

Project Summary

Intellectual Merit

Unidata's mission is to provide the data services, tools, and cyberinfrastructure leadership that advance Earth system science, enhance educational opportunities, and broaden participation. Over 170 institutions worldwide participate in the Unidata data sharing network and many more institutions use Unidata tools and technologies in education, research, and operations. While its primary mission of serving the academic community remains unchanged, the user base has broadened considerably over the years, and its activities and responsibilities have grown as community needs have evolved. During the next five years, Unidata proposes to extend and enhance its well-established role as a transformational community facility. This proposal presents a bold but realistic plan that identifies areas where Unidata can continue to enable and enhance education and research that lead to advances at the frontiers of atmospheric and related sciences.

The proposed plan and endeavors are guided by the results of a comprehensive strategic planning effort over the past year that included strong input from and leadership by Unidata's governing committees and feedback from the broader community. The resulting strategy builds on the successes of the present program, its capabilities and core competencies, and its unique niche in providing robust, reliable, and comprehensive data services and tools to geoscience users.

This proposal presents a plan that is centered around the following six thematic focus areas:

1. Broadening participation and expanding community services
2. Advancing data services
3. Developing and deploying useful tools
4. Enhancing user support services
5. Providing leadership in cyberinfrastructure
6. Promoting diversity by expanding opportunities

In addition to Unidata's traditional role in enabling the meteorology community, the proposal identifies broad priority areas such as facilitating climate and field-project science as well as enhancing diversity in the atmospheric and related sciences. Unidata's guiding vision is well-integrated, end-to-end solutions for its users. By the end of this proposal period, a typical participating institution will be able to use all the technologies proposed in this plan to effectively integrate data in education, research, and operations. To achieve the stated goals and realize the vision, Unidata has put in place a highly proactive community engagement process and strong decision-making, governance, and feedback mechanisms, along with adaptable strategies, and a nimble organizational structure.

It should be emphasized that even as Unidata embarks on this plan to enhance and adapt its tools and services to meet the needs of an evolving community, the program remains deeply committed to meeting its responsibilities to the core atmospheric science community. The quality of services that the core community has come to expect will be maintained and enhanced as a result of the new partnerships and synergies.

Broader Impacts

That Unidata is a service organization is indisputable. Virtually no activity it undertakes is without a broader impact on its community, which encompasses users in many disciplines. The proposed plan extends and expands Unidata's service mission so that it can continue to have a deep as well as broad impact in advancing NSF goals across all three sectors of the geoscience enterprise: academia, government, and the private sector. In addition to universities, many Unidata technologies are being used by national and international organizations, community projects, and the private sector. For example, data services in NOAA, NWS, NCAR, and other organizations and projects are now built upon the formats and tools that have been, and are being, developed at Unidata. Numerous other metrics are provided in the Project Description, along with examples that are highlighted, as Unidata considers its broader impact.