

DESCEND 2 ACTION

- **Goal:** To build on the DESCEND2 report with timely actionable and new directions for future interdisciplinary programs in deep-sea research.
- **Anticipated Outcomes:** Stimulate and enable interdisciplinary collaborations and networks, gain insights into challenging problems in deep-sea research that we can rally around, identify steps (e.g., a series of workshops, a Research Coordination Network) for our community, identify heroes willing and able to advocate for new opportunities.

The Grand Challenge

- You have **unlimited resources**; build an interdisciplinary team to address and **implement** an ambitious outstanding question (*or problem*) in deep-sea science (i.e. don't be constrained by current capabilities!, think convergence).
- Each breakout group, about 10 people
 - 1 designated Chair... moves the discussion on, and keeps on track
 - Co-chair (a new user) to assist chair
 - Assign a rapporteur in your group. Rapporteur takes notes, and reports back in plenary

Example type questions:

- what is the geological, geophysical and biological connectivity, extent and dynamics of globally distributed seamounts?
- Questions about the poorly accessed polar regions, the biological and geological connectivity between arc volcanos and backarc basins etc etc.?
- What are the expressions of deeper earth volatile (esp. Carbon) exchange with the oceans and atmosphere that can be quantified with deep submergence?
- hadal environments?
- Can we develop an integrated dynamic model of the chemical, biological and geological interactions along deep ocean seamounts?

All groups to answer these 4 bullets

- What are the significance and societal impacts of this goal?
- What is needed to accomplish (**implement**-timely and measurable) the ambitious goals?
 - Consider existing technologies that could be expanded
 - Consider new technologies that will need to be developed
 - Maybe consider types of submergence data that will be needed
- What new interdisciplinary/cross-disciplinary opportunities could potentially emerge?
- What potential challenges could be encountered?

- Polar ocean environments in a changing world
 - moderator -Chris German
 - Cochair: Catherine Walker
- Out new and evolving understanding of seamounts and seamount processes
 - Moderator – Amy Baco-Taylorco
 - Cochair Kirsten Meyer
- Interdisciplinary understanding of fracture zone environments
 - Moderator – Nick Hayman
 - Cochair –Justin Estep
- Advancing understanding of global fluxes of gases from the seafloor
 - Moderator – George Luther
 - Co-chair Adam Skarke
- The temporal and spatial scales of the processes that link the seafloor, water column and atmosphere
 - Trish Gregg
 - Co-chair Oliver Ashford