NDSF Video and Data Management Update

NDSF

- Provide science users with high quality, complete data records of their activities.

- Allow for individualized data collection.

- Provide tools to review critical data post-deployment to enable decision making.

- Provide broad access to data collected by NDSF vehicles.

IEDA*

- High-grade most useful/desirable data.

- Enable directed access to data through a variety of search tools.

- Support standardized data collection to enhance long-term archiving.

*and other community data managers

Case study: frame grabs

Image data (e.g., video frame grabs) have high value as a post-dive assessment tool. Its post-cruise value is significantly enhanced by expert classification/annotation.
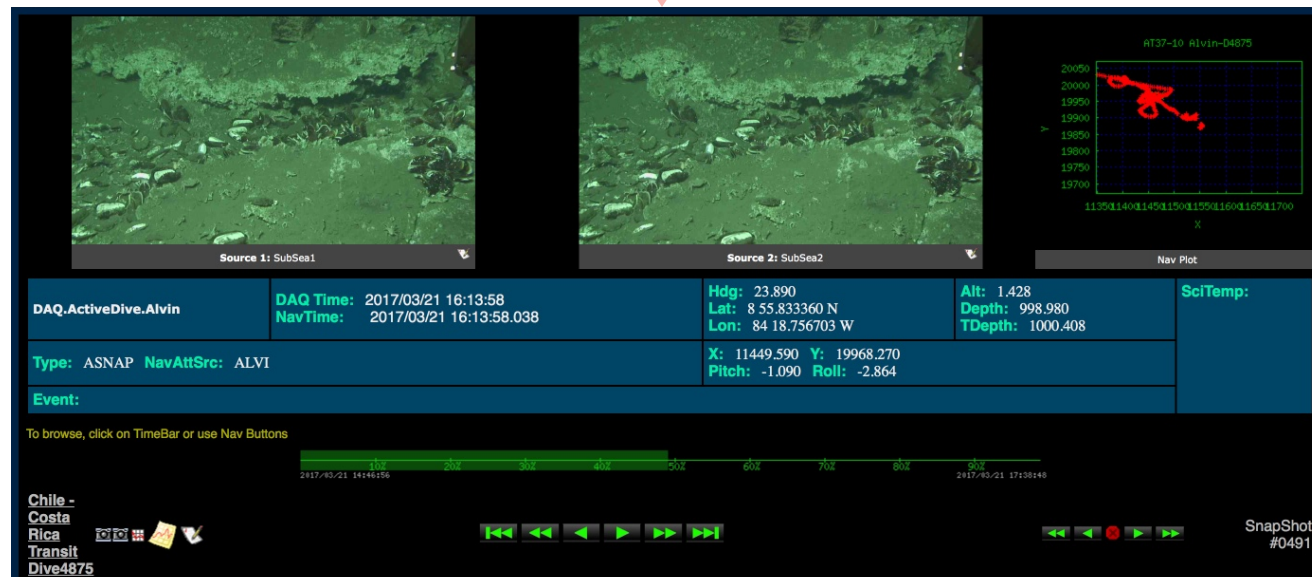
Jason VV

time, depth, position, sensors, *expert interpretation*

Alvin FrameGrabber

time, depth, position, sensors

Sentry

time, depth, position, sensors

Case study: frame grabs

- IEDA developed a cross-vehicle search tool for frame grabs that delivers imagery through a variety of search fields (vehicle, date, location, depth, expert annotation).

Position based search yields thousands of images from all three vehicles

Framegrab search tool:
http://www.marine-geo.org/portals/ndsf/atp/framegrabs

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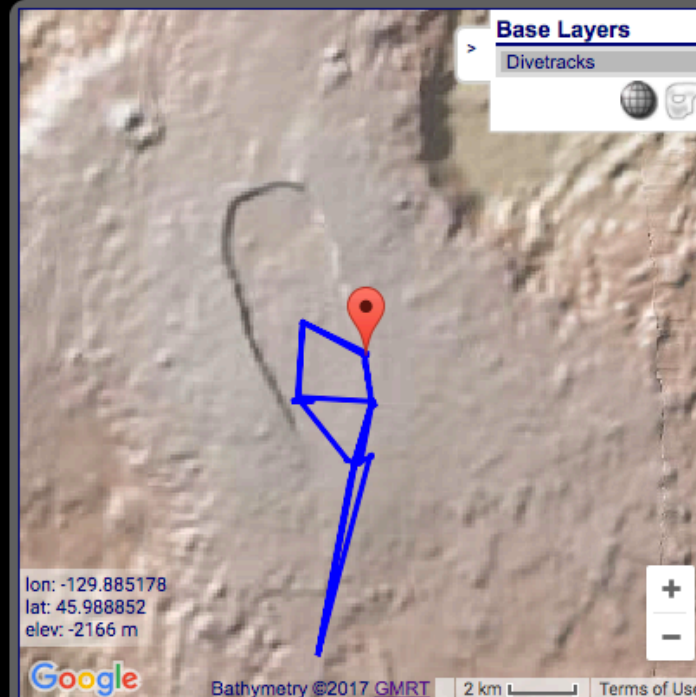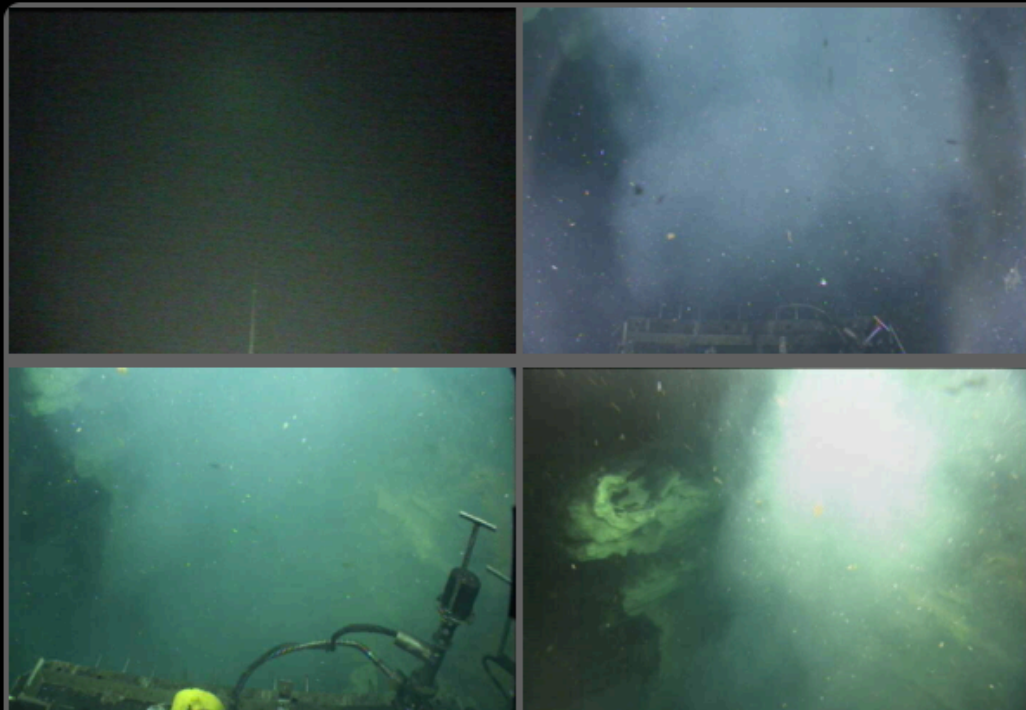

Adding a descriptive term ('floc') yields 112 Jason images.

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http://www.marine-geo.org/portals/ndsf/atp/framegrabs

Base Layers
Divetracks

Ion: -129.885178
lat: 45.988852
elev: -2166 m

Google   Bathymetry ©2017 GMRT   2 km   Terms of Use

Location: Juan De Fuca Endeavour Axial
Seafloor Depth: 1524.51m

Time (UTC)	2011/07/29 16:03:10
Event Text	TXT: THERE'S A LOT OF WHITE FLOC COMING OUT OF THIS HOLE – IT'S PROBABLY VERY WELL MIXED WITH SEAWATER AND COLD.
Event Type	DLG
DAQ Type	EVT

Position	129.984857°W 45.945851°N (RNV.JAS2.DVL.v1)
Original Position	129.98486°W 45.945862°N (JAS2)
Local XY	3114.33m (X), 3243.76m (Y)
Original Local XY	3114.11m (X), 3245.06m (Y)
Roll	-0.2°
Pitch	-7.5°
Heading	251.12°
Vehicle Depth	1522.68m
Altitude	1.83m
Local Origin	
Original Nav Source	JAS2

Read about the NDSF Framegrab Web Service

Summary of activities

- NDSF continues to serve as the long-term archive for vehicle data. IEDA continues to ingest some NDSF data for archiving (pipeline for Sentry is best established).

- Through an EarthCube project, IEDA has led the development of *Frame Grab search tool* and *Dive Metadata search tool* that enables searching across NDSF (and other) vehicle systems.

- NDSF is focused on enhancing ability to generate metadata (for post-dive review tools and enhanced operational records).

- Effectively positioned to use expert interpretation (and perhaps citizen science) to annotate video data.

- Underwater video workshop report is out and provides recommendations for operators to enable large scale video archiving in the future. Follow up planned to review implementation of recommendations.