



MARGINS 2009 Review

2. Progress since the 2004 Mid-Term Review

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In 2004, a major Scientific Review of MARGINS took place, evaluating the first five years of funding and the outlook for the rest of the decade. The Forsyth Review Committee provided a very positive endorsement of the MARGINS approach as outlined in a summary Letter from Program Managers, available on the MARGINS Web Page. The panel also made several important recommendations, specific to each initiative and across the program, which form a guideline for the next several years (see 2004 Review Report). Overall progress within MARGINS is outlined below, followed by responses to specific review recommendations.

Milestones and Developments

Since 2004, the program has grown in several important ways:

- Rapid growth in publication of scientific results, including 4 books (monographs etc.), 6 special issues of journals, several high-profile (Science/Nature) publications, and a large and rapidly-growing volume of regular publications. Publication rates are highest in 2007-2008 in all Initiatives. Recently the Office has started an on-line bibliographic database to help the community follow the publications (www.nsf-margins.org/Bibliography/; see Supporting Documents for complete listing).

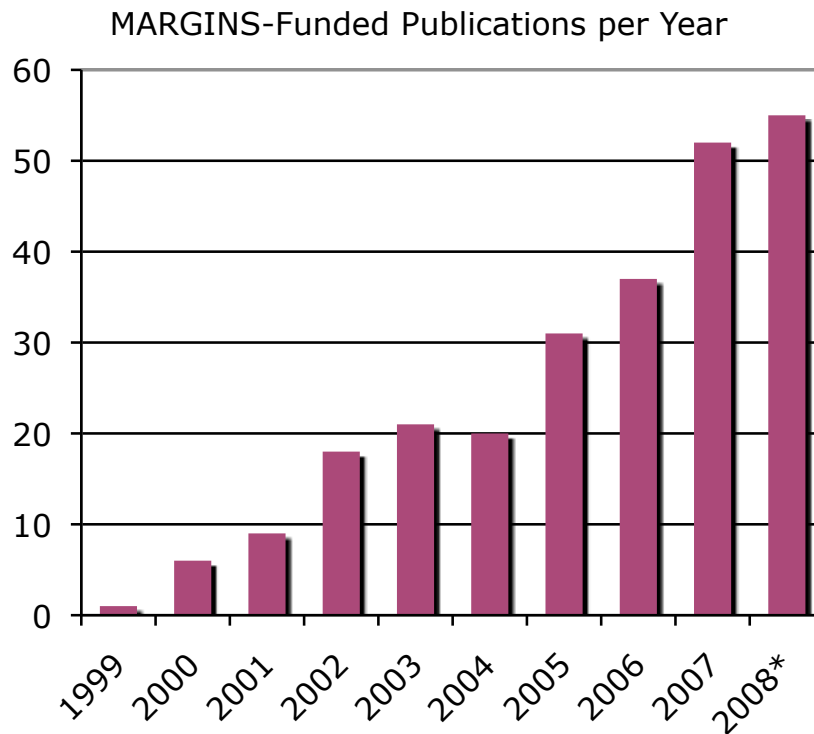


Figure: Reviewed publications of MARGINS-supported research, per publication year, in the MARGINS bibliographic database. Data for 2008 end in September.

- Major workshops now focus on integration of MARGINS results, and planning. These include the 2007 Costa Rica and Izu-Bonin-Mariana (IBM) focus site workshops, the 2008 SEIZE Decade synthesis workshop, planned synthesis workshops for RCL, S2S in Spring 2009, and a proposed Fall 2009 Subduction Volatiles TEI.
- Completion of several major experiments in most focus sites, both onshore and offshore, particularly subduction zones and the Gulf of California. IODP/Chikyu drilling commenced at the Nankai site in 2007 following a 3D seismic site survey, and MARGINS sponsored the first use of the new U.S. multichannel seismic vessel, R/V Marcus Langseth, off Costa Rica in 2008. The MARGINS Steering Committee (MSC) regularly reports on progress and major gaps remaining, both internally and through Newsletter articles.
- The launch of a significant Education effort, largely centered on undergraduate and graduate education. This effort includes a high-demand Distinguished Lectureship Program, Student Forums and competitions at Fall AGU meetings, on-line compilation of lecture material, and a web-based Mini-Lesson program that generates undergraduate course content based on MARGINS research results.
- Continued development of ties to other programs that support major NSF facilities, such as EarthScope, IODP and OOI, as well as GEO-based computational infrastructure (CIG, CSDMS). The MARGINS science goals benefit from increased use of these facilities, and MARGINS can contribute intellectual infrastructure for many relevant onshore-offshore experiments and integrative modeling. The MARGINS Office has helped sponsor joint planning and science meetings with some of these facilities.
- International partnerships at some focus sites have matured, and the program continues to leverage international participation in major scientific projects. For example, a complementary German program in Central America (SFB574) co-sponsored the Site Synthesis workshop, and the Japanese counterparts at IFREE co-sponsored the Izu-Bonin-Mariana Site Synthesis workshop, both in 2007. These programs and several others have provided support letters for this Review (see Appendix). Many major papers from both sites are commonly co-authored by both U.S. and foreign collaborators.
- MARGINS data and metadata are now routinely archived and made available by the MGDS data server (<http://www.marine-geo.org/portals/margins/>) or through links from that metadata to other open servers. Recent international meetings, co-sponsored by MARGINS, have made progress at international data exchange.

Followup on Review Recommendations

Continued balanced funding between Initiatives and NSF Divisions. The MARGINS program has continued to fund both land and sea efforts, as well as some combined efforts. Funding comes from both Earth and Ocean Science divisions, although the vast majority comes from OCE. Recently, co-funding with EAR programs such as EarthScope has increased the presence of EAR support. Within the four initiatives, funding became overall more balanced with some proposals funded in each initiative every year since the Review (see Funding History figure, in the chapter 4).

Integration. The Review Report repeatedly emphasized the need for enhanced cross-disciplinary integration, and the central role in achieving integration played by the MARGINS Office and MSC. Over the last few years MSC has sought ways to foster integration and synthesis, by engaging the

community through Newsletters, Open Letters, discussions at meetings, and other vehicles designed to highlight and direct opportunities for integration and synthesis activities. As listed above, Synthesis Workshops are taking place or are planned for each initiative in 2008-9. New collaborative research projects are being initiated.

Focus Sites. At the recommendation of the Review, the Focus Sites have not changed for the duration of the program. This gave sufficient time for most data collection to occur over the lifetime of the program, in at least some sites. The Red Sea site had become impractical, so was discontinued by NSF shortly after the Review, becoming an Ancillary site.

Management. MSC has maintained its size and representation from all initiatives. Initiative Reviews are now a regular part of all MSC meetings, which keep the Committee informed about recent research progress and monitoring of research gaps. The Data Center has seen major growth from a prototype facility to a central archive including metadata for most MARGINS field campaigns, along with development of access tools. These and other developments are described in chapter 4.

Education Program. The MARGINS Education and Outreach program, including an Advisory Committee, was inaugurated in large part as a response to the Review Report. This effort is summarized above, and detailed in the Education and Outreach chapter of this document.

Initiative-specific recommendations are addressed in chapter 3.

Overall, the 2004 Review provided timely and valuable advice to the program better focusing MARGINS efforts on identified gaps and opportunities.