

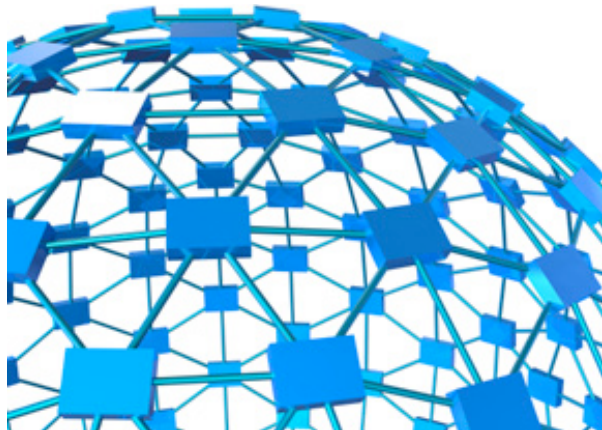
Data Management

Vicki Ferrini

Lamont-Doherty Earth Observatory

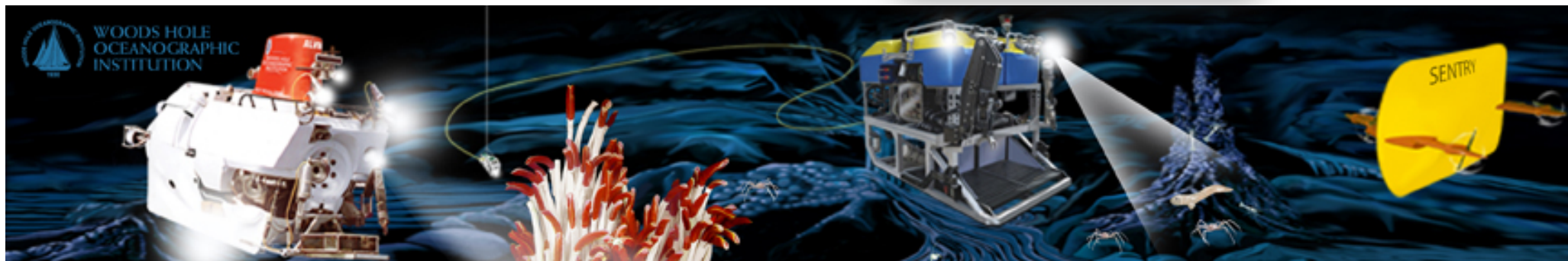
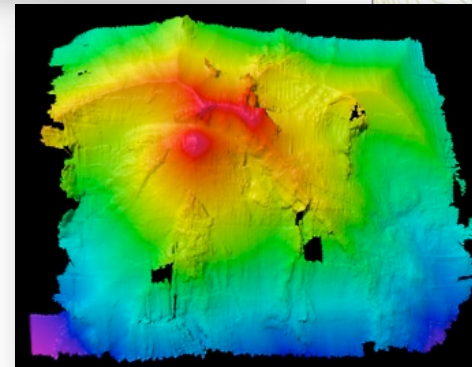
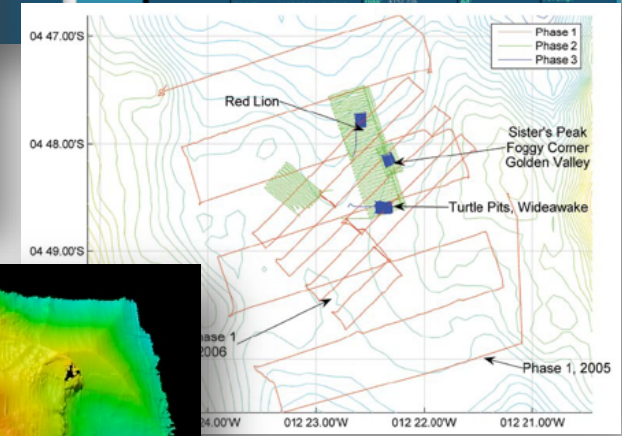
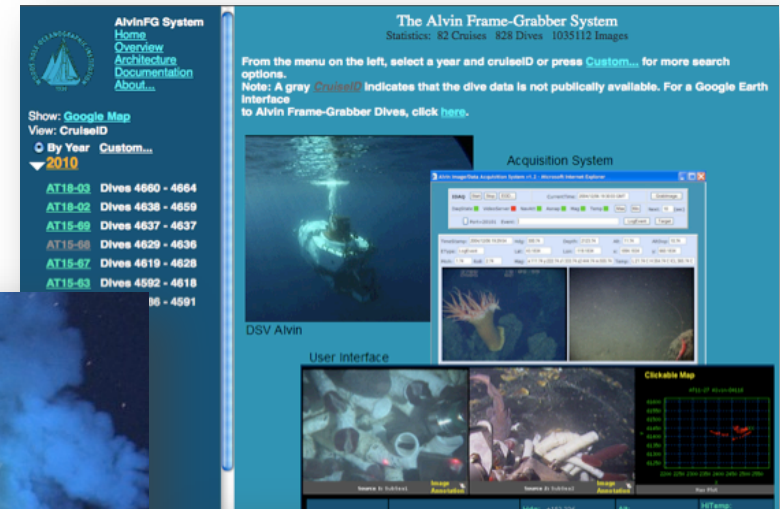
Importance of Data Management

- Support science and discovery
- Scientific reproducibility
- Costs of acquisition
- Optimizing operations
- Increasing volumes of data
- Data Policies with increasing focus on data sharing



NDSF Data Types

- Images & Video
- Raw data streams
 - Navigation
 - Sonar, CTD, subbottom
- First-order products
 - Grids & Images
 - Processed Navigation
 - Event Logs
- Science Party Instrumentation



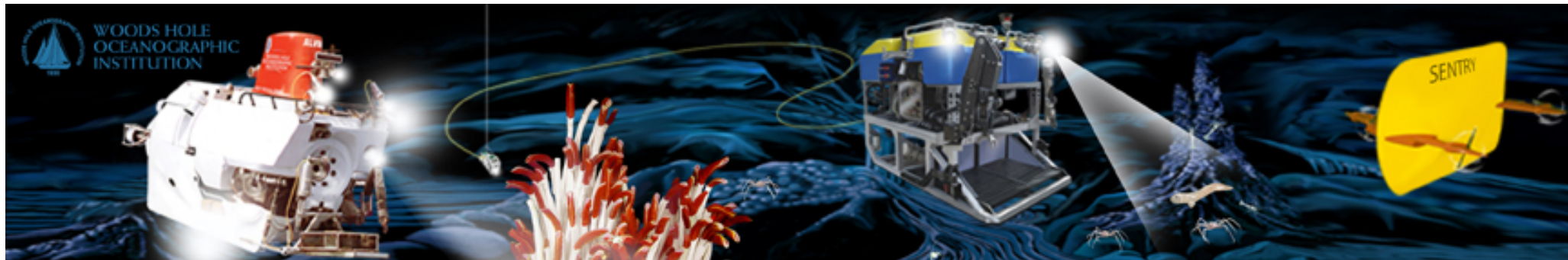
MGDS – marine-geo.org

- Primarily marine geophysical data
 - Bathymetry, sidescan, subbottom, seismic, magnetics...
- Includes complementary data + metadata
 - Bottom photos, interpretations, navigation
- NSF OCE data policy-recommended
- Existing Data Collections include NDSF Data:
 - Ridge 2000 & MARGINS Data Portals
 - Direct Links to FrameGrabber & Virtual Van Images
 - GeoMapApp & Google Earth
 - Data Rescue – Digitized Alvin Slides (Atlantic Canyons)
- Data curation – preservation, online search & access
- Data DOIS & direct links from publications



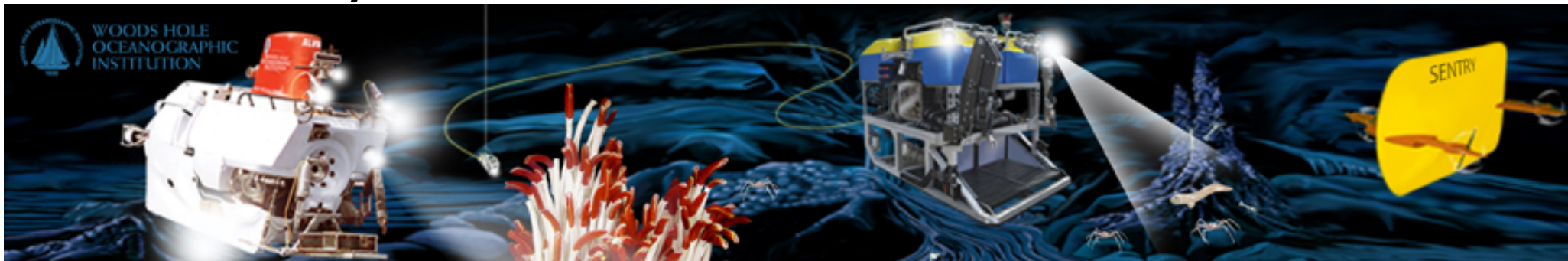
Spring 2013 DeSSC - Plan

- Pursue migration of subset of NDSF data to Marine Geo Data System (marine-geo.org) for increased accessibility
- Target raw data & first order products (*at-sea, operator-generated*)
 - Basic dive metadata
 - Sonar data (multibeam, sidescan)
 - Subbottom data
 - Navigational data



Fall 2013 DeSSC - Status

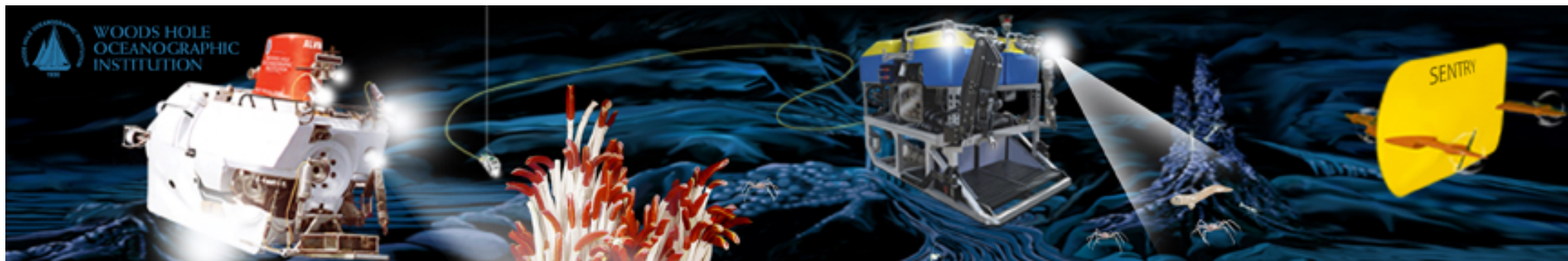
- Identify suite of data suitable for migration ✓
- Identify initial data sets (3 cruises) to target ✓
- Contact PIs for permission ✓
- Transfer Data + Metadata to MGDS ✓
- Ingest and make available via MGDS ✓
 - Issue data DOIs in coordination with PIs
 - Include in GeoMapApp
- Identify additional PIs to contact



Submersible data in MGDS*

- Metadata from > 1,000 Dives
- > 24,000 downloadable data files
 - Backscatter, Bathymetry, Magnetics, Nav, Photo, Photomosaics, Sidescan
- 11 Platforms (AUV, HOV, ROV)
- Variety of Contributors
 - WHOI/NDSF, MBARI, Waitt Institute & Individual Scientists

**as of 06/18/2014*

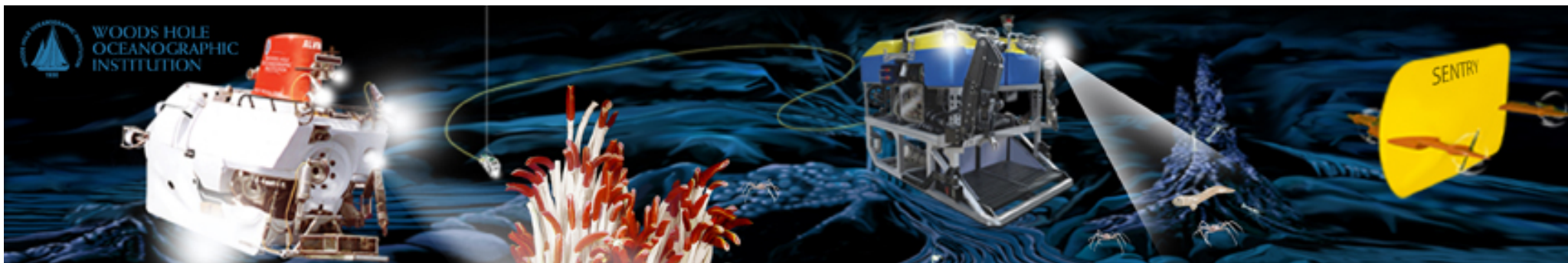


Access to Submersible Data

- Search and Download Files
- Visualization & Analysis UIs
 - Grids, Images, Photos
 - GeoMapApp
 - Google Earth/Maps
- Web Services
 - Search
 - KML

Vehicle	Vehicle Type	# Files	# Cruises
<i>ABE</i>	AUV	139	6
<i>D. Allan B.</i>	AUV	1,078	2
<i>REMUS 6000</i>	AUV	14,153	2
<i>Sentry</i>	AUV	467	2
<i>Alvin</i>	HOV	1,379	33
<i>Isis</i>	ROV	596	2
<i>Jason I</i>	ROV	24	1
<i>Jason II</i>	ROV	5,956	17
<i>Kraken2</i>	ROV	986	1
<i>ROPOS</i>	ROV	8	1
<i>Tiburon</i>	ROV	44	2

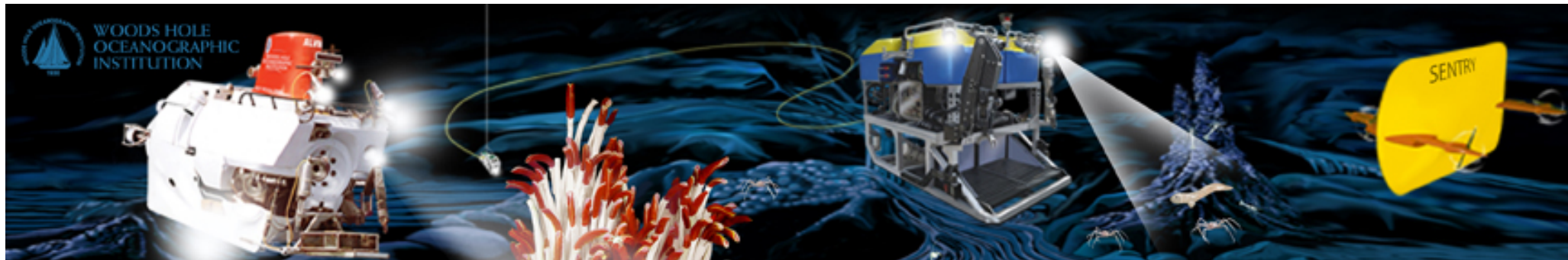
as of 06/18/2014



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Status & Next Steps...

- Continue with integration of initial data sets ✓
- Contact next round of PIs ✓
- Continue to solicit final derived products from scientists that support scientific publications ✓
- *In Progress:*
 - *Issue Data DOIs*
 - *Refine workflow to routinize migration process*
 - *Deploy custom service for NDSF search & access*
 - *Enhance Web Services & Data Access Services*



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