

Mattias R. Cape

Postdoctoral Scholar
Physical Oceanography
Woods Hole Oceanographic Institution
266 Woods Hole Rd.
Clark 316A (MS# 21)
Woods Hole, MA 02543-1050
Tel: (o) +1 (508) 289 2798 (c) +1 (760) 672-1309
mcape@whoi.edu

EDUCATION

PhD **Scripps Institution of Oceanography (SIO), UCSD, La Jolla, CA**
Oceanography, 11/2014
Maria Vernet (chair)

MS **Scripps Institution of Oceanography (SIO), UCSD, La Jolla, CA**
Oceanography, 06/2009
Maria Vernet (chair)

BA **University of California, San Diego, La Jolla, CA**
Applied Mathematics, Phi Beta Kappa, Magna Cum Laude, 2006

BS **University of California, San Diego, La Jolla, CA**
Biology: Ecology, Behavior, Evolution, 2006

GRANTS, FELLOWSHIPS AND HONORS

2014 NASA Earth and Space Science Fellowship renewal (NESSF14R)
2013 West Antarctic Ice Sheet (WAIS) Workshop travel grant
2013 NASA Earth and Space Science Fellowship renewal (NESSF13R)
2012 Scientific Committee on Antarctic Research (SCAR) Conference Travel Grant
2012 NASA Earth and Space Science Fellowship (NESSF12)
2011 Gordon Research Conference – Polar Marine Science travel grant
2010 ASLO Ocean Sciences Meeting travel grant
2009 NCAR Advanced Study Program - Marine Ecosystems and Climate fellowship
2009 Bolin Centre for Climate Research – Arctic Climate workshop fellowship
2008 Director's Fellowship, SIO
2008 NSF Graduate Research Fellowship (NSF GRFP)
2007 Antarctica Service Medal, Office of Polar Programs, NSF

RESEARCH EXPERIENCE

2008-2014 **SIO research diver**
Assist projects with small boat data collection via SCUBA

2006-2008 **Staff Research Associate, SIO (Dr. B. Greg Mitchell, advisor)**
Southern Ocean cruise (AMLR2007), ocean optics, phytoplankton physiology

2006 **NSF REU fellow, SIO (Dr. B. Greg Mitchell, advisor)**
Southern Ocean cruise (NBP0606), ocean optics, phytoplankton physiology

2005-2006 **Undergraduate Research Assistant, SIO (Dr. Phil Hastings, advisor)**

Biogeography of blennioid fishes
2005 **NSF REU fellow, WHOI (Dr. Mike Neubert, advisor)**
Bio-economic models of fisheries in the face of ecological uncertainty

TEACHING EXPERIENCE

2014 **Instructor, Oceanography Summer Institute for Middle School Students, UCSD StudentTECH 2014, San Diego Supercomputer Center, UCSD**
2013 **Teaching Assistant, Environmental Systems (ESYS), UCSD**
2005-2006 **Tutor, Department of Mathematics, University of California, San Diego**
Calculus, differential equations, linear algebra, statistics, probability

FIELD EXPERIENCE

2014 Aug R/V H. Hanssen; CARBON BRIDGE, Barents Sea (15 days)
2013 Apr R/V Araon; LARISSA – Larsen Ice Shelf, Weddell Sea (31 days)
2012 Mar RVIB Nathaniel B. Palmer; LARISSA, Weddell Sea (43 days)
2010 Jan RVIB Nathaniel B. Palmer; LARISSA, Weddell Sea (58 days)
2007 Jan R/V Yuzhmorgeologiya; NOAA AMLR, West Antarctic Peninsula (30 days)
2006 Jun RVIB Nathaniel B. Palmer; BWZ project, Antarctic Peninsula (43 days)

PUBLICATIONS

Gutt, J., **M.R. Cape**, W. Dimmler, L. Fillinger, E. Isla, V. Lieb, T. Lundälv, and C. Pulcher (2013), Shifts in Antarctic megabenthic structure after ice-shelf disintegration in the Larsen area east of the Antarctic Peninsula, *Polar Biol*, 36(6), 895–906, doi:10.1007/s00300-013-1315-7.

Cape, M.R., M. Vernet, M. Kahru, and G. Spreen (2014), Polynya dynamics drive primary production in the Larsen A and B embayments following ice-shelf collapse, *J. Geophys. Res. Oceans*, 119, 572–594, doi:10.1002/2013JC009441.

Cape, M.R., M. Vernet, P. Skvarca, S. Marinsek, T. Scambos, E. Domack. Foehn winds link climate-driven warming to coastal cryosphere evolution in Antarctica. In prep.

Cape, M.R., M. Vernet. Sensitivity of coastal marine ecosystems to atmospheric processes after ice shelf disintegration. In prep.

Cape, M.R., M. Vernet, B. Huber, C.R. Smith, L. Ekern, A. Leventer. Impacts of ice shelf collapse and sea ice variability on primary production and organic matter export in the NW Weddell Sea. In prep.

Vernet, M., **Cape, M.R.**, Akie, G., Domack, E., Huber, B., Pettit, E., Wellner, J., Leventer, A., Grange, L., Smith, C.R. Differential melting of West Antarctic Peninsula glaciers by modified upper circumpolar deep water along a latitudinal gradient. In prep.

ORAL AND POSTER PRESENTATIONS

2014 **Patterns and Drivers of Phytoplankton Growth and Production in the New Larsen A and B Polynyas, Antarctica**
ASLO Ocean Sciences Meeting, Honolulu, HI
2013 **Controls and consequences of rapid environmental change on the atmosphere–sea ice–ocean system in the Larsen Ice Shelf area**
WAIS workshop, Sterling, VA

- 2013 **Benthic-pelagic coupling in the wake of ice shelf disintegration in the Larsen A embayment, Antarctica**
Gordon Research Conference, Polar Marine Science, Ventura, CA
- 2012 **The Relationship Between Surface Meteorological Observations and Modes of Climate Variability in the Larsen Ice Shelf System, Antarctica**
ASLO Ocean Sciences Meeting, Salt Lake City, UT
- 2011 **Physical Controls on Patterns of Primary Production Following Ice Shelf Collapse in the Larsen Ice Shelf System, Antarctica**
Gordon Research Conference, Polar Marine Science, Ventura, CA
- 2011 **Gradients in Coastal Primary Production Following Ice Shelf Collapse in the Larsen Ice Shelf System, Antarctica**
ASLO Aquatic Sciences Meeting, San Juan, Puerto Rico
- 2010 **Relationship Between Sea Ice Variability, Ice Shelf Collapse and Surface Chlorophyll in the Larsen Ice Shelf System, Antarctica**
International Polar Year Oslo Science Conference, Oslo, Norway

PROFESSIONAL MEMBERSHIPS

- American Association for the Advancement of Science (AAAS)
Association for the Sciences of Limnology and Oceanography (ASLO)
American Geophysical Union (AGU)
International Glaciological Society (IGS)
Association for Polar Early Career Scientists (APECS)