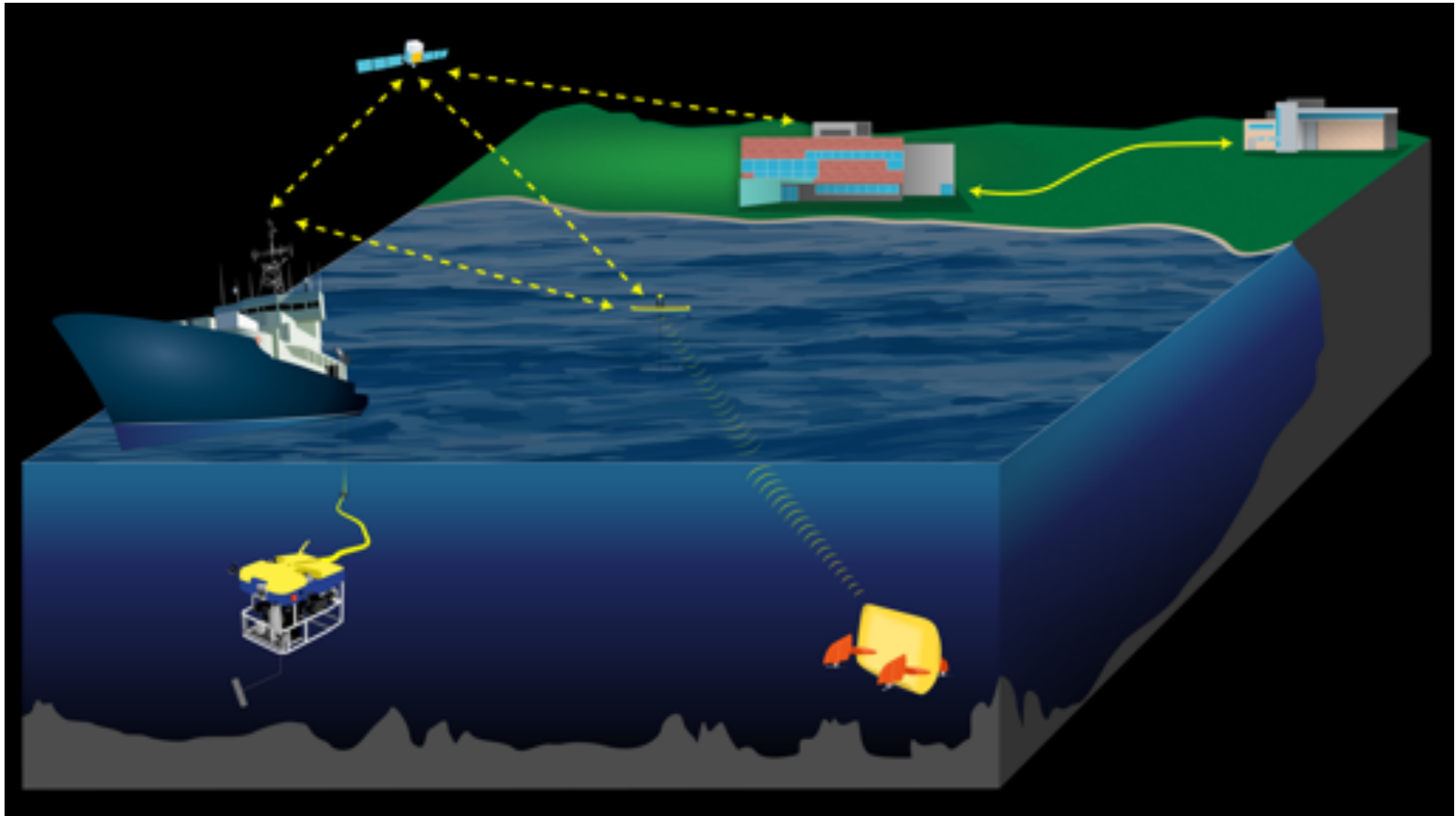


DeSSC Subcommittee on Telepresence



DeSSC Subcommittee on Telepresence

- Participants

- Chris German, Chair
- Amanda Demopoulos - DeSSC
- Dave Emerson – DeSSC
- Nick Hayman – DeSSC

- Amanda Netburn – NOAA OER
- A-L Reysenbach – DeSSC Chair
- Pete Girguis – Past DeSSC Chair

- Participants

- Jon Howland - NDSF
- Carl Kaiser - NDSF
- Matt Heintz - NDSF
- Bruce Strickrott - NDSF

- Dwight Coleman – URI/ISC
- Annette de Silva - UNOLS

DeSSC Subcommittee on Telepresence

Provide guidance to scientists interested in using telepresence for deep submergence research

[Report to DeSSC ± Deep Sea Res Instruments & Methods Paper]

- Telepresence-enabled science missions
- Modes of operations
- Expectations
- Operational perspectives
- Limitations
- End Products
- Time management
- Logistics
- **Recommendations**

Case Studies: Modes of Operation

1. ROV Operations
 - 1a) Science Lead at sea; Shore Scientists co-located
 - 1b) Science Lead at sea; Shore Scientists distributed
 - 1c) Science Lead on shore; Facilitator at sea; Shore Scientists co-located
 - 1d) Science Lead on shore; Facilitator at sea; Shore Scientists distributed

2. AUV Operations
 - 2a) Science Lead at sea; Shore Scientists co-located
 - 2b) Science Lead on shore; Facilitator at sea; Shore Scientists co-located

3. Night Programs (swath mapping, CTD casts & tow-yos)
 - 3a) Science Lead at sea; Shore Scientists co-located
 - 3b) Science Lead on shore; Facilitator at sea; Shore Scientists co-located

Report Status

- 2017: Meetings to Capture State of the Art completed.
- 2018: First draft of report, suitable for publication, generated.
 - feedback from co-authors in hand (version control)
 - new graphics developed to illustrate key points
 - final round of text iteration is now in progress
 - final priority is to hone *Recommendations*
- 2019: Finalization of report and submission for publication (DSR)

Working Recommendations (1 of 3)

- 1) Done well, telepresence is sufficiently beneficial to be worth pursuing
- 2) Effective telepresence requires detailed advanced dive planning
 - NDSF dives only benefit from the same discipline
 - i.e. this should not be a burden to any NDSF PI**
 - for Sentry => mission planning is a requirement
 - for Alvin => detailed dive planning is already established best practice
 - for Jason => can only make for more effective dives
- 3) Effective telepresence for research requires **two-way** communications:
 - Shore-to-Ship communications as well as Ship-to-Shore.
 - Situational awareness is critical - on shore access to navigation
 - Implementation: band-width (cheap), dedicated personnel (not cheap)?

Working Recommendations (2 of 3)

4) Effective use of telepresence remotely:

- working effectively from home laboratory will benefit from a progression:
 - experience at sea
 - experience in a structured on shore environment
 - cruise participation / direction from home laboratory telepresence center



Working Recommendations (3 of 3)

5) Implementation of telepresence for research:

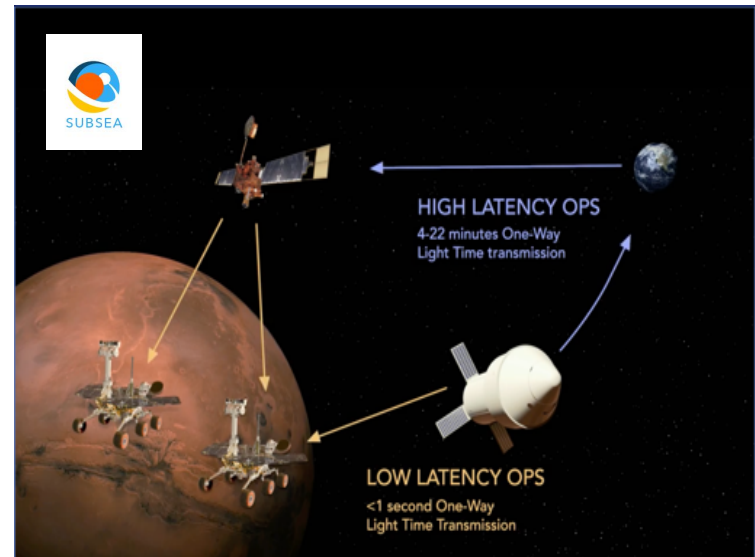
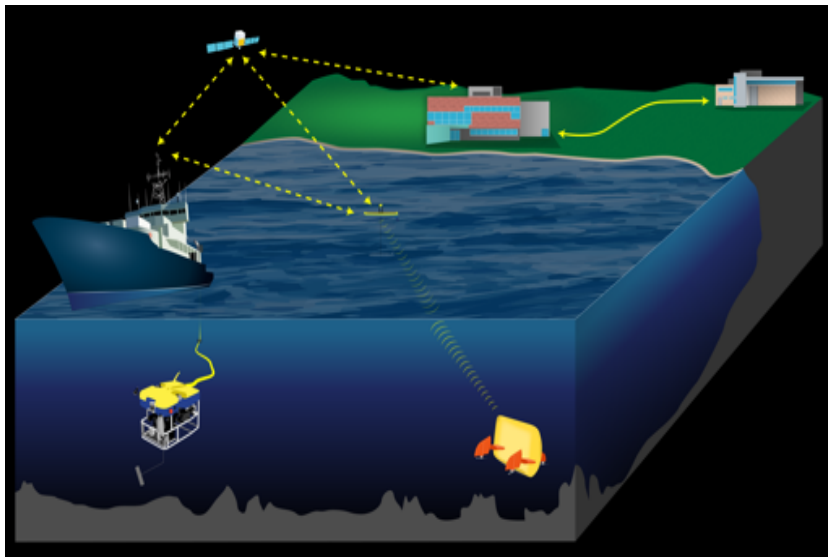
- easiest path for new PIs: restrict *shore-participation* to "by invitation only".
- simple extension of established selection for *shipboard* cruise participants.

6) Raising *awareness* of what telepresence can offer:

- NOAA-OER and OET to keep UNOLS office informed so that...
- DeSSC mailing list can be used to broadcast to **this** community

- Forthcoming EX & NA cruises and participation options (on shore, at sea)
- Opportunities for future cruise and program development

Footnote.... Capturing A Moving Target



Questions?

