

THE OFFICIAL MAGAZINE OF THE OCEANOGRAPHY SOCIETY

Oceanography

CITATION

Koppers, A.A.P., and J.A. Austin Jr. 2019. A history of science plans. *Oceanography* 32(1):25, <https://doi.org/10.5670/oceanog.2019.113>.

DOI

<https://doi.org/10.5670/oceanog.2019.113>

PERMISSIONS

Oceanography (ISSN 1042-8275) is published by The Oceanography Society, 1 Research Court, Suite 450, Rockville, MD 20850 USA. ©2019 The Oceanography Society, Inc. Permission is granted for individuals to read, download, copy, distribute, print, search, and link to the full texts of *Oceanography* articles. Figures, tables, and short quotes from the magazine may be republished in scientific books and journals, on websites, and in PhD dissertations at no charge, but the materials must be cited appropriately (e.g., authors, *Oceanography*, volume number, issue number, page number[s], figure number[s], and DOI for the article).

Republication, systemic reproduction, or collective redistribution of any material in *Oceanography* is permitted only with the approval of The Oceanography Society. Please contact Jennifer Ramarui at info@tos.org.

Permission is granted to authors to post their final pdfs, provided by *Oceanography*, on their personal or institutional websites, to deposit those files in their institutional archives, and to share the pdfs on open-access research sharing sites such as ResearchGate and Academia.edu.

SPOTLIGHT 3. A History of Science Plans

The Deep Sea Drilling Project (DSDP) was foremost exploratory, and science planning was almost ad hoc, yet DSDP legs maximized geographic coverage and resulted in a global array of drill sites. With the advent of the Ocean Drilling Program (ODP), the approach changed toward hypothesis-driven science. New projects were now considered using a peer-review system that evaluated submitted proposals against a science plan. This plan was based on a survey of the international scientific ocean drilling community designed to establish new science themes, challenges, and priorities. From the mid-1980s through 2003, several long-range guiding documents encouraged studies that supported multiple and evolving themes; these included the *Report of the Second Conference on Scientific Ocean Drilling* (1987), *A Record of Our Changing Planet* (1990), and *Understanding Our Dynamic Earth through Ocean Drilling* (1996). Using such documents to guide proposal submission and peer review was deemed highly successful, so the successor program, the Integrated Ocean Drilling Program (IODP), was guided by a new science plan, *Earth, Oceans and Life: Scientific Investigation of the Earth System using Multiple Drilling Platforms and New Technologies, from 2003–2013* (2001). With this plan, the study of microbial life forms in the ocean's substrate became part of the research portfolio, leading to three themes: The Deep Biosphere and Subseafloor Ocean; Environmental Change, Processes, and Effects; and Solid Earth Cycles and Geodynamics.

In the second phase of IODP, during the International Ocean Discovery Program, the number of themes grew to include new research avenues toward better understanding of processes and natural hazards on human timescales. The current science plan (2013–2023), *Illuminating Earth's Past, Present and Future*, contains four themes: Climate and Ocean Change, Biosphere Frontiers, Earth Connections, and Earth in Motion.

Beyond 2023, a new or modified science plan is envisioned; planning for that document by the international scientific ocean drilling community is now underway. New research themes and challenges are again being identified, including, for example, a focus on the habitability of Earth and other planetary bodies; integrated research across the shoreline, including both onshore and offshore drilling objectives; the carbon cycle, sequestration and storage; gas hydrates as a resource; freshwater beneath the ocean; landslides; and more.

— Anthony A.P. Koppers and James A. Austin Jr.

