

# MBARI DESSC Report

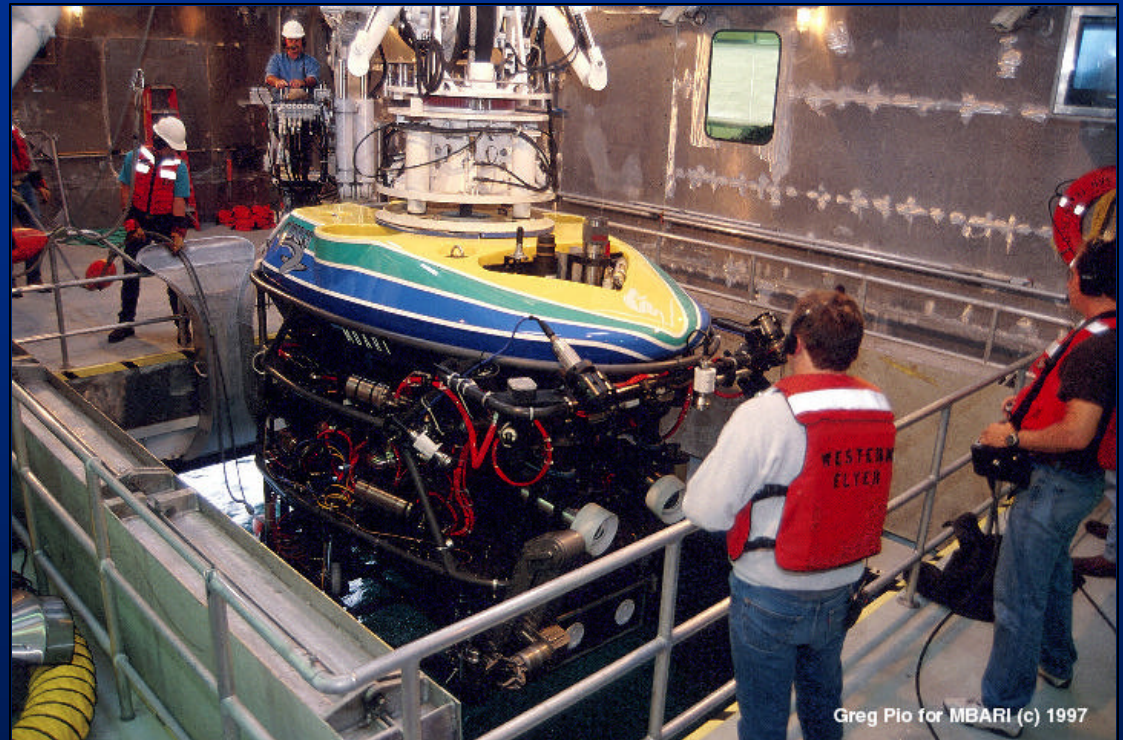
Monterey Bay Aquarium Research Institute

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# Western Flyer / Tiburon System

- Specifications
  - 4000 meters
  - 15kW
  - 1500/450 lb. payload
- Planned upgrades
  - HDTV camera system
  - Increase power to 25kW
  - 2007 vehicle overhaul or replacement.



Greg Pio for MBARI (c) 1997

# Western Flyer / Tiburon System

## 4000 meter

- 2004
  - 169 days away from home port.
  - 126 dives completed.
  - 14 days lost to WF main motor rebuilds
  - No dive days lost to ROV problems (one weather day).
- 2005
  - 164 days away from home port.
    - 136 project days
    - 14 shipyard days (four science days given up to extend shipyard period).
  - No dive days lost to ROV problems to date.



# Tiburon Major Expeditions

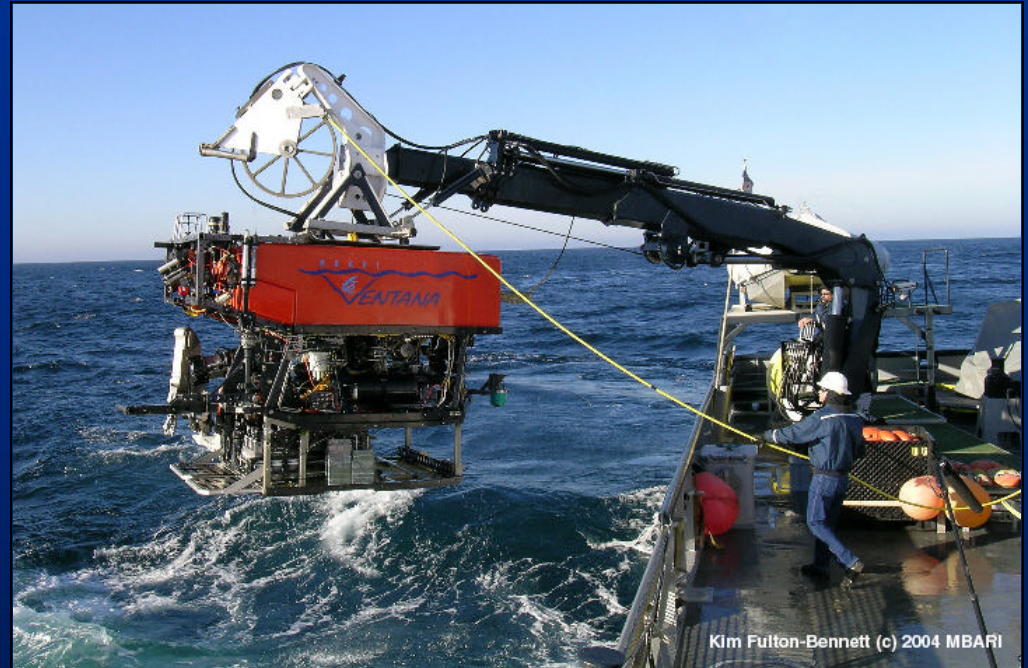
- 2004 July to August - Juan de Fuca complex.
- 2005 July to August – Back to Juan de Fuca complex.
  - Orphan, Levin, Chadwick and Clague

## Outside Ship/ROV Funding

- Year 2004
  - NURP: 20 ROV days on Western Flyer/Tiburon
  - 4 ROV days Pt. Lobos/Ventana.
- Year 2005
  - NURP: 21 ROV days on Western Flyer/Tiburon

# Pt Lobos/Ventana System 1850 m

- 2004
  - 154 at sea days scheduled.
  - 134 dives completed.
    - 3 days lost to ship problems
    - 3 to ROV problems
    - 6 to weather.
- 2005
  - 166 ship sea days scheduled.
  - 59 dives completed to date.
  - One dive day lost to ROV umbilical failure.





# Zephyr & AUV Operations

- Zephyr Operations
  - 2004 days scheduled
    - 141 total sea days
  - 2005 days scheduled
    - 135 total sea days (67 AUV missions, 20 mooring maintenance)
- AUV CTD Operations 2005 to date
  - Lost days (mishaps) – 1
  - Ryan Plume Surveys – 4 Days (80 km)
  - CTD Transects – 12 Days (372 km)
  - At-sea Test days – 1 Day
  - Total days operated : 17
  - Total km traversed : 452 km

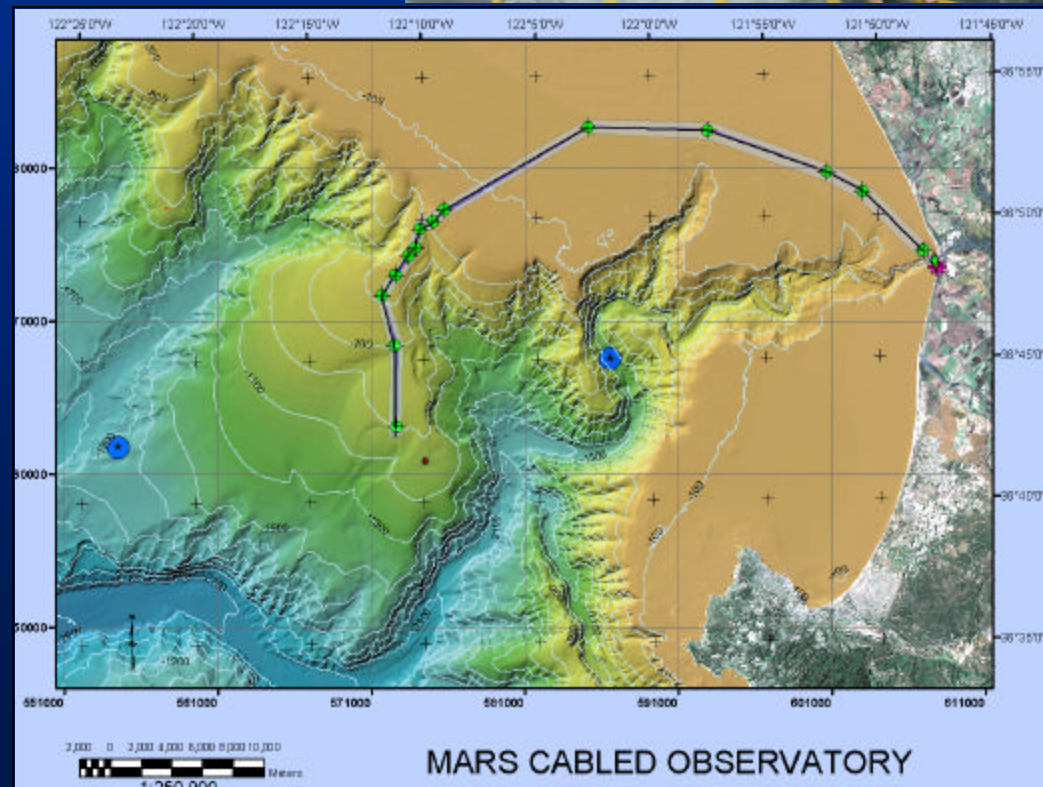


# MBARI's Observatory Development Programs



## MARS

- NSF funded project.
- U of W, JPL, WHOI, and MBARI.
- 62 km sea cable.
- Single instrument node in approximately 900 meters depth.
- Subsystem testing underway.
- Installation planned for 2005/2006.



Monterey Accelerated Research System (MARS)



# MBARI's Observatory Development Programs cont.



- Portable mooring system.
  - Electro-optical cable connection to seafloor.
  - Cable survivability work NSF funded.
  - Riser cable design collaborative project with WHOI.
  - 40 Watt power system.
  - Analyzing results of 1 year field trial.
  - Science field trial planned deployment October 2005.

