Matthew Pickett

CDR, NOAA (Ret)

ONMS Aviation Operations Coordinator

- 1997 - CINMS begins Aerial Surveys
- SAMSAP – **S**anctuary **A**erial **M**onitoring & **S**patial **A**nalysis **P**rogram
- Laptop Computer, GPS, Customized Data Collection Software
- 1000 ft   110 kts   100% visual coverage
- Living Marine Resource Surveys
- Vessel and Visitor Use Surveys
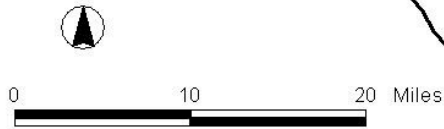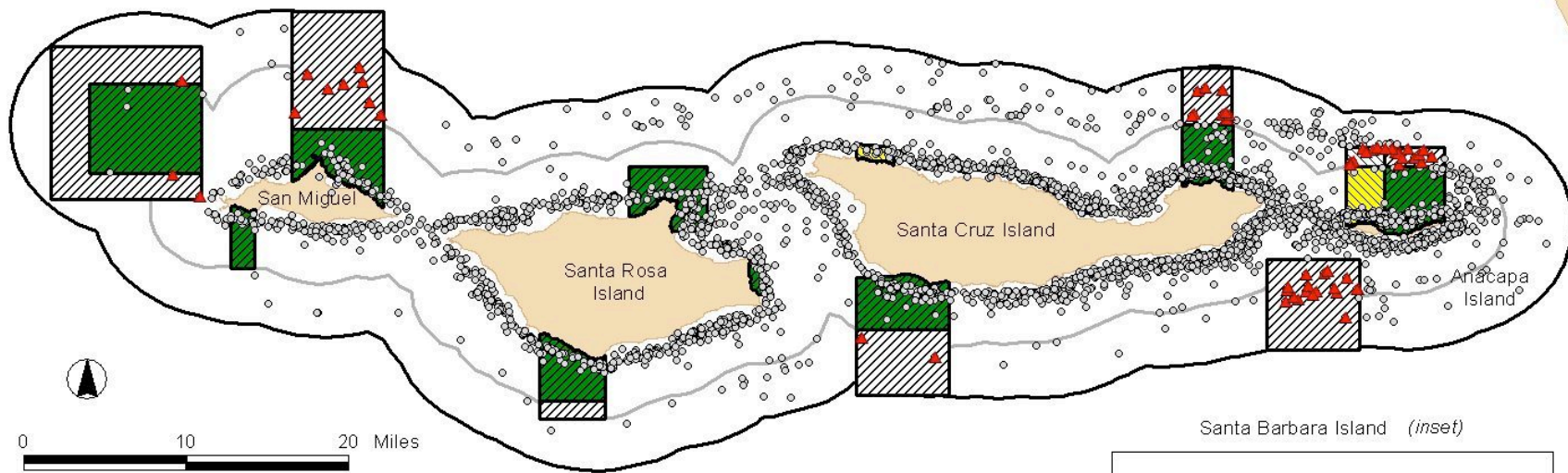
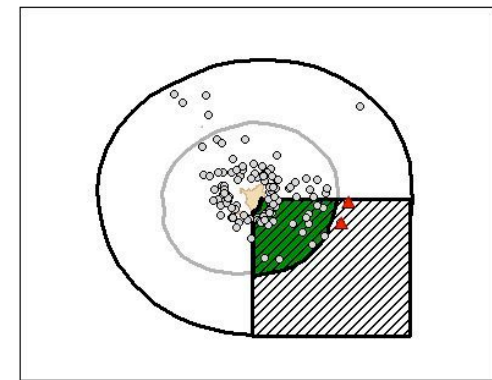# Vessel Distributions (1997 to 2004)
Alternative 1

Santa Barbara

Channel Islands
National Marine Sanctuary

Pt. Conception

SANTA BARBARA CHANNEL

Ventura

San Miguel

Santa Rosa
Island

Santa Cruz Island

Anacapa
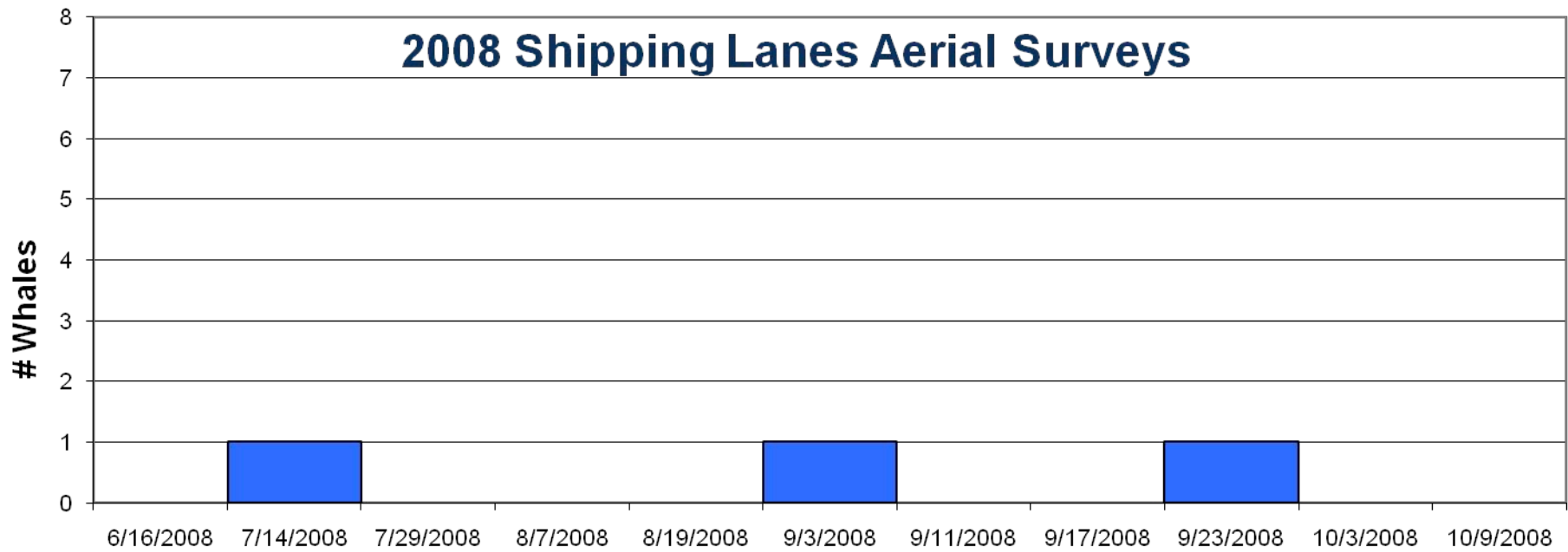Island

0   10   20 Miles

Santa Barbara Island (inset)

▲ Vessels within Additional Area Proposed in Alternative 1 (76)
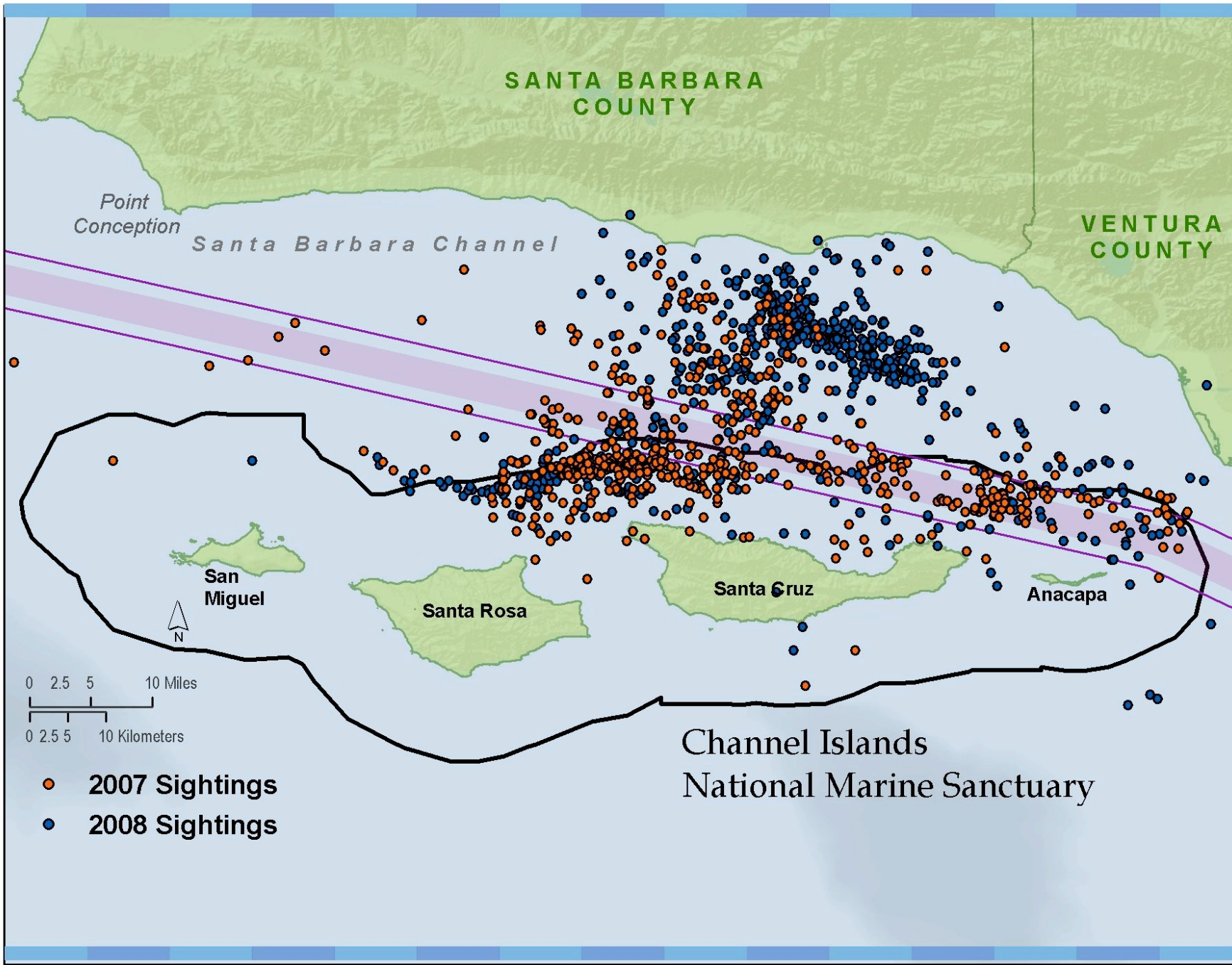○ Vessels within Sanctuary Boundary (6,866)

Federal Marine Reserve

Federal Marine Conservation Area

State Marine Reserve

State Marine Conservation Area

State Boundary (Mean high water to 3nmi)

Sanctuary Boundary (Mean high water to 6nmi)

Photo: NOAA

- Summer 2007 – 4 Blue Whales found dead in SB Channel
- Historic SAMSAP data used to determine seasonality and abundance
- Weekly patrol flights initiated to trigger Notice to Mariners
- Ongoing process to explore alternatives for traffic

2007 Shipping Lanes Aerial Surveys

Whales

Date	# Whales
10/8/2007	7
10/10/2007	6
10/12/2007	4
10/16/2007	6
10/19/2007	6
10/24/2007	3

2008 Shipping Lanes Aerial Surveys

Whales

Date	# Whales
6/16/2008	0
7/14/2008	1
7/29/2008	0
8/7/2008	0
8/19/2008	0
9/3/2008	1
9/11/2008	0
9/17/2008	0
9/23/2008	1
10/3/2008	0
10/9/2008	0

SANTA BARBARA COUNTY

VENTURA COUNTY

Point Conception

Santa Barbara Channel

San Miguel
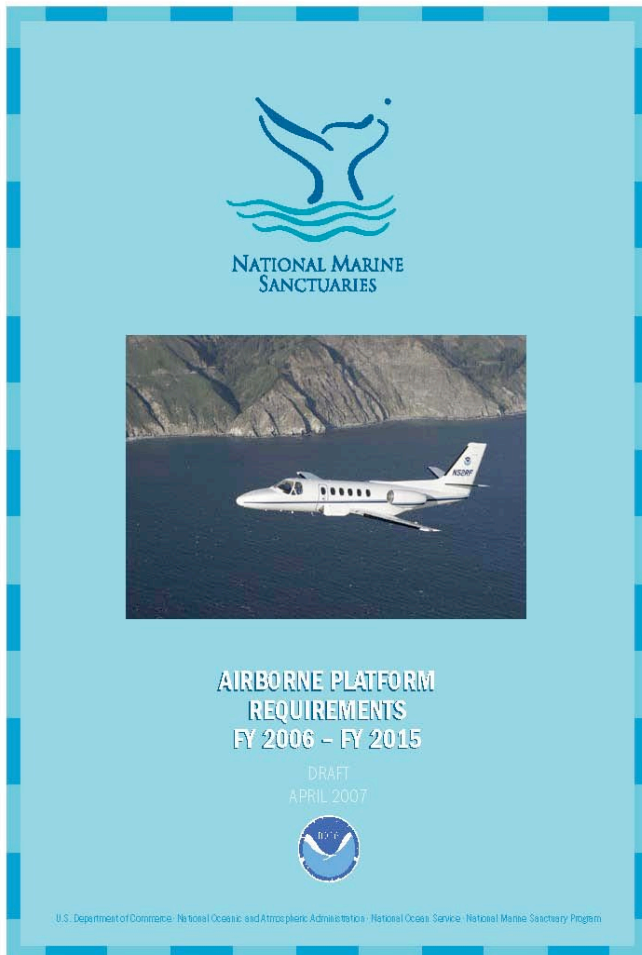
Santa Rosa

Santa Cruz

Anacapa

N

0 2.5 5   10 Miles

0 2.5 5   10 Kilometers
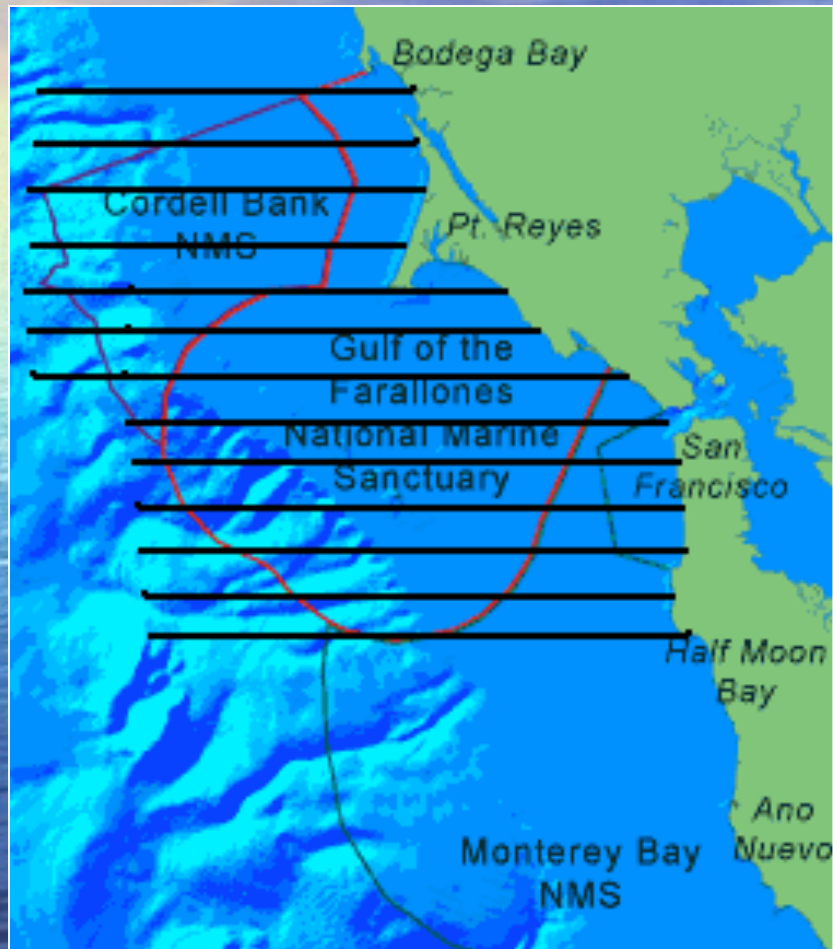
● 2007 Sightings

● 2008 Sightings

Channel Islands
National Marine Sanctuary

ONMS Aircraft Requirements

- Living Marine Resource Surveys
- Vessel and Visitor Use Surveys
- Remote Sensing
- Enforcement
- Emergency Response
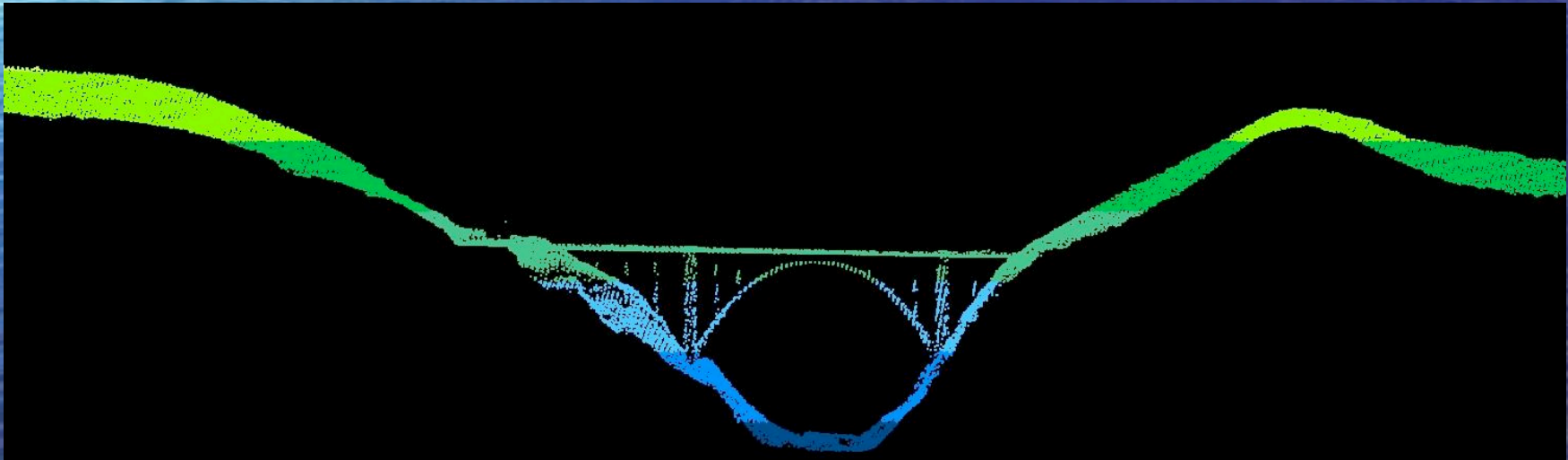- Education/Outreach

GFNMS Aircraft Requirements

- Monthly Visual Surveys
- Remote Sensing – 5 yr cycle
- Weekly Enforcement Flights
- Emergency Response

Regional Requirements

- GFNMS: 40 hrs ⟹ 120 hrs
- CBNMS: 30 hrs ⟹ 70 hrs
- MBNMS: 140 hrs ⟹ 320 hrs
- CINMS: 350 hrs ⟹ 270 hrs
- OCNMS: 80 hrs ⟹ 200 hrs

NOAA Twin Otter

A multi-mission platform to support
West Coast National Marine Sanctuaries

- Twin Engine Turboprop
- Long Endurance
- High Wing, Slow Speed
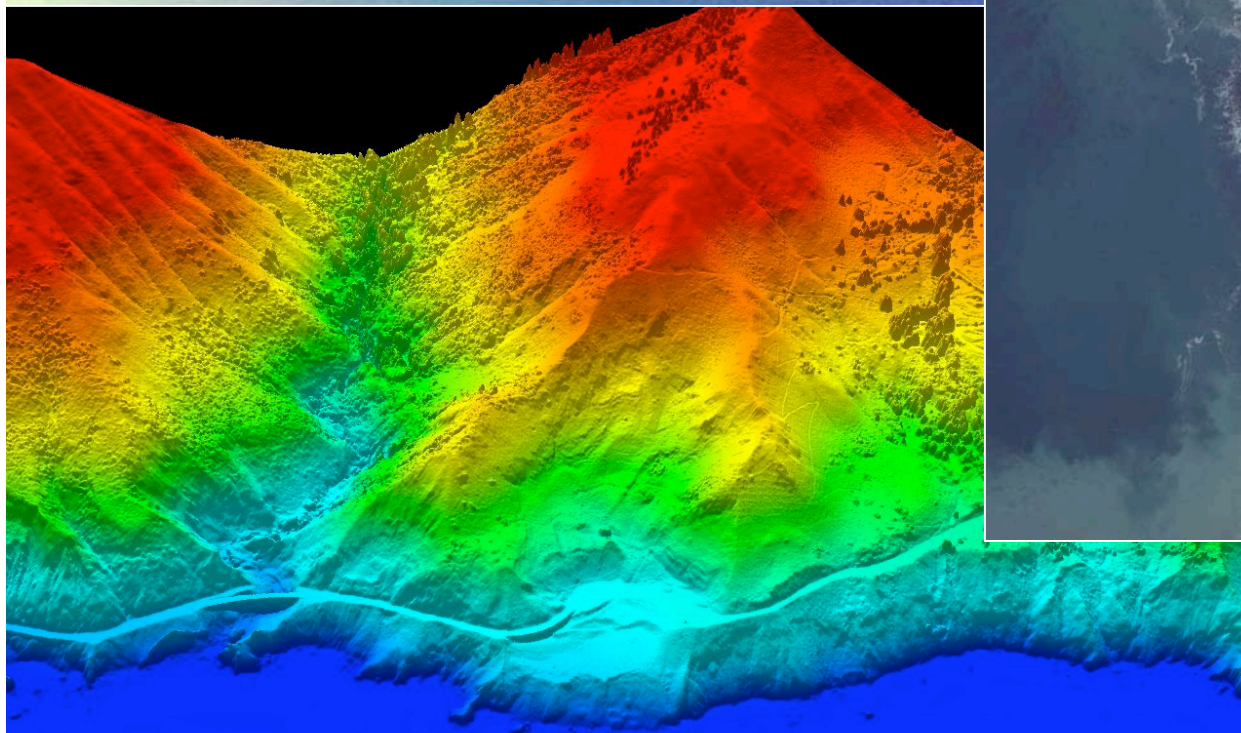- Dual Bubble Observer Windows
- Belly Camera and Instrument Port

Living Marine Resource Surveys

Remote Sensing

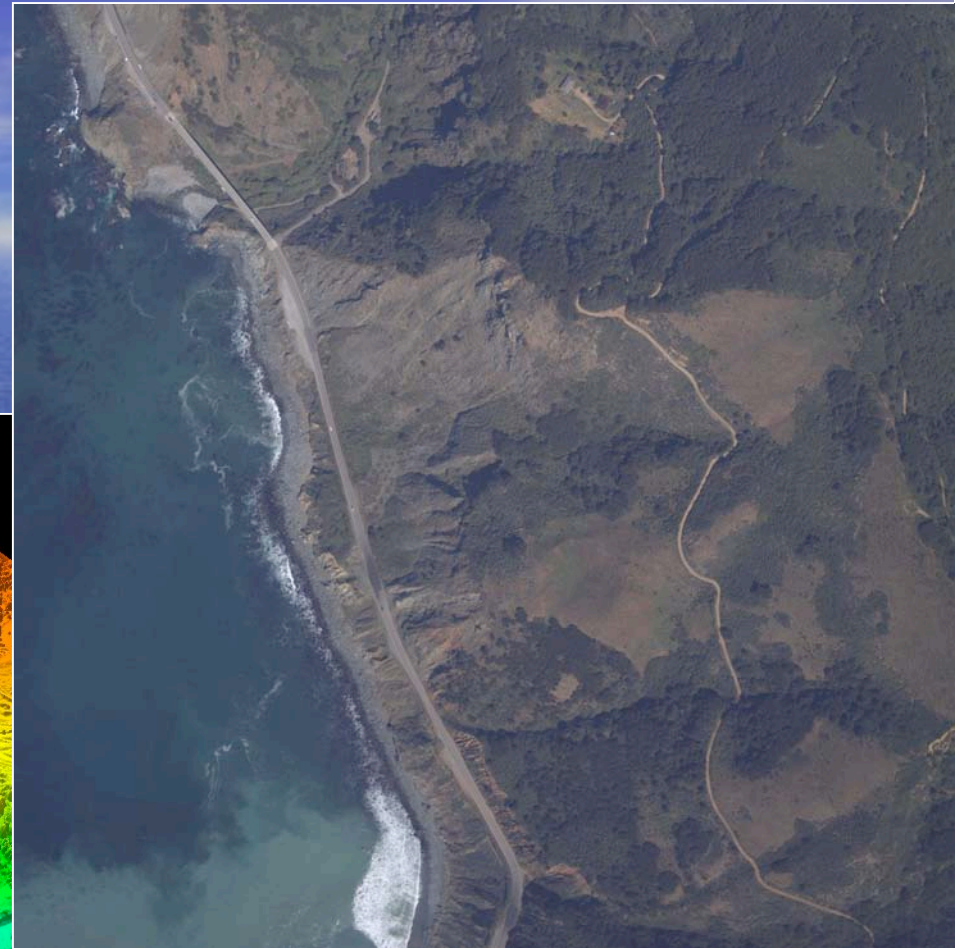- Topographical LIDAR
- Hyperspectral Scanner
- Digital Camera
- Bathymetric LIDAR
- Thermal Sensors
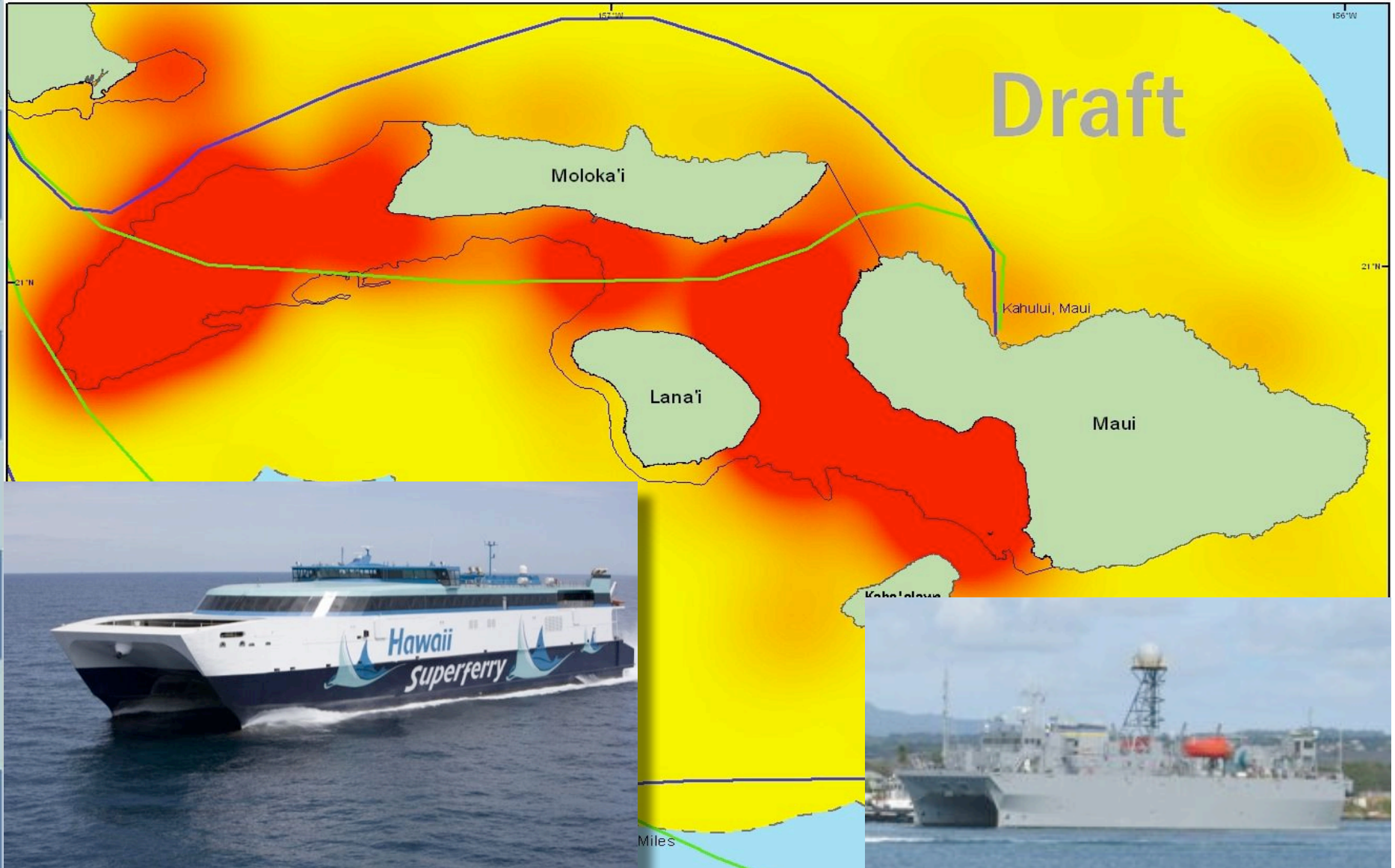
ONMS Remote Sensing

- Watershed Analysis
- Coastal Erosion
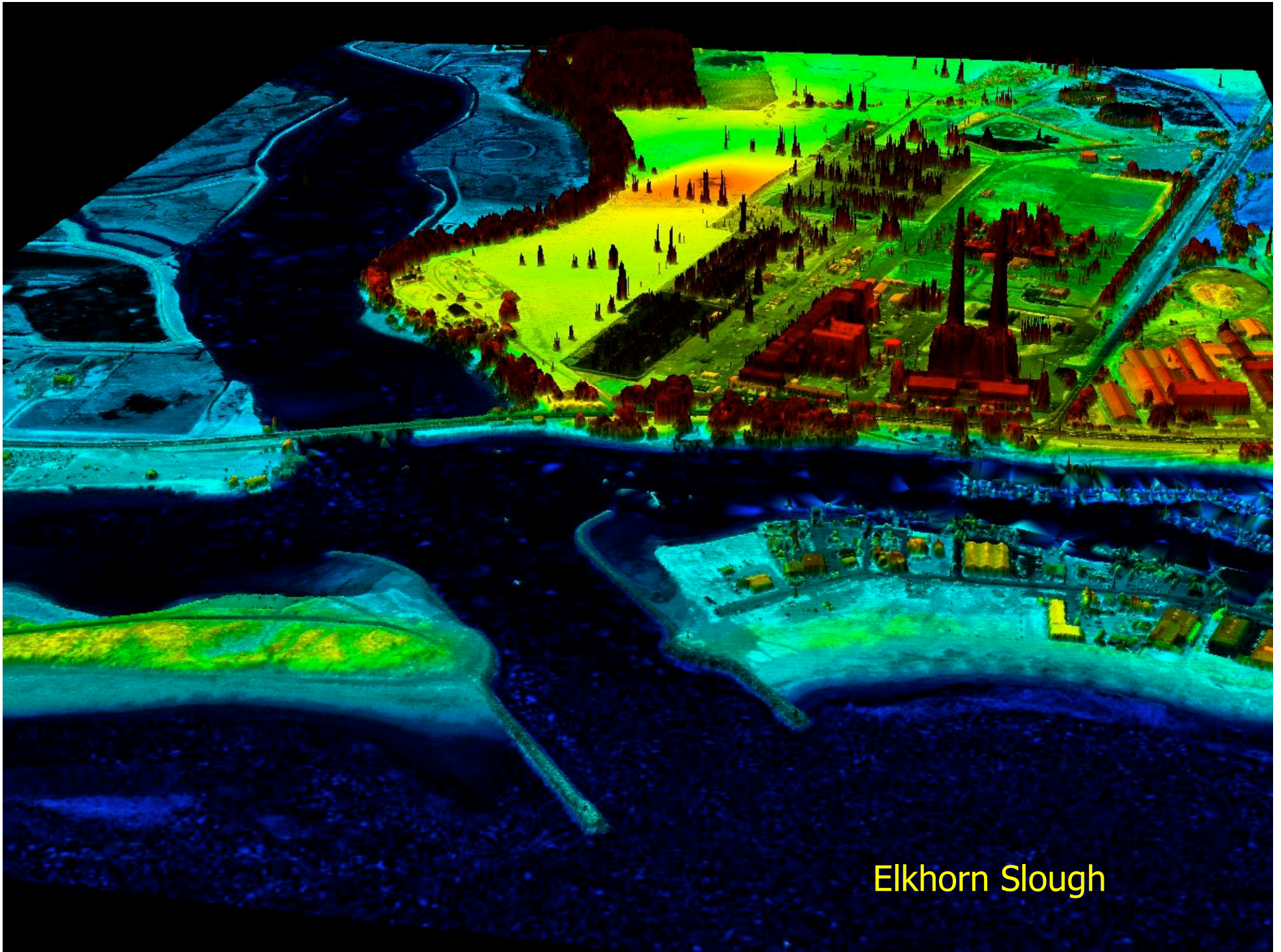- Sea Level Rise

Big Sur LIDAR DSM

Big Sur Digital Imagery

Data acquired on April 25, 2004
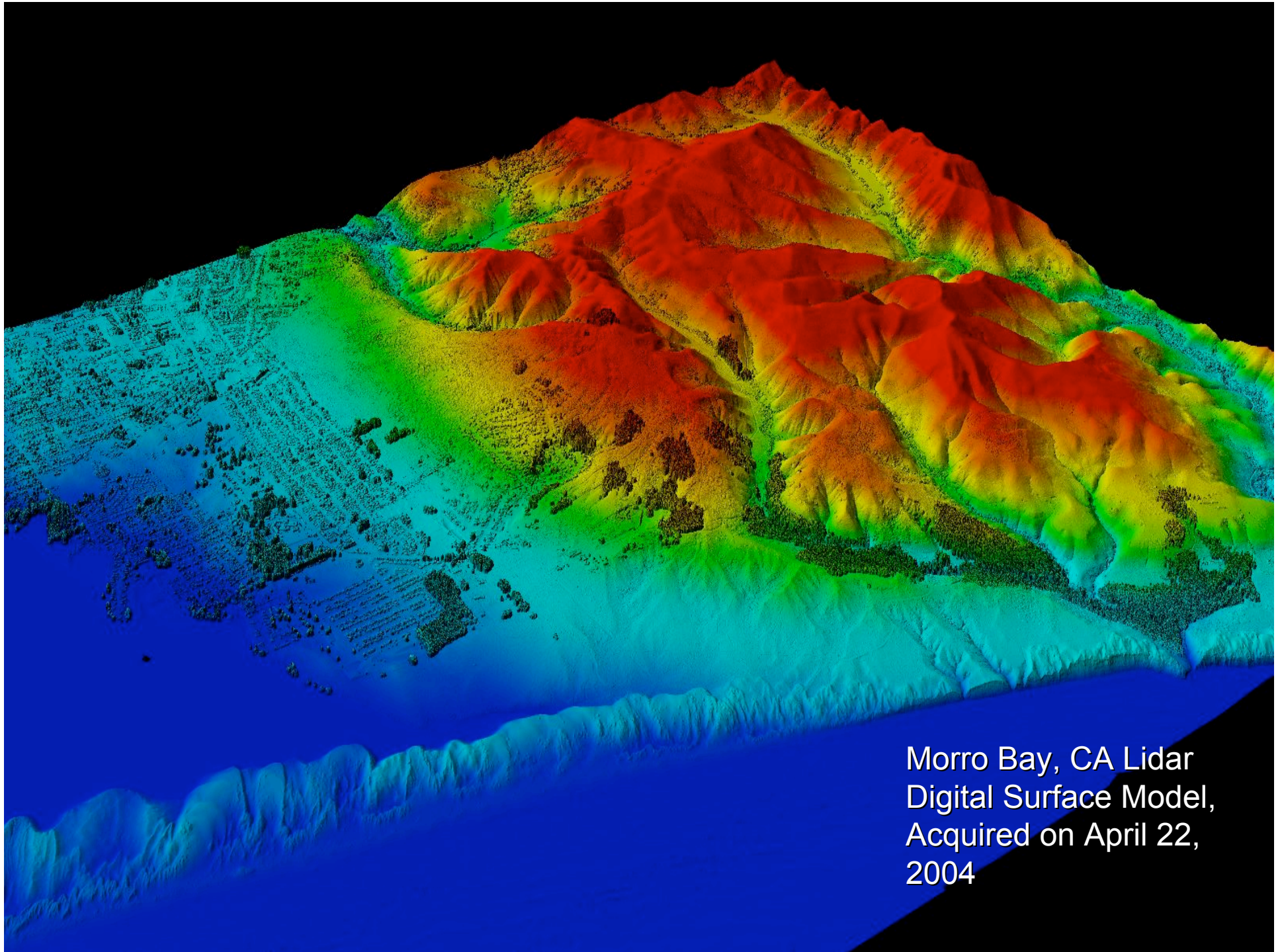
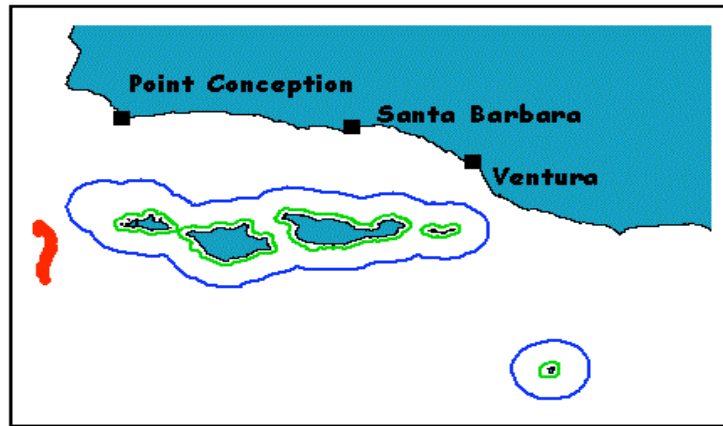Morro Bay, CA Lidar Digital Surface Model, Acquired on April 22, 2004

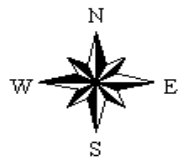Elkhorn Slough

ONMS Aerial Enforcement

- Support for USCG and CDF&G
- Marine Zone Enforcement
- Shipping Lanes
- Vessel Discharge, No-Anchoring
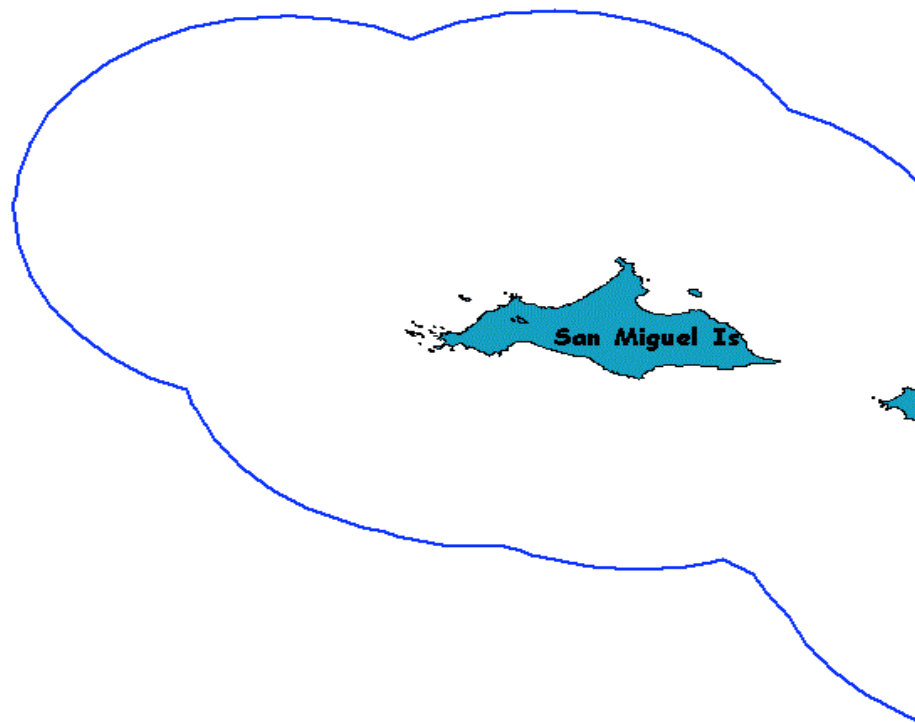- Overflight Restrictions

Emergency Response

Education and Outreach

Pacific Dream Machine Airshow 2008
Half Moon Bay Airport

Next Steps

- Update Data Collection Software
- Finalize Survey Protocols with RCs
- Develop Pool of Trained Observers

Questions?