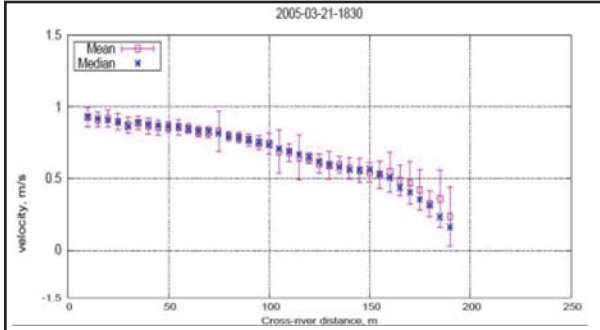


Introducing the RiverSonde®

Expanding the radar product line, CODAR Ocean Sensors is now offering the RiverSonde®, an affordable, non-contact monitoring system used to measure water flow in rivers, streams and channels. It measures and records mean surface velocities and from these can generate velocity profiles. These data can be used in conjunction with additional relevant data to calculate total water volume flow (discharge). RiverSonde is used to study river flow properties and effects, and used by anyone interested in these properties, including geologists, water resource scientists, agricultural managers for irrigation, flood control/emergency response, and wildlife managers. It is also ideal for monitoring river movement during flood events when in-situ measurements are either unavailable or extremely dangerous to obtain using traditional methods.



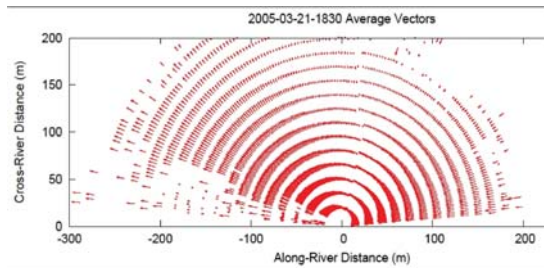
Profile representing a cut directly across swath of vectors extending out from the radar.

This system is designed for operation at river's edge, in populated or remote locations. Robust hardware and software allow automated operation and data processing, even under extreme weather and/or vessel traffic conditions when other in-situ devices routinely fail.

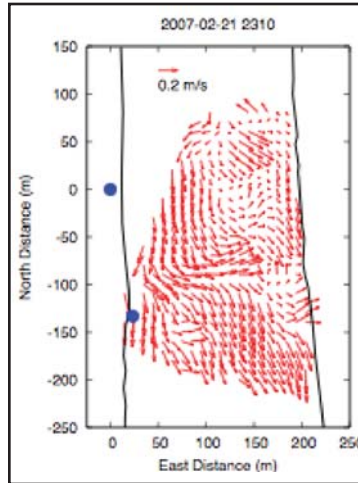
Development began at CODAR Ocean Sensors in 1999 with funding from the US Geological Survey (USGS), whose aim was to see a non-contact alternative to present stream gauging methods. With promising initial results, R&D continued, with prototype units having been deployed and operated successfully in several western U.S. locations.

The RiverSonde is now commercially available. A complete set of product information will be available shortly at the company web site.

One of the outputs from the RiverSonde is a one-dimensional map of surface current radial velocities. An example of raw data from the San Joaquin River at Vernalis in California is shown here; approximately 2800 radial current vectors are plotted using an angular resolution on 1°. While this plot only includes data covering about 150 seconds, the RiverSonde continuously measures cross-channel radial velocities and can average over longer periods.



Radial currents for one 2.5-minute data segment.



These one-dimensional velocity map outputs from a RiverSonde can be combined with those from additional RiverSondes to create continuous realtime two-dimensional vector maps of surface current velocity and direction, in similar manner as SeaSonde, but on a smaller scale (spatially and temporally). Synoptic measurement of 2D velocity distributions in river flows such as this is not possible using any other technology.



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