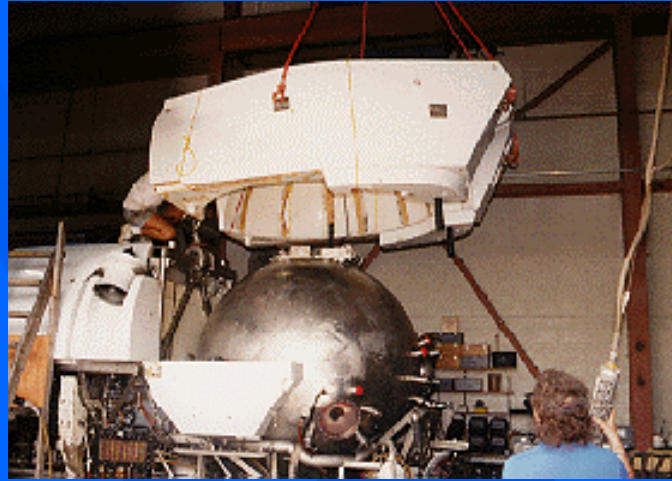


2001 ALVIN Operations



- **169** Operating Days
 - **71** Dives
 - **2585** m Average Depth
 - **7.7** hrs Average Dive Duration
 - **4.5** hrs Average Bottom Time
 - **16** Dives Lost (4 weather, 12 mechanical)
- ✓ *6 months of ops post-overhaul*
- ✓ *Numerous improvements to sub and science systems/sensors*



2001 ROV Operations



➤ 29 Jason lowerings

- 850 hrs. in water
- 731 hrs. bottom time
- Longest: 112 hrs on bottom

➤ 21 DSL-120A lowerings

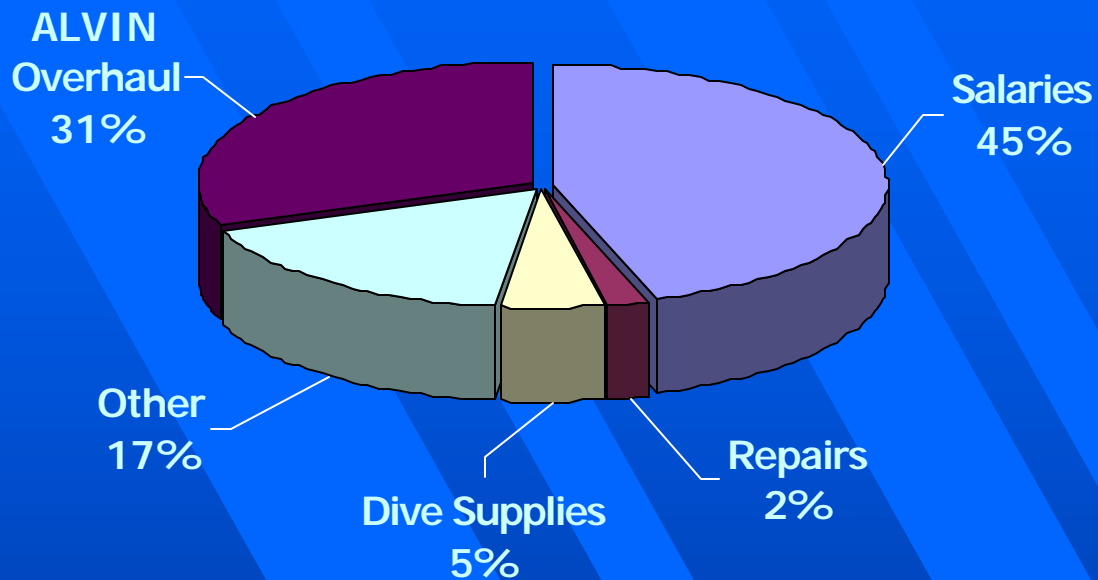
- 419 hrs. in water
- 361 hrs. bottom time (collecting data)
- Longest: 71 hrs. on bottom

- ✓ *Last original Jason and DSL-120 deployments*
- ✓ *Jason I is being retired after spending 3,750 hrs on bottom surveying nearly 1,000 miles of seafloor*
- ✓ *New DSL-120A used successfully on two cruises*
- ✓ *Collaboration with Hawaii Mapping Research Group (HMRG) on DSL-120A sonar system and data processing/display*



National Deep Submergence Facility

2001 Operating Costs: \$4,172,649



- 9 ALVIN/ROV science voyages
- 4 Vehicles
- 16 Operations personnel
- 14 Engineering/mgmt personnel



2001 ALVIN Overhaul

Completed Improvements

- ✓ Gyro replacement (OCTANS)
- ✓ Doppler navigation system
- ✓ Color LCD touchscreen computer monitors
- ✓ Digital video recording
- ✓ Video camera upgrades
- ✓ CTFM sonar replacement
- ✓ Computer system replacement
- ✓ Acoustic modem installation
- ✓ Improved observer ergonomics (legroom, lighting, video controls)



2001 ALVIN Overhaul (cont.)

Improvements In Progress

- Data logging & display software
- Video overlay process for dupe stations
- Imagenex profiler integration
- Hard mount pan and tilt controls
- Acoustic modem integration
- Force-feedback manipulator
- Exterior still camera digital replacement

