



EARTH RESEARCH INSTITUTE

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December 11, 2014

TO: Michael Witherell, Vice Chancellor for Research
Tim Cheng, Associate Vice Chancellor for Research

From: David Siegel, Director, Earth Research Institute
Susannah Porter, Associate Director, Earth Research Institute

RE: Earth Research Institute (ERI) External Review

We would like to thank and acknowledge the efforts of the External Review Committee, the Office of Research, and ERI participants in this process. This was a good experience for our unit, providing an opportunity to re-visit items addressed during the formation of ERI and to consider future challenges. We learned a lot about our unit and its interplay with the rest of campus. Based upon discussions with you and other campus officers, we know that campus learned more about the challenges of conducting and sustaining interdepartmental research.

ERI was formed in 2010 from the merger of two former Organized Research Units (ORUs; the Institute for Crustal Studies [ICS] and the Institute for Computational Earth System Science [ICESS]) under the guidance of the Office of Research and the Office of the Executive Vice Chancellor. This merger resolved for ERI many of the problems that trouble most campus departments (i.e., budget, staffing, office space, etc.). Hence the External Review Committee was able to focus on issues of ERI's sustainability and plans for its future. We would like to thank the External Review Committee for their thoughtful, creative, and very useful comments. Each point made is important and will lead to significant improvements and opportunities for ERI and for UCSB. The course they set for ERI is highly ambitious, hopefully not too much so.

Our response to the External Review Committee's report follows the report's outline, focusing on activities that ERI will initiate. Responses to some recommendations have already been implemented, while resolution for others will take more time. In the following, we list our plans for moving forward, indicating for each section the particular Recommendations from the External Review Committee's report we are addressing.

Interdepartmental Academic Planning (Recommendations 1 and 2)

In the short-term, ERI will create an Interdepartmental FTE plan in Earth and environmental sciences, similar to the Marine Sciences Initiative (hereafter Marine Initiative), and submit it to UCSB's FTE call in the spring of 2015. This plan will be created in consultation with participating faculty, the ERI Advisory Committee and affected departments. As the committee noted, we will need to recruit both "big fish" and junior

faculty, as well as considering both interdepartmental hires and ones that fit squarely within departmental plans. As noted by the committee, the external search for the ERI Director is a good first step towards this goal and this search is underway.

In the long-term, we will work with the Marine Initiative and all affected departments to create a unified academic plan for the UCSB's Earth, Environmental and Marine Sciences. This plan will need to consider departmental plans, interdepartmental research, expectations for near-term retirements, etc., and will require an ERI retreat in order to effectively manage this effort. While initial dialogues toward this long-term goal have begun, the full plan will take some time to get in place.

For this interdepartmental FTE planning to be successful, FTE must be allocated to stem the expected tide of faculty losses in the Earth and environmental sciences. In the ERI self-evaluation, we noted that over the 5-year review period there has been a net loss of thirteen Lead-PIs and we expect fifteen more Lead-PIs will separate from UCSB over the next few years (see Table 1 of the ERI Self Evaluation). These retired or soon to be retired faculty are among the most accomplished at UCSB and their retirements will greatly diminish UCSB's research prestige in these areas. The rate at which we will need to replace faculty is rapid and campus must identify appropriate resources if ERI, and UCSB, are to retain academic excellence and prestige in the Earth and environmental sciences.

Strengthening Collaborations & Interactions Within the ERI Community (Recommendations 1 and 5)

This issue has been raised repeatedly, and it has many dimensions. While ERI can and does create opportunities for interaction and collaboration, we need to temper expectations since most ERI PIs have primary affiliations other than ERI.

In partnership with related academic units (Bren, Earth Science, and Geography), we have implemented quarterly Rooftop Research Collaboration receptions for PIs and recent PhDs (postdoctoral fellows and specialists). The premier event was held in November at Bren and was attended by approximately sixty PIs and postdocs. Initial feedback was very positive and we expect these events to become even more popular. We also plan to schedule a half-day retreat in the winter quarter to address the academic planning issues discussed above and to consider other recommendations from the External Review Committee.

Data Curation and Creation of an ERI Digital Collaboratory (Recommendation 3)

We agree enthusiastically with the External Review Committee's recommendation in this area. We have long thought that ERI is an excellent incubator for a digital collaboratory where data are freely shared across traditional disciplinary and research group boundaries. For the past two years, ERI has participated in the Library's "Data Curation @ UCSB" project (<http://www.library.ucsb.edu/about-library/data-curation-ucsb-project>), which has been exploring the Library's role in the ongoing accessibility, integrity, and usability of UCSB's research data. We propose to continue this work by addressing ERI's specific data curation needs—primarily driven by data volume, heterogeneity, and rich access methods—that the Library cannot be expected to handle on its own. For Phase II of the project, we request support for half-time staff support for at least three years to implement this program within ERI. The data curation staff member will reside at ERI and

will work closely with ERI's PIs and IT staff, while liaising with Library curation staff to ensure compatibility with Library standards, policies, and long-term archiving requirements. Our long-term goal is to create the digital collaboratory described by the External Review Committee, which they noted as an area where ERI can lead both on campus and nationally.

Increasing the Sustainability Soft-Money Research at ERI (Recommendation 4)

ERI currently includes 25 soft-money Researchers. Although they make many important contributions to ERI and to UCSB's research prowess and diversity, Researchers are required to raise their own salaries from extramural sources. As every researcher knows, research funding is becoming more challenging to obtain. At ERI, many long-established Researchers are facing this challenge. This year, we have had to ask the Office of Research for short-term bridging support to keep two long-term Researchers supported.

We propose to pilot a bridge-funding program to provide some security for our Researchers and allow for more effective planning. Many campuses have bridge-funding programs and the External Review Committee provided several excellent suggestions. However, coming up with a good plan that is fair to campus and to UCSB Researchers will take some time to develop and implement. It would be best if that plan also rewarded grant productivity. To start this process, we plan to form a committee that includes representation of soft-money Researchers, faculty and the administration, and to create a proposal ready for campus implementation by fall 2015.

The comment by the External Review Committee regarding federal cost-accounting standards and limitations place on soft-money Researchers (reviewing papers, proposal writing, etc.) has been brought to the attention of Office of Research for follow-up.

ERI Development Officer (Recommendation 6)

Development has long been important in supporting research in the Earth and environmental sciences. With decreasing federal funding, as noted above, Development can be an important part in maintaining research programs. ERI has not been assigned a Development Officer. While we understand the challenges faced by campus, this is an issue that needs to be addressed at the campus level. We second the External Review Committee's recommendation that ERI be assigned an appropriate Development Officer and look forward to building a productive relationship with the Office of Development.

Need for Appropriate Laboratory and Field Staging Spaces (Recommendation 7)

We agree that laboratory and field staging spaces are a limiting factor for many ERI participants and are a problem particularly for ERI Researchers. The Girvetz remodel helped alleviate some of the problems (field staging space), and campus' contributions to that are gratefully acknowledged. However, analytical laboratory spaces are typically assigned through faculty home departments and are not under ERI's control. For many participants, these spaces are of fair quality, while for others are nonexistent.

This is not an issue that ERI can solve. The first step is creating and/or improving faculty spaces in faculty members' home departments. In particular, campus must complete the planned Phelps remodel for Geography and the long-needed upgrades to Earth Science Department laboratory spaces (in particular the Woodhouse Labs). In the long-term, ERI

would be interested in partnering with other campus units in proposing an environmental analytics laboratory building. We would be happy to work with the appropriate parties to move these efforts forward.

Increasing Bureaucratic Burden on Faculty and Researchers (Recommendation 9).

The number, diversity, and often poor quality of administrative “systems” (purchasing, effort certification, travel, etc.) that researchers are required to use have grown dramatically over the past couple of years, and this trend is projected to continue into the future. Concerns with this increasing administrative burden on faculty and researchers were noted by the External Review Committee, and support the comments made by the ERI Advisory Committee and in our internal survey of the ERI PIs. Increasing the number, diversity, and poor quality of “systems” that researchers must engage with only makes it harder to be an excellent and highly productive researcher. Thus, we request that proper consideration be made of researcher work processes and workloads before these systems are implemented. The success of ERI administrative and IT services, as noted by the External Review Committee, is directly related to the quality of service it provides to its PIs. It is becoming increasingly difficult for the ERI staff and PIs to watch campus’ commitment to support excellence in its research mission degrade.

Again, this is a campus issue. We suggest that any new campus system requiring use by researchers first be reviewed (hands-on, not conceptually) and vetted by an ad hoc committee of faculty members to ensure that PI processes and needs are addressed. This is a recurring source of frustration for our PIs, takes time away from the PIs work in service of the University mission, and needs to be remedied.

Staff Continuity (Recommendation 8)

We agree with the comments made by the External Review Committee on Staff Continuity. ERI is implementing new procedures to account for these important issues.

Summary

We would like to thank the External Review Committee for their very useful comments about ERI and about how interdepartmental research could be conducted at UCSB. The review process also provided us with the opportunity to gather valuable feedback from our participants and we will address these comments over the upcoming year. While many of our responses to the External Review Committee’s recommendations can be handled internally with existing resources, a few cannot. Thus, we need campus commitments for the following:

- Faculty FTE required to implement interdepartmental academic plans
- Support for continuing and implementing the Data Curation @ UCSB program
- Help in implementing a pilot program to improve the sustainability for soft-money Researchers
- Assignment of a Development Officer for ERI
- Accelerating campus plans for adequate analytical laboratory spaces
- PI input in administrative systems that can impact their productivity

We look forward to working with the administration to implement these recommendations.