


DIGITALGLOBE 


Disaster Analysis and Response With High Resolution Satellite Imagery

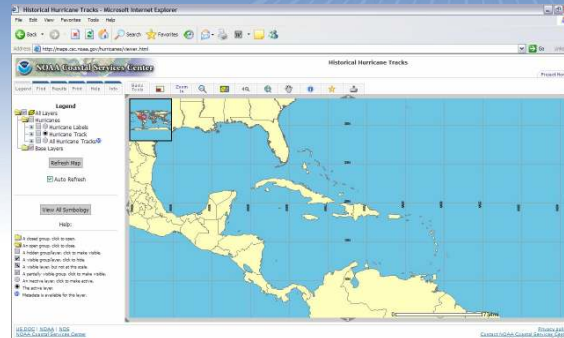
CAP REGIONAL CONFERENCE & WORKSHOP
BARBADOS
JUNE 2007


DIGITALGLOBE  **Preparation is Key**

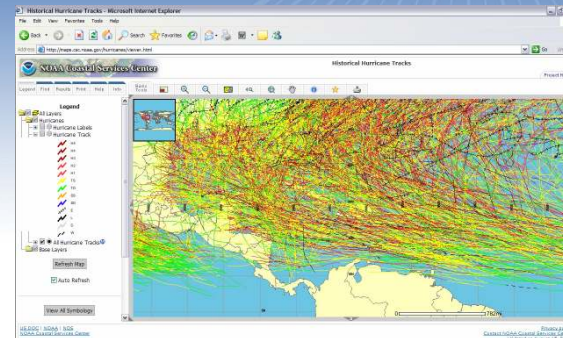


- Planning
- Acquisition
- Delivery
- Recovery

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- Disaster Preparedness
- Disaster Recovery


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- Put a Plan In Place
- Eastern Caribbean – UNDP
- Lessons Learned - Grenada

DIGITALGLOBE  Acquisition

Grenada Experience

- GeoOrbis Provide Pre and Post Ivan to Grenada Directly
- UNDP Provided GIS and RS Support to Grenada – Post Emily
- Post Emily UNDP Pre-Arranged for High Resolution Imagery Acquisition to Support Assessment and Recovery Process

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Challenges

- Delay in Order Caused Delay in Delivery
- Loss of Equipment During Ivan in 2004

Approach


– based on discussion with local counterparts




- Delivery of Imagery to Key Agencies (Local and NGOs)
- Supporting h/w and s/w
- Provision of Associated Training

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Recovery

- Development of Risk Mapping which can Immediately be used in Recovery Process
- Developing Base-Line Data on Disasters
- Post Disaster Assessments and Validation of Risk Assessments and Vulnerability Analyses
- Sector Planning – e.g Housing, Agriculture, Tourism

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	QuickBird	WorldView-1	WorldView-2
Operational Altitude	450 km	450 km	770 km
Weight Class	900 Kg (2000 lbs)	2,500 Kg (5,500 lbs)	2,745 Kg (6,050 lbs)
Spectral Characteristics	Pan / 4 MS	Pan	Pan / 8 MS
Panchromatic Resolution (nadir)	0.61 meters	0.46 meters (0.5 m)	0.46 meters (0.5 m)
Multispectral Resolution (nadir)	2.4 meters	NA	1.8 meters (2.0 m)
Swath Width	16.5 km	16.4 km	16.4 km
Ave. Revisit (to 40° latitude target)	3.5 days	2 days	1 day
Monoscopic Area Coverage	1 X	4.5X per satellite	
Single-Pass Stereoscopic Coverage	Single Scene (<10° off nadir)	2 x 2 Scenes (<30° off nadir) 1X10 Scenes (<30° off nadir)	
Primary Attitude Control Mechanism	Reaction Wheels	Control Moment Gyros	
Onboard Storage	137 Gbits	1600 Gbits	
Wideband Link Rate	320 Mbps	800 Mbps	
Rapid Delivery Options	Virtual Ground Terminal (VGT)	Direct Downlink, VGT	

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Grenada: Aftermath of Hurricane Ivan

- 90% of Housing Destroyed or Damaged
- 92% Defoliation





NOAA Weather Satellite Image: 8 September

QuickBird High Off-Nadir Natural Color Images: 14 September

DIGITALGLOBE  DigitalGlobe: Tasking of Grenada

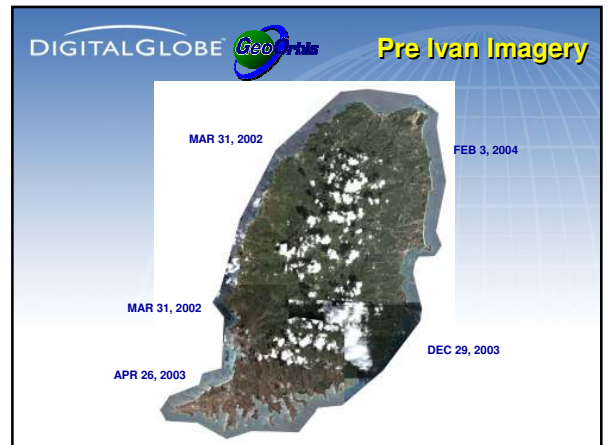


QuickBird imaged Grenada on September 14th at 39 degrees off-nadir.

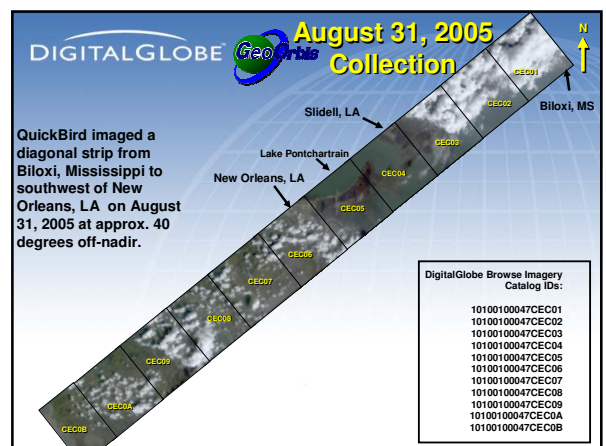
The collected imagery, although non-standard, still enables a detailed analysis of post-Hurricane Ivan damage.

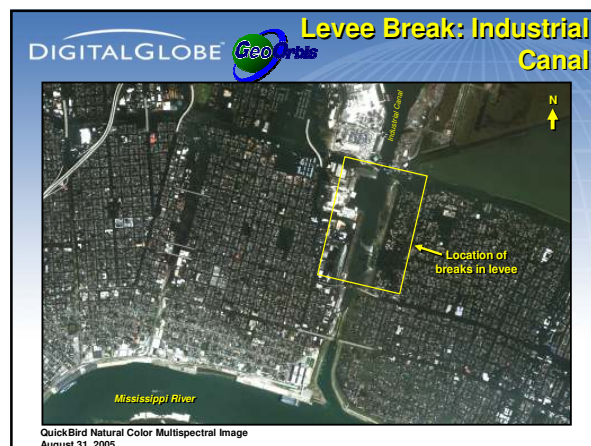
Collection Continued through October 15th.

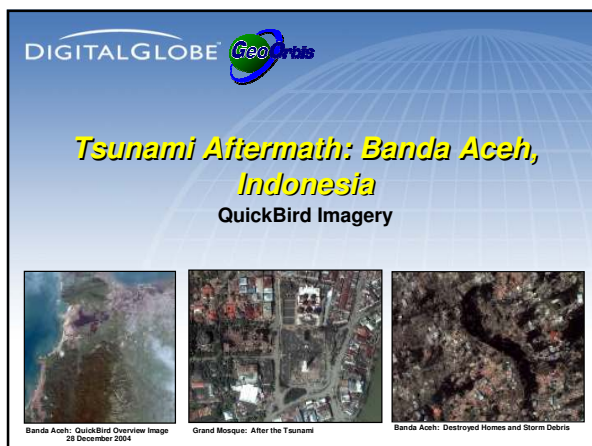
QuickBird Acquisition: 14 September 2004

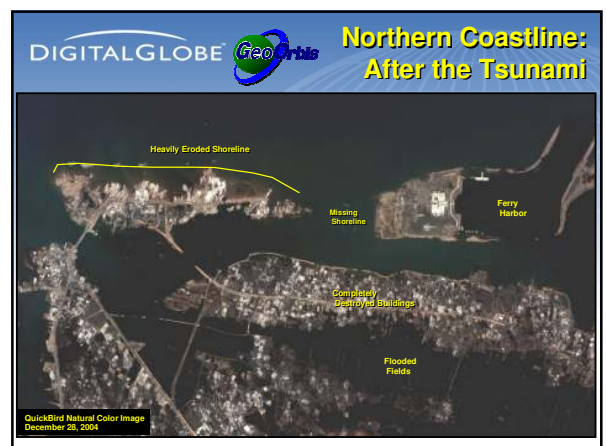


















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