

USE OF AN ADCP TO COMPUTE SUSPENDED SEDIMENT DISCHARGE IN THE TIDAL HUDSON RIVER, NY

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Abstract: Acoustic Doppler current profilers (ADCPs) can provide data needed for computation of suspended-sediment discharge in complex river systems, such as tidal rivers, in which conventional methods of collecting time-series data on suspended-sediment concentration (SSC) and water discharge are not feasible. ADCPs are not designed to measure SSC, thus the software for such computation is limited, and considerable post processing is needed to correct and normalize ADCP data for use as a suspended-sediment surrogate. This paper describes the sampling design and procedure used to calibrate ADCP measures of echo intensity to SSC in the computation of suspended sediment discharge at the study site near Poughkeepsie, New York.