

FISP Minutes – Fall 2016

Traverse City, MI

Meeting started at 0905 on 9 November 2016.

Attendance:

Mark Landers (USGS) – FISP Chief
Rob Hilldale (BR) – FISP Chair
Jim Selegean (USACE) – FISP Vice chair (minutes)
Roger Kunhle (ARS – NSL)
Molly Wood (USGS) (by phone)
Dan Cenderelli (USFS) (by phone)
Johny Wheat (HIF) (by phone)
Kristen Bunte (CSU) (by phone)

New Membership

Discussed the inclusion of NMFS, USFS and BLM. Dan mentioned that the current leadership at USFS is likely to be more supportive of their participation in FISP. Landers is sending Cenderelli a copy of the Terms of Reference, which would need to be signed at the director level in Washington.

Discussed Bureau of Indian Affairs (BIA) as a member of FISP and who to contact to pursue this.

Discussion with HIF (Wheat)

Wheat reported on the sales figures for the last 6 months.

Discussed the fit of the trays for the D-96. Wheat has to examine each sampler and potentially modify to fit the sampler properly.

FISP Budget

Landers presented the budget numbers for FY16 and the proposed FY17 budget (see attached). We discussed how much to carry over each year especially as it relates to HIF money.

Discussion of Operational Continuous Suspended Sediment Methods

Landers presented the committee with hard copies of the Landers et al. USGS T&M and reviewed the merits of this. The SAID tool does the math to approximate SSC based on ADV and field measurements. This is currently written in Matlab but is being re-written in Python. The SAID tool is available on the SALT web site. The NRTWQ (national real time water quality) web site (a USGS site) was exhibited as a way to visualize and serve this data.

The Topping and Wright Professional Paper #1823 used dual frequency acoustics to approximate SSC. In some instances dual frequency acoustics will give a better approximation than single frequency acoustics.

No recommendations were made by the TC.

LISST-ABS and other Sequoia discussions

This is an 8MHz point sampler (2 cells) that 'sees' sediment from 30-400 microns. Landers made point measurements with the ABS and compared that with concurrent measurements of turbidity and physical samplers. Some of the results were promising. Sequoia is working on improvements based on some of the other results.

The temperature problem discussed at the Spring FISP meeting seems to have fixed.

Sequoia is also developing a sensor that combines an OBS (to 'see' the fine particles better) with the ABS (to 'see' the sand particles better) into one sensor.

ADCP for use in approximate high spatial resolution SSC

Test data sets in Missouri River were collected and included point samples, use of 4 different ADCPs, turbidity and LISST-ABS measurements. So far, fairly good agreement in transport estimates.

Broke for lunch at 1215

Resumed at 1315 after lunch

CSU Bedload Sampler Net Study update provided by Bunte. They have completed a number of flume runs, but still have >50% to complete.

USGS NW Densiometric meter (and LISST-ABS) update provided by Jeb Brown. A lack of high flows has limited the amount of useful data collected this year. An apparatus has been designed and built to deploy the pressure sensors into deeper water. More data will be collected in the coming year.

Sound propagation and flow-induced noise in SGN methods update by J.R. Rigby.

Results of SGN study on Trinity River, CA update by Matt Marineau.

Calibration of Bed Load Samplers Report update by John Gray.

Surrogate Data Collection on an Ephemeral Tributary to the Rio Grande update by Dave Varyu (BLM – TSC). This was not a FISP funded project but of interest to the TC.

Took a break at 1550

Returned from break at 1600

Return to the morning discussion of:

Discussion of High Spatial Resolution Suspended Sediment by ADCP

Wood gave a presentation of STA – Stationary Time-Series Analysis. This tool allows you to input a stationary ADCP data set and visualize velocity and backscatter data and compute SSC.

This discussion transitioned into the 1700 agenda item of, **Design of FISP 2017 Research Project Goals, Plans and Products**. Kuhnle initiated a discussion on the comparability of the different ways of quantifying fines.

The goal of this study is to understand the parameters that affect computing SSC from ADCP data and develop the guidance needed to make this approach operational. The TC agreed that this is going to be the research focus this FY. USACE Detroit will collaborate with a site on St. Joseph River or Grand River. FISP will provide funding for the lab analysis of the physical samples.

10 Nov 2016

Meeting reconvened at 0830.

Landers presented some SSC lab data on the amount of uncertainty in SSC concentrations in very low measurements. At concentrations of ≥ 2 mg/L there is a lot of uncertainty and data at or below 1 mg/L appear to be unreliable. This is part of an ongoing study within USGS to determine uncertainty and levels of detection. Kate Norton is the lead on this study. We will ask her to present the findings at our spring meeting.

Landers is working on the bag sampler memo. A draft is expected to be complete and delivered to the TC by 1 Dec 2016.

Landers is working on a nozzle memo to provide guidance for sampling for SSC when dunes are present and there are safety issues with having the sampler hit the bottom. This is only an issue with sampling the lower Mississippi. A draft is expected 1 Dec 2016.

A brief tribute to the 41st anniversary of the sinking of the Edmund Fitzgerald (today) was observed before embarking on our fluvial reconnaissance trip down the Boardman River.

A discussion about the partitioning of Landers' time between FISP activities, related activities and other activities ensued.

The FISP website needs updating. USGS is transitioning their website format. FISP funded projects and reports will be posted as soon as possible, regardless of the transition status of the website.

We discussed cohosting a sediment workshop with CUAHSI and FISP. This has a likely time-frame of 2018 for hosting. The topic will likely broaden to all sediment surrogates rather than just acoustic surrogates.

Spring meeting the week of 17 April 2017. Location to be determined.