

December 8, 2016

OSW Informational and Technical Note 2017.06

OWQ Water-Quality Information Note 2017.01

Subject: Consolidation of redundant metadata codes for sediment data, with the November 2016 release of the NWIS Reference List updates

The USGS Sediment Laboratory Chiefs and the Water Quality Users Group have identified several sediment method codes and names and bed sediment parameter codes that are redundant in the National Water Information System (NWIS). Data stored with these codes will be automatically updated to reflect the preferred codes in QWDATA, as part of the November 2016 release of the NWIS reference list updates.

Purpose

The purpose of this Note is to make Water Science Center database administrators, data managers, and field staff aware of changes in NWIS to automatically consolidate historical sediment data with redundant metadata into a single method code, method name, and in some cases, parameter code.

Background

Planning for these updates began in 2011, when a group of sediment laboratory chiefs proposed solutions to the problems of redundant codes. In 2012, all preferred methods were assigned to the appropriate, preferred parameters in the NWIS parameter_method table, and a group of 17 sediment experts in the Water Mission Area were notified of the proposed changes. In 2014, the Sediment Laboratory Environmental Database System (SLEDS) software was updated to use only the preferred methods and parameters, and data entry was turned off for the non-preferred codes in the NWIS parameter and parameter_method tables. The updates described in this Note will automatically associate historical sediment data with the preferred method codes, method names, and in some cases, parameter codes.

Method Code and Method Name Changes

There are nine pairs of redundant method codes and method names, describing the same method (Table 1). One method name and code of each pair was chosen as the preferred identifier in NWIS, and data entry for the other non-preferred method code was “turned off” in the parameter_method table in NWIS. The preferred name and code will continue to be used, while use of the other “non-preferred” name and code will be discontinued.

Table 1. Method code and method name crosswalk for nine pairs of redundant sediment metadata codes.

(Note: The method codes not specific to sediment are preferred and continued because they can be used for sediment as well as for some solids size-fraction parameters.)

Discontinued Method Code	Discontinued Method Name	Continued Method Code	Continued Method Name
SED20	Sediment size by dry sieve	SED02	Dry sieve
SED21	Sediment size by hydrometer	SED03	Hydrometer
SED22	Sediment size by particle count	SED05	Direct particle count
SED23	Sediment size by pipette	SED06	Pipet
SED24	Sediment size by Sedigraph	SED07	Sedigraph
SED17	Sediment size by Visual Accumulation tube	SED29	Visual Accumulation tube
SED25	Sediment size by wet sieve	SED30	Wet sieve
SED19	Sediment size by bottom withdraw	SED01	Bottom Withdrawal tube
SED26	Sediment size, bottom withdrawal	SED01	Bottom Withdrawal tube

Planned Bed Sediment Size-Fraction Parameter Changes

The current best practice is to identify method information (such as “wet sieved”) using the method code rather than identify the method in the parameter name, where parameters are otherwise comparable. However, 15 (poorly named) sediment size-fraction parameter codes exist for 15 various size fractions of wet-sieved bed sediment particles. Better named parameter codes already exist for “Bed sediment, sieve diameter” for these 15 sizes, so the results for the 15 “wet sieved” parameters will have their method code populated with SED30 (the wet sieve method), and their parameter codes will be changed to the corresponding “Bed sediment, sieve diameter” parameter (Table 2). Data entry for the “wet sieved” parameter codes has been “turned off” and discontinued in the parameter table.

Table 2. Bed sediment parameter code translations

(Note: In the few cases where the size of the destination parameter is slightly different than the original “wet sieved” parameter, the sediment laboratory chiefs determined that the “wet sieved” parameter code was originally created with an inaccurate sieve size description, and that the true sizes of the physical sieves are reflected in the continued parameter name. Abbreviation: PCODE, parameter code)

Discontinued PCODE	Discontinued (wet sieved) PCODE Name	Continued PCODE	Continued PCODE Name
69599	Bed sediment, wet sieved, sieve diameter, percent smaller than 0.05 millimeters	69076	Bed sediment, sieve diameter, percent smaller than 0.053 millimeters
69601	Bed sediment, wet sieved, sieve diameter, percent smaller than 0.1 millimeters	69074	Bed sediment, sieve diameter, percent smaller than 0.106 millimeters
69589	Bed sediment, wet sieved, sieve diameter, percent smaller than 0.0625 millimeters	80164	Bed sediment, sieve diameter, percent smaller than 0.0625 millimeters

69600	Bed sediment, wet sieved, sieve diameter, percent smaller than 0.0625 millimeters	80164	Bed sediment, sieve diameter, percent smaller than 0.0625 millimeters
69602	Bed sediment, wet sieved, sieve diameter, percent smaller than 0.125 millimeters	80165	Bed sediment, sieve diameter, percent smaller than 0.125 millimeters
69603	Bed sediment, wet sieved, sieve diameter, percent smaller than 0.25 millimeters	80166	Bed sediment, sieve diameter, percent smaller than 0.25 millimeters
69604	Bed sediment, wet sieved, sieve diameter, percent smaller than 0.5 millimeters	80167	Bed sediment, sieve diameter, percent smaller than 0.5 millimeters
69605	Bed sediment, wet sieved, sieve diameter, percent smaller than 1 millimeters	80168	Bed sediment, sieve diameter, percent smaller than 1 millimeters
69606	Bed sediment, wet sieved, sieve diameter, percent smaller than 2 millimeters	80169	Bed sediment, sieve diameter, percent smaller than 2 millimeters
69607	Bed sediment, wet sieved, sieve diameter, percent smaller than 4 millimeters	80170	Bed sediment, sieve diameter, percent smaller than 4 millimeters
69608	Bed sediment, wet sieved, sieve diameter, percent smaller than 8 millimeters	80171	Bed sediment, sieve diameter, percent smaller than 8 millimeters
69609	Bed sediment, wet sieved, sieve diameter, percent smaller than 16 millimeters	80172	Bed sediment, sieve diameter, percent smaller than 16 millimeters
69610	Bed sediment, wet sieved, sieve diameter, percent smaller than 32 millimeters	80173	Bed sediment, sieve diameter, percent smaller than 32 millimeters
69611	Bed sediment, wet sieved, sieve diameter, percent smaller than 64 millimeters	80174	Bed sediment, sieve diameter, percent smaller than 64 millimeters
69612	Bed sediment, wet sieved, sieve diameter, percent smaller than 128 millimeters	80175	Bed sediment, sieve diameter, percent smaller than 128 millimeters

The changes described in this note will complete the update process started in 2011 by consolidating comparable data from redundant codes into a single set of continued codes, making data easier to manage and less confusing for all users. About 11,900 result records will be updated. Instructions for executing the automated update procedure were provided November 4, 2016, by Carmen Baxter to

system administrators with the reference list update. For questions regarding these data transfer actions, please contact Ken Skach (kaskach@usgs.gov).

Signed,

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