

2004 Proposal Form – External/Shared Projects (fully or partially funded by an external grant, and MBARI resources are being requested).

Submission Deadlines: Phase I: 8:00 a.m. on August 4th. Phase II: TBD

INTERNAL Project Number: 900424

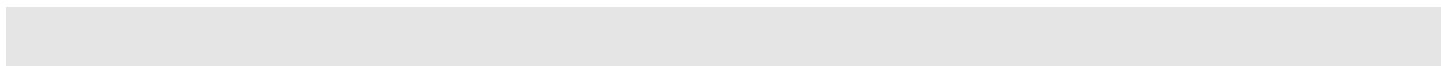
EXTERNAL Project Number: 701107

Project START: Jan 1, **2004**

Project Duration (in years):

Project Manager/PI: David Caress

Project Title: Seafloor Mapping



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1) Abstract (new and continuing projects)

The primary focus of the Seafloor Mapping Project 200107 has been the development of a Dorado-class AUV outfitted with multibeam, subbottom profiler, and sidescan sonars in order to conduct high-resolution seafloor mapping surveys in the deep ocean. We expect that this Mapping AUV will be completed, but not tested, during 2003 (the last year of Seafloor Mapping Project 200107). We propose a new one-year Seafloor Mapping Project to focus on the testing, debugging, and maintenance of the Mapping AUV system during 2004. This project will first take the Mapping AUV through testing and debugging, and then provide the background activities required to make the capability available to other projects. These efforts will also include archiving the multibeam, subbottom, and sidescan data collected and some project-specific development of data processing software (e.g. MB-System).

2) Proposal(Replace this text with proposal text from your external proposal submission)

The primary focus of the Seafloor Mapping Project 200107 has been the development of a Dorado-class AUV outfitted with multibeam, subbottom profiler, and sidescan sonars in order to conduct high-resolution seafloor mapping surveys in the deep ocean. We expect that this Mapping AUV will be completed, but not tested, during 2003 (the last year of Seafloor Mapping Project 200107). We propose a new one-year Seafloor Mapping Project to focus on the testing, debugging, and maintenance of the Mapping AUV system during 2004. We expect to submit a multi-year proposal next year to cover long term arrangements for the maintenance and operation of the Mapping AUV system.

This project will first take the Mapping AUV through testing and debugging, and then provide the background activities required to make the capability available to other projects. These efforts will also include archiving the multibeam, subbottom, and sidescan data collected and some project-specific development of data processing software (e.g. MB-System, which is primarily supported by internal project 900418 and external project 701107).

We expect to spend the first half of 2004 testing and proving the system. This effort will involve a substantial portion of the Seafloor Mapping Team

- David Caress (Science)
- Bill Kirkwood (Core Engineering)
- Mark Sibenac (AUV Lab)
- Hans Thomas (AUV Lab)
- Paul McGill (Core Engineering)
- Rob McEwen (Core Engineering)
- Andy Hamilton (Core Engineering)
- Farley Shane (Core Engineering)
- Richard Henthorne (Core Engineering)

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The system testing efforts will begin in the test tank, progress to deploying the midbody and partial tail on ROV Ventana using the cable laying toolsled, and finally proceed to deploying the full AUV system in Monterey Bay. We request 6 days of Point Lobos / Ventana and 12 days of R/V Zephyr for this sequence of testing.

Science project surveys using the Mapping AUV in either the ROV or AUV context should be scheduled for the latter half of 2004 (e.g. Canyon Dynamics and Continental Margins). MBARI science projects proposing to use the Mapping AUV capability will budget separately for the labor, ship, operational, and data processing expenses of their particular surveys. However, we do anticipate that the AUV lab (Hans Thomas and Mark Sibenac) will participate in all 2004 Mapping AUV field operations.

3) Expense Budget Justification (new and continuing projects)

This project requests engineering and research specialist labor for the testing effort. The “Engineer – Administrative Support” item actually refers to Bill Kirkwood activities as lead engineer.

The ship requests total 6 Point Lobos / Ventana days and 24 total Zephyr days for testing during the first six months of 2004.

The expense requests include hardware spares not already purchased, travel to the Fall AGU meeting for Caress and three other team members, and various other hardware and software items required to support the upcoming field operations.