College of Oceanic and Atmospheric Sciences

1. Your progress in working toward your March 15 report/plan, with particular attention to how you are aligning with the Academic and Administrative System Guidelines (the Implementation Plan is available on the web).

An abbreviated Category 1 proposal is now near final approval that will combine the three graduate degrees of Oceanography, Atmospheric Science, and Geophysics into a single degree named "Ocean/Earth/Atmospheric Sciences." The OEAS degree will have areas of concentration, much like the present oceanography degree. Since the College has no departments, the other Academic and Administrative System Guidelines do not apply.

2. What your March 15 plan will look like? What type of realignments will you be proposing? How will they consider the broader divisional alignment/goals?

The present ESS structure consolidates three colleges into a single, complex entity with significantly different cultures and business models. While CAS and CoF share many common elements, COAS is significantly different than these two units. Moreover, one of the most important partners in the ESS enterprise at OSU, the Department of Geosciences, remains in the College of Science. COAS and Geosciences faculty have been working for several years on joint undergraduate programs (e.g., University Honors College Earth System 5 program, NSF-funded programs on diversity in geosciences, etc.), and the ESS structure should enable these discussions to proceed as well as to incorporate other components of the Earth system (e.g., terrestrial ecosystems). Thus there are now discussions about moving the Department of Geosciences into an expanded College of Earth Science, which is described below. No decisions have been made, and this is only a conceptual design at this point in time. There are many issues to consider and decisions to be made.

There has been a long (and sometimes arcane) dispute about the types of Earth system research, which is sometimes associated with value judgments about the inherent quality of the research. However, such arguments about “quality” are ultimately futile and miss the essential points. Fundamental research is driven by the desire to reach a basic understanding of the components of the Earth system, including its physics, chemistry, geology, and biology. Translational research is more attuned to the needs of stakeholders over generally shorter time periods. It is also clear that fundamental and translational research are complementary, and that the distinction is sometimes blurred. However, it is a critical distinction; scientists engaged in fundamental research do not have readily identifiable “stakeholders” in the same way as those engaged in translational research. And when those involved in fundamental research do become engaged in public policy, such as in the area of global warming, the partnership can become problematic because the stakeholder basis is often society as a whole.

Given that the ESS enterprise has two distinct but complementary components of fundamental ESS and translational ESS, an implementation plan can be constructed that effectively capitalizes on these two different strengths. Furthermore, if we subdivide each
component into its research and academic elements, then we can make a rational
distinction between the respective business models.

*Fundamental ESS Component*

The research element would build on the strengths of COAS, driven by competitive external
grants and contracts made to principal investigators. These restricted funds would
dominate its operations, along with returned overhead (ROH). Faculty would be appointed
to the research enterprise would be expected to raise the majority of their salaries (60-
70%) from external grants and contracts. Faculty hiring and appointments would be based
on the strategic needs of the research enterprise.

The academic component would build on the Earth science programs of Geosciences. With
its “areas of concentration,” faculty would be appointed within the “department” on
traditional 9-month academic appointments that would combine teaching and research. Although their “summer salary” would be aligned with the fundamental ESS research
interests, the business model would be based primarily on Student Credit Hours (SCH) and
majors, not by external research support such as in the research model.

The fundamental ESS graduate program would be a bridge between the research and
academic components. However, its business model would not be driven by SCH and would
depend more on the research activities of the faculty. Relying on “areas of concentration”
in ESS, it would be managed by curricular groups formed by faculty from both the research
“institute” and the academic “department.”

This approach would build on the existing strengths of COAS and Geosciences, but set the
stage for growth in research, undergraduate education, and graduate education around a
more comprehensive and integrated approach to fundamental ESS. Moreover, it could
attract faculty from the translational ESS component as well as other divisions at OSU.
Depending on their interests and funding, they could seek appointments in the research
“institute” or in the academic “department,” recognizing the variation in emphasis on
research or teaching that each appointment would entail.

*Working Together*

The *fundamental* ESS component and the *translational* ESS component would each be led
by a dean. They would be jointly responsible for fostering cross unit research and academic
programs. There would be a faculty advisory committee from the entire division that would
focus on identifying cross-unit linkages and opportunities. There are also opportunities for
an expanded vision of outreach. On the *fundamental* side, a new institute could be created
that would develop integrated Earth system models on regional scales. On the *translational*
side, a new institute could be developed that would explore new approaches to integrated
assessments and societal impacts of global change. This overall approach would recognize
the complementary functions of the two components of *fundamental* and *translational*
Earth System Science.