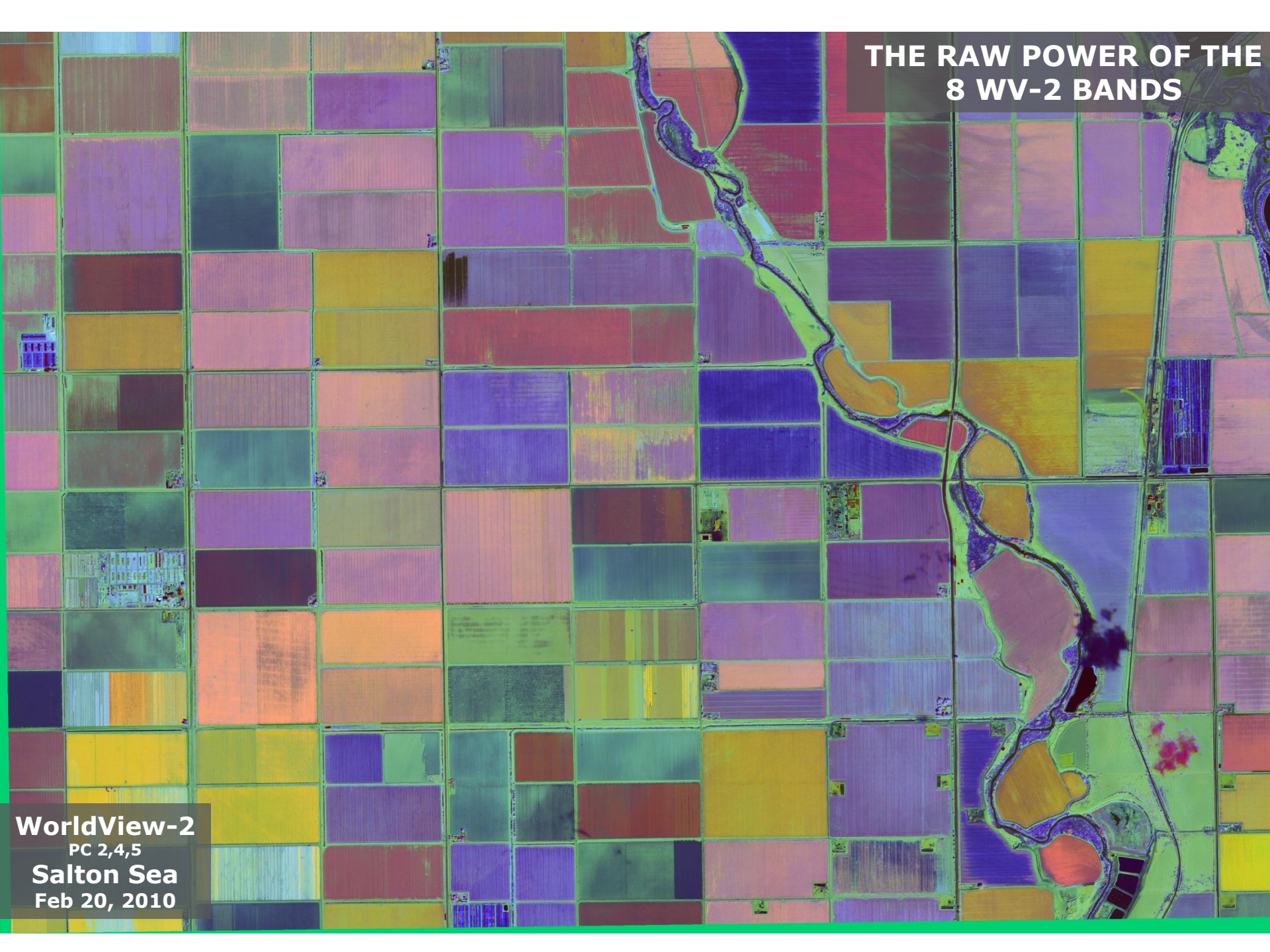


WorldView-2
PC 1,2,3
Salton Sea
Feb 20, 2010

**THE RAW POWER OF THE
8 WV-2 BANDS**



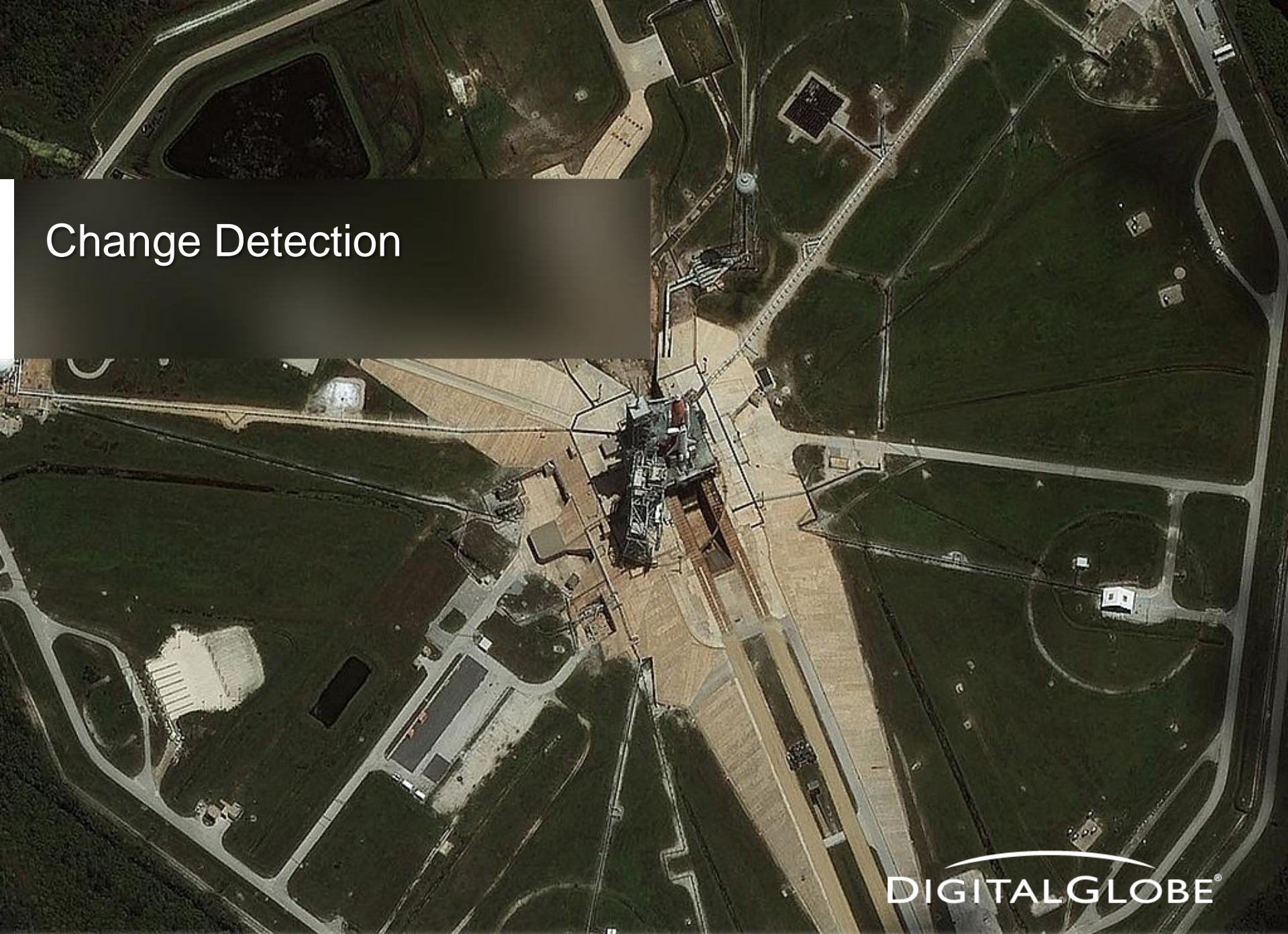
WorldView-2
PC 1,3,5
Salton Sea
Feb 20, 2010



**THE RAW POWER OF THE
8 WV-2 BANDS**

WorldView-2
PC 2,4,5
Salton Sea
Feb 20, 2010

Change Detection



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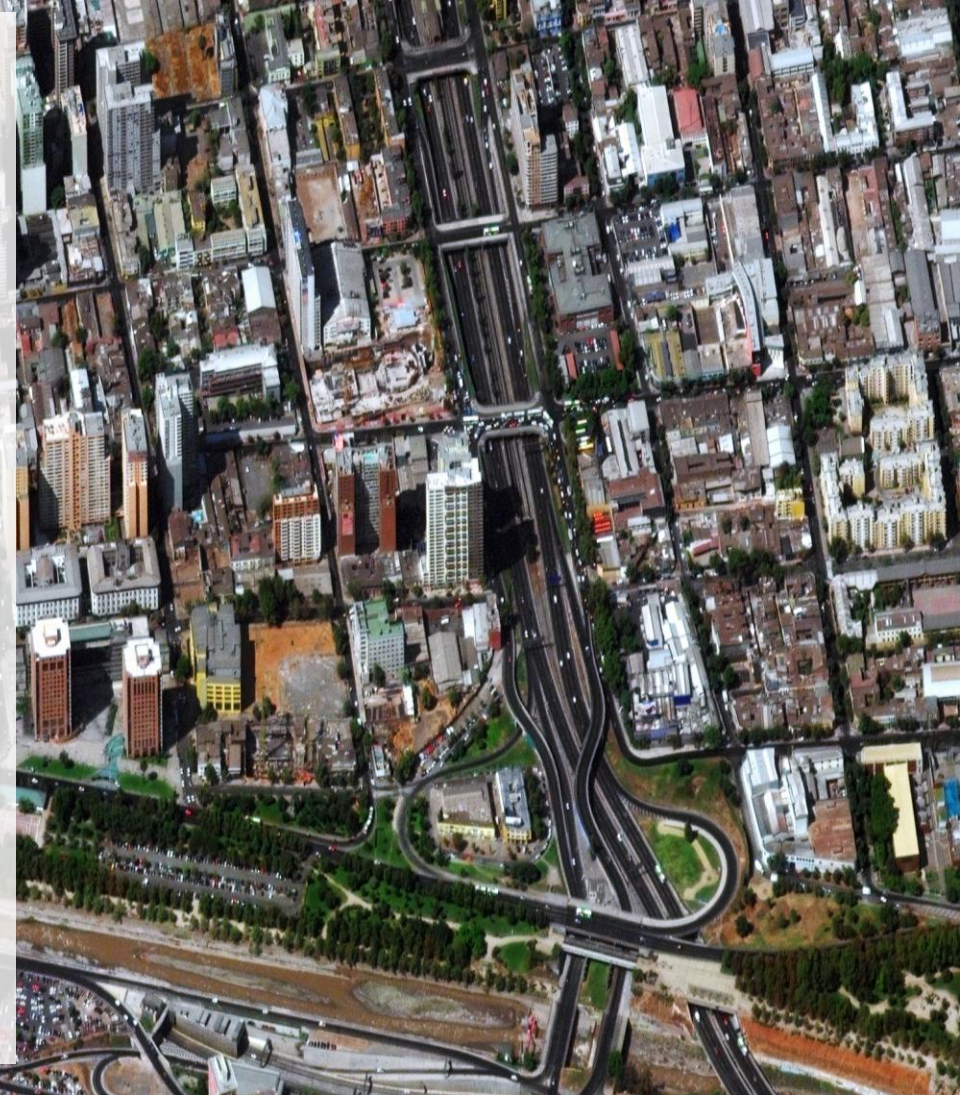
Change Detection – Visual Context



Summary

- **Land Management**

- Highly accurate large area imagery reduces time and cost
- Building management/codes enforcement
- Land Classification and Feature Extraction
 - Roads, Buildings, Forests, Water
- Crisis Event Management
 - Historical & latest images for change detection and emergency planning
 - Elevation data for flood planning and area classification
- Plot urban sprawl
- Change Detection
 - Historical vs Current





Thank You

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