

Instrumentation

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Electronic instruments can be deployed to measure bioluminescence, along with other characteristics of the ocean such as temperature, salinity, optical transmission properties, and stimulated fluorescence.

This information can then be used to create two- and three-dimensional maps of bioluminescence in the sea.

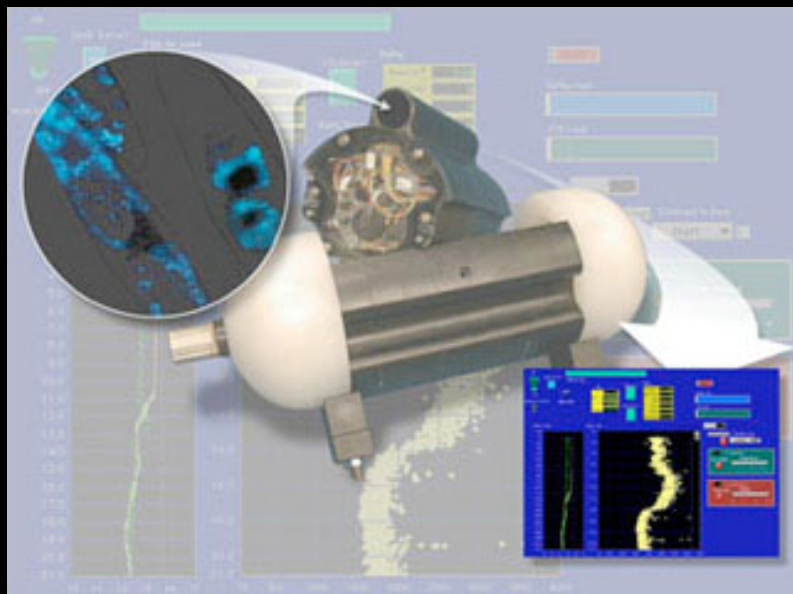
Several oceanographic instruments have developed in the James Case's lab at the University of California, Santa Barbara with Navy sponsorship.



The HIDEX bathyphotometer shown above is used to obtain vertical profiles of bioluminescence and other physical properties.



Other variations on the theme include a moored version (left) which can be left unattended for long periods or operated in profiling mode, and a towed version (right) which can be used underway to develop large-scale maps of the distribution of luminescence.



Recently the Case Lab and Cyril Johnson of the UCSB Physics Electronics Shop have developed a small bathyphotometer (above) for use as module in a REMUS autonomous underwater vehicle.

Some of the most sophisticated of these instruments are used by oceanographers in the Navy. Read more about these at the web page of the [Naval Oceanographic Office](#).

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