November 1, 2009

Dr. Eric Barron, Director
National Center for Atmospheric Research (NCAR)
Boulder, CO 80307-3000

Dear Eric:

The following is a summary of the meeting on 29 October of the CISL High-performance-computing Advisory Panel (CHAP), which was held in the NCAR Mesa VisLab. We regret that a major snowstorm prevented your meeting with us that afternoon, and we look forward to interacting with you at our next meeting. The storm deterred two expected panel members and Dr. Sarah Ruth of NSF from traveling to the meeting, but they were able to participate via a conference call, while using ReadyTalk for slide viewing.

The Advisory Panel heard excellent presentations about the Upcoming CCSM4 Release by Mariana Vertenstein, the Plans for IPCC AR5 by Jim Hurrell, an NCAR Supercomputing Center Update by Krista Laursen, a CISL Operations and Services Update by Anke Kamrath, the Transition Plans for NCAR's MSS by Erich Thanhardt, and the Plans for Procurement of the Next Supercomputer by Tom Engel.

We believe that CISL HPC activities are supporting the atmospheric and related sciences in an outstanding manner and that their future plans are well on track. We were exceedingly pleased to learn that the NCAR Wyoming Supercomputing Center (NWSC) is moving toward final approval and construction, following its Preliminary Design Review at NSF a few weeks ago. We are especially grateful to Krista Laursen, Rich Loft, and Aaron Anderson for their efforts before and during that review and to Sarah Ruth for managing the entire process so effectively.

The Advisory Panel reviewed 26 university requests for computing resources, which originally totaled about 40% more than what was available. The panel carefully reviewed the requests and was able to support the best parts of all the requests at a level allowing significant scientific progress without undue hardship for any of the NSF-supported projects this time around.

Nearly 6 million GAUs, or 4.2 million processor hours, were awarded. The five largest allocations averaged 585,000 GAUs each; and those awards went to grantees diversely supported by AGS, OCE, ARC, and EAR within NSF. The remaining 21 awards were mainly to AGS (Atmospheric and Geospace Sciences) grantees, but with one award each to OCI, DGE, DMS, EAR, and OCE projects. Thus, CISL supports users who are conducting atmospheric-science and closely related projects that are broadly distributed across many NSF programs.

The Advisory Panel is very concerned that the available resources offered by CISL to the University and NCAR communities and to the Climate Simulation Laboratory will remain flat until at least early 2012. Provisioning of greatly enhanced resources at the NWSC was originally planned for early next year. The growing needs of a Community Earth System Model and the Weather Research Forecast Model, as well as interest in Nested Regional Climate Modeling and other computing applications, are putting immense pressure on CISL for such enhanced resources. All of this makes it imperative that *the Wyoming Center needs to become fully*

operational with a new petascale resource in very early 2012. This is our recommendation, with which we know you already concur; and you have our strong and unanimous encouragement to make it a reality.

The next CHAP meeting is scheduled for April 29, 2010. We hope you will be able to meet with us and confirm that construction of the NWSC is underway.

Submitted on behalf of the CHAP,
-Bert Semtner
CHAP Chair

cc: Al Kellie, Sarah Ruth, Steve Nelson, Rick Anthes, CHAP members