

Channel Islands National Park's Kelp Forest Monitoring Program

Protocol reference guide for

OCEANOGRAPHIC CONDITIONS



Abstract

Oceanographic conditions is KFM's benthic temperature monitoring protocol. This monitoring is done through temperature logging sensors. These sensors record temperature data every hour and need to be changed out once per season. The data is downloaded, and the sensors are reused.

Each monitoring site (except Miracle Mile) is equipped with two temperature logging sensors. The temperature loggers are swapped out with fresh sensors every year and the data are downloaded. These sensors are housed in a small black case affixed to a bolt in the reef. These are often overgrown and hard to find.



Each site's description will have a location of the temperature unit.

San Miguel Island
Wyckoff Ledge
Site #1

Code Name: SMWL

Date Established: 1981

Latitude: 34° 01.342 N

Longitude: 120° 23.248 W

Transect Orientation: Southeast to Northwest (120° - 280°)

<u>Stake</u>	<u>Meter</u>	<u>Bearing to next stake</u>	<u>Depth (ft)</u>
0	0	290	42
1	12.7	300	43
2	?	290	44
3	32.2	320	42
4	41.3	300	42
5	50.3	290	45
6	61.8	280	44
7	70.5	290	44
8	82.1	310	42
9	92.8	270	40
10	102	n/a	48

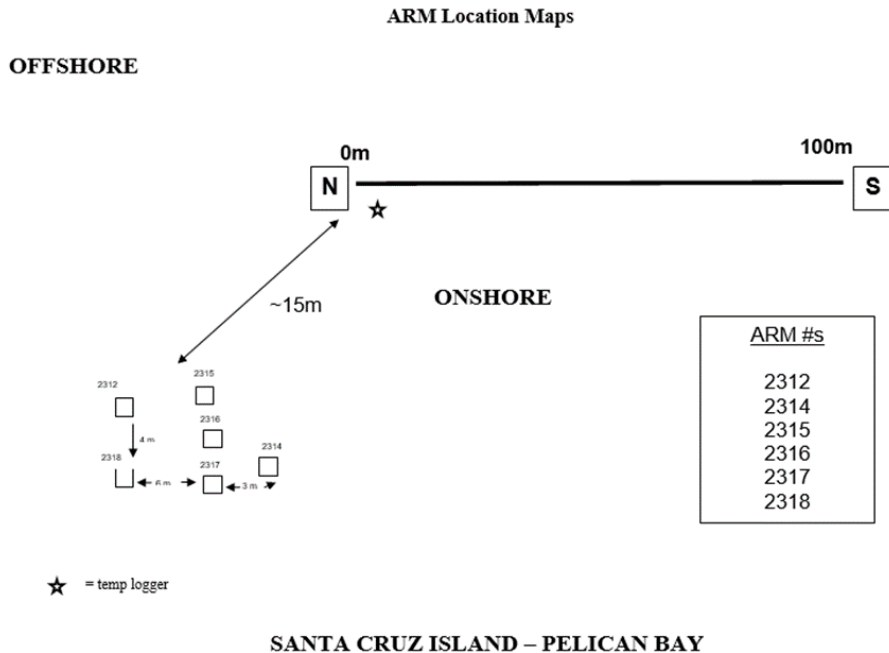
Old photo-plot location relative to permanent transect: On 1-2 m on south (offshore) side of transect line and 20-24 m from east end, four brass stakes.

Description of surface location: Outside edge of inside kelp forest, parallel to bluff between 2 sandy beaches, 0.15 miles off bluff.

Description of bottom topography: Sand covered rock, mostly flat with a few larger rocks rising 3-4 feet off bottom.

Location of temperature unit: 0 meter mark at the east end, depth 46 feet.

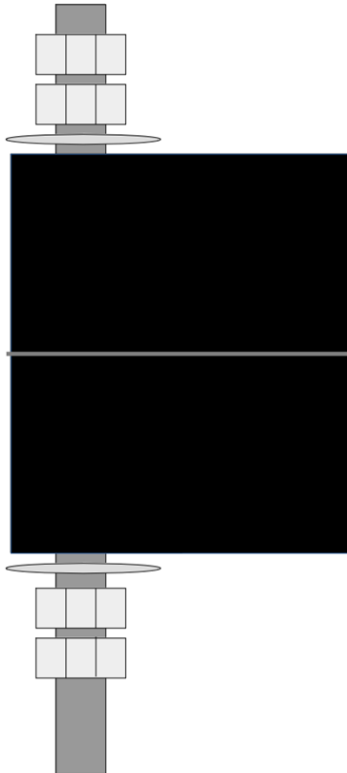
Sites with ARM maps will also include the location of the temperature unit



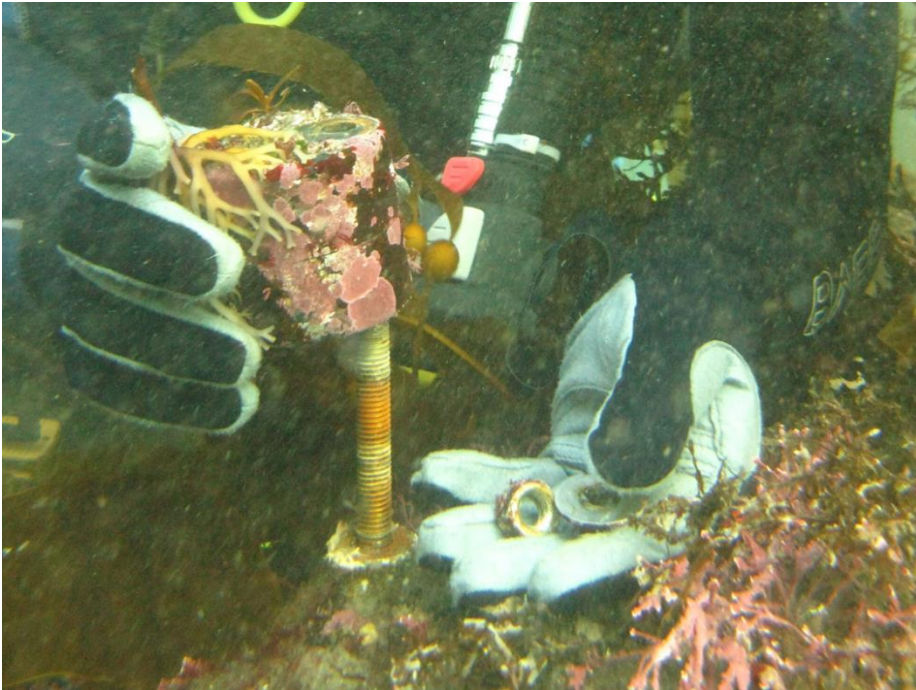
Once identified, the temp logger has two nuts on the top of the housing. Using two box end wrenches, remove the top two nuts. The nuts may need to be worked back and forth to grind away encrusting marine life. Be careful not to put undue strain on the bolt itself (USE BOTH WRENCHES!).



The complete temperature logger housing consists of the bolt, four nuts, two washers, and the housing



Once removed, make sure to knock off the washers if they are stuck to the housing. Reuse the washers nuts. Tighten the bottom nut enough to let the housing move by hand but not freely. Use the second nut to tighten against the first nut to secure both in place



Replace the housing with the new pre-prepared housing with new sensors in place. Bring the old housing up and clean the growth from it. Once scraped clean, open the housing and rinse the sensors with fresh water.



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