



Unidata: a community-driven facility for distributing real-time meteorological data

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Unidata's mission is to provide the data services, tools, and cyberinfrastructure leadership that advance Earth system science, enhance educational opportunities, and broaden participation. Several hundred institutions worldwide participate in the Unidata real-time data sharing network and many more institutions use Unidata tools and technologies in education, research, and operations.

As the enabler of a broad community, the Unidata Program Center, funded by the U. S. National Science Foundation

- Acquires and distributes real-time weather data to facilitate Earth system education and research
- Develops software for accessing, managing, analyzing, visualizing, and effectively using those data
- Provides comprehensive support to users for its products and services
- Conducts annual training workshops on Unidata software packages
- Facilitates advancement of standards, conventions, and interoperability
- Provides leadership in geosciences cyberinfrastructure and fosters technological change
- Fosters community interaction and engagement to promote sharing of data, tools, and ideas

Unidata's hallmark has been democratizing access to real-time meteorological data and related tools for higher education institutions. Data (both observations and operational forecast model output) are distributed in real-time to a worldwide community of users via Unidata's Internet Data Distribution system. That network currently distributes nearly 130 GB/day of data via 22 push- and subscription-based data streams that are tailored to the receiving institution's needs. Unidata-provided cyberinfrastructure has enriched university courses by facilitating educators' efforts to incorporate applications of real-time data and state-of-the-art tools into student-centered learning experiences, enhanced productivity of students and researchers, and transformed the culture in atmospheric science departments. Unidata has experienced a gradual but natural evolution from a program focused primarily on synoptic scale meteorology to one that serves a broader geosciences community. The robustness and quality of Unidata tools and services have resulted in their use beyond a community of several hundred universities, by many different types of organizations and weather agencies around the world.

This presentation will focus on Unidata's real-time data distribution activities and the use of data distributed by Unidata in education, research, operational forecasting, and outreach.