902305 - Event Detection using the Sedimentation Event Sensor

Week 50

1. Rich Henthorn
    a. Investigating fluorometer light issue - confirmed no issue
2. Paul McGill
    a. Processed more fluorometer data
    b. Wrote documentation for fluorometer data file format to avoid confusion about recorded values

Week 49

1. Rich Henthorn
    a. New controller stack - data storage
2. Paul McGill
    a. Analyzed fluorescence data from MARS deployment

Week 48

1. Rich Henthorn
    a. Reduced boot time of main controller

Week 46

1. Rich Henthorn
    a. Meeting with McLane about their TriggerTrap development
2. Paul McGill
    a. Had a meeting with software team at McLane to work out details of NRE programming
    b. Helping Crissy with power issues on the ISSUS camera

Week 45

1. Rich Henthorn
    a. Next gen controller
2. Paul McGill
    a. Shipped controller end cap and stepper motor back to McLane for upgrade to Gen3

Week 44

1. Rich Henthorn
    a. Next gen SES controller
2. Paul McGill
    a. Finally got PO submitted for Gen3 controller

Week 43

1. Rich Henthorn
    a. SES recovered Tuesday Oct. 24
    b. Opportunity arose due to winch issues while Carson was at MARS
    c. The lab team zoomed-in with tele-presence and accomplished what we needed
2. Paul McGill

    a. Participated in recovery of SES on Tue via telepresence

Week 42

1. Rich Henthorn
    a. Prepared SES for MARS power disruption scheduled for today
    b. SES scheduled for recovery next Thursday the 26th
    c. Prep for next phase in new SES controller development

Week 41

1. Rich Henthorn
    a. Rotate logs and restart mission
    b. Recover SES scheduled for Oct 26

Week 39

1. Paul McGill
    a. Negotiated reasonable cost for NRE to modify Gen3 controller for remote triggering

Week 38

1. Paul McGill
    a. Went to storage at end of island to look at our Sediment Traps and pick the best one to modify for remote triggering
    b. Got quote from McLane for new Gen3 Sed Trap controller and NRE for modification for remote triggering

Week 37

1. Rich Henthorn
    a. Met with Paul Devine of Teledyne Marine about our recent modem purchase
    b. Offload latest data from SES on MARS, clear logs and restart mission
2. Irene Hu
    a. Read Crissy's abstract
3. Paul McGill
    a. Helped Crissy write abstract for OSM 2024

Week 36

1. Rich Henthorn
    a. Reviewing recent MARS data

Week 35

1. Rich Henthorn
    a. Acoustic modem purchase
    b. Project meeting
    c. Controller upgrade

Week 34

1. Rich Henthorn
    a. Benthos modem spec, quote, and PO

    b. Telecon with McLane concerning adaptive sampling
2. Irene Hu
    a. Conversation with McLane; will likely use Gen3 controller to trigger a trap
3. Paul McGill
    a. Had a Zoom call with engineers at McLane to discuss their Gen3 sediment trap controller.

Week 33

1. Rich Henthorn
    a. SES mission on MARS - reset logs and restart mission
2. Paul McGill
    a. Finally resurrected Snappy TNG after tracking down an obscure error with the Timer1 asynchronous mode. Also corrected bug in Microchip's MCC-generated code.

Week 32

1. Rich Henthorn
    a. Acoustic modem quotes
    b. Sediment trap triggering
    c. SES data reviews
2. Paul McGill
    a. Reviewed documentation for newest McLane sediment trap controller to see how we might control it with our own remote trigger.

Week 31

1. Rich Henthorn
    a. SES and shore-side processing working well
    b. Processing adapted to the recent Atlas storage space issue
    c. Updating repo with newest software and scripts
2. Irene Hu
    a. Planning meeting
3. Paul McGill
    a. Working with McLane engineer to determine method for remotely triggering sediment traps

Week 29

1. Rich Henthorn
    a. Modifications for periodic SES reference measurement
    b. Refinements to data processing SES on MARS

Week 28

1. Rich Henthorn
    a. Refining data-processing scripts
    b. Proposal discussion

Week 27

1. Rich Henthorn
    a. Tuning SES data xfer and processing script
    b. 2024 proposal

Week 26

1. Rich Henthorn
    a. Prep Linux server *pulse* for data transfer and processing
    b. Port prototype processing scripts to Linux server and test
    c. Currently running SES science mission for month of July with data handled by *pulse*
2. *Irene Hu*
    a. Planning meeting

Week 25

1. Rich Henthorn
    a. Installing data transfer and processing scripts on SHORE server
2. Paul McGill
    a. Continuing to monitor data from SES. So far, so good.

Week 22

1. Rich Henthorn
    a. SES data pulling during MARS deployment
    b. Data being synced to shore after each measurement

Week 21

1. Rich Henthorn
    a. SES data pull from the weekend - functioning well
    b. Working on automated data pulls and processing
    c. TODO: Check-out Kent's xFOCE www system to provide web access to latest data
2. Irene Hu
    a. Biweekly meeting
3. Paul McGill
    a. Continuing to monitor SES data as it comes in from MARS

Week 20

1. Rich Henthorn
    a. Automating data extraction from SES while on MARS
2. Paul McGill
    a. Wrote code to process SES macro images.

Week 19

1. Rich Henthorn
    a. Mob for SES MARS deployment
    b. SES MARS deployment
    c. SES data processing
2. Irene Hu
    a. Deployment at MARS 5/8/23
3. Paul McGill
    a. Deployed the SES on MARS on Monday. It works!

Week 18

1. Rich Henthorn

    a. Preparation for MARS deployment
2. Paul McGill
    a. Prepping SES for Monday's deployment.

Week 17

1. Rich Henthorn
    a. SES acoustic modem issues - serial communications from the modem
2. Irene Hu
    a. Helped troubleshoot Benthos modem comm issue (pins loose in internal connector)
3. Paul McGill
    a. Fixed bad connector on Benthos modem. It now works, so I put it back on the SES frame.
    b. Retrieved six float blocks from Castroville.
    c. Working with Mtechs to get SES configured for May 8 deployment.

Week 16

1. Rich Henthorn
    a. SES MARS Wet-node Simulator Test Tank preparation and operation
    b. Results look good
2. Irene Hu
    a. Troubleshooting SES (eg issues with power circuitry) and reassembled
    b. Test tank test with MARS wet node simulator
3. Paul McGill
    a. Finished closing all SES housings.
    b. Ran SES in Test Tank on MARS WNS all day Wed; iit passed all tests.

Week 15

1. Rich Henthorn
    a. Preparations for MARS wet node simulator testing
    b. Acquire and setup next-gen control board

Week 14

1. Rich Henthorn
    a. Image analysis
    b. Test SES for upcoming deployment

Week 13

1. Rich Henthorn
    a. Weekly meeting
    b. Install python image processing tools on target
    c. Turns out we need to upgrade OS and main CPU board
    d. Ordered upgraded main processor CPU (7250-V3)

Week 12

1. Rich Henthorn
    a. Tested reassembled SES for motor and fluorometer comms
2. Paul McGill
    a. Preparing for meeting with McLane on Thu

Week 10

1. Rich Henthorn
    a. Meeting - discussed May SES deployment
    b. Working on dev stack while SES is undergoing maintenance, prep for May deployment
2. Paul McGill
    a. Disassembled, cleaned, inspected, and replaced o-rings on SES camera and fluorometer with Irene H's help.
    b. Opened SES battery sphere after wasting hours of Paul C's time removing a galled titanium screw.

Week 9

1. Rich Henthorn
    a. Spare stack dev

Week 8

1. Rich Henthorn
    a. Broke out the spare SES stack for development

Week 6

1. Rich Henthorn
    a. Setup spare stack for development
2. Paul McGill
    a. Found silicone oil to refill sediment trap motor.

Week 5

1. Rich Henthorn
    a. Dev meetings to discuss requirements, reviews, early May deployment
    b. Firing-up spare SES stack for dev
2. Paul McGill
    a. Got SES working again with old motor, new cable on order for new motor.
    b. Finished processing SES data from past deployments to identify significant sedimentation events.

Week 4

1. Rich Henthorn
    a. Meeting to discuss what image processing can be done onboard during a mission
    b. Some project planning

Week 3

1. Rich Henthorn
    a. Meeting
    b. Planning Eng tasks (docs, reviews, etc)
2. Paul McGill
    a. Attended project kickoff meeting.
    b. Working out wiring for new sediment trap motor and repairing wiring of Hall switch.
    c. Reprocessing old deployment data to see trends in sedimentation rates and to review quality of data.

Week 2

1. Paul McGill

    a. Worked with Rich H. to find reason for fail on previous deployment, found a bad Hall sensor cable and noted other anomalies that I'm investigating further.

Week 1

1. Rich Henthorn
    a. Initial planning - electronics, expenses, software tools, etc.