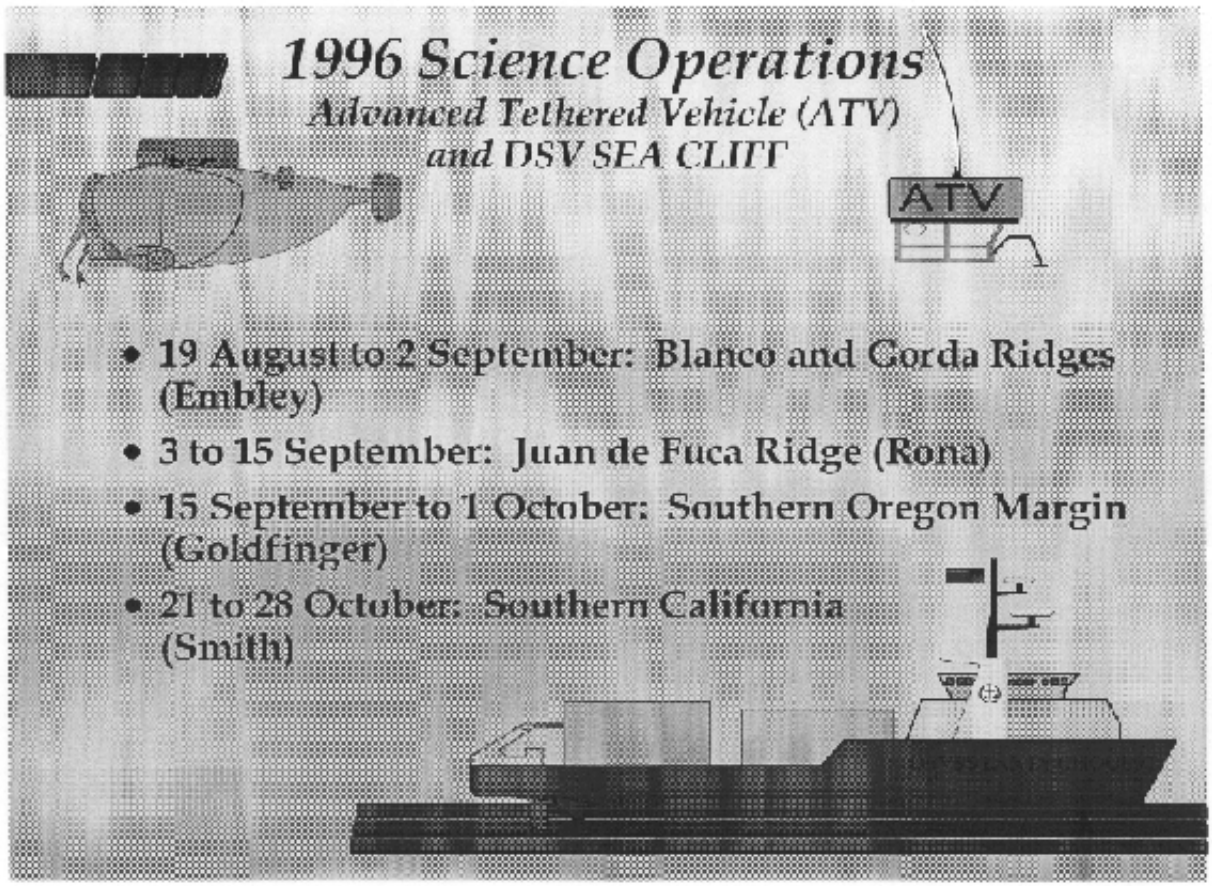
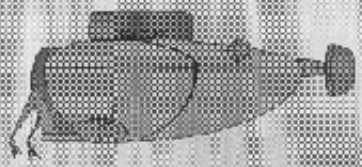
APPENDIX XX

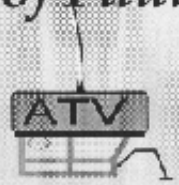
Navy Development Group 1 - Report



Structural Observations of Faults

Southern Oregon Margin
15 September to 1 October



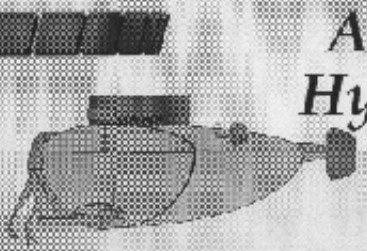


- Dr Chris Goldfinger (Oregon State University)
- Investigation and documentation of strike-slip faulting mechanisms and super-scale slump processes.
- Recovered 46 specimens, 88 hours of video, 522 still frames, 56 hours of SEA BEAM

  -ATV and SEA CLIFF: 11 dives (146 hrs)

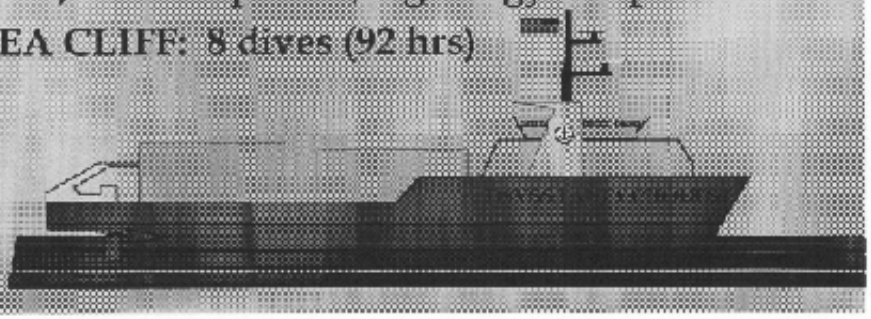
Acoustic Imaging of Hydrothermal Plumes

Juan de Fuca Ridge:
3 to 15 September



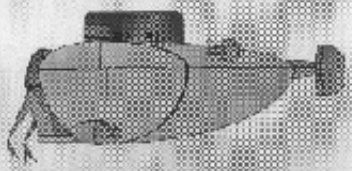
- Dr Peter Rona (Rutgers University)
- Completed engineering testing of Mesotech 971 sonar; to measure flow rates and water temperature fluctuations of black smoker's buoyant plumes
- Conducted 8 hrs of vent plume imaging, collected 41 hours of video, 884 still photos, 4 geology samples.

ATV and SEA CLIFF: 8 dives (92 hrs)



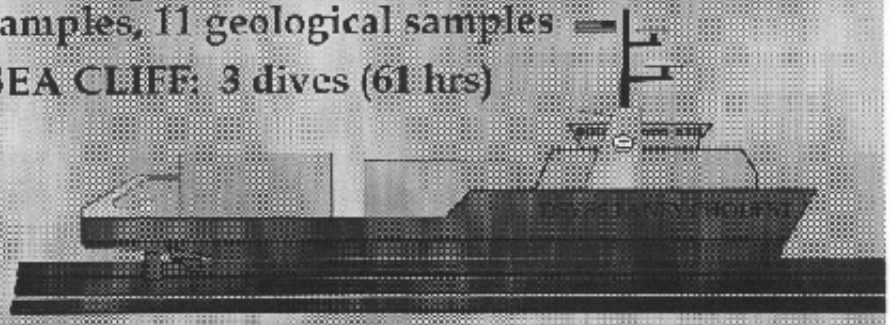
Lava Flow Mapping and Sampling

Blanco and Gorda Ridges:
19 August to 2 September



- Dr Robert Embley (NOAA/PMEL)
- Investigate various processes at Blanco Depression; lava mapping at Gorda Ridge
- 20 hrs of insitu heat flow and water chemical analysis (SUAVE), 32 still photos, 43 hrs video, 3 Niskin water samples, 3 titanium water samples, 6 tube core samples, 11 geological samples

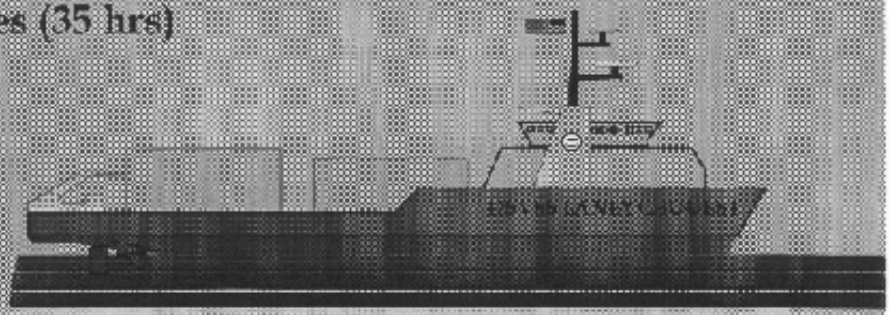
  ATV and SEA CLIFF: 3 dives (61 hrs)



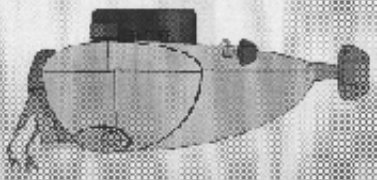
Whale-Fall Communities

Catalina Basin:
21 to 28 October

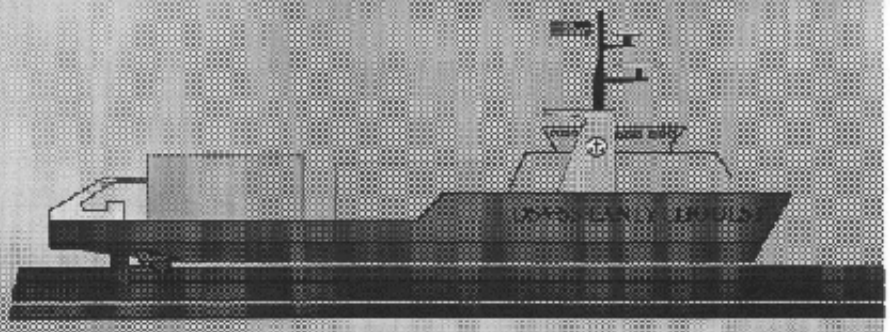
- Dr Craig Smith (University of Hawaii)
- Evaluated the community and population genetic structure of invertebrates associated with whale skeletons.
- Recovered 4 whale bones, 60 core samples, 23 hours of video recordings, 983 still frames.
  ATV: 4 dives (35 hrs)



Summary of Operations

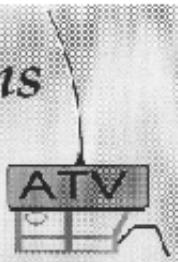


- Total days on station: 25 days (9 lost to weather)
- Depth of operations: 2826 to 12,300 feet
- ATV and SEA CLIFF dives: 26 dives/333 hours
- Total hours of bottom time: 225 hours

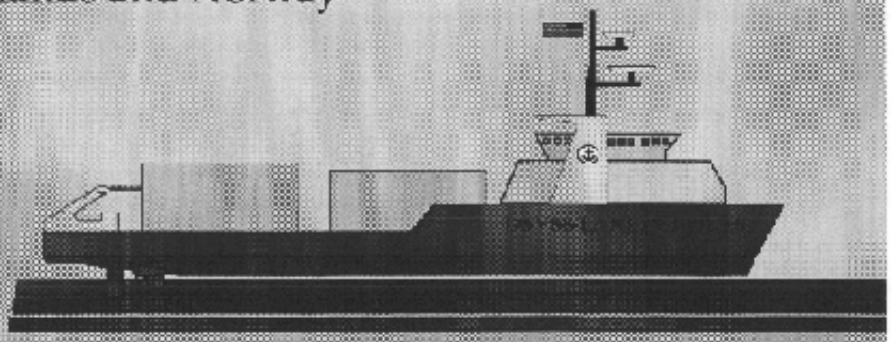


Recent Military Operations

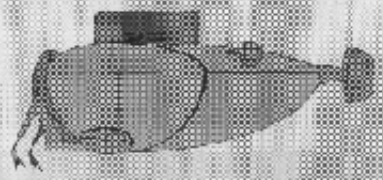
Concurrent with Science Operations



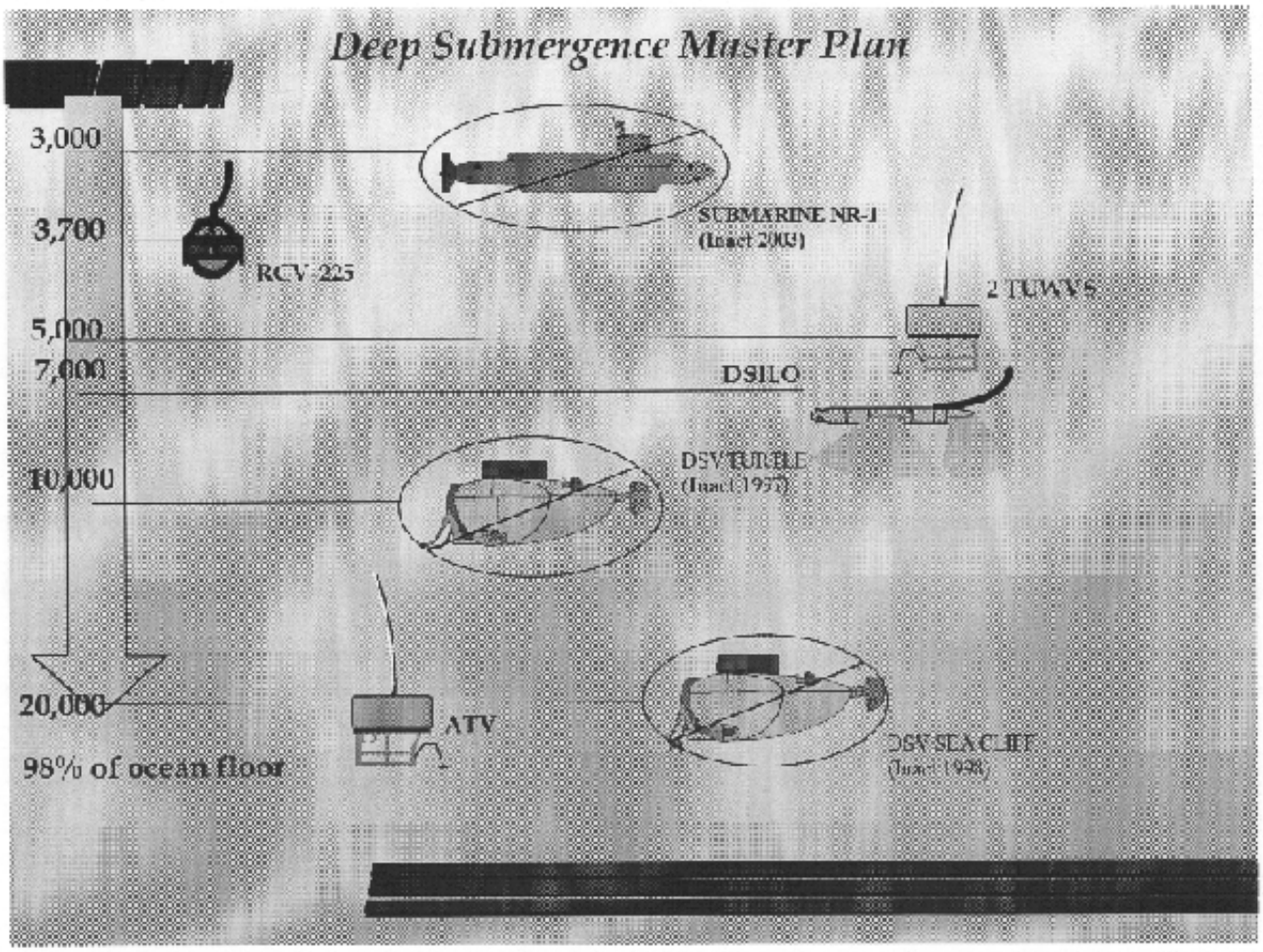
- Coast Guard mishap investigation
- One high value R&D Recovery
- One air-mishap search (HC-130 in progress)
- International (NATO) DSRV Exercise: France Netherlands and Norway



Miscellaneous Upgrades



- **ATV Upgrades**
  - Tether and Telemetry Upgrades
  - New Graphics Computer System
  - Tracking Improvements (dedicated channel)
  - Imaging Sonar (UDI: 200/500 Khz or 500/1000 Mhz)
  - 2 Additional HMI lights
  - New Responder System
- **Winphrog and Nautronix 916 installation**


Deep Submergence Master Plan
3,000
3,700
5,000
7,000
10,000
20,000
98% of ocean floor
RCV-225
SUBMARINE NR-1
(Inact 2003)
2 TUWVS
DSILO
DSV TURTLE
(Inact 1957)
ATV
DSV SEA CLIFF
(Inact 1998)