

## NOAA expands International Reference Network

—by Ben Sherman

NOAA's National Geodetic Survey has recently incorporated 43 new GPS tracking sites into the Continuously Operating Reference Station (CORS) network, including 13 sites established by the Federal Aviation Administration as part of their Wide Area Augmentation System (WAAS). Four of the new WAAS sites are located in Alaska, four in Canada, and five in Mexico.

WAAS provides differential GPS correctors for safe airline navigation across North America. These correctors help more precisely determine a position and enable pilots to determine the three-dimensional location of their aircraft with an accuracy of a few meters. The WAAS network now contains 38 GPS tracking sites.

"The CORS network is a critical NOAA product that helps ensure the consistency and accuracy of the nation's spatial reference system," notes John H. Dunnigan, assistant administrator of NOAA's National Ocean Service.

The addition of the new sites significantly improves both the geographic coverage of the CORS network, as well as the accuracy with which CORS users can position things, including property boundaries, transportation arteries, buildings, and other map-worthy objects. The expanded coverage will also benefit those organizations that apply CORS data to monitor the distribution of water vapor in the atmosphere and the distribution of free electrons in the ionosphere. Knowing the distribution of water vapor is critical for accurately forecasting severe weather such as hurricanes, tornadoes, and thunder storms. An overabundance of free electrons in the ionosphere can disrupt those communications services that involve satellite links.

The NOAA CORS network now contains over 1,200 sites spanning the United States, its territories, and several foreign countries. Surveyors, GIS users and others can combine their own GPS data with GPS data from the CORS network to determine three-dimensional positional coordinates that approach a few centimeters in accuracy. Alternatively, users can submit their GPS data to the web-based Online Positioning User Service utility to have NOAA compute such coordinates automatically.

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