

October 25, 2010

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

Dear Roger:

This is the customary letter to the NCAR Director following the semi-annual meeting of the NCAR/CISL High-performance-computing Advisory Panel (CHAP). We regret that you were unable to join us briefly on Thursday, 21 October, due to unforeseen circumstances.

The CHAP Chair was able to update you earlier on the greater than five-fold over-subscription of CISL computing resources by university users, as well as the CHAP's plan to allocate computing resources to individual projects 12 months at a time until the NWSC system is available. These are the primary points we had wished to discuss with you. We are glad to hear via the CHAP Chair that you continue to regard the completion of the NCAR-Wyoming Supercomputing Center and the installation of a petascale computing system there as the top priorities of NCAR over the next few years.

The CHAP heard presentations from Rich Loft, Anke Kamrath, and Aaron Anderson about their CISL areas of responsibility. We are very pleased with the outstanding progress being made by CISL, particularly in regard to the ongoing construction of the NWSC and the preparation of an RFP for its petascale computing system. Rich Loft's talk included an estimate of the enormous power requirements for the memory portion of future exascale systems, barring a technological breakthrough. We also heard from Sarah Ruth of NSF about making scientific data more publicly available. **This last talk engendered a lively discussion, out of which came the possible suggestion that CISL could provide templates or consultative services to the NSF and/or to PIs in atmospheric and oceanic sciences on what constitutes a good data management plan.**

The CHAP carefully reviewed 45 computing requests totaling 521% of the estimated available resources. We were able to recommend allocations supporting each request with just enough resources to facilitate reasonable progress over the next 12 months. The total amount recommended for support was 16% higher than initially estimated to be available. However, there has been a significant under-utilization of NCAR systems almost every month over the past year (and in previous years as well) by the University Community relative to the utilization by NCAR Staff. This led us to suggest that allocating at 16% higher than the initial available estimate should lead to a better balance of usage between the two communities, in conformity with overall NSF policy on equal machine utilization. This is also an aggressive strategy that recognizes the urgent University Community needs. CISL management agreed with our recommendation.

The CHAP is concerned that continuing lack of resources may discourage users and send them elsewhere. The way to assuage that, we think, is for CISL to keep communicating with users about NWSC progress and when more time will be available.

Our next meeting is scheduled for April 21, 2011, when we will **almost certainly** again face a very high level of over-subscription. However, if the NWSC project remains on schedule or ahead of schedule, some expanded resources should begin to be available for allocation as early as one year from now. We hope that you will be able to join us for a discussion during our next meeting.

Respectfully submitted on behalf of the CHAP,

—Bert Semtner  
CHAP Chair

cc: Al Kellie, Anke Kamrath, Rich Loft, Aaron Anderson, Sarah Ruth,  
Rick Anthes, CHAP members