

## **CURRICULUM VITAE: James K. B. Bishop**

Professor of Marine Science,  
307 McCone Hall,  
Department of Earth and Planetary Science,  
University of California, Berkeley  
Berkeley, CA 94720-4767 USA  
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### **EDUCATION**

B.Sc.(Hon.): Physical and inorganic chemistry: University of British Columbia, Canada, May 1971  
Sc.D: Massachusetts Institute of Technology- Woods Hole Oceanographic Institution Joint Program in  
Oceanography, June 1977. "The chemistry and vertical flux of oceanic particulate matter."

### **EMPLOYMENT**

Professor	2006-	Earth and Planetary Science, UC Berkeley
Faculty Senior Scientist	2006-	Lawrence Berkeley National Laboratory
Senior Scientist	2006	Lawrence Berkeley National Laboratory
Staff Scientist	1998-2006	Lawrence Berkeley National Laboratory
Adjunct Professor	1998-2006	Earth and Planetary Science, UC Berkeley
Professor	1993-1998	School of Earth and Ocean Science, Univ. Victoria
Physical Scientist (GS15)	1993-1997	NASA Goddard Institute for Space Studies,
Adjunct Sr. Research Sci.	1993-1997	Lamont-Doherty Earth Obs. Columbia University
Research Scientist	1992-1993	Lamont-Doherty Earth Obs. Columbia University
Senior Staff Assoc.	1989-1992	Lamont-Doherty Earth Obs. Columbia University
Assoc. Research Sci.	1978-1989	Lamont-Doherty Earth Obs. Columbia University
Post Doctoral Fellow	1977-1978	Lamont-Doherty Earth Obs. Columbia University

### **RESEARCH INTERESTS**

Ocean Carbon Dynamics; Physical, biological, and chemical controls on the cycles of inorganic and organic chemical species in the ocean. Satellite and in-situ remote sensing. Ocean robotics

### **OTHER CONTRIBUTIONS:**

IOCCG BIO-ARGO Working Group (2007-)  
Carbon Cycle Science Ocean Implementation Group (US Carbon Cycle Science Program). 2002-2004  
Co-Director, DOE Center for Research on Ocean Carbon Sequestration. Co Proposed/chaired AGU sessions on the science of Ocean Carbon Sequestration. 1999-2002  
Dec 2001: Proposed and Co-Chaired. AGU special session: "Pushing the Envelope, A tribute to the career and accomplishments of John M. Edmond".  
Member: WCRP, Baseline Surface Radiation Budget Network - Science Panel. 1996-2000  
Member: US-Joint Global Ocean Flux Study (JGOFS) Time Series oversight committee. 1992-2000  
Member: Canadian-JGOFS Science Steering Committee. 1996-1999.  
Director: University of Victoria Regional Inductively Coupled Plasma Mass Spectrometer facility 1993-1998.  
Reviewer: Nature, Science, Deep-Sea Research, Marine Chemistry, Journal of Marine Research, Geophysical Research Letters, Limnology and Oceanography, Global Biogeochemical Cycles, Geochimica et Cosmochimica Acta.  
Panel member NSF (OCE), NOAA, NOPP  
Co-Developer: (with Prof. Glenn Flierl, MIT; Dr. David Glover, WHOI) of the net-work distributed object-oriented data system for JGOFS. The system provides access to distributed physical, geochemical, and biological data bases. Access <http://www1.whoi.edu/jgofs.html>

## HONORS

UC Berkeley Presidential Chair Fellow (F2007 and S2008)  
R&D 100 AWARD Nov 2006. "The Carbon Explorer"

## PROFESSIONAL AFFILIATIONS

American Geophysical Union. The Oceanography Society

## FIELD EXPERIENCE 35 Research Expeditions - 85 weeks at sea;

### **Bishop Group (w/o bishop) : 5 Expeditions: 19 weeks at sea**

July	2009	Participant S.S.V. Robert Seamens (Sea Education) 5 days.
May	2009	G. Cutter, R/V/ Knorr, NSF GEOTRACES - MULVFS, 3.5 weeks
June	2008	G. Cutter, R/V/ Knorr, NSF GEOTRACES - MULVFS, 2 weeks
June	2007	<b>Chief Scientist</b> , R/V Sproul, Carbon Flux Explorer, ONR/NOPP, 3 days
Sept	2006	T. Frank, R/V Wecoma, Carbon Flux Explorer Testing DOE/NSF 10 days
July	2005	K. Buesseler, R/V Revelle, VERTIGO Carbon flux DOE/NSF 42 days.
June	2004	K. Buesseler, R/V Kilo Moana, VERTIGO Carbon flux DOE/NSF 21 days.
June	2003	J. Bullister, R/V Ron Brown A16N, Carbon Explorers, PIC sensor NOAA/ONR, 21 days
Jul	2002	<b>Chief Scientist</b> , R/V Sproul, NOPP, 2 days
Aug	2001	<b>Chief Scientist</b> , R/V New Horizon, NOPP/MULVFS, 14 days
Feb	2001	<b>Chief Scientist</b> , R/V Sproul, NOPP, 2 days
Nov	2000	<b>Chief Scientist</b> , R/V Sproul, NOPP, 2 days
July	2000	J. Sherman, R/V J H Martin, Spray test, 1 day
Feb	1997	F. Whitney, R/V Tully 9704, MULVFS 18 days
May	1996	P. Boyd, R/V Tully 9603, MULVFS 26 days
Feb	1996	F. Whitney, R/V Tully 9601, MULVFS 21 days
May	1993	<b>Chief Scientist</b> , R/V Iselin 9303, MULVFS, - 8 days
Aug.	1992	R. Barber, JGOFS eqpac, MULVFS, 7 weeks
Jan.	1992	J. Murray, JGOFS eqpac, MULVFS, 7 weeks
Nov.	1991	<b>Chief Scientist</b> , R/V Oceanus 246, MULVFS - 5 days.
May.	1990	H. Etcheber, Le Suroit, ECOFER-2, 2 weeks
Sep.	1982	P. Wiebe, Knorr, Warm Core Rings, 3.5 weeks.
Aug.	1982	P. Wiebe, Oceanus 125, Warm Core Rings, 2.5 weeks.
Jun.	1982	P. Wiebe, Oceanus 121, Warm Core Rings, 2.5 weeks.
Apr.	1982	P. Wiebe, Oceanus 118, Warm Core Rings. 2.5 weeks
Sep.	1981	P. Wiebe, Atlantis II-110, Warm Core Gulf Stream Rings. 3 weeks.
Nov.	1979	S. Honjo, R/V Gilliss, Balboa-Balboa, 2 weeks.
Jul.	1979	D.W. Spencer, R/V Knorr, Balboa-Balboa, 3 weeks.
Feb.	1978	S. Honjo, R/V Atlantis II, San Juan-WHOI, 3 weeks.
Jun.	1976	J. Corliss, R/V Melville, Balboa-Balboa, 4 weeks.
Oct.	1974	P. Wiebe, R/V Atlantis II, Bermuda-Woods Hole. 11 days.
Dec.	1973	C. Summerhayes, R/V Chain, Dakar-Capetown, 4 weeks.
Oct.	1973	G. Thompson, R/V Atlantis II, Barbados-San Juan, 4 weeks.
Jun.	1972	A.P. Lisitzin, R/V Dmitri Mendeleev, Los Angeles-Callao, 5 weeks.
Apr.	1972	W. Metcalf, R/V Knorr, Puerto Rico, 2 weeks.

### **Other Bishop - group Seagoing work**

Jan.	2005	R. Wanninkof, R/V Ron Brown, A16S. Part. Inorganic Carbon 45 days (A. Thompson)
Mar.	2004	P. Verdugo, R/V Kilo Moana, Optical carbon Flux instrument 10 days (LBNL group)
Jan.	2002	K. Johnson, R/V Revelle, SOFeX/ Carbon Explorers / MULVFS 45 days (LBNL group)
April.	2001	US Coast Guard Icebreaker Polar Star, Carbon Explorer 7 days (Todd Wood)
Aug.	1996	F. Whitney, R/V Tully 9618, MULVFS 26 days (LBNL group)

## **REFEREED PUBLICATIONS**

### **Submitted:**

- 1 S.E. Wilson, D.K. Steinberg, F.L. Chu, J.K.B. Bishop (2009) Feeding ecology of mesopelagic zooplankton of the subtropical and subarctic North Pacific Ocean determined using lipid biomarkers. *Deep-Sea Research I*.

### **Published Papers: 58**

- 58 Bishop, J.K.B (2009) Autonomous Observations of the Ocean Biological Carbon Pump. *Oceanography*, 22 (2), 182-193.
- 57 Bishop, J.K.B. and T.J. Wood (2009) Year Round Observations of Carbon Biomass and Flux Variability in the Southern Ocean. *Global Biogeochemical Cycles*. 23. GB2019, doi:10.1029/2008GB003206.
- 56 Bishop, J.K.B. and Wood, T.J. (2008) Particulate Matter Chemistry and Dynamics in the Twilight Zone at VERTIGO ALOHA and K2 Sites. *Deep-Sea Research I* 55, 1684-1706. 10.1016/j.dsr.2008.07.012
- 55 Lam, P. J., and J. K. B. Bishop (2008), The continental margin is a key source of iron to the HNLC North Pacific Ocean, *Geophys. Res. Lett.*, 35, L07608, doi:10.1029/2008GL033294.
- 54 Buesseler, K.O., Trull, T.W., Steinberg, D.K., Silver, M.W., Siegel, D.A., Saitoh, S.-I., Lamborg, C.H., Lam, P.J., Karl, D.M., Jiao, N.Z., Honda, M.C., Elskens, M., Dehairs, F., Brown, S.L., Boyd, P.W., Bishop, J.K.B., Bidigare, R.R. VERTIGO (VERTical Transport In the Global Ocean): a study of particle sources and flux attenuation in the North Pacific (2008). *Deep-Sea Research II* 55, 1522-1538. doi:10.1016/j.dsr2.2008.04.024
- 53 Dehairs, F., Jacquet, S., Savoye, N., Van Mooy, B.A.S., Buesseler, K., Bishop, J.K.B., Lamborg, C., Elskens, M., Baeyens, W., Boyd, P., Casciotti, K.L., Monnin, C., (2008). Barium in Twilight Zone suspended matter as a proxy for particulate organic carbon remineralization: Results for the North Pacific. *Deep Sea Research II* 55, 1673-1683. doi:10.1016/j.dsr2.2008.04.020 .
- 52 Boyd, P.W., M. P. Gall, M. W. Silver, J.K.B. Bishop. Quantifying the surface-subsurface biogeochemical coupling during the VERTIGO ALOHA and K2 studies (2008). *Deep-Sea Research II* 55. 1578-1593. doi:10.1016/j.dsr2.2008.04.010
- 51 Lam, P.J., J.K.B. Bishop, High Biomass Low Export Regimes in the Southern Ocean. (2007) *Deep-Sea Reserch II* 10.1016/j.dsr2.2007.01.013. 35 pp. [LBNL# 59452]
- 50 Buesseler, K.O., C. H.Lamborg, P.W. Boyd, P. J. Lam, T. W. Trull, R. R. Bidigare, J.K.B. Bishop, K. L. Casciotti, F. Dehairs, M. Elskens, M. Honda, D. M. Karl, D. Siegel, M. W. Silver, D. K. Steinberg, J. Valdes, B. Van Mooy and S. Wilson (2007). Revisiting Carbon Flux through the Ocean's Twilight Zone, *Science*. 316. 567-570.
- 49 Lam, P.J., J.K.B. Bishop; C. C. Henning, M.A. Marcus, G. A. Waychunas, and I.Y. Fung. (2006) Wintertime phytoplankton bloom in the Subarctic Pacific supported by Continental Shelf Iron., *Global Biogeochemical Cycles*. 20, GB1006, doi:10.1029/2005GB002557. [LBNL# 55467]
- 48 Glover. D.M., C.L. Chandler, S.C. Doney, K.O. Buesseler, G. Heimerdinger, J.K.B. Bishop, and G.R. Flierl. (2006) The U.S. JGOFS Data Management Experience. *Deep Sea Research II*. 53, 793-802. [LBNL #59804]
- 47 Bishop, J.K.B., T.J. Wood, R.E Davis, J.T. Sherman. (2004) Robotic Observations of Enhanced Carbon Biomass and Carbon Export at 55S During SOFeX - *Science*, 304, 417-420. [LBNL# 53136]
- 46 Bishop, J.K.B. R.E. Davis and J.T. Sherman (2002) Robotic Observations of Dust Storm Enhancement of Carbon Biomass in the North Pacific. *Science* 298, 817-821. [LBNL #50120].
- 45 Sheridan, C.C., C. Lee, S.G. Wakeham and J.K.B. Bishop (2002) Suspended particle organic composition and cycling in surface and midwaters of the equatorial Pacific Ocean. *Deep-Sea Research*. I 49 1983-2008.
- 44 Campbell, J.W., D. Antoine, R. Armstrong, K. Arrigo, W. Balch, R. Barber, M. Behrenfeld, R. Bidigare, J. Bishop, M.-E. Carr, W. Esaias, P. Falkowski, N. Hoepffner, R. Iverson, D. Kiefer, S. Lohrenz, J. Marra, A. Morel, J. Ryan, V. Vedernikov, K. Waters, C. Yentsch, and J. Yoder. (2002) Comparison of algorithms for estimating ocean primary productivity from surface chlorophyll, temperature, and irradiance. *Global Biogeochemical Cycles*, 16(3), 10.1029 / 2001GB001444 [LBNL# 48412]

- 43 Guay, C.K. and J.K.B. Bishop (2002) A rapid birefringence method for measuring suspended  $\text{CaCO}_3$  concentrations in water, *Deep-Sea Research I*, 49, 197-210 [LBNL #46895].
- 42 Fung, I. Y., S.K. Meyn, I. Tegen, S.C. Doney, J.G. John, and J.K.B. Bishop (2000) Iron supply and demand in the upper ocean. *Global Biogeochemical Cycles*. V14(N1):281-295. [LBNL #44330]
- 41 Bishop, J.K.B., S.E. Calvert, and M. Y.-S. Soon (1999). Spatial and Temporal Variability of POC in the Northeast Subarctic Pacific. *Deep-Sea Research II*. 46(11-12) 2699-2733. [LBNL #44130]
- 40 Boyd, P.W., N.D. Sherry, J.A. Barges, J.K.B. Bishop, S.E. Calvert, M.A. Charette, S.J. Giovannoni, R. Goldblatt, P.J. Harrison, S.B. Moran, S. Roy, M. Soon, S. Strom, D. Thibault, K.L. Vergin, F.A. Whitney and C.S. Wong (1999). Transformations of biogenic particles from the pelagic to the deep ocean realm. *Deep-Sea Research II*. 46(11-12) 2761-2792. [LBNL # 45063]
- 39 Charette, M.A., S.B. Moran and J.K.B. Bishop (1999)  $^{234}\text{Th}$  as a tracer of particulate organic carbon export in the subarctic Northeast Pacific Ocean. *Deep-Sea Research II* 46(11-12) 2833-2862. [LBNL #44174]
- 38 Eek, M., M.J. Whiticar, J.K.B. Bishop and C.S. Wong. (1999) Carbon Isotope Composition of Alkenones along Line P - NE Pacific: Effects of  $\text{pCO}_2$ , Nutrients and Temperature. *Deep-Sea Research II* 46(11-12) 2863-2876. [LBNL #45076]
- 37 Thibault, D., S. Roy, C.S. Wong, and J.K.B. Bishop (1999). The Downward Flux of biogenic material in the NE subarctic Pacific: importance of algal sinking and mesozooplankton herbivory. *Deep-Sea Research II*. 46(11-12) 2669-2698. [LBNL #46479]
- 36 Bishop, J.K.B. (1999) Transmissometer Measurement of POC. *Deep-Sea Research I*. 46(2) 353-369. [LBNL# 43996]
- 35 Bishop, J.K.B., W.B. Rossow and E.G. Dutton (1997) Surface Solar Irradiance from ISCCP 1983-1991. *J. Geophys. Res. (Atmospheres)*, 102, 6883-6910.
- 34 Dunne, J.P., J.W. Murray, J. Young, L.S. Balistrieri, and J.K.B. Bishop, (1997)  $^{234}\text{Th}$  and particle cycling in the central equatorial Pacific. *Deep-Sea Research II*. 44 2049-2084.
- 33 McLaughlin, F.A., Carmack, E.C., Macdonald, R.W. and Bishop, J.K.B. (1996), Physical and Geochemical Properties across the Atlantic/Pacific water mass front in the southern Canadian Basin. *J. Geophys. Res.* 101 (C1) 1183-1197.
- 32 Jeandel, C., Bishop, J.K.B. and Zindler, A.N. (1995). Exchange of Neodymium and its isotopes between seawater, small and large particles in the Sargasso Sea. *Geochimica. et Cosmochimica Acta*. 59, 535-547.
- 31 Luo, S., T.L. Ku, M. Kusakabe, J.K.B. Bishop and Y.L. Yang (1995) Tracing particle cycling in the upper ocean with  $^{230}\text{Th}$  and  $^{228}\text{Th}$  - an investigation in the equatorial Pacific along 140 W. *Deep Sea Research II*, 42 805-829.
- 30 Ku, T.L., S. Luo, M. Kusakabe, and J.K.B. Bishop (1995).  $^{228}\text{Ra}$ -derived nutrient budgets in the upper equatorial Pacific and the role of "new" silicate in limiting productivity. *Deep Sea Research II*. 42, 479-497.
- 29 Liu W.T., Zhang, A, and J.K.B. Bishop (1994). Evaporation and solar irradiance as regulator of sea surface temperature in annual and interannual changes. *J. Geophys. Res.*, 99 (C6), 12,623-12,637.
- 28 Bishop, J.K.B., Smith, R.C. and Baker, K., (1992) Springtime distributions and variability of biogenic particulate matter in Gulf Stream warm-core ring 82B and surrounding N.W. Atlantic waters. *Deep-Sea Research*. 39 (1A) s295-s326.
- 27 Joyce, T.M., Bishop, J.K.B., and Brown, O.B., (1992) Observations of offshore shelf-water transport induced by a warm-core ring. *Deep-Sea Research*. 39 (1A), s97-s114.
- 26 Altabet, M.A., Bishop, J.K.B., and McCarthy, J.J. (1992) Differences in particulate nitrogen concentration and isotope composition for samples collected by bottles and large-volume pumps in Gulf Stream warm-core rings and the Sargasso Sea. *Deep-Sea Research*. 39 (1A), s405-s417.
- 25 Mitchell, B.G., E. Brody, O. Holm-Hansen, C. McClain, J.K.B. Bishop, (1991) Light limitation of phytoplankton biomass and macronutrient utilization in the Southern Ocean. *Limnol. & Oceanogr.* 36(8) 1662-1677.
- 24 Bishop, J.K.B. and W.B. Rossow. (1991) Spatial and temporal variability of global surface solar irradiance. *J. Geophys. Res.*, 96 (C9), 16,839-16,858.

- 23 Bishop, J.K.B. (1991) Getting good weight. in: *Marine Particles: Analysis and Characterization*. D.C. Hurd and D.W. Spencer, eds., Geophysical Monograph 63, 229-234. American Geophysical Union.
- 22 Bishop, J.K.B., (1990) Determination of Ba in seawater using Vanadium/Silicon modifier and direct injection graphite furnace atomic absorption spectrometry. *Analytical Chemistry*. 62, 553-557.
- 21 Bishop, J.K.B. (1989) Regional extremes in particulate matter composition and flux: effects on the chemistry of the ocean interior. In Berger, W.H., Smetacek, V.S., and Wefer, G. eds. Productivity of the ocean present and past. Dahlem Konferenzen. Chichester: John Wiley and Sons Ltd., pp 117-137.
- 20 Bishop, J.K.B. (1988) The barite-opal-organic carbon association in oceanic particulate matter. *Nature* 332, 341-343.
- 19 Conte, M.H. and J.K.B. Bishop (1988) Nanogram quantification of lipid classes in oceanic particles by high-performance thin layer chromatography. *Lipids* 23, 493-500.
- 18 Bishop, J.K.B. and M.Q. Fleisher (1987) Particulate manganese dynamics in Gulf Stream warm-core rings and surrounding waters of the N.W. Atlantic. *Geochimica et Cosmochimica Acta* 51(10), 2807-2826.
- 17 Bishop, J.K.B., J.C. Stepien, and P.H. Wiebe (1987) Particulate matter distributions, chemistry and flux in the Panama Basin: response to environmental forcing. *Progress in Oceanography* 17, 1-59.
- 16 Marra, J., P.H. Wiebe, J.K.B. Bishop, and J.C. Stepien (1987) Primary production and grazing in the plankton of the Panama Bight. *Bulletin of Marine Science* 40, 255-270.
- 15 Bishop, J.K.B., M.H. Conte, P. Wiebe, M. Roman and C. Langdon (1986) Particulate matter production and consumption in deep mixed layers: Observations in a warm core ring. *Deep-Sea Research* 33, 1813-1841.
- 14 Bishop, J.K.B. and T.M. Joyce (1986) Spatial distributions and variability of suspended particulate Matter in Warm Core Ring 82B. *Deep-Sea Research* 33, 1741-1760.
- 13 Conte, M.H., J.K.B. Bishop, and R. Backus (1986) 12-KHZ non-migratory deep scattering layers of Sargasso Sea origin in warm core rings. *Deep-Sea Research*, 33, 1869-1884.
- 12 Bishop, J.K.B. (1986) The correction and suspended mass calibration of Sea Tech transmissometer data. *Deep-Sea Research* 33, 121-134.
- 11 Be, A.W.H., J.K.B. Bishop, M. Sverdløve and W. Gardner (1985) Standing stock, vertical distribution and flux of planktonic foraminifera in the Panama Basin. *Marine Micropaleontology* 9, 307-333.
- 10 Bishop, J.K.B., D. Schupack, R.M. Sherrell and M. Conte (1985) A Multiple Unit Large Volume in-situ Filtration System (MULVFS) for sampling oceanic particulate matter in mesoscale environments. In: A. Zirino, ed., Mapping Strategies in Chemical Oceanography, Advances in Chemistry Series, Vol. 209, American Chemical Society, Washington, D. C., 155-175.
- 9 Lambert, C.E., J.K.B. Bishop, P.E. Biscaye and R. Chesselet (1984) Particulate aluminum, Iron and Manganese as indicators of resuspension processes in the Deep Atlantic. *Earth and Planetary Science Letters* 70, 237-248.
- 8 Bishop, J.K.B., and J. Marra (1984) Variations in primary production and particle flux through the base of the euphotic zone at the site of the Sediment Trap intercomparison Experiment (Panama Basin). *Journal of Marine Research* 42, 189-206.
- 7 Gardner, W.D., J.K.B. Bishop and P.E. Biscaye (1984) Nephelometer observations at the STIE site, Panama Basin. *Journal of Marine Research* 42, 207-219.
- 6 Bishop, J.K.B. and P.E. Biscaye (1982) Chemical Characterization of individual particles from the nepheloid layer in the Atlantic Ocean. *Earth and Planetary Science Letters* 58, 265-275.
- 5 Bishop, J.K.B., R.W. Collier, D.R. Ketten, J.M. Edmond (1980) The Chemistry, biology and vertical flux of particulate matter from the upper 1500 m of the Panama Basin. *Deep-Sea Research* 27A, 615-640.
- 4 Bishop, J.K.B., D.R. Ketten and J.M. Edmond (1978) The chemistry, biology and vertical flux of particulate matter from the upper 400 m of the Cape Basin in the S.E. Atlantic Ocean. *Deep-Sea Research*. 25, 1121-1161.
- 3 Bishop, J.K.B., J.M. Edmond, D.R. Ketten, M.P. Bacon and W.B. Silker (1977) The chemistry, biology, and vertical flux of particulate matter from the upper 400 m of the equatorial Atlantic Ocean. *Deep-Sea Research* 24, 511-548.
- 2 Bishop, J.K.B., J.M. Edmond (1976) A new large volume filtration system for the sampling of oceanic

- particulate matter. *Journal of Marine Research* 34, 181-198.
- 1 Bishop, J.K.B., W.R. Cullin, M.C.L. Gerry (1971)  $^{35}\text{Cl}$  Nuclear quadrupole resonance of some phosphorus chlorine compounds. *Canadian Journal of Chemistry* 49, 3910-3913.

### **Patent Actions**

- 5 The Regents of the University of California, Bishop, J.K.B. (2009) Optical Sedimentation Recorder. Pub. No.: WO/2009/064373; May 22 2009. International Bureau of the World Intellectual Property Organization (WIPO) of the Patent Cooperation Treaty. (<http://www.wipo.int/pctdb>).
- 4 Bishop, J.K.B. (2008) International Utility Patent Filing Application: PCT/US2008/012607; LBNL Docket: IB-02196-PCT. Optical Sedimentation Recorder.
- 3 Bishop, J.K.B. (2007) US Patent Disclosure IB-2196. Optical Sedimentation Recorder
- 2 Bishop, J.K.B. and C.K. Guay (2006) US Patent #7,030,981: method and apparatus for measuring birefringent particles.
- 1 Bishop, J.K.B. and C.K. Guay (2000) Patent Disclosure: IB-1595: An in-situ optical sensor for measuring particulate inorganic carbon in seawater.

### **Data Reports/Data Sets/Documentation: 7**

- 7 Henning, C. (2006) Report on efforts to model and replicate the paths of the Carbon Explorers deployed April 2001 (NOAA GC04-304 James K.B. Bishop, PI). [LBNL # 61162].
- 6 Flierl, G.R., Bishop, J.K.B., Glover, D.M. and Paranjpe, S., Data Management for JGOFS: Theory and Design. (<http://www1.who.edu/jgoifs.html>).
- 5 Bishop, J.K.B., BR2 data set on surface solar irradiance July 1 1983 - June 30 1991, daily values, 2.5 degree x 2.5 degree gridded data set. see... <http://www.ucar.edu/dss/datasets/ds741.0.html> (November 1994).
- 4 Bishop, J.K.B., McLaren, J., Garraffo, Z., and Rossow, W.B. Documentation and description of surface solar irradiance data sets produced for SeaWiFS. In postscript. 23 pp. Posted to the GISS web page: <http://www.giss.nasa.gov/Data/SeaWiFS>. October 1994.
- 3 Liu, T.W., J.K.B. Bishop, W.B. Rossow and K. Case (1993) Monthly Maps of Ocean Surface Thermal Forcing. 1987-1991. JPL Publication 93-13, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, California 17 pp.
- 2 Bishop, J.K.B., T.J. Wood, R.E. Davis, J.T. Sherman. (2004) SUPPLEMENTAL ON-LINE MATERIALS: Robotic Observations of Enhanced Carbon Biomass and Carbon Export at 55S During SOFeX - *Science*, 304, 417-420.; [LBNL# 53136a] - peer reviewed
- 1 Bishop, J.K.B. R.E. Davis and J.T. Sherman (2002) SUPPLEMENTAL ON-LINE MATERIALS: Robotic Observations of Dust Storm Enhancement of Carbon Biomass in the North Pacific. *Science* 298, 817-821. [LBNL #50120a] - peer reviewed.

### **Planning Documents, Conference/Workshop proceedings: 12**

- 12 Doney S.C., R. Anderson, J. K. B. Bishop, K. Caldeira, C. Carlson, M.E. Carr, R. Feely, M. Hood, C. Hopkinson, R. Jahnke, D. Karl, J. Kleypas, C. Lee, R. Letelier, C. McClean, C. Sabine, J. Sarmiento, B. Stephens, R. Weller. (2004) Ocean Carbon and Climate Change (OCCC) " An Implementation Strategy for U. S. Ocean Carbon Research. UCAR 108pp.
- 11 Lam, P., and J.K.B. Bishop (2002) "Colloids in the Upper Ocean". DOE nano sciences workshop, LBNL.
- 10 Bishop, J.K.B. "Robotic observations of carbon cycle processes in remote and very stormy oceans." **Key note** presentation IGBP/JGOFS and IGBP/GAIM workshop - Measurements and Modelling of Global Ocean Productivity and Biogeochemical Fluxes", Ispra, Italy.
- 9 Lam, P.J, J.K.B. Bishop, G.A. Waychunas, S. Sutton, "Characterization of Fe in marine particles via micro-XAS: possibilities and limitations. 2001 Annual Report, Advanced Photon Source, Argonne National Laboratory. 2pp.
- 8 Bishop, J.K.B., Guay, C.K., Sherman, J.T., Moore, C.C., and R.E. Davis (2001) Prospects for a "C-Argo": A new approach for exploring ocean carbon system variability. Extended Abstract 01-07, International Workshop on Autonomous Measurements of Biogeochemical Parameters in the Ocean,

- Honolulu, Hawaii. Sponsors: Japan Ministry of Education, Culture, Sports, Science and Technology and Japan: National Institute for Resources and Environment (NIRE). Feb 20-22 2001. 6 pp.
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