

901206 Development of a Coastal Profiling Float

Please note that Phase 1 requests exceed available resources:

Direct expenses

Total requests exceed available funds by more than \$1 million and so a reduction of direct expenses during Phase 2 is necessary to balance our overall budget. Please review your budget requests carefully to determine if any savings are possible, and if so revise your budget accordingly. In some cases, Management Team feedback provides specific suggestions/guidance/instructions on reductions for Phase 2, but we expect everyone to help reduce the demand for our limited resources.

Software engineering

Requests for SE time exceed the number of allocable hours by approximately 2 FTEs. Please ensure that requests for SE time have been carefully scoped and, if possible, reduce those requests. Where applicable, prioritize software engineering tasks, and indicate in your response which tasks may be deferred or removed to enable balancing labor resources.

Ship time

Requests for the Rachel Carson and Western Flyer exceed total available ship time by 52 days (26 days for each ship). Support for all requested 12h and 24h days for the Carson (beyond those allocated to the Gulf of California cruise) is untenable. Therefore, please consider how your project might combine ship days with other projects or cut down the number of ship days you have requested.

In addition, many teams requested the Paragon "with operator" which will be challenging to meet since that vessel is not regularly staffed with DMO operators like the Flyer and Carson. Teams that want to use the Paragon are expected to seek certification so they can operate the boat on their own, or coordinate with other certified users to accommodate their needs; do not rely on DMO staff to operate this vessel on an as-needed basis.

Final notes

*Please be sure to update **expense** and **ship** budget changes, as necessary, in the web budget system prior to the Phase 2 deadline (Tuesday, September 9). All **labor** changes should be sent to Mandy Allen directly via email; do not adjust labor requests using the web budget system. Mandy will be making and tracking all changes to labor requests to ensure allocations are appropriately booked, particularly with respect to the Engineering Division reorganization*

(<https://mwww.mbari.org/engr/Documents/Engineering%20OrgChart%20Rev%20Final.pdf>).

(cont'd on next page)

Rating: 2

MT contact: Scholin

Management Team Feedback

General Comments:

Thank you for the update. This is a development that we are very supportive of and have high hopes for. However, we are dismayed that acrimony among the team appears to be hampering progress.

Clearly there are still a number of major issues to address, like keeping a float in a desired volume, reducing power consumption, improving communications, minimizing impacts associated with fouling, before realizing a viable CPF. None of these problems appear to be insurmountable at the present, but it is (not surprisingly) obvious that there remain a number of hurdles that must be cleared before you have a reliable system that is appropriate for larger scale testing.

One key challenge at the heart of this development is that the core control code is still rudimentary and lacks error checking; failure is highly likely for any deployment of significant duration. Engineers at MBARI who are well versed in C# and the associated microcontroller are extremely limited, so meeting the 700-hour embedded SE request is difficult, particularly given that the current team is not functioning well. In an effort to move beyond this impasse, we suggest staffing the SE need via a term employee (Laughlyn Barker). Such term hires are generally not allowed, but given the circumstances we feel this is the only viable path for keeping this project alive.

Given the many challenges that remain to realize a reliable CPF prototype, and given our budgetary limitations, we ask that you defer acquisition of additional parts for another float until issues with the core control code have been resolved, and the other key challenges noted in the proposal have been more thoroughly addressed (or you have a plan for addressing) by way of testing the existing prototypes—concentrate on the minimal work needed to prove the concept.

For Phase 2 please address the following:

Work with Norm Steinberg to develop a job description and associated salary for a term (700h) SE; determine if Laughlyn Barker is available and assess the logistics of his participation. Please let Mandy Allen know of the outcome of those discussions so that she can adjust the labor request accordingly.

Delete expenses associated with building an additional CPF and its contextual sensors.