

## Oceanographic Conditions

### ***Access Table Design Structure for OceanTemp***

<b>Field Name</b>	<b>Data Type</b>
Site_Number	Number
IslandCode	Text
IslandName	Text
SiteCode	Text
SiteName	Text
Year	Number
DateTime	Date/Time
Temp_C	Number

### ***Sample Size and Database Anomalies***

Prior to 1993, temperature was recorded at several of the kelp forest monitoring sites using a temperature-depth recorder (TDR). Many problems were experienced with the TDRs, and only sporadic data exist from the sites where they were originally deployed. The data from the TDRs can be found in T:\Im\WEATHER\WI in the Access table labeled WI\_OceanHobotemp. TDRs were originally deployed at the following sites: Arch Point, Landing Cove, Fry's Harbor, Gull Island and Hare Rock.

In 1993, small remote temperature loggers were deployed at all 16 of the kelp forest monitoring sites. This data is stored in the Access table WI\_OceanHobotemp. If data is missing for a particular site, one can assume that the temperature logger failed and the data is unavailable.

The remote temperature loggers used are made by Onset Computer Corporation. Several models have been used (with some overlap) from 1993-present and they are as follows:

- HoboTemp™ temperature loggers were used from 1993–2005.
- StowAway® temperature loggers were used from 1994–2006.
- Tidbit® temperature loggers were used from 2001–present.
- UTBI Tidbit® V2 temperature loggers were used from 2008–present.

There is overlap in the deployment of different models as the older units are phased out.

HoboTemp™ temperature loggers were set to record temperature every 4–5 hours. StowAway® and Tidbit® temperature loggers were set to record temperature every hour. All temperature loggers measure temperature with an accuracy of +/- 0.2 C°.

The HoboTemp™ and StowAway® temperature loggers are not waterproof and were placed in underwater housings that did insulate the temperature loggers some, but equilibrated within 30 minutes. The Tidbit® temperature loggers are waterproof, but were also placed in the same housing to facilitate attachment to the bottom. Before 2005, all of the PVC housings were watertight. In 2005, the PVC units were replaced with ABS piping that allowed water to enter the housings and were not waterproof. These housings consisted of a section of ABS with two end

caps and a ½ inch hole was drilled through the caps so that it could be bolted to the thread rod at each of the sites.

### ***Sites Sampled Information***

**Table 36.** Temperature data site sampling history.

<b>Dates Available</b>	<b>Island Name</b>	<b>Site Code</b>
1993 – Present	San Miguel	WL, HR
	Santa Rosa	JLNO, JLSO, RR
	Santa Cruz	GI, FH, PB, SA, YB
	Anacapa	AR, CC, LC
	Santa Barbara	SESL, AP, CAT
2003 – 2004	San Clemente	NWH, BSC, EP, HBC
2005 – Present	Santa Rosa	CP, TC, CSAW, SP
	Santa Cruz	DPM, PP, CVP, LS, PRF
	Anacapa	KH, EFC, BSBR, LH
	Santa Barbara	WA, GC, SER