902401 - Geo-Sense

Week 27

1. Denis Klimov
    a. We had a successful 3rd deployment of the DAS system with the Elevator and 115 m. of the optical fiber unspooled with the ROV. Deployed/ recovered with Rachel Carson and stayed out for a week. An updated output of the optical fiber from the elevator was tested and we acquired good data.
    b. Sensitivity was proven to be sufficient to detect minor earthquakes. This test is informative for optimizing equipment for further deployments.

Week 25

1. Rich Henthorn
    a. DAS recovery
2. Alana Sherman
    a. Recovered the instrument last week after successful mission
    b. Proposal review
    c. Working on plans for field work in october

Week 23

1. Rich Henthorn
    a. Prep for June 3 deployment
    b. Time sync procedure

Week 21

1. Denis Klimov
    a. Testing clock drift in the environmental chamber.
    b. Recycled old batteries after the deployment, looking into the way of storing/ securing glass spheres in the lab.
2. Alana Sherman
    a. Preparing for June 3 deployment
    b. Working with Bryan to untangle FO cable
    c. Going to instrument prep- tested new cables, new batteries
    d. Filled in precruise

Week 20

1. Rich Henthorn

    a. Clock drift data

Week 19

1. Rich Henthorn
    a. Interesting clock drift tests
    b. Dead-reckon on the 1 ms oscillator
2. Alana Sherman
    a. Continued planning for Hydrosense

Week 18

1. Alana Sherman
    a. Trying to get operational plans worked out for the R/V Gaia Blu operations
    b. Worked with Bryan to untangle and evaluate the fiber cabled used on our February GeoSense deployment, used OTDR and DAS to evaluate damage
    c. Got James going on last bit of cabling needed for integrating the Ti battery sphere

Week 17

1. Rich Henthorn
    a. More clock drift tests

Week 15

1. Denis Klimov
    a. Dealing with post-deployment action items; removing battery packs from glass spheres for recycling; ordering the fiber optic inspection tool.
    b. Testing DAS clock drift at 6C in OFF state in the environmental chamber in the building G which so far produces inconsistent results.

Week 12

1. Rich Henthorn
    a. Prep for instrument recovery scheduled for Thursday

Week 11

1. Rich Henthorn
    a. Castroville warehouse trip for Ti housing
2. Alana Sherman
    a. Plans for our expedition on the R/V Gaia Blu are now going full throttle.
    b. So many details to figure out with containers, beacons, elevator configuration, and shipping Li batteries

    c. Had first meeting with the Italian team and the Gaia Blu bridge and lots to discuss and follow up on
    d. Followed up with Drew Lucas from Scripps, and we learned a great deal about deploying cables off beaches, and I think there isan opportunity for future collaborations

Week 9

1. Rich Henthorn
    a. Researching methods to account for clock drift on the DAS
2. Denis Klimov
    a. We are processing deployment data from the Feb 3, 4 DAS deployment. In conditions of poor visibility, we somehow strained the fiber during spool deployment. People at Sintela produced a good report based on the data identifying two strain events and pinning exact time when it happened, to 1 sec. precision.
    b. Subsequently, I made a report based on ROV video and dozens of framegrabs, identifying the first strain event due to the fiber coming to the tension and spool starting rotation.
    c. And Rebecca E. did an analysis based on the ROV coordinates, which pointed out that when the strain even happened, we likely pulled the optical fiber against strain release, thus possibly stressing the fiber at the very end of the strain relief (aka “the noodle”).
    d. Those findings are going to influence the next design.

Week 7

1. Alana Sherman
    a. For last week we deployed GeoSense on the elevator on the canyon shelf on Tues/Weds. Conditions were terrible but we got deepsea connect to work and we think despite some issues with the cable we should get good data.
    b. Our Hyrdosense proposal to deploy GeoSense near the submarine caldera under Kolumbo, Greece was approved so now we need to work with how to get the mini and geosense there and working.

Week 6

1. Rich Henthorn
    a. Deployment prep and deployment on Carson

Week 5

1. Rich Henthorn
    a. Deployment prep networking allowing Sintela access
2. Alana Sherman

    a. Cruise prep

Week 3

1. Denis Klimov
    a. DAS Jan 12th deployment was postponed to the Fab 3rd; so now we have more time for the Test Tank testing. In mean time, we have to move the Laser Lab A282a into A283, due to the upcoming facilities work, and in case if we would need to open the sphere and work with the laser before the upcoming deployment days.

Week 2

1. Rich Henthorn
    a. Analyzing DAS system clock drift measurements made while the ambient temperature in the cold room changed from 4 C to 20 C
    b. Comparing drift data to correlated current-draw and temperature measurements
2. Alana Sherman
    a. Frantically preparing for our deployment next week
        i. Testing the DAS with batteries
        ii. Tested Deepsea Connect
        iii. Successfully fusion-spliced a test cable to use while we prep for deployment
        iv. Sealed up some of the pressure housings