

# APPENDIX XVIII

## *1995 Science Operations Advanced Tethered Vehicle*

### *DSV TURTLE*

### *DSV SEA CLIFF*

- 28 April to 14 May: Southern California
- 9 to 16 August: Southern California
- 23 August to 13 September: Juan de Fuca Ridge
- 15 to 26 September: Mendocino Ridge
- 1 to 11 October: Juan de Fuca Ridge
- 26 to 28 October: Southern California

## *Whale\_Fall Communities Catalina Basin*

### *29 April - 8 May*

- Dr. Craig Smith (University)
- Investigated significance of whale-fall communities as dispersal stepping stones for sulfide-dependent species
- Recovered 36 vertebrate segments, 41 core and scoop samples, 62 hours of video recordings, 550 still frames
  - ATV: 7 dives (69 hrs)
  - TURTLE: 3 dives (25 hrs)

## *Deep-Sea Brittlestar Fish San Diego Trough:*

### *8 May - 14 May*

- Dr. Gordon Hendler (Natural History Museum of Los Angeles)
- Interpretation of Brittlestar behavior pattern
- Recovered over 100 specimens, 65 hours of video, 950 still frame
  - ATV: 5 dives (59 hrs)
  - TURTLE: 4 dives (23 hrs)

## *Submarine Canyon Studies La Jolla Canyon*

### *9 - 16 Aug*

### *26 - 28 Oct*

- Drs Paul Dayton and Eric Vetter (Scripps Institution of Oceanography)
- Study to Assess the Importance of Submarine Canyons as Hot-spots of Secondary Production
- Collected 92 tube and box core samples, 9 Niskin samples, 81 hours video, 1650 stills
  - ATV: 11 dives (76 hrs)

- SEA CLIFF: 9 dives (35 hrs)

### *Hydrothermal Microhabitats*

#### *Juan du Fuca Ridge:*

*23 Aug to 13 Sep*

*1 Oct to 10 Oct*

- Dr Cindy Lee Van Dover (University of Alaska)
- A snap shot approach to sampling dominant invertebrate
- Collection of 3 Niskin samples, 22 recruitment arrays, 52 hours of video, 2700 still photos, 14 boxes of invertebrates
- - ATV: 6 dives (39 hrs)
- - SEA CLIFF: 7 dives (55 hrs)

### *Mendocino Ridge Studies*

#### *Mendocino Ridge:*

*14-26 Sep*

- Dr Martin Fisk (Oregon State University)
- Ridge's Impact on the Surface Circulation of Pacific Ocean
- Conducted 120 hours of SEA BEAM, 92 rock samples, 22 biological samples, 1500 still frames, 52 hours of video
  - ATV: 4 dives (51 hrs)
  - SEA CLIFF: 4 dives (33hrs)

### *Summary of Operations*

- Total days on station: 40 days (4 lost due to weather)
- Depth of operations: 923 - 10,500 feet
- TURTLE dives: 7 dives/48 hours
- SEA CLIFF:dives: 20 dives /123 hours
- ATV dives: 33 dives/294 hours (longest: 37 hours)
- Total hours of bottom time: 215 hours

### *Recent Military Operations*

- Coast Guard mishap investigation
- Three high value R&D Recoveries
- F-14 and F-18 air Mishap Boards
- SEAL Delivery Vehicle (SDV) search in Hawaii
- Training Minefield Surveys
  - \*\* Over \$60 million of recovered hardware
  - \*\* Over 500 hours of ROV bottom time

### *Science Related Initiatives*

*(including WHOI/MPL support)*

- Lighting studies/upgrade for ATV and SCORPIO ROV's
- SEA BEAM post processing system
- Integrated data logging

- ATV tether and telemetry upgrades
- Tracking upgrades (WINPHROG/N-916)
- Video frame grabber
- MARSAT E-mail