

CONTINUOUS STAGE, VELOCITY & DISCHARGE DATA FOR BUREC



7/07/2006

VERIFICATION OF CONTINUOUS STAGE, VELOCITY & DISCHARGE DATA FOR AVM STREAMFLOW GAGING STATIONS

PROJECT TASKS

Sutron professionals check and verify stage, velocity and discharge records for 3 AVM stream gauging stations operated and maintained by the Bureau's Boulder Canyon Operations Office

Recently the Boulder Canyon Operations Office began using acoustic velocity meters (AVM) at several continuous monitoring discharge gaging sites where simple stage discharge data is inadequate.

AVMs measure velocity continuously along a horizontal path crossing the stream rather than at a single fixed point. Typically, AVMs are installed to continuously measure a horizontally averaged water velocity. The indexed velocity is then related to mean stream velocity using regression analysis. Cross-sectional area is related to stage (water level). Instantaneous discharge is then computed as the product of mean velocity and cross-sectional area.

AVMs have a very high degree of accuracy for streams, estuaries, rivers and canals. AVMs require periodic maintenance and calibration to ensure accurate streamflow data.

Data verification is also needed to ensure the quality of the discharge record for each site. Data verification must be designed to identify loss of stream flow record and any erroneous data while maximizing measurement dependability and rating accuracy.



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