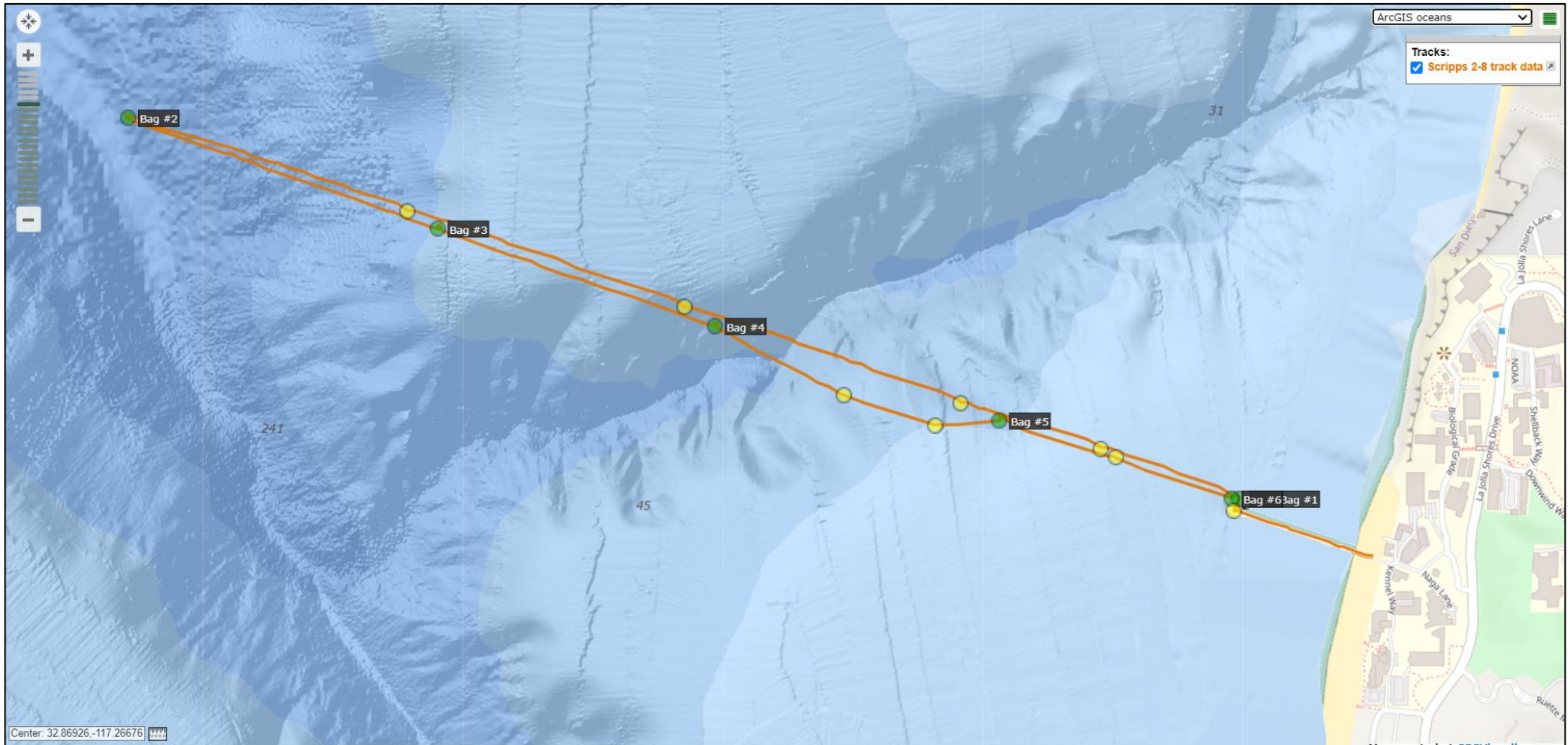


Scripps Water Sampling – 2/8/2021 – Mission Report

Project Goal

The project goal is to demonstrate the use of an autonomous vehicle to collect 6 water samples from a series of waypoints extending out from the Scripps pier past the start of the Scripps canyon. The samples will be used to compare the biological makeup of the water in different locations relative to the pier. Each water sample was collected in a bag and contained 500-600 ml of water from the specified waypoints.



Mission Track Data and Waypoints

Mission Summary

Arrived at Scripps pier at 8:00 AM. Attached the SeaSatellites USV to the pier crane. Lowered the USV to the water and detached the crane from the USV with a quick release triggered from a pull line.

The USV collected the first water collection sample by the dock. Jeff proceeded to hang 10 while the USV traveled to the farthest collection waypoint 1.5 miles off the pier and proceeded to collect a water sample from that and each of the prescribed waypoints on the return trip to the pier.

Once at the pier the crane was reattached to the USV by Jeff via swimming. The boat was then lifted back onto the pier.

The collected water samples were removed from the boat and passed on to Scripps for lab analysis.

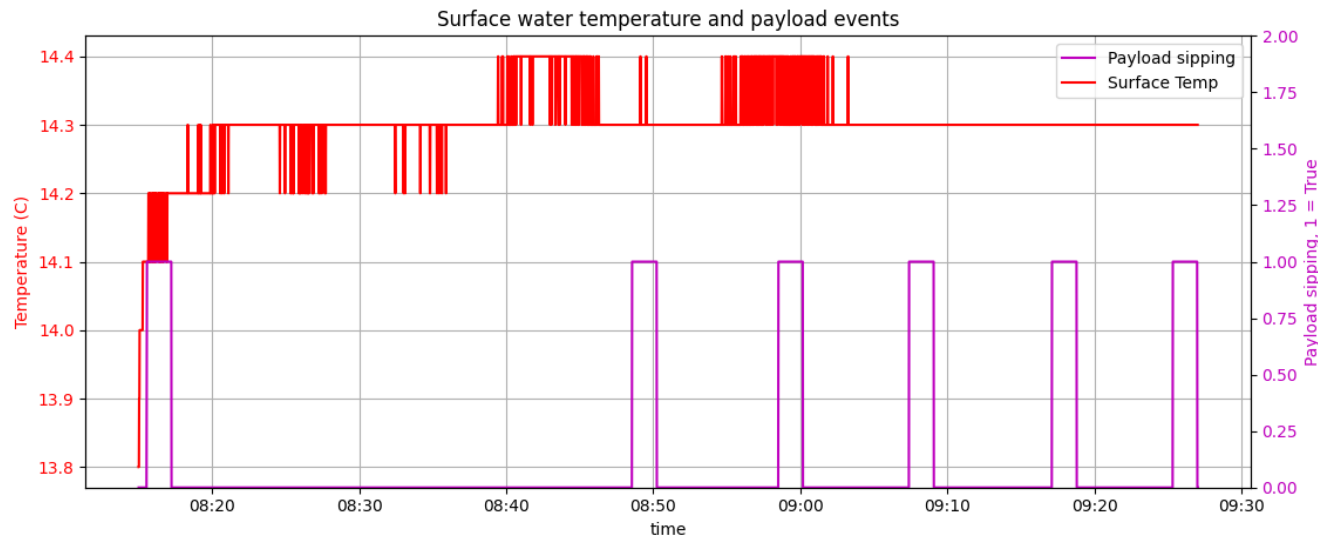
Data

Table 1: Latitudes & Longitude of the water collection locations

Bag #	Latitude	Longitude	Start Fill Time	Stop Fill Time	Surface Temp °C
1	32.86727	-117.25718	8:15:35 AM	8:17:15 AM	14.2
2	32.87401	-117.28066	8:48:34 AM	8:50:15 AM	14.3
3	32.87205	-117.27411	8:58:31 AM	9:00:11 AM	14.4
4	32.87032	-117.26826	9:07:24 AM	9:09:05 AM	14.3
5	32.86864	-117.26226	9:17:07 AM	9:18:48 AM	14.3
6	32.86726	-117.25734	9:25:20 AM	9:27:00 AM	14.3

Table 2: USV mission data

Parameter	Value
Launch time	2/8/2021 8:15 AM
Recovery time	2/8/2021 9:30 AM
Trip distance	3.0 miles
Trip time	1 hour 12 minutes
Top speed	3.4 knots
Average speed	2.2 knots



Surface water temp over the course of the mission

Personnel

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