

April 26, 2011

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

Dear Roger:

This is the customary letter to you as NCAR Director, regarding the latest semi-annual meeting of the CISL High performance computing Advisory Panel (CHAP), which took place on April 21<sup>st</sup>. This was an opportune time for you to be able to join us at the beginning of the meeting and to hear the presentations by Anke Kamrath on CISL Operations and an NWSC Update and by David Hart on NWSC Allocation Plans. The CHAP very much appreciates the opportunity to discuss a variety of issues with you after those talks; and we thank you for attending the panel dinner that night. We thank you especially for your continuing support of the NCAR-Wyoming Supercomputing Center (NWSC) as the highest priority project for NCAR at present.

We know that this is an extremely busy time not only in terms of high performance computing but also because of NSF reviews in the next several months of individual NCAR laboratories, including the Computational and Information Systems Laboratory (CISL), and of overall NCAR management. This letter will be kept brief in view of that.

The CHAP is extremely impressed with all aspects of CISL's ongoing and planned efforts to provide high performance computing resources to the atmospheric sciences and closely related sciences. Some CHAP members were able to tour the NWSC building site on April 20<sup>th</sup>; and they came away in awe of that nearly finished engineering marvel of computing infrastructure to provide those resources for decades to come. The NCAR onsite overseer who gave the tour, Gary New, and the NCAR engineering supervisor, Aaron Andersen, are clearly tops in their areas of expertise. The same can be said for Anke Kamrath and David Hart, who have complex tasks of ensuring a smooth transition to operational status of the NWSC via procurement of the initial computing system and allocations of resources on the new system, while at the same time maintaining services and overseeing allocations to the diverse user community on the existing computing system at the Mesa Lab.

Al Kellie remains skillfully in charge of the overall CISL efforts; and he and the others who have brought the long process of NWSC justification, approval, and implementation to fruition are to be highly commended for their unflagging efforts. Rich Loft and Sarah Ruth have played especially key roles in the areas of scientific justification and NSF approval; and Krista Laursen has done an exemplary job as head of the NWSC construction project. Many others in CISL have been indispensable in the overall process; and the CHAP also recognizes the major contributions from NCAR and UCAR management.

The CHAP is very favorably impressed with the plans to provide a smooth transition to operational status on a complex initial NWSC computing system that is ten to twenty times more powerful than the one at the Mesa Lab. The procurement of the new system is well underway; and the plans are unfolding to optimize its overall utilization via effective use of the analysis/visualization and file systems alongside the high-performance computer and data archive.

In its role as an advisory panel, the CHAP's only primary advice at this time is for CISL to continue moving rapidly forward on its existing and planned efforts in high performance computing, to the benefit of the atmospheric and closely related sciences, including an enlarged role for earth sciences from the Wyoming community.

The CHAP continued its role on April 21<sup>st</sup> as an allocation panel for the University Community by reviewing a number of large requests totaling about two and a half times the available resources. Most of the projects will be able to be given sufficient resources for only the next 12 months, although the users are normally entitled to allocations for the full duration of their projects. At its next meeting, the CHAP will be able to move back toward more extended allocations by providing dual allocations out to the end of the Mesa Lab's system and then onto the NWSC's much more powerful system. Thereafter of course, we can return to allocations on a single system. Our task of making allocations on the NWSC system will be enlarged to suggesting allotments on the large file system and the data archive for the bigger projects. For the very beginning of availability of resources in Wyoming, the CHAP will gladly assist CISL in reviewing some keys requests for large short-term allocations for Accelerated Scientific Discovery, whereby the capability of the new system can be used to advance some promising areas of research while testing and showcasing the power of the new system.

The next meeting of the CHAP is scheduled for October 6, 2011, at which time we should know much more about the completion of NWSC construction and the initial configuration of the NWSC high performance computing system. We will be very busy with the final allocations on the Mesa Lab's system and the initial ones on the NWSC's system. We hope that you will be able to join us for some part of our meeting. Finally, the CHAP again thanks you for your continuing strong support of CISL's objectives in high performance computing.

Submitted on behalf of the CHAP,

-Bert Semtner  
CHAP Chair

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