

Aerial Observation in the Gulf of Mexico



National Aerial
Surveillance Program

Protecting Our Waters



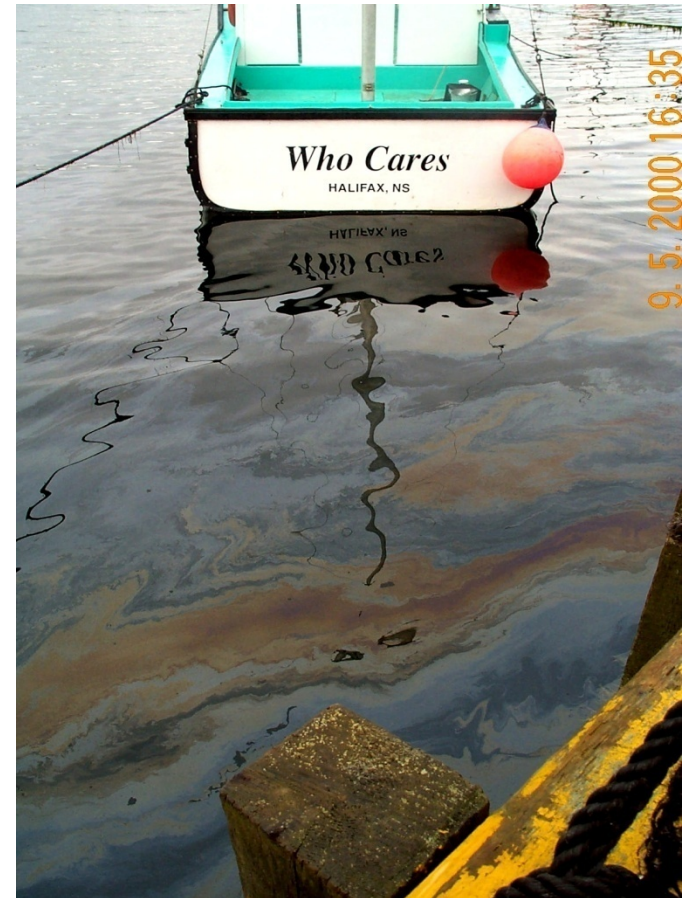
Programme national
de surveillance aérienne

Protéger nos eaux



The Issue

- Frequent and deliberate oil discharges at sea (Accidental or Illegal)
- Individual releases are chronic and the damage is devastating
- Presence of oiled birds on our beaches



NASP Goals

- To prevent pollution from ships
- To protect the marine environment from the adverse effects of shipping



NASP Objectives

- Enforcement of Domestic Laws & Regulations
- Deterrence
- Emergency Response
- Program Support
- Ice Reconnaissance
- Enhancing Marine Domain Awareness



NASP Resources / Area of Coverage



**TC Dash 8 – Moncton, N.B. &
Vancouver, B.C.**



TC Dash 7 - Ottawa, Ontario

Surveillance of Canada's Arctic Waters



Provincial Airlines King Air 200

Pollution surveillance in Newfoundland



Working Smarter – Multitasking with Environment Canada and Marine Security



Partnership to Create a Marine Aerial Reconnaissance Team (MART) – Centre of Excellence



Mission Equipment Modernization

MSS6000 Components / Sensors

- Side Looking Airborne Radar (SLAR)
- Electro-optical Infrared Camera System (EO/IR)
- Ultraviolet / Infrared Line Scanner (UV/IR)
- Digital Still & Video Camera Systems
- Automatic Identification System (AIS)
- **Satellite Communication System**
- User Console



Deployment to the Deepwater Horizon Incident



Background

- March 2010 – TC participated in the USCG's Spill of National Significance Exercise. Discussions were held regarding mutual aid & TC's Surveillance Capability.
- April 21, 2010 - USCG reported a fire following an explosion on a mobile drilling platform, Deepwater Horizon
- April 30, 2010 - Request for assistance from USCG and BP was received



Background

- May 1, 2010 - TC deployed its Moncton based Dash 8 aircraft & 13 personnel (7 TC and 6 EC)
- Flew 297 hours flown in total
- First mission was flown on May 2
- Conducted 2 patrols per day until May 11
- Reduced to 1 scheduled patrol/day - May 12 - July 15
- Arranged for Icelandic Coast Guard to replace us on July 15 when the Dash 8 returned to Moncton.



Requirement for Aerial Surveillance

Aerial surveillance was considered a critical coordination mechanism during the response operations. Daily sorties were required to keep up with the rapidly changing location and condition of surface oil.

TC's Dash 8 was the primary aerial reconnaissance asset from May 2 to July 15. The main tasks were to:

- Map the spatial extent of the oil spill
- Alert in-situ burn and dispersant teams to fresh oil through the Command Centre Liaison
- Direct skimmers to the heavy oil - Eyes on oil meant boats on oil

8 pm remote sensing briefing enabled response crews to hit heaviest oil at day-break.



Requirement for Aerial Surveillance

Dispersant Related Activities:

- TC Dash 8 was the primary aircraft used for positive identification of oil. (Airspace priority was given to TC between 3000 and 10,000 feet)
- Once heavy oil locations were identified by TC, the positions were reported back to the Incident Command Post .
- Oil sightings were classified and heavier oiled locations were identified for dispersant spotter planes.
- Once the locations were confirmed as target areas for dispersants, the areas were then scheduled for dispersant spraying by the Dispersant team.



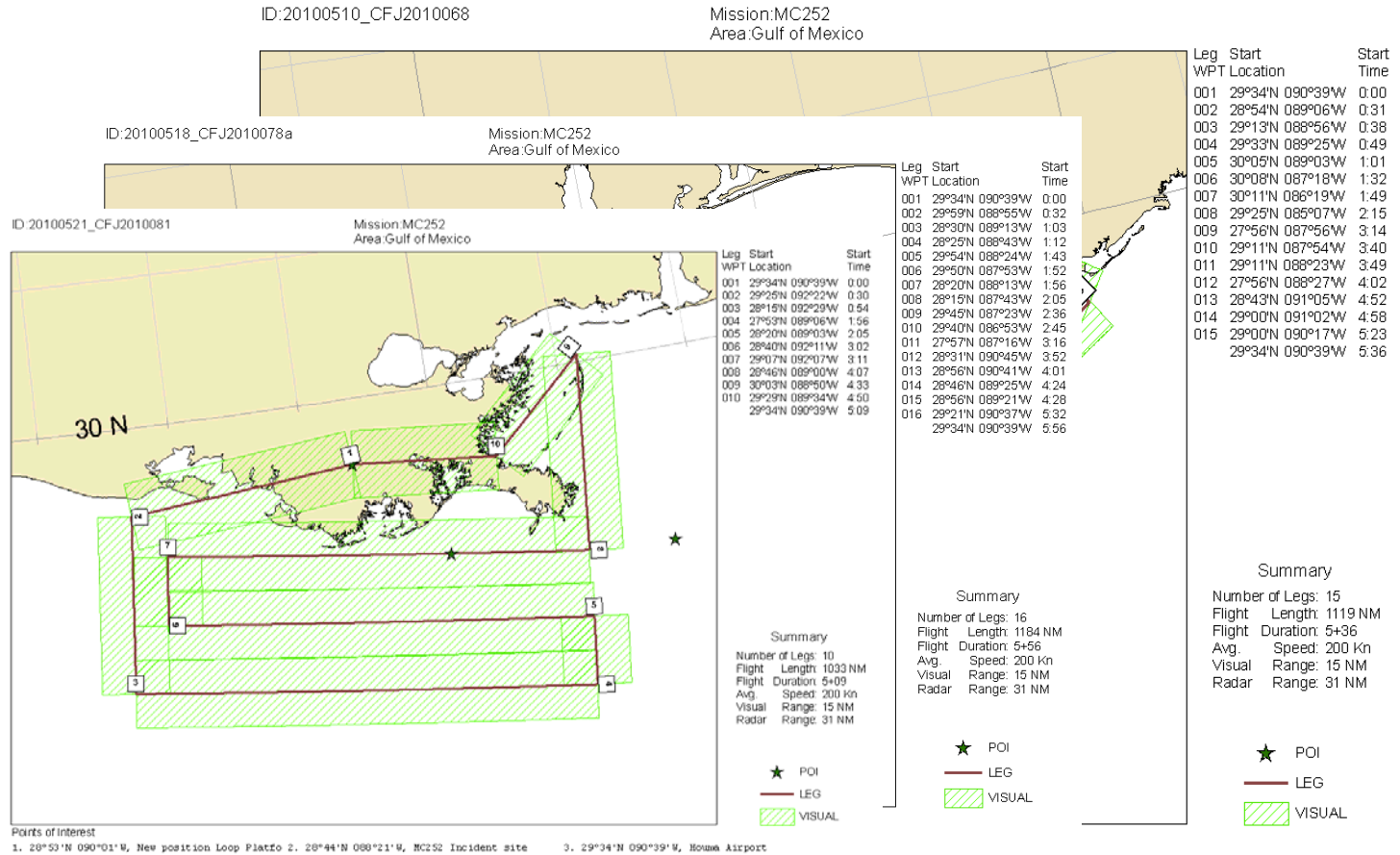
NASP Advantage

Experienced and Trained People

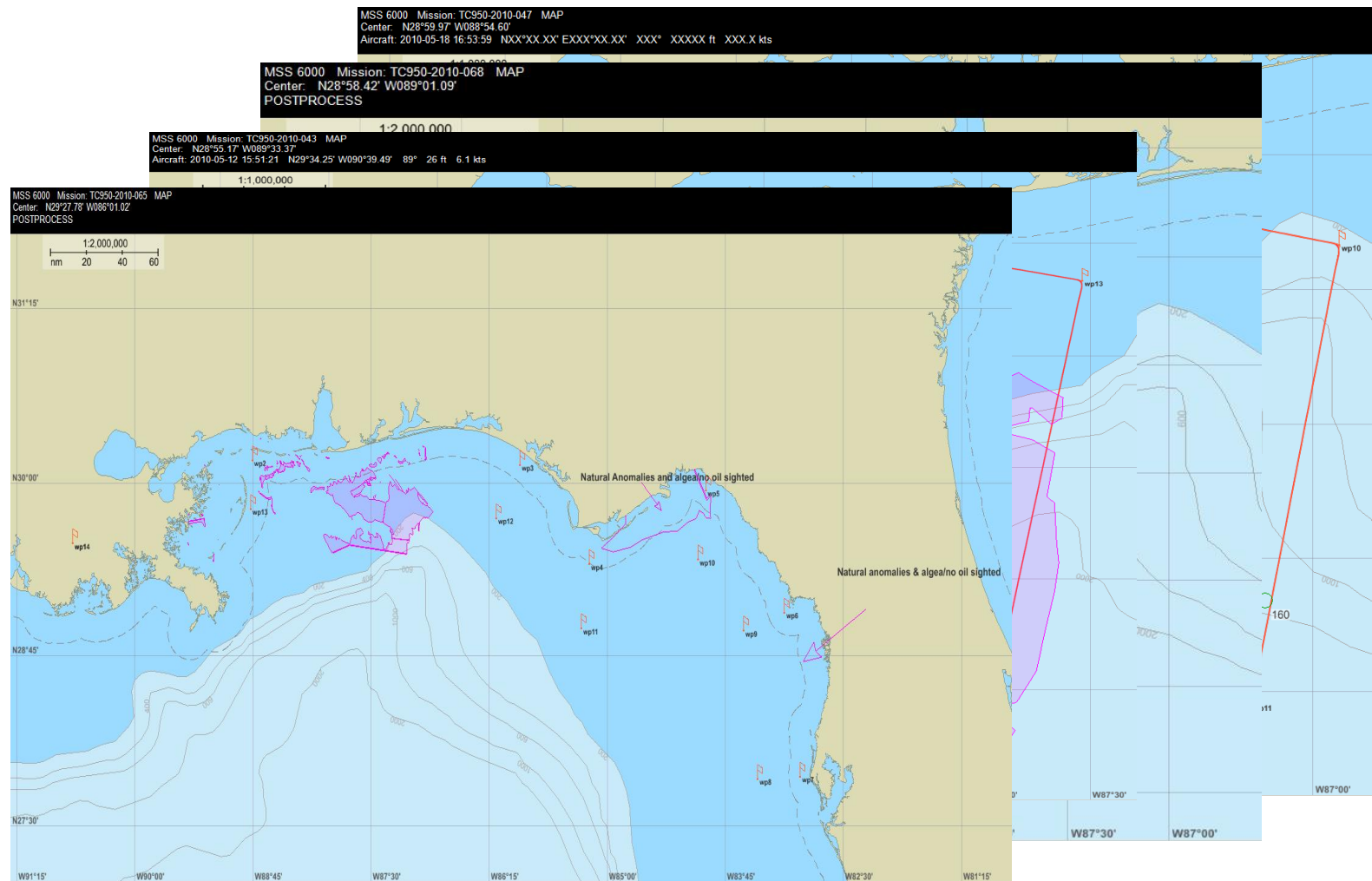
State of the Art Equipment



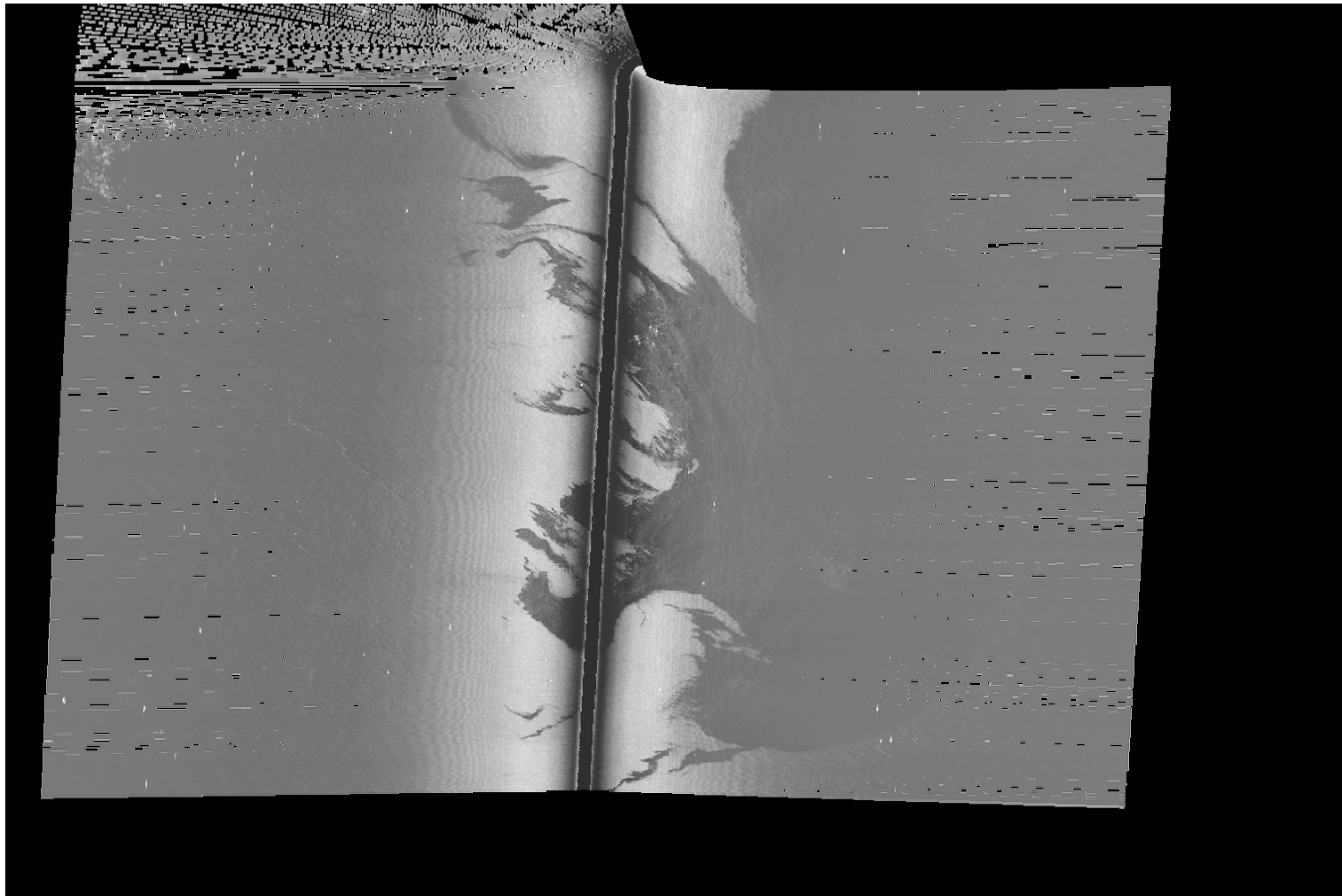
Typical Days Work – Flight Track

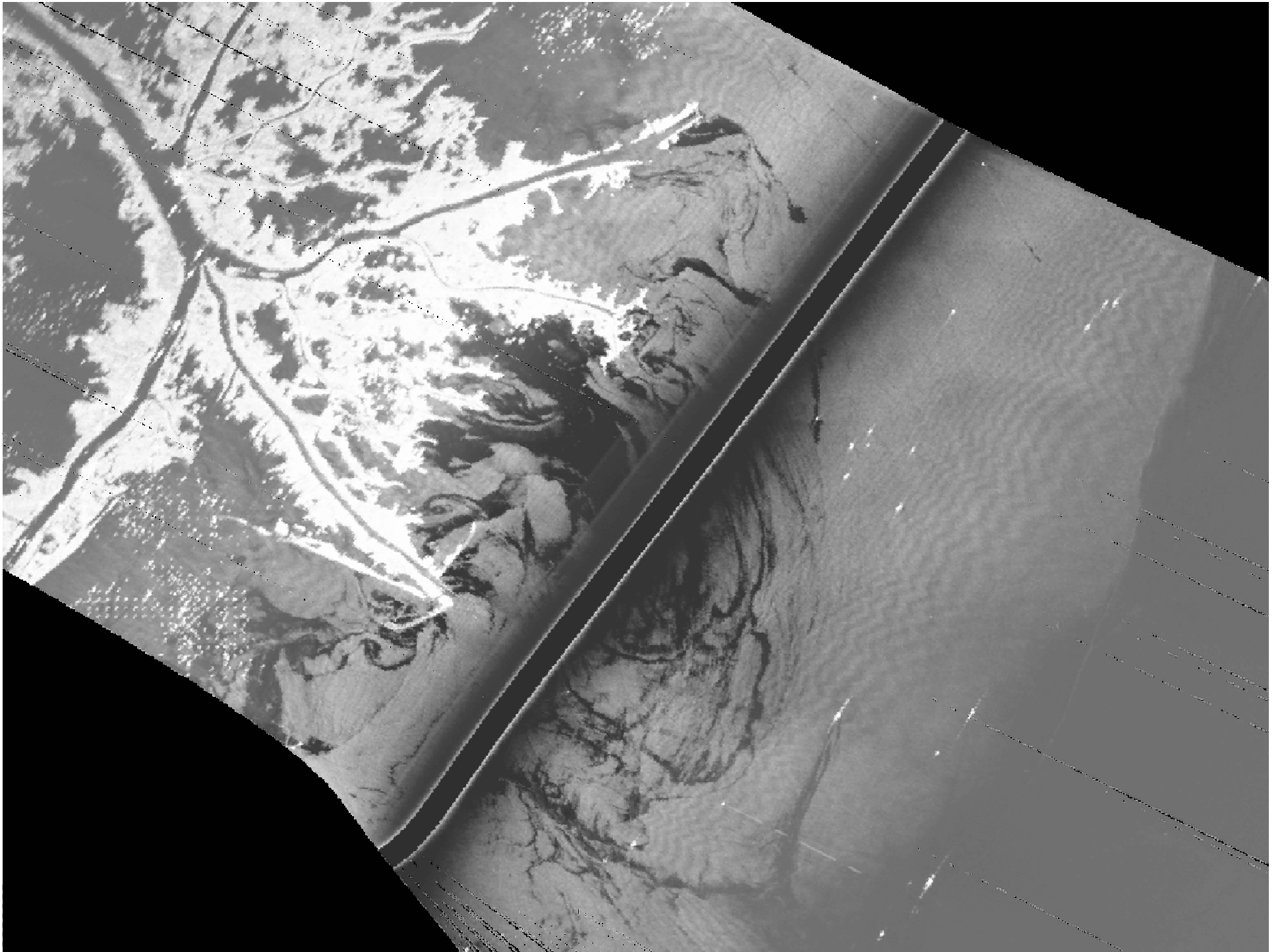


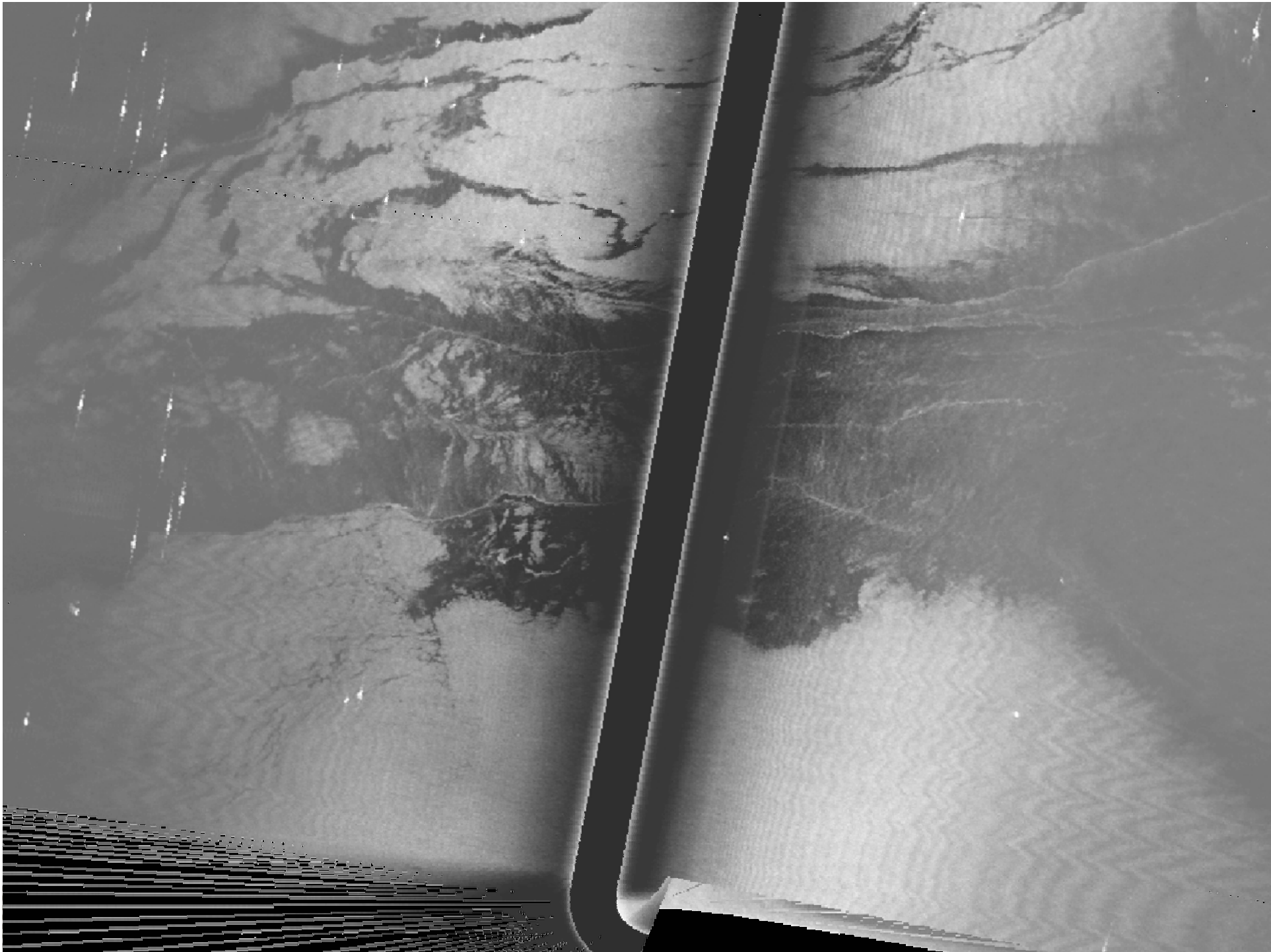
Polygon Creation – Spatial Extent



SLAR Imagery







SSC MSS 6000 Mission: TC950-2010-029 2010-05-03 20:53:37 N28°44.93' W088°22.41' 223° 1558 ft 134.4 kts SCAM: Port Image: 0062



SSC MSS 6000 Mission: TC950-2010-028 2010-05-03 15:18:55 N28°45.12' W088°18.77' 338° 780 ft 176.3 kts SCAM: Port Image: 0028











SSC MSS 6000 Mission: TC950-2010-049 2010-05-20 16:34:05 N28°28.33' W088°49.43' 359° 6991 ft 248.3 kts SCAM: Port Image: 0205





Conclusion

- This unfortunate event resulted in a great learning experience for the NASP and presented us with an opportunity to use the role equipment in a real life scenario.



Questions or Comments:

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