

Outline

- NSF-OCE budget overview.
- Brief Background.
- Response to NRC “Future Needs in Deep Submergence Science” report.



Background

- This response was discussed within OCE and with NOAA and ONR representatives.
- Important to distinguish between OCE science/facility operations accounts, and those funds we are required to set aside within OCE budget to fund midsize infrastructure projects (loosely defined as projects costing on order of \$20-25M).
- Comparatively small infrastructure projects such as Jason-2 and HROV are funded through science/facility accounts.
- Report points out that NSF and other NDSF sponsors will need to increase funding for deep submergence operations at 10-15 percent over the next 3 years – Not likely to happen.



NSF should establish a small pool of funds on the order of 10% of the annual NDSF budget that could be specifically used to support the use of non-NDSF vehicles for funded research when legitimate barriers to the use of NDSF assets can be demonstrated.

- We accept this recommendation and with the following caveats:
 - Emphasis on the phrase “on the order of 10% of annual NDSF budget”
 - Emphasis on the phrase “when legitimate barriers can be demonstrated”
 - When operated on a UNOLS vessel.
 - When OCE and other agency budgets are back in a growth mode, i.e. not this year and possibly not next year.
 - For human-occupied vehicles, when inspection/safety requirements are developed (Dolly will discuss).



NSF/OCE should construct an additional scientific ROV system dedicated to expeditionary research.

- Not in the near future (next couple of years), because
 - We cannot yet afford to operate a second vehicle.
 - Surge capability (up to 60 days per year) is available through ISIS barter, and this should handle short-term needs
 - We want to determine what type of ROVs will be required for ORION, as there may be cost savings if NSF purchased and then operated more than 1 new vehicle.
 - We are also evaluating options to enhance Jason II, along the lines recommended by the report.



NSF/OCE should consider basing a second ROV system at a second location [probably on the West Coast].

- Reasonable recommendation, and we will consider this at the appropriate time.



NSF/OCE should construct a new, more capable HOV (with improved visibility, neutral buoyancy capability, increased payload, extended time at working depth, and other design features).

Thus, constructing an HOV capable of operating at significantly greater depths (6000+ meters) should only be undertaken if additional design studies demonstrate that this capability can be delivered for a relatively small increase in cost and risk.

- Accept these recommendations with the following caveats
 - New HOV is a **replacement** for ALVIN, not an **addition** to the fleet.
 - Owing to the risks discussed in the report (and to take advantage of funds OCE sets aside for midsize infrastructure projects) NSF may start sphere development before we make a decision on a new ROV.

