

**Appendix 1.** Description of data fields in the acoustic Doppler current profiler files (from OFR 2006-1159).

Column	Description
Easting	The adjusted easting of the velocity measurement, referenced to the North American Datum of 1983 (NAD 83) State Plane Coordinate system for the southern zone of Ohio, in U.S. Survey Feet (eq. 7).
Northing	The adjusted northing of the velocity measurement, referenced to the North American Datum of 1983 (NAD 83) State Plane Coordinate system for the southern zone of Ohio, in U.S. Survey Feet (eq. 8).
Depth	The depth below the water surface of the velocity measurement, in feet.
VelMag	The magnitude of the measured water velocity, in feet per second.
VelAzmAdj	The adjusted direction of water velocity, in degrees, which is positive when measured clockwise from zero degrees north (along the positive y-axis (eq. 9)).
VelEastAdj	The adjusted easting component of water velocity, in feet per second (eq. 10).
VelNrthAdj	The adjusted northing component of water velocity, in feet per second (eq. 11).
VelUp Adj	The adjusted upward component of water velocity, in feet per second, determined by subtracting the average upward velocity for all ensembles in the cross section from the unadjusted upward component of water velocity (VelUpMea) for the ensemble.
Latitude	The latitude of the velocity measurement, in decimal degrees. In the data file, a value of 30.000000 indicates that the global positioning signal was not recorded.
Longitude	The longitude of the velocity measurement, in decimal degrees. Note, a value of -30.000000 indicates that the global positioning signal was not recorded.
BotDep	The distance between the water surface and the bottom of the river, in feet.
Discharge	The streamflow through the subarea defined by the flow velocity and area, in cubic feet per second.
YearMoDa.FracDay	The year, month, day, and fractional day in YYYYMMDD.fraction. The value to right of the decimal point is determined by dividing the decimal time of the observation by 24. Times for ADCP measurements made in conjunction with the dye-tracer study and for ADCP measurements for transects OR1-OR13, OR15, and OR59-OR84 are in Coordinated Universal Time. Times for all other ADCP measurements are in Eastern Daylight Time.
L2R	Not meaningful, value may be set to 1 or 0.
VelAzmMea	The measured azimuth of the flow velocity, in degrees, unadjusted for magnetic declination. The azimuth is positive when measured clockwise from zero degrees north (along the positive y-axis).
VelUpMea	The measured upward component of water velocity, in feet per second.
VelError	An estimator of the precision of the velocity measurement, in feet per second.
BackScat	The percent of the original acoustic signal that is scattered back to the ADCP unit. Backscatter is sometimes related to the amount of suspended material in the water column.