

Particle size from the Underwater Vision Profiler (UVP) from R/V Kilo Moana KM0814 in the North Pacific Subtropical Gyre north of Hawaii from July to August 2008 (C-MORE project)

Website: <https://www.bco-dmo.org/dataset/3392>

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Project

» [Center for Microbial Oceanography: Research and Education](#) (C-MORE)

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Table of Contents

- [Dataset Description](#)
 - [Methods & Sampling](#)
 - [Data Processing Description](#)
- [Parameters](#)
- [Instruments](#)
- [Deployments](#)
- [Project Information](#)
- [Funding](#)

Dataset Description

Particle size from the Underwater Vision Profiler (UVP)

Methods & Sampling

See Platform Deployments for cruise specific documentation

Data Processing Description

See Platform Deployments for cruise specific documentation

[[table of contents](#) | [back to top](#)]

Parameters

Parameter	Description	Units
vol_per_image	volume per image	liters
date	date	YYYYMMDD
sta	station number	dimensionless

lat	latitude	decimal degrees (South is negative)
lon	longitude	decimal degrees (West is negative)
time	time	HHMMSS
depth_w	depth water	meters
depth_n	depth nominal	meters
depth	depth exact	meters
number_of_images	number of images	dimensionless
Zero_point_0523_to_Zero_point_0659_mm	particles in the size range 0.0523-0.0659 mm	number per liter
Zero_point_0659_to_Zero_point_0831_mm	particles in the size range 0.0659-0.0831 mm	number per liter
Zero_point_0831_to_Zero_point_1046_mm	particles in the size range 0.0831-0.1046 mm	number per liter
Zero_point_1046_to_Zero_point_1318_mm	particles in the size range 0.1046-0.1318 mm	number per liter
Zero_point_1318_to_Zero_point_1661_mm	particles in the size range 0.1318-0.1661 mm	number per liter
Zero_point_1661_to_Zero_point_2093_mm	particles in the size range 0.1661-0.2093 mm	number per liter
Zero_point_2093_to_Zero_point_2637_mm	particles in the size range 0.2093-0.2637 mm	number per liter
Zero_point_2637_to_Zero_point_3322_mm	particles in the size range 0.2637-0.3322 mm	number per liter
Zero_point_3322_to_Zero_point_4186_mm	particles in the size range 0.3322-0.4186 mm	number per liter
Zero_point_4186_to_Zero_point_5274_mm	particles in the size range 0.4186-0.5274 mm	number per liter
Zero_point_5274_to_Zero_point_6645_mm	particles in the size range 0.5274-0.6645 mm	number per liter
Zero_point_6645_to_Zero_point_8372_mm	particles in the size range 0.6645-0.8372 mm	number per liter
Zero_point_8372_to_One_point_0548_mm	particles in the size range 0.8372-1.0548 mm	number per liter
One_point_0548_to_One_point_3289_mm	particles in the size range 1.0548-1.3289 mm	number per liter
One_point_3289_to_One_point_6743_mm	particles in the size range 1.3289-1.6743 mm	number per liter
One_point_6743_to_Two_point_1095_mm	particles in the size range 1.6743-2.1095 mm	number per liter
Two_point_1095_to_Two_point_6578_mm	particles in the size range 2.1095-2.6578 mm	number per liter
Two_point_6578_to_Three_point_3486_mm	particles in the size range 2.6578-3.3486 mm	number per liter
Three_point_3486_to_Four_point_219_mm	particles in the size range 3.3486-4.219 mm	number per liter

Four_point_219_to_Five_point_3156_mm	particles in the size range 4.219-5.3156 mm	number per liter
Five_point_3156_to_Six_point_6973_mm	particles in the size range 5.3156-6.6973 mm	number per liter
Six_point_6973_to_Eight_point_438_mm	particles in the size range 6.6973-8.438 mm	number per liter
Eight_point_438_to_Ten_point_6312_mm	particles in the size range 8.438-10.6312 mm	number per liter
Ten_point_6312_to_Thirteen_point_3945_mm	particles in the size range 10.6312-13.3945 mm	number per liter
Thirteen_point_3945_to_Sixteen_point_8761_mm	particles in the size range 13.3945-16.8761 mm	number per liter
Sixteen_point_8761_to_Twentyone_point_2625_mm	particles in the size range 16.8761-21.2625 mm	number per liter
Twentyone_point_2625_to_Twentysix_point_7891_mm	particles in the size range 21.2625-26.7891 mm	number per liter

[[table of contents](#) | [back to top](#)]

Instruments

Dataset-specific Instrument Name	Underwater Vision Profiler
Generic Instrument Name	Underwater Vision Profiler
Generic Instrument Description	A description of the UVP instrument can be found in the following publication: Picheral, M., L. Guidi, L. Stemmann, D. M. Karl, G. Iddaoud, and G. Gorsky. 2010. The Underwater Vision Profiler 5: An advanced instrument for high spatial resolution studies of particle size spectra and zooplankton. <i>Limnol. Oceanogr. Meth.</i> 8: 462-473. (access the PDF at URL: http://cmore.soest.hawaii.edu/cmoredata/LMO/Guidi/Picheral_2010.pdf)

[[table of contents](#) | [back to top](#)]

Deployments

KM0814

Website	https://www.bco-dmo.org/deployment/58018
Platform	R/V Kilo Moana
Start Date	2008-07-30
End Date	2008-08-14
Description	<p>OPEREX Cruise Objective The objective of the OPEREX cruise will be to explore the potential and limitations of perturbation experiments at sea. We will follow some natural perturbations including blooms and eddies, and we will perform some of the artificial perturbation experiments including bench/lab scale incubations, ship deck incubations, and ship deck pH shift experiments. Original cruise data are available from the NSF R2R data catalog Related information from the C-MORE OPEREX cruise Web site: Homepage: http://cmore.soest.hawaii.edu/cruises/operex/index.htm Science plan: http://cmore.soest.hawaii.edu/cruises/operex/science_objective.htm Data: http://hahana.soest.hawaii.edu/cmomoreoperex/operex.html Cruise track: http://hahana.soest.hawaii.edu/cmomoreoperex/OPEREXtrack.gif Cruise plan: http://cmore.soest.hawaii.edu/cruises/operex/documents/km0814_cruise_pla... Cruise overview: http://hahana.soest.hawaii.edu/cmomoreoperex/OPEREX_overview.pdf Cruise schedule: http://cmore.soest.hawaii.edu/cruises/operex/documents/OPPEREX_schedule.xls</p> <p>Methods & Sampling # C-MORE OPEREX UVP data # LMO, University of Hawaii # Dave Karl # original file: LMO_UVP_Operex.zip # submitted to BCO-DMO: December 2, 2010 Particles binned in 27 size classes, and in 5 meter depth intervals. Details on the instrument and data analysis can be found in the following reference: Picheral, M., L. Guidi, L. Stemmann, D. M. Karl, G. Iddaoud, and G. Gorsky. 2010. The Underwater Vision Profiler 5: An advanced instrument for high spatial resolution studies of particle size spectra and zooplankton. <i>Limnol. Oceanogr. Meth.</i> 8: 462-473.</p> <p>Processing Description (tbd)</p>

[[table of contents](#) | [back to top](#)]

Project Information

Center for Microbial Oceanography: Research and Education (C-MORE)

Website: <http://cmore.soest.hawaii.edu/>

Coverage: North Pacific Subtropical Gyre (large region around 22 45 N, 158 W)

Project summary

The **Center for Microbial Oceanography: Research and Education** (C-MORE) is a recently established (August 2006; NSF award: EF-0424599) NSF-sponsored Science and Technology Center designed to facilitate a more comprehensive understanding of the diverse assemblages of microorganisms in the sea, ranging from the genetic basis of marine microbial biogeochemistry including the metabolic regulation and environmental controls of gene expression, to the processes that underpin the fluxes of carbon, related bioelements and energy in the marine environment. Stated holistically, C-MORE's primary mission is: *Linking Genomes to Biomes*.

We believe that the time is right to address several major, long-standing questions in microbial oceanography. Recent advances in the application of molecular techniques have provided an unprecedented view of the structure, diversity and possible function of sea microbes. By combining these and other novel approaches with more well-established techniques in microbiology, oceanography and ecology, it may be possible to develop a meaningful predictive understanding of the ocean with respect to energy transduction, carbon sequestration, bioelement cycling and the probable response of marine ecosystems to global environmental variability and climate change. The strength of C-MORE resides in the synergy created by bringing together

experts who traditionally have not worked together and this, in turn, will facilitate the creation and dissemination of new knowledge on the role of marine microbes in global habitability.

The new Center will design and conduct novel research, broker partnerships, increase diversity of human resources, implement education and outreach programs, and utilize comprehensive information about microbial life in the sea. The Center will bring together teams of scientists, educators and community members who otherwise do not have an opportunity to communicate, collaborate or design creative solutions to long-term ecosystem scale problems. The Center's research will be organized around four interconnected themes:

- (Theme I) microbial biodiversity,
- (Theme II) metabolism and C-N-P-energy flow,
- (Theme III) remote and continuous sensing and links to climate variability, and
- (Theme IV) ecosystem modeling, simulation and prediction.

Each theme will have a leader to help coordinate the research programs and to facilitate interactions among the other related themes. The education programs will focus on pre-college curriculum enhancements, in service teacher training and formal undergraduate/graduate and post-doctoral programs to prepare the next generation of microbial oceanographers. The Center will establish and maintain creative outreach programs to help diffuse the new knowledge gained into society at large including policymakers. The Center's activities will be dispersed among five partner institutions:

- Massachusetts Institute of Technology,
- Woods Hole Oceanographic Institution,
- Monterey Bay Aquarium Research Institute,
- University of California at Santa Cruz and
- Oregon State University

and will be coordinated at the University of Hawaii at Manoa.

Related Files:

[Strategic plan \(PDF file\)](#)

[[table of contents](#) | [back to top](#)]

Funding

Funding Source	Award
NSF Division of Biological Infrastructure (NSF DBI)	DBI-0424599
Gordon and Betty Moore Foundation (GBMF)	unknown C-MORE Moore

[[table of contents](#) | [back to top](#)]