Two decibar-averaged CTD profile data from the R/V Ka`imikai-O-Kanaloa KOK1108 (Fukushima Radionuclide Levels project)

Website: https://www.bco-dmo.org/dataset/3559
Version: 14 March 2012
Version Date: 2012-02-28

Project
» Establishing Radionuclide Levels in the Atlantic and Pacific Oceans Originating from the Fukushima Daiichi Nuclear Power Facility (Fukushima Radionuclide Levels)

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Table of Contents

- Dataset Description
- Data Files
- Parameters
- Instruments
- Deployments
- Project Information
- Funding

Dataset Description

in progress

[table of contents | back to top]

Data Files

File
CTD_profiles.csv (Comma Separated Values (.csv), 1.49 MB) MD5:b8b8691fc37cc5b8a9c42d34b9f9e7dc Primary data file for dataset ID 3559

[table of contents | back to top]

Parameters

Parameter	Description	Units
cruise	Cruise identifier	dimensionless
cast	CTD cast number	dimensionless
event	Cruise event identifier	dimensionless
date	Date of sample	YYYYMMDD
lon	longitude	decimal degrees
lat	latitude	decimal degrees
time	time of cast	hhmm
prmax	pressure maximum	decibars
press	sampling pressure	decibars
temp	Temperature	degrees Celsius
sal	Salinity	dimensionless
O2_ml_L	dissolved oxygen concentration	milliliters/liter
PAR	water column photosynthetically active radiation (PAR)	micromols photons/meter^2/second
flvolt	fluorescence	volts
trans_v	transmissivity	volts
beam_cp	attenuation (loss of light) of a narrow, well collimated beam of light; beam attenuation due to particles; the particulate beam attenuation coefficient (cp)	reciprocal meters

[table of contents | back to top]

Instruments

Dataset-specific Instrument Name	CTD Sea-Bird SBE 911plus
Generic Instrument Name	Sea-Bird SBE 911plus CTD
Generic Instrument Description	[tethered, real-time] The Sea-Bird SBE 911 plus is a type of CTD instrument package for continuous measurement of conductivity, temperature and pressure. The SBE 911 plus includes the SBE 9plus Underwater Unit and the SBE 11plus Deck Unit (for real-time readout using conductive wire) for deployment from a vessel. The combination of the SBE 9 plus and SBE 11 plus is called a SBE 911 plus. The SBE 9 plus uses Sea-Bird's standard modular temperature and conductivity sensors (SBE 3 plus and SBE 4). The SBE 9 plus CTD can be configured with up to eight auxiliary sensors to measure other parameters including dissolved oxygen, pH, turbidity, fluorescence, light (PAR), light transmission, etc.). more information from Sea-Bird Electronics

[table of contents | back to top]

Deployments

KOK1108

Website	https://www.bco-dmo.org/deployment/58727
Platform	R/V Ka`imikai-O-Kanaloa
Report	http://bcodata.whoi.edu/Fukushima/Fukushima_KOK1108_dailyBlog.pdf
Start Date	2011-06-04
End Date	2011-06-19
Description	The purpose of the 16 day KOK1108 cruise aboard the University of Hawaii research vessel Ka'imikai-o-Kanaloa was to study the fate of radiation released into the ocean from the Fukushima Daiichi nuclear power plant that was badly damaged by a tsunami on March 11, 2011.

[table of contents | back to top]

Project Information

Establishing Radionuclide Levels in the Atlantic and Pacific Oceans Originating from the Fukushima Daiichi Nuclear Power Facility (Fukushima Radionuclide Levels)

Website: http://www.whoi.edu/page.do?pid=67796

Coverage: Northwest Pacific Ocean

The March 11, 2011 earthquake in Japan and the subsequent tsunami damaged and disrupted cooling systems at the Fukushima Daiichi nuclear power facility causing contamination of land and seas surrounding the site, as well as food supplies and drinking water. Small but measurable quantities of radioactivity have been detected in the atmosphere over the United States, including aerosol samples collected at the Woods Hole Oceanographic Institution, where I-131 was seen to increase to detectable levels as of March 21-22, 2011.

With major funding from the Moore Foundation, as well as a contribution from the National Science Foundation through a 2011 Grant for Rapid Response Research (RAPID) and support from the Woods Hole Oceanographic Institution, collaborating investigators from the United States, Japan, Spain, Monaco, and the

United Kingdom were able to obtain samples off Japan for an early assessment of impacts.

From June 4 through June 19, 2011, a research cruise was carried out aboard the RV Kaimikai-O-Kanaloa, a research vessel operated by the University of Hawaii. During the cruise, hundreds of samples were collected in an area off the coast of Japan as close as 30 kilometers from the Fukushima Nuclear Power Plant and extending as far out as 600 kilometers off shore. The essential components of the program include: radionuclide measurements of water and particles; a radioecological study of biota, especially species at the base of the food chain and key fish species and a physical oceanographic study to characterize transport and water masses. A baseline radionuclide data set for the Atlantic and Pacific was obtained along an east to west network of sampling stations. Three hundred sampling events took place at thirty major stations for a total of more than 1500 samples. Along with 41 CTD stations, bottle samples of salinity, oxygen, radionuclides, and particulates were taken to depths of about 1000 meters. A list of the radionuclides sampled and a sampling summary map is available. One hundred net tows resulted in approximately fifty pounds of biological samples, including plankton and small fish. Daily samples of aerosol were also taken.

Early investigation following an accidental release of man-made radionuclides is key to understanding the magnitude of the release and the relationship to public health issues The research results also set the stage for the use of the longer lived radionuclides as tracers in subsequent studies by the community to understand ocean processes.

[table of contents | back to top]

Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1136693
Gordon and Betty Moore Foundation (GBMF)	unknown Fukushima Radionuclide Levels Moore

[table of contents | back to top]