

May 10, 2010

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

Dear Roger:

This is a customary letter to the NCAR Director, which follows each semi-annual meeting of the CISL High performance computing Advisory Panel (CHAP). The present letter will be relatively brief due to the excellent progress being made on all fronts by CISL personnel and the preoccupation of CISL and NCAR management with building and provisioning a new supercomputing center in Cheyenne, Wyoming.

The CHAP met on April 29th in the VisLab at NCAR's Mesa Laboratory. The Panel heard very informative updates on a number of important topics: (a) the status of the NCAR-Wyoming Supercomputing Center (NWSC) by Krista Laursen, (b) a report on Operations and Services by Anke Kamrath, and (c) an overview of the Globally Accessible Data Environment (GLADE) by Pamela Gillman. All the presentations revolved around insuring that the atmospheric sciences and closely related sciences will have outstanding computing resources available in the future NWSC, which we understand from a recent email of Maura Hagan has now been endorsed by the National Science Board. The Advisory Panel congratulates and thanks all who have contributed to moving the NWSC to its present point, including Sarah Ruth of NSF, plus Al Kellie, Krista Laursen, Rich Loft, and Aaron Anderson of CISL, as well as many others too numerous to mention.

The CHAP will participate in advising how best to configure and utilize the future supercomputing system known as NWSC-1, to be provided in early 2012 to the NCAR, University, and CSL Communities, as well as to NCAR's Wyoming partners. The advisory process will include CHAP views on the supercomputer, the file system, and the data archive, as well as a suggested methodology to insure optimal use of the supercomputer and file system and to keep the growth of file-system and archive sizes within affordable limits.

Between now and 2012, the CHAP will be dealing with an expected huge over-subscription of requests for computing resources from the University Community, for which it recommends allocations. The expectation of continuing and growing over-subscription is based, for example, on the growing use of WRF by the university community and the recent release of CCSM4, which was downloaded hundreds of times within the first month of release. This time around, there were 44 requests for 307% of the available computing resources. The requests were reviewed by a combination of advance emails and in-person discussions. Ginger Caldwell facilitated the posting of computing requests on a CHAP website and later collated all our reviews and recommendations. Sarah Ruth was able to participate in person on April 29th and provide NSF oversight. By careful reviewing of each request in order to allocate sufficient resources so as not to impede progress over roughly the next twelve months, the total recommended for allocation by the CHAP was only slightly above 100% of the total available. In this process, no NSF-approved science had to be turned away. Most of the projects will need to submit extension requests in order to continue computing during the multi-year time periods of

their supporting NSF grants; and, of course, there will be many new requests to consider at each panel meeting. Therefore, the CHAP expects to be dealing with very high levels of over-subscription until the NWSC-1 becomes available.

The next CHAP meeting is scheduled for October 21, 2010. We hope that you will be able to join us for part of the meeting as your schedule permits.

Respectfully submitted on behalf of the CHAP,

-Bert
CHAP Chair

cc: Al Kellie, Anke Kamrath, Rich Loft, Krista Laursen, Ginger Caldwell,
Sarah Ruth, Rick Anthes, CHAP members