Department of Ecology EIM Environmental Information Management

EIM Help – Entering Suspended Sediment Data

Version 3.5
July 2022

What is Suspended Sediment (Suspended Particulate Matter)?

Suspended sediment, or suspended particulate matter (SPM), is composed of the solid organic and inorganic particles carried by the water column in lakes, rivers, streams, and stormwater systems.

Suspended particulate matter can be collected in various ways and analyzed for contaminants. For example, you could estimate daily particulate lead loads in a river using SPM sampling data and daily mean streamflow. In water, adsorption to sediment and suspended matter are important fate and transport processes as concentrations for some chemicals, such as PCBs, are typically much greater in sediment and SPM than in the water column. This help document explains how to enter data for analyses which were done on the suspended sediment fraction of a sample.

Suspended Sediment versus Total Suspended Solids (TSS) data

Total Suspended Solids (TSS) is a quantitative measurement of the suspended particle concentration in the water. Typically the matrix for TSS is "water" and suspended sediment always has a matrix of "solid/sediment". The remainder of this document discusses how to enter suspended sediment data into EIM, not TSS.

Suspended Sediment Collection Methods

Suspended sediment samples are collected in several ways including:

In-Situ Sediment Trap: A device is placed in the water column for a specific period to passively and continuously collect suspended sediment. The trap is often placed on the bottom or a specific distance above the bottom. The sediment collected in the trap is dried and analyzed.

Continuous-Flow Centrifuge: Source water is pumped through a running centrifuge. Particles settle out in the centrifuge while the water is discharged. The remaining sediment is dried and analyzed. Sometimes water samples are collected and analyzed from the inlet and discharge outlet of the centrifuge, to assess its efficiency. Do not enter centrifuge discharge water data into EIM.

In-Line Filtration: Source water is pumped through an in-line filter. The sediment collected in the filter is dried and analyzed.

How Do I Enter My Suspended Sediment Data into EIM?

Enter only your sediment analyses values into EIM. Do *not* enter calculated sediment accumulation rates into EIM.

Note: If you sampled suspended sediment from stormwater, also see "Stormwater and Combined Sewer Data help document."

Required Fields

In addition to EIM's standard required fields described in the Result Help, fill out the following fields and valid values:

EIM Field Name	Col	Sediment Trap Sediment	Centrifuge Sediment	Centrifuge Inlet Water	In-Line Filtration Sediment
Field Collection Start Date	F	*DD/MM/YYYY*			
Field Collection Start Time	G	*HH:MM:SS* (24 hour time)			
Field Collection End Date	H	*DD/MM/YYYY*			
Field Collection End Time	I	*HH:MM:SS* (24 hour time)			
Field Collection Comment	J	Optional (ex. Suspended sediment in water column collected by sediment trap)	Optional (ex. Suspended sediment in water column collected by centrifuge)	*Water sample collected at centrifuge inlet*	Optional (ex. Suspended sediment in water column collected by in-line filtration system)
Field Collection Reference Point	M	Enter one: *Sediment Surface* (most common) *Water Surface* See "Field Collection Depth or Height" for more info	optional	optional	optional
Field Collection Upper Depth	N	If you sampled above the Field Collection Reference Point (e.g. Sediment Surface), enter a negative number (-1.5)	optional	optional	optional
Field Collection Lower Depth	O	If you sampled from a single depth, enter the same value you entered for Field Collection Upper Depth	optional	optional	optional
Field Collection Depth Units	P	*FT* or *M*	optional	optional	optional
Sample Composite Flag	V	*Y*	*Y*	*Y* for composite *N* for grab	*Y*
Sample Matrix	X	*Solid/ Sediment*	*Solid/ Sediment*	*Water*	*Solid/ Sediment*
Sample Source	Y	Enter one: *Fresh/Surface Water* *Brackish Water* *Salt/Marine Water* For stormwater, enter a stormwater Sample Source Code from the list in the Results Help document.			
Sample Collection Method	AA	Enter Method Code from Sample Collection Methods for Sediment Traps table below	*SED-CENTRIFUGE* (Suspended sediment / particulate matter (SPM) by centrifuge, continuous flow composite)	See Method valid values for valid values.	*SED-INLINE-FILTER* (Suspended sediment / particulate matter (SPM) collected by in-line filtration)

EIM Field Name	Col	Sediment Trap Sediment	Centrifuge Sediment	Centrifuge Inlet Water	In-Line Filtration Sediment
Sample Preparation Method	AB	Optional	Optional	Optional	Enter Method Code based on filter size from Sample Preparation Methods for In-Line Filtration table below
Fraction Analyzed	AT	*Suspended*	*Suspended*	*Total*	*Suspended*
Result Basis	AV	*Dry*	*Dry*	Leave blank	*Dry*
Result Method	AY	Enter analytical lab method. See Method valid values for valid values.			

Following are common examples of methods for SPM data. If you don't see the valid value you need, search for more methods online.

Sample collection methods for Sediment Traps

These methods go in the Sample Collection Method field (Column AA) of the Results Template. See common examples below.

Method category	Valid value examples	Description
Collection	SEDTRAP	Suspended sediment / suspended particulate matter (SPM) trap, type undifferentiated
Collection	SEDTRAP-BOTTLE	Suspended sediment / suspended particulate matter (SPM) trap with upright bottle(s) in frame
Collection	SEDTRAP-CYLINDER	Suspended sediment / suspended particulate matter (SPM) trap with upright cylinder(s) in frame
Collection	SEDTRAP-FULLER	Suspended sediment / suspended particulate matter (SPM) trap with low-profile, flow-over, single-chamber tray and baffle design
Collection	SEDTRAP-HAMLIN	Suspended sediment / suspended particulate matter (SPM) trap with low-profile, flow-over, dual-chamber tray and baffle design

Sample Preparation Methods for In-Line Filtration

Method Category	Valid value examples	Description
Preparation	FILTER.45um-CA	Water sample filtered with 0.45 micron (micrometer) cellulose acetate filter (CA)
Preparation	FILTER.45um-GFF	Water sample filtered with 0.45 micron (micrometer) glass fiber filter (GFF)
Preparation	FILTER.45um-PP	Water sample filtered with 0.45 micron (micrometer) polypropylene filter (PP)
Preparation	FILTER.45um	Water sample filtered with 0.45 micron (micrometer) filter (material unspecified)
Preparation	FILTER.70um-GFF	Water sample filtered with 0.70 micron (micrometer) glass fiber filter (GFF)
Preparation	FILTER.80um	Water sample filtered with 0.80 micron (micrometer) filter (material unspecified)
Preparation	FILTER1.5um-GFF	Water sample filtered with 1.5 micron (micrometer) glass fiber filter (GFF)
Preparation	FILTER5um	Water sample filtered with 5 micron (micrometer) filter (material unspecified)

Revision History

Revision Date	Revision No.	Summary of Changes	Revi-ser(s)
3/6/09	1.1	Original Document (should have been named 1.0)	CL
10/6/09	1.2	Updated references to spreadsheet column headings per data model change	CL
8/1/13	2.0	Updated with new field names and permitted values per data model changes. Added new requirement to enter Result Basis for sediment. Updated with new 'permitted values only' requirement for the Field Collection Reference Point. Added sediment trap Collection Methods and stormwater Sample Sources tables. Updated to reflect the new rules for Fraction Analyzed. Added related help document links.	CL
4/15/15	2.1	Updated EIM Collection Methods. For Centrifuge, changed Fraction Analyzed for Inlet Water to Total. Updated Stormwater Sample Sources table. Verified links are current.	CL
4/21/15	3.0	Combined Sediment Trap, Centrifuge, and In-Line Filtration help documents into one. Renamed accordingly. Removed separate help document section (links included inline). Updated Sample Collection Method Codes for centrifuge and in-line filtration.	CL, CN, KC
7/8/15	3.1	Combined Collection Methods SEDTRAP-NORTON96 and SEDTRAP-CYLINDER5.21 into SEDTRAP-CYLINDER. Changed SEDTRAP-NORTON-SW to SEDTRAP-BOTTLE	CN, KC
01/25/16	3.2	Updated method codes and descriptions in the Sample Preparation Methods for In-Line Filtration table	KC

09/08/17	3.3	Updated links	KC
02/23/18	3.4	Changed Field Collection Depth fields for Centrifuge and In-Line from “leave blank” to “optional”	KC
07/08/22	3.5	Added clarification about TSS data, added method category column on method tables, removed table “sample sources for stormwater”.	KC