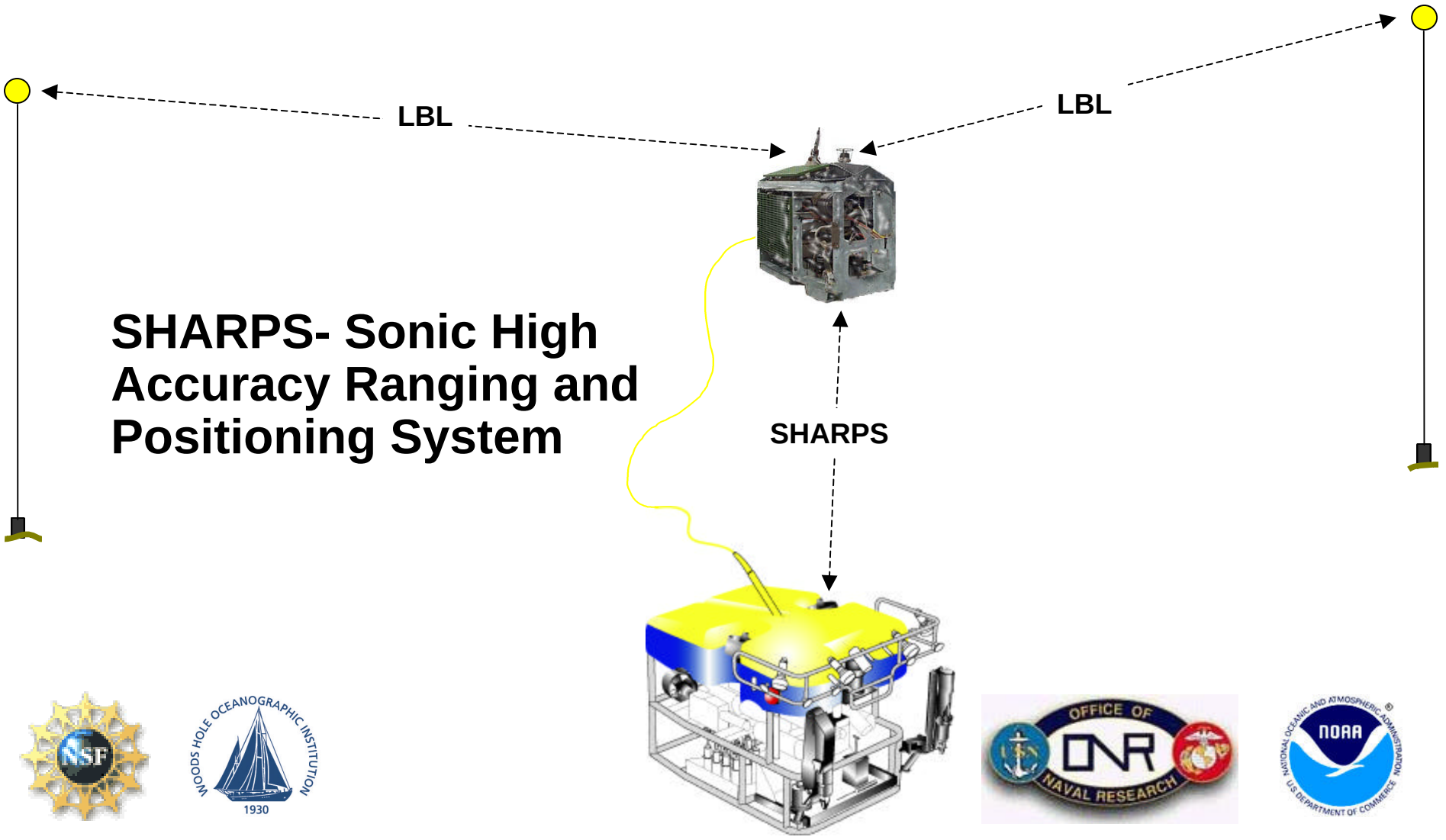
Update from NDSF Data Manager

V.L. Ferrini

- Navigation
- Virtual Van/Framegrabber
- Video
- Bathymetric sonars
- Available software
- Documentation
- Future directions

Update from NDSF Data Manager

Navigation



SHARPS- Sonic High Accuracy Ranging and Positioning System

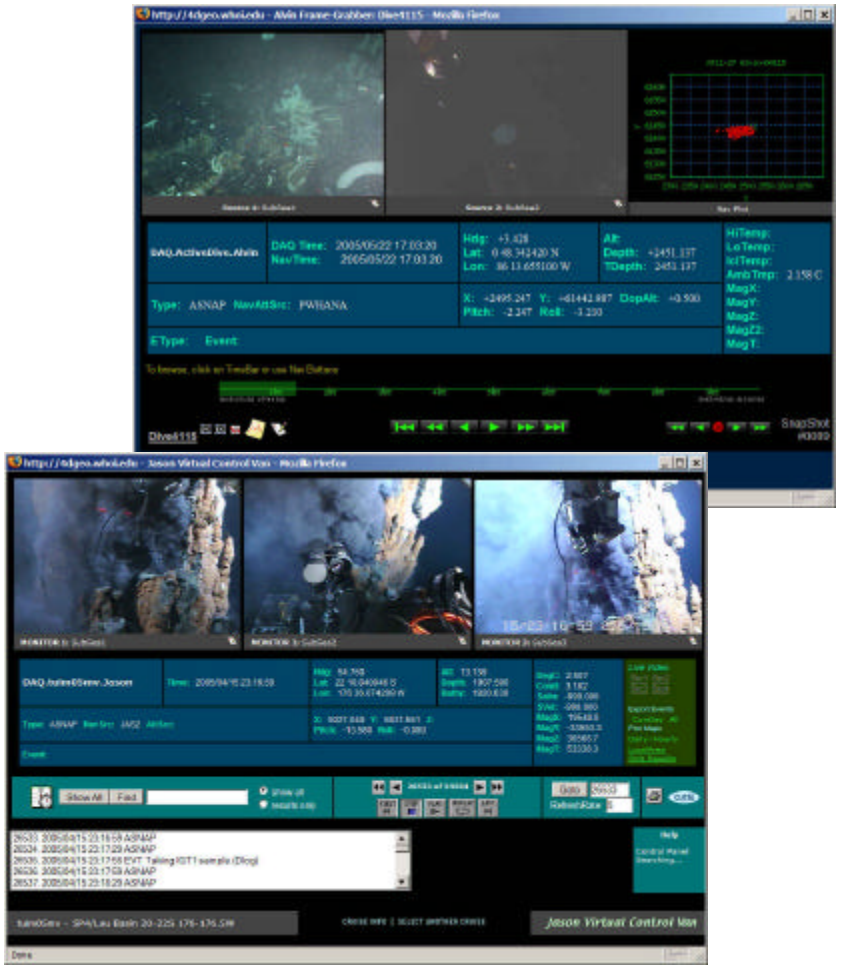
Navigation

- **Continued development and implementation of Navproc software**
- **SHARPS data in lieu of J2 LBL fixes**
- **Renavigation now possible via Least Squares or Complementary Filter**
- ***Alvin* Nav QC scripts installed on *Atlantis* - daily transmission of output to WHOI.**
- **July meeting planned with J. Kinsey (JHU) to refine Navproc software and QC scripts. Implementation planned by end of summer**
- **NDSF Navigation Upgrade – J. Howland**

Update from NDSF Data Manager

Virtual Van / Framegrabber

- **Planned Upgrades:**
  - **J2 Virtual Van will ingest Lowering ID**
  - **Improved search capabilities**
  - **Improved event logging****
  - **Development of controlled vocabulary for sample acquisition****
  - **Ingestion of 1st cut renav into *Jason* Virtual Van and *Alvin***
  - **Framegrabber - to be enabled before upcoming R2K field programs ****

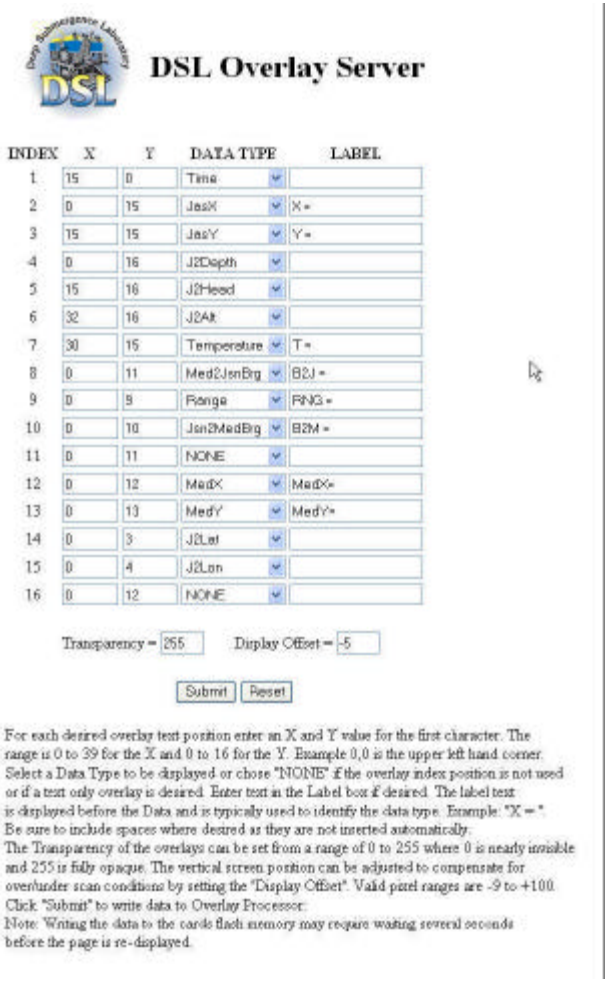


***Collaboration with R2K DMO*

Update from NDSF Data Manager

Video

- **RT video overlay on DVD**
- **Option to modify overlay**
  - **Date, GMT, JasX, JasY, Depth, Heading, Altitude, LoweringID, CruiseID, OrigLat, OrigLon**

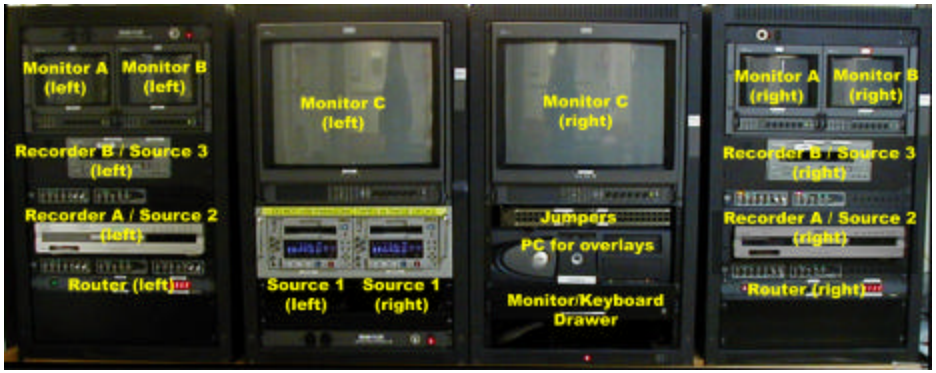


Update from NDSF Data Manager

Video

- **Video *Alvin* Overlay**
  - **Via DV tape audio channel or datalogger file**
    - **Date, GMT, AlvX, AlvY, Heading, Depth, Altitude, (Lat, Long**)**

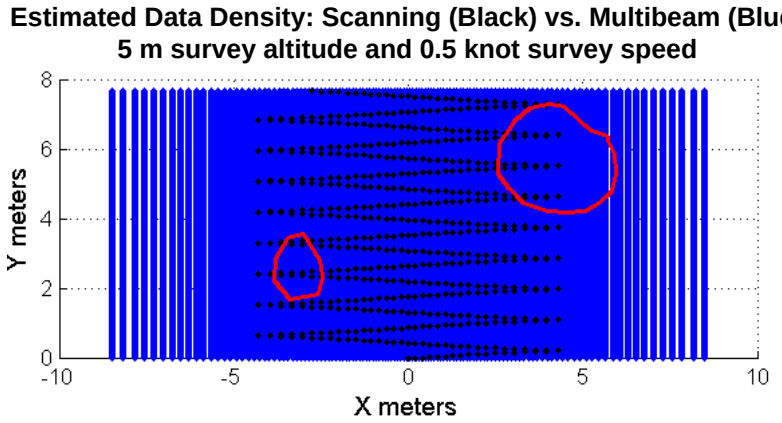
- **Video Duplication/Editing**
  - ***Alvin***
    - **Duplication station**
    - **iMacs**
  - ***Jason***
    - **iMac data station**
  - **Editing software available**
    - **Final Cut Pro**
    - **iMovie**

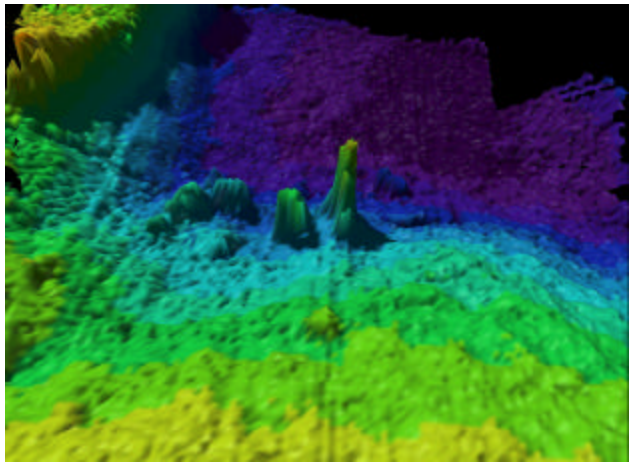


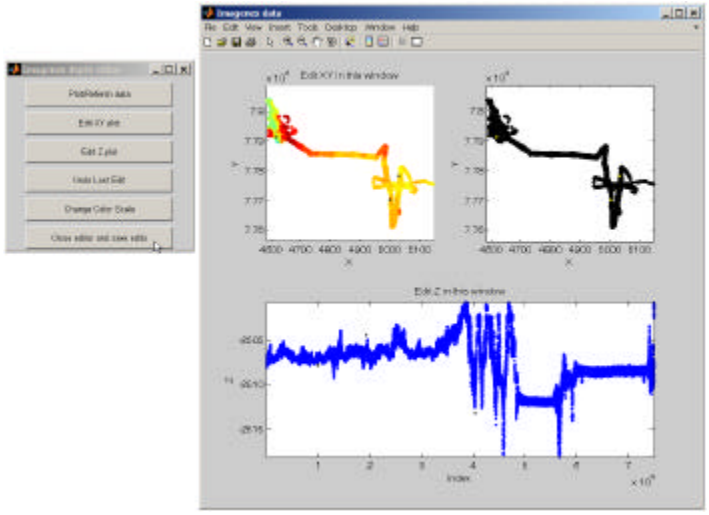
Update from NDSF Data Manager

Bathymetric Sonars

- ***Alvin*** **Imagenex scanning sonar**
  - **QC scripts with daily transmission to WHOI**
  - **New version of processing code available**
- ***Jason*** **SM2000 multibeam sonar**
- **Bathymetry editing tools**







Available Software

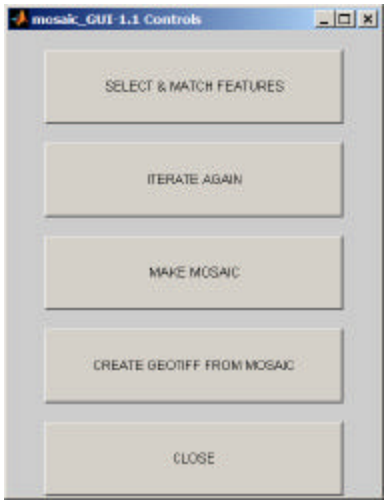
- **Commercial software/freeware**
  - **iView 3D/Fledermaus**
  - **Matlab**
  - **GMT**
  - **Photoshop**
  - **Illustrator**

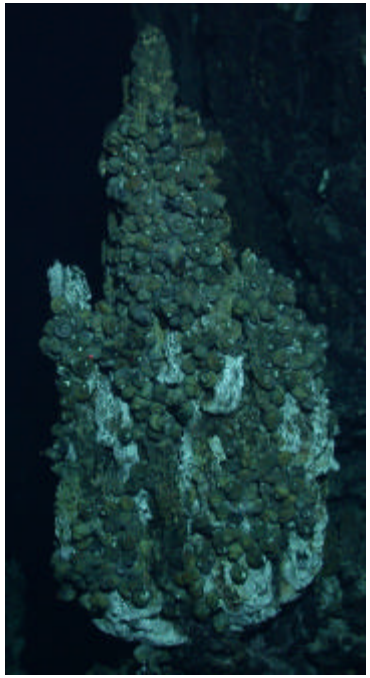
- **DSL software**
  - **Photo mosaics**
  - **Bottom photo analysis**
  - **Bathymetric submapping**
  - **Grid rectification**

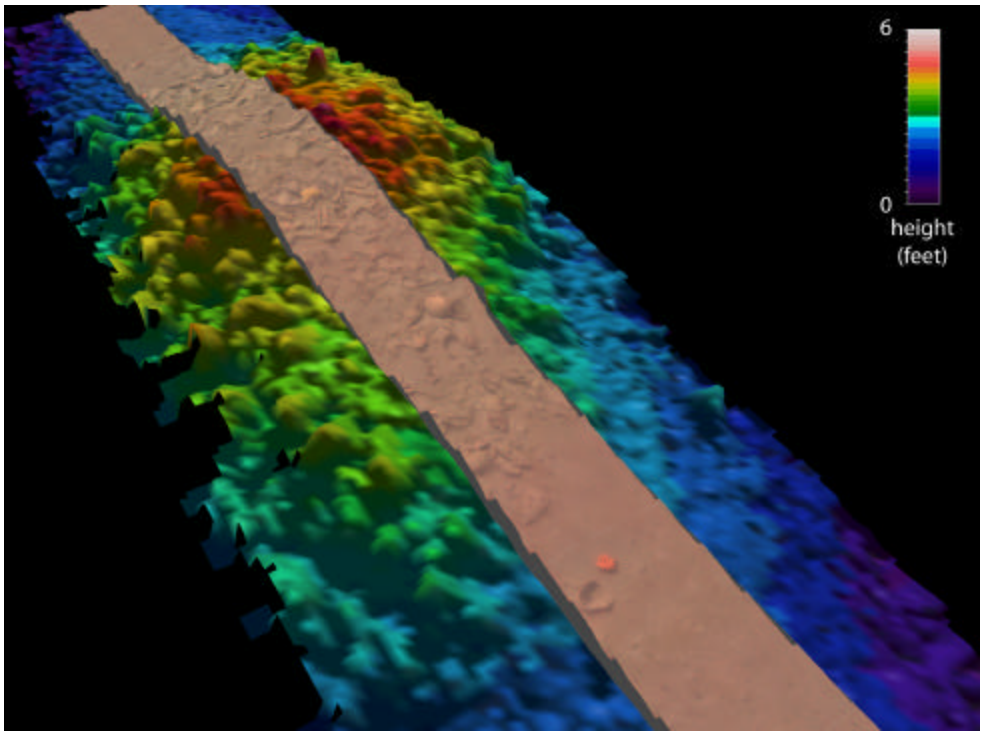
Update from NDSF Data Manager

Photo Mosaics

- **Photomosaic capabilities**
  - **DSL Matlab-based software available (Pizarro, Ferrini, Singh)**
    - **Simple user interface**
    - **Color or B&W images**
  - **Prototype of geotiff creation functionality enabled.**

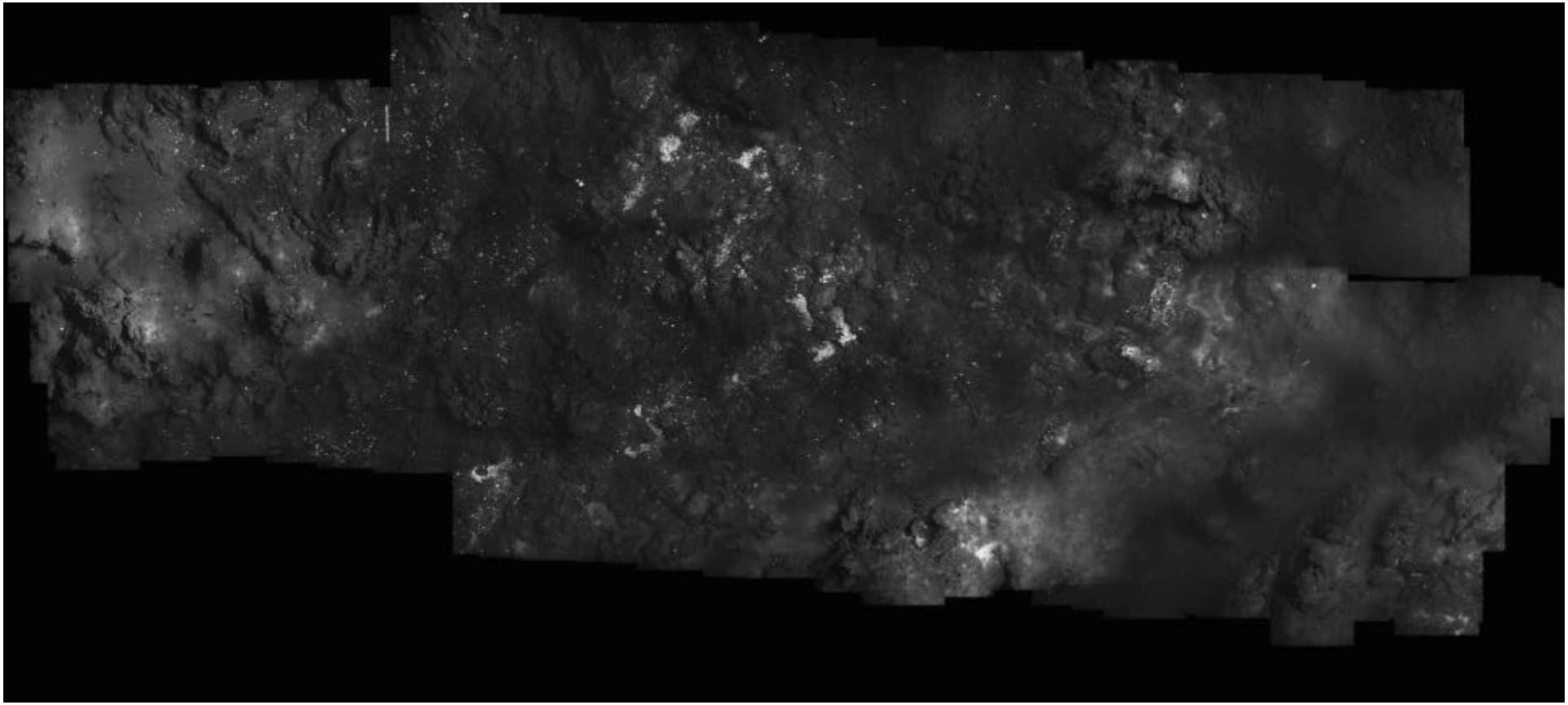




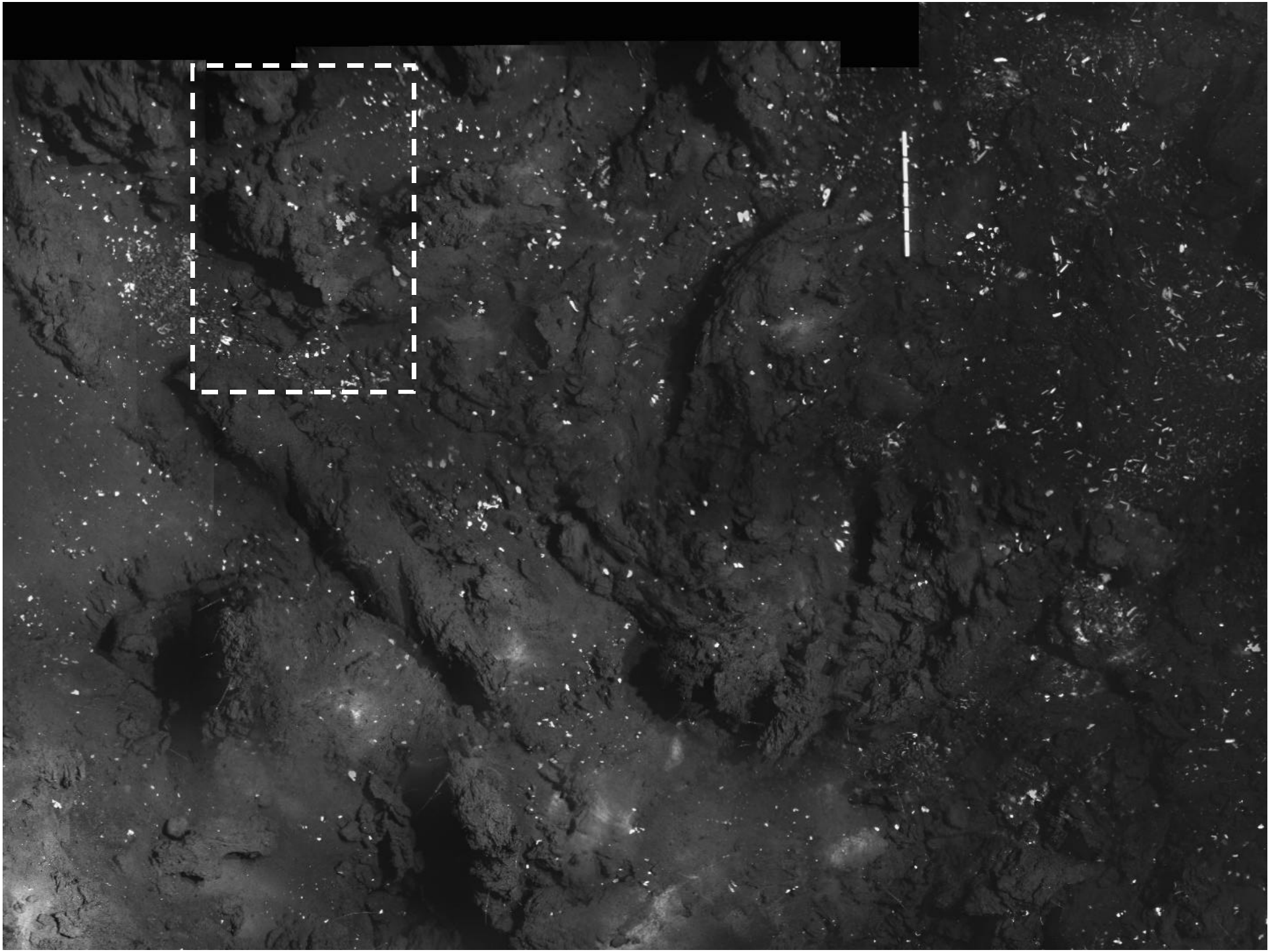


Update from NDSF Data Manager

Photo Mosaics

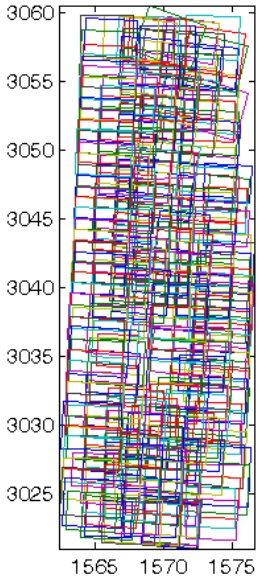


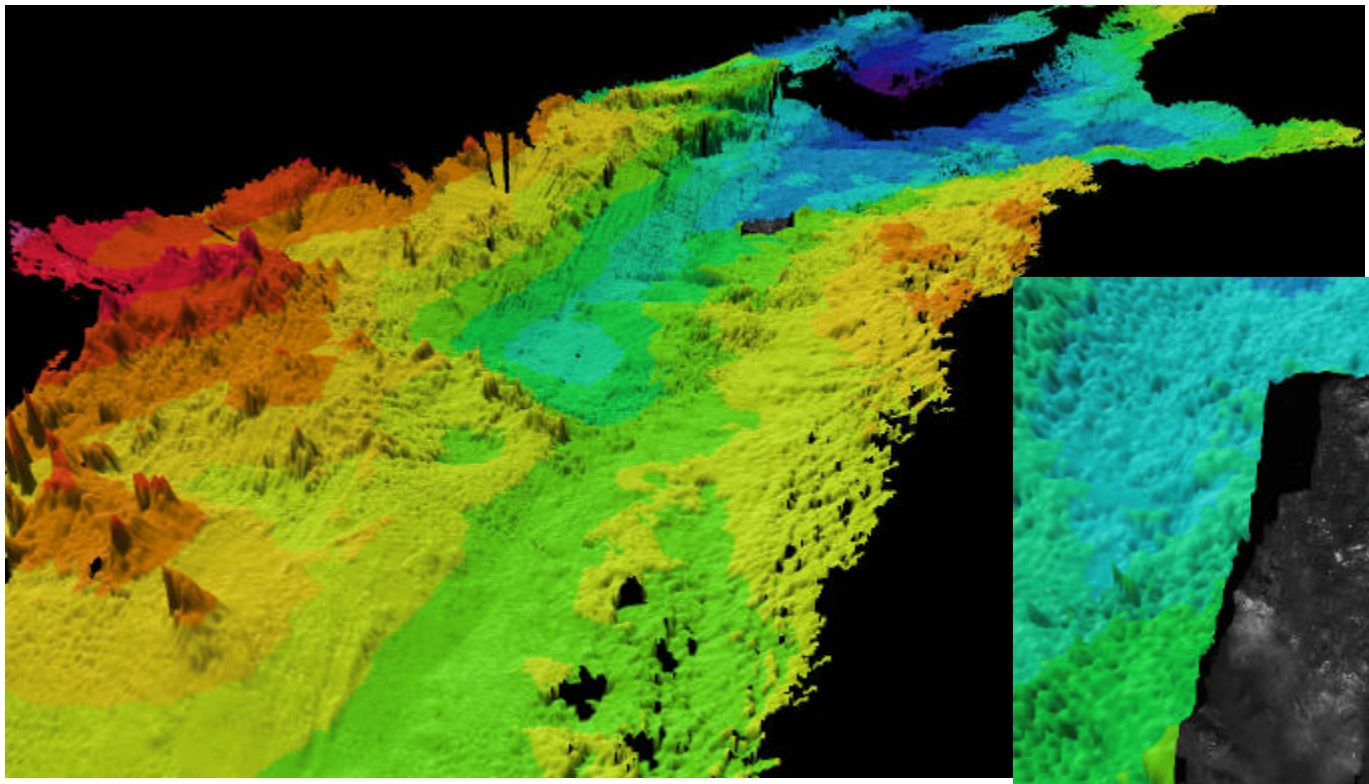
>200 images

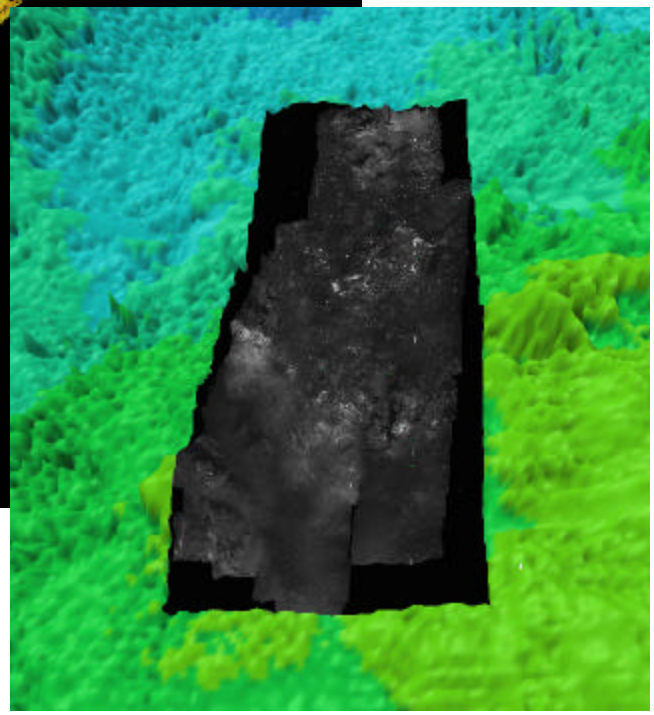


Update from NDSF Data Manager

Photo Mosaics

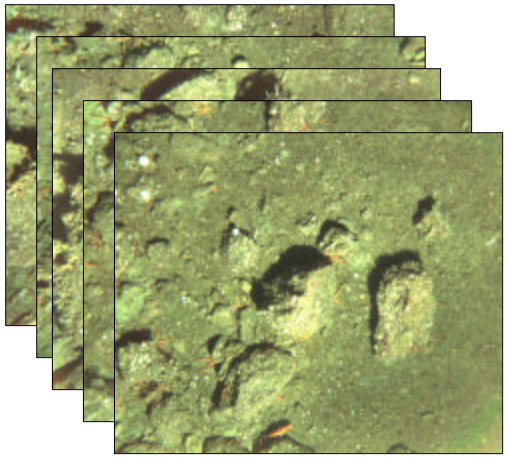






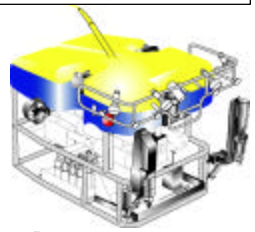
Update from NDSF Data Manager

FISH_ROCK

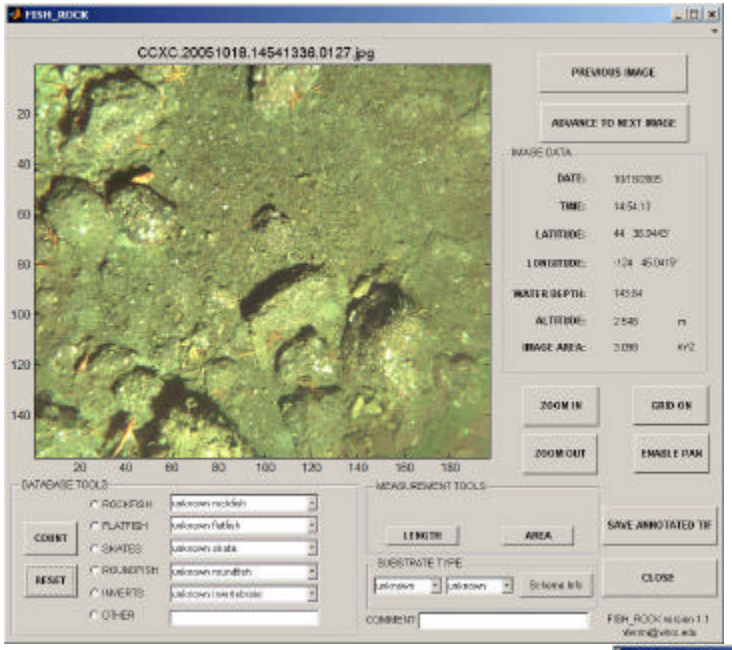


Near-bottom Photos

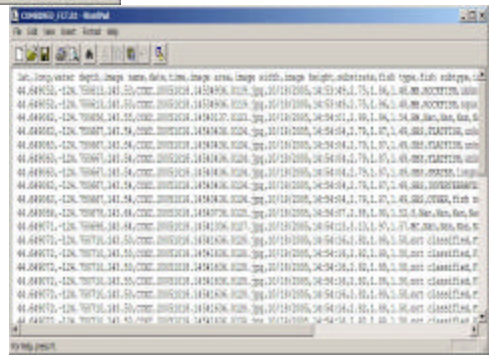
Precision navigation



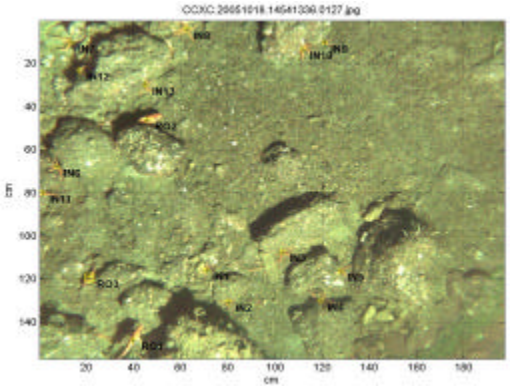
FISH_ROCK GUI



Digital Database (*.fct file)



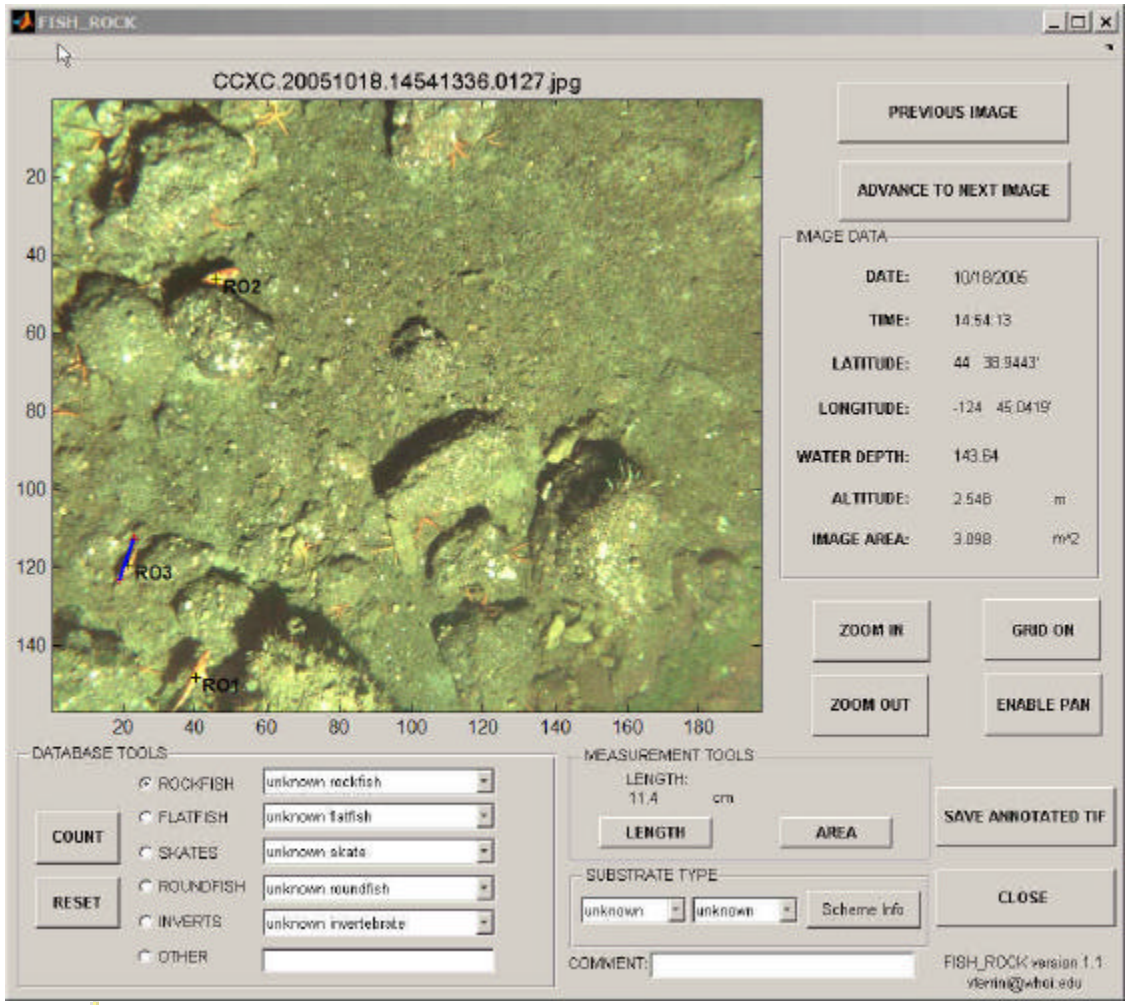
Annotated *.tif files

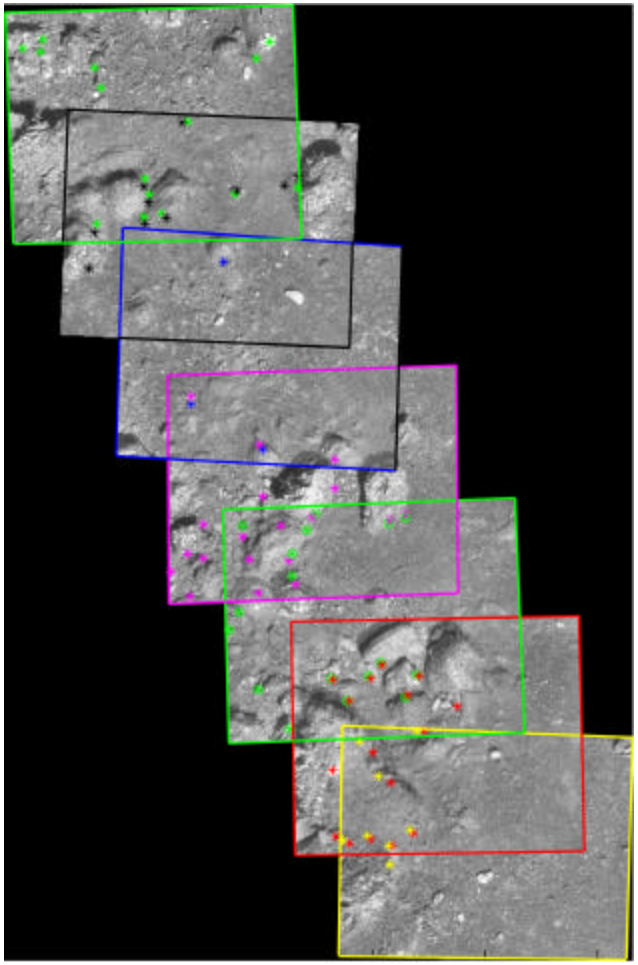


Update from NDSF Data Manager

DESSC
May 2006

FISH_ROCK

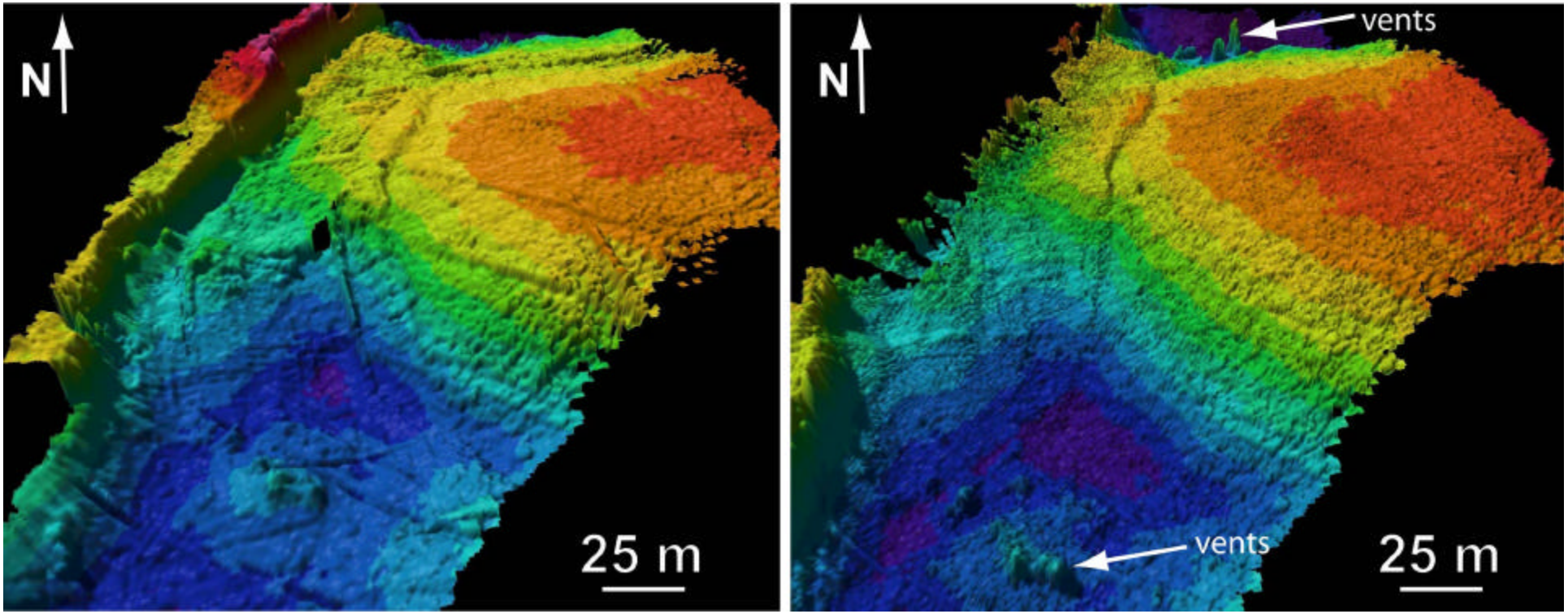




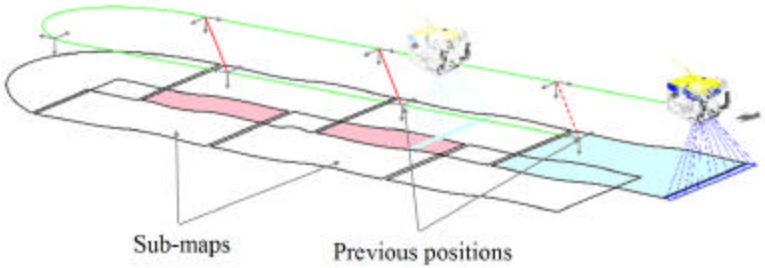
DESSC
May 2006

Update from NDSF Data Manager

Bathymetric Submapping



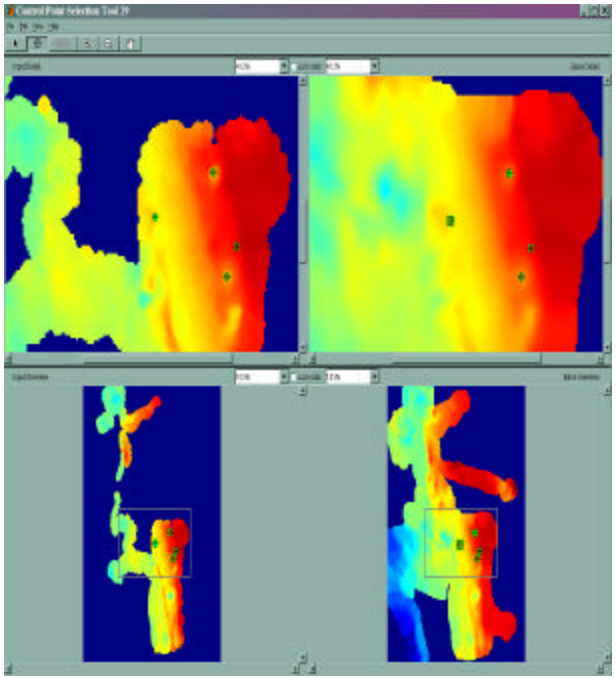
SM2000 survey of TowCam Vent Field – Lau Basin



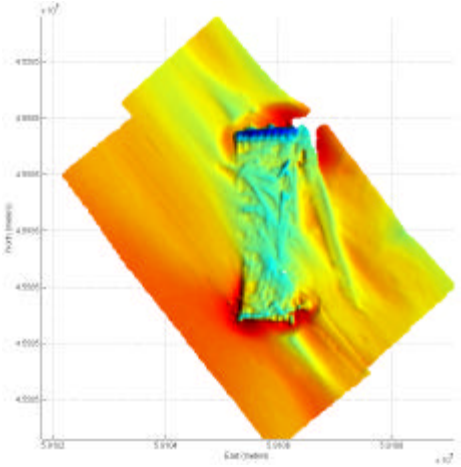
Update from NDSF Data Manager

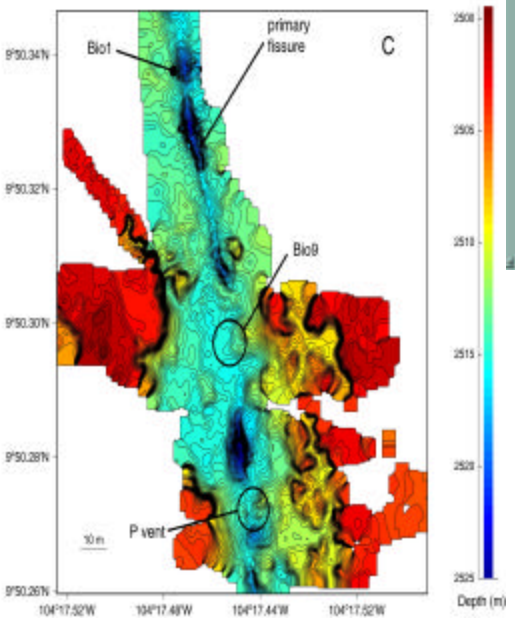
Grid Rectification

- **Created to combine *Alvin* Imagenex data from multiple dives into high-resolution composite maps** *(Ferrini et al., submitted)*



- **Can be used with other data**





Documentation

- ***Jason*** **User Manual** *(in progress)*:
  http://www.whoi.edu/marops/vehicles/jason/index.html
- ***Alvin*** **overlay and video duplication system documentation**
- ***Alvin*** **Imagenex processing documentation**
- **Photo mosaic – WHOI Technical Report** *(in progress)*
- **Navproc - NDSF User Manual** *(in progress)*
- **FISH_ROCK – WHOI Technical Report** *(WHOI-2006-01)*

Future Directions

- **Continued development of existing software tools**
- **Sample position extraction and error estimator**
- **Real-time data display**
- **Survey planning tools**
- **Bathymetry data error estimator (Roman and Singh, 2006)**
- **AUV data**