

**Title:** Kibesillah Hill Intertidal Zone Seawater Temperature

**Summary:** Temperature data were collected using Onset TidbiT v2 Water Temperature Data Logger - UTBI-001 (<http://www.onsetcomp.com/products/data-loggers/utbi-001>).

Specifications reported by Onset for this product are as follows: temperature sensor accuracy:  $\pm 0.2^{\circ}\text{C}$  (from  $0^{\circ}$  to  $50^{\circ}\text{C}$ ); resolution:  $0.02^{\circ}\text{C}$  (at  $25^{\circ}\text{C}$ ); response time: 5 minutes in water to 90% and drift:  $0.1^{\circ}\text{C}$  per year; time accuracy:  $\pm 1$  minute per month ( $0^{\circ}$  to  $50^{\circ}\text{C}$ ). In some cases when the primary data logger at a site failed, temperature data from a HOBO Pendant<sup>®</sup>

Temperature/Light Data Logger 64K - UA-002-64 (<http://www.onsetcomp.com/products/data-loggers/ua-002-64>) were substituted. Specifications reported by Onset for this product are as follows: temperature sensor accuracy:  $\pm 0.53^{\circ}\text{C}$  (from  $0^{\circ}$  to  $50^{\circ}\text{C}$ ); resolution:  $0.14^{\circ}\text{C}$  (at  $25^{\circ}\text{C}$ ); response time: 5 minutes in water to 90% and drift:  $< 0.1^{\circ}\text{C}$  per year; time accuracy:  $\pm 1$  minute per month (at  $25^{\circ}\text{C}$ ).

Temperature data loggers were installed in the mid-intertidal zone ( $\sim 0\text{--}0.3$  m above MLLW) at Kibesillah Hill (39.600363, -123.789155), California, USA. The sensor is attached by plastic cable ties to the top of a small stainless steel cage that is affixed to the rock by stainless steel lag screws using plastic high tension anchors set into pre-drilled holes; the sensor itself is thus suspended just above the rock. Out of water (air temperature measurements) were removed from the dataset by aligning the temperature data series with tidal height predictions (downloaded from: <http://tbone.biol.sc.edu/tide/>) and removing observations when the tide is less than 0.5 m above the apparent tidal height of the sensor. The apparent tidal height of the sensor is determined by visual inspection of the plotted temperature and tidal height data with focus on periods of extreme low tides. A transition from water to air is clearly indicated when the change in temperature between adjacent measurements is  $\geq |0.4|$   $^{\circ}\text{C}$  delineating an obvious, sharp transition as the sensor is uncovered or covered by the tide.

**Keywords:** intertidal, seawater temperature, Bodega Head, northern California

**Vertical position:** 1 ft above MLLW

**Institution:** Sonoma State University

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**Project:** CeNCOOS: Long-term monitoring of environmental conditions in support of protected marine area management in central and northern California; CeNCOOS: Integrating marine observations to inform decision makers and the general public; Collaborative Research: Scaling up from community to meta-ecosystem dynamics in the rocky intertidal - a comparative-

experimental approach; Collaborative Research: The role of calcifying algae as a determinant of rocky intertidal macrophyte community structure at a meta-ecosystem scale

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**Contributor** (name and role of any people who contributed to the data set): Adele Paquin and Megan Wood assisted with field maintenance, data collection and data processing.

**Publisher:** CeNCOOS, [www.cencoos.org](http://www.cencoos.org), cencoos\_communications@mbari.org

**License** (restrictions on use of data and distribution): These data may be redistributed and used without restriction. However, the author would like to be informed of projects developed using these data.

**Processing level** (QC): Level 2, based on <http://science.nasa.gov/earth-science/earth-science-data/data-processing-levels-for-eosdis-data-products/>

**Publication References:**

McPhee-Shaw, E. E., K. J. Nielsen, J. L. Largier, and B. A. Menge (2011), Nearshore chlorophyll-a events and wave-driven transport, *Geophys. Res. Lett.*, 38, L02604, doi:[10.1029/2010GL045810](https://doi.org/10.1029/2010GL045810).

Wood, M.E. 2008 Reproductive output of a keystone predator and its preferred prey: the differential influence of oceanographic regime and local habitat. MS Thesis. Sonoma State University, Rohnert Park, CA. 54 pp.