Dear Colleagues:

A new international project has been proposed called the Global Seamounts Project (GSP), to intensively survey a range of 18 seamounts in the Atlantic, Pacific and Indian Ocean basins, over eighteen expeditions beginning in 2019 and continuing through 2023. The project will generate standardized sets of intercalibrated, multidisciplinary field data over the survey range to develop a new ecosystem model for seamounts. The project was collaboratively developed by a team of seamounts scientists and ecosystem modelers and is inviting scientists from a wide range of disciplines and regions to express interest in participating.

Each expedition plans to survey 2 seamount systems, with about half of target sites surveyed over multiple seasons for temporal resolution, resulting in a total of 36 site surveys. For re-visited sites, the initial science plan facilitates a range of leave-behind instruments as needed (to be determined).

The project is unique in several ways: 1) it involves collaboration at the outset of the project between ocean scientists and seamount specialists from all disciplines, with the ecosystem modeling community, to jointly develop the scope and resolution of data needed to develop new computer models of complex ecosystem function for seamounts; 2) the project will be run along two "tracks", in tandem: a) the multidisciplinary field expedition and data processing work, and b) the biophysical modeling work, which will facilitate feedback and "real time" adjustments over the project duration; and 3) the MARV research vessel model of mobilizing chartered global-class vessel platforms for scientific research will be utilized to provide the at-sea capacity required, when and where it is needed, for the intensive level of research proposed (see www.global-oceans.org for more information about MARVs: Modular Adaptive Research Vessels).

The final phase of the project will integrate elements of three principal existing ecosystem models (Atlantis, OSMOSE and OSIRIS) run simultaneously with common project datasets, into a new Integrated Seamount Ecosystem Model (ISEM), together with physical/fluid dynamics modeling, as a new tool for modeling and exploring how seamount ecosystems may behave as complex systems to future environmental scenarios driven by climate change and human impact.

A Working Group structure has been designed to include the breakouts shown in the chart below, and a workshop to support detailed collaborative planning will be scheduled in the near future. The project has a Steering Committee of seven, and a growing Science Advisory Committee (see proposal for committee listings).

CHART 5: WORKING GROUPS

WG1	**Site Selection** (Chairs of WG 2-12)
WG 2	**Microbial Ecology**
WG 3	**Phytoplankton**
WG 4	**Zooplankton/Pelagic Invertebrates**
WG 5	**Fish**
WG 6	**Benthic Habitats/Invertebrates**
WG 7	**Pelagic Mega-Fauna/Mammals**
WG 8	**Biogeochemistry**
WG 9	**Physical Oceanography***
WG 10	**Technologies, Tools & Calibration**
WG 11	**Data Processing & Management**
WG 12	**Ecosystem Modeling*** Sub-group 12A (Atlantis) Sub-group 12B (OSMOSE) Sub-group 12C (OSIRIS)
WG 13	**Integrated Seamount Ecosystem Model (ISEM)** (2 members each from Working Groups 2-12C)

***Note:** WG9 and WG12 to collaborate in establishing underlying physical/structural parameters of the biophysical model. WG9 includes: currents, upwellings, ocean/atmosphere, bathymetry, geophysics, volcanism, and modeling of physical systems.

In addition to new ecosystem models, the project will also provide a legacy of detailed biophysical data on eighteen seamount systems that will be fully mapped and documented as baselines for future monitoring. The studied sites may also provide a basis for establishing future local or regional Marine Protected Areas associated with these systems, supported by improved understanding of productivity, biodiversity,

potential species and community endemism, extent of important biogenic habitat (cold-water coral reefs, etc.) and whether certain systems may be degraded or threatened.

The project proposal is accessible on the Global Seamounts Project section of the Open Science Framework (OSF) website here: https://osf.io/xtg5c/. The OSF is an open-access, collaborative research platform hosted by the Center for Open Science, which is partnering with the project.

You can create a sign-in on the OSF site then enter your comments, ideas, and indications of interest. Go to the *GSP Working Groups* document page to enter your comments. We look forward to hearing from you and welcome interested scientists, post-docs, students and technicians from around the world to participate in this project.

Funding is currently being sought for this project including for workshops, field expedition operations, research, research support, data processing, and modeling - primarily but not exclusively from the private sector (foundations and other private sponsors). Updates and project news will be posted to the OSF site as it becomes available.