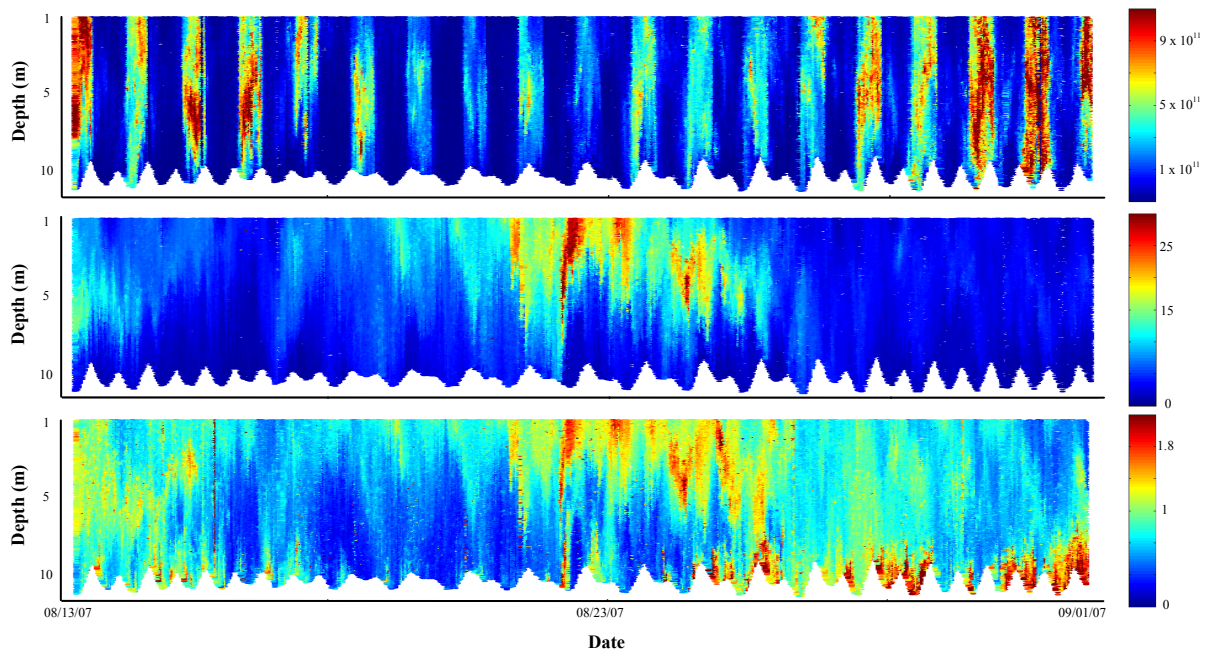


WET Labs' Underwater Bioluminescence Assessment Tool (UBAT) is designed to measure mechanically stimulated bioluminescence in both coastal and oceanic systems from 0–600 m in depth.



Features

- Provides calibrated, high-resolution (60 Hz signal & 1 Hz average) measurement of mechanically stimulated bioluminescence for assessing water column ecosystem dynamics.
- Field calibration light source is used to track sensor drift.
- Modular design for easy cleaning.



Bioluminescence (photons $L^{-1} s^{-1}$), chlorophyll-a ($\mu g L^{-1}$), and turbidity (NTU) vertical time series collected with an autonomous profile mooring between August 13–31, 2007, at the California Polytechnic State University Center for Coastal Marine Sciences located in Avila Beach, CA.

Bioluminescence, in conjunction with other IOPs, can provide a more complete picture of spatial and temporal variability of the biogeochemical complexity of coastal and ocean ecosystems, especially the response of the planktonic community, to environmental fluctuations.

Specifications

Mechanical

<i>General dimensions</i>	34.93 cm x 10.80 cm x 16.83 cm
<i>Intake</i>	3.81 cm ID; 5.08 cm OD
<i>Weight (in air)</i>	5.10 kg
<i>Weight (in water)</i>	1.64 kg
<i>Pressure housing</i>	Acetyl copolymer plastic
<i>Detection chamber</i>	Molded acrylic and titanium dioxide (> 95% reflectance between 430–700 nm) — <i>Light-baffled air-bleed ports located at top of the detection chamber exhaust any air</i>
<i>Flow rate</i>	$0.330 \pm 0.03 \text{ L s}^{-1}$
<i>Chamber volume</i>	0.440 L

Environmental

<i>Temperature range</i>	4–38 deg C
<i>Depth rating</i>	600 m

Electrical

<i>Digital output signal</i>	RS-232
<i>Digital output resolution</i>	16 bit
<i>Baud rate</i>	19200
<i>Input voltage</i>	9–18 VDC
<i>Current, typical</i>	600 mA
<i>Sample rate</i>	60 Hz sampling rate with 1 Hz data output rate
<i>Connectors</i>	MCBH-6-MP (power & communication), MCBH-3-FS (Validation LED)

Optical

<i>Detectors</i>	Photomultiplier Tube
<i>Detection range</i>	$1.50e^7 - 6.7e^{13} \text{ Photons s}^{-1}$

Data

<i>Units</i>	Photons $\text{L}^{-1} \text{ s}^{-1}$
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Specifications are subject to change without notice.