

# Erika A. K. Brown

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## Education

- 2009-2012 **Master of Science: Biological Oceanography**, University of Cape Town. Phytoplankton community structure, productivity, and nitrogen metabolism as a function of light availability in the Atlantic sector of the Southern Ocean. Research funded by the Southern Ocean Carbon and Climate Observatory programme at CSIR and postgraduate CSIR Fellowship granted for the course of this study. \*‘part-time’ student, see below.
- 2008 **Bachelor of Science (Honours): Marine Biology**, University of Cape Town. Project 1: Application of the cross-wavelet transform coherency analysis for detecting regime shifts in the southern Benguela marine ecosystem: 1950 – 2005. Project 2: Grazer effect on community succession in temperate, wave-exposed vs. wave-sheltered rocky shores of South Africa. Rocky shore research was funded by the Andrew W. Mellon Foundation grant program.
- 2005-2007 Bachelor of Science: Marine Biology and Oceanography, University of Cape Town
- 1997-2001 Bachelor of Arts: Geography, Focus in Geographic Information Systems & Cartography, San Francisco State University

\*3 months maternity leave, 4 months full-time work, quarter-time work for duration of M.Sc. due to family responsibilities

## Employment

2015-Present

**Marine Ecologist and Consultant** Anchor Environmental Consultants. Marine and terrestrial GIS specialist, invertebrate taxonomy, data analysis, environmental and biodiversity assessments and baseline reports.

2013\*-2015

May 2015 **‘Adventurer’ and Marine Biologist** in Episode 1 of a made for TV pilot series, Ocean Adventurer. Produced by Okuhle Media for a South African and International audience with marine conservation, ocean and climate change awareness and education as the central focus.

### Business Owner

**Kids Yoga Teacher** ¼ time, my own business, Yoga Boom, teaching children from the ages of 3-12 yrs. yoga and life skills through story, exercise, stretching, breath work and relaxation.

**Outdoor Fitness Trainer** ¼ time, my own business, Get Physical, lead multiple clients to a healthier lifestyle through a personalized, regular fitness regime based in the great outdoors, manage all aspects of class preparations and administrative duties to keep a business running smoothly.

2012-2013 **Research Assistant:** Renewable energy, Department of Biodiversity & Conservation Biology, Department of Biotechnology, Institute for Microbial Biotechnology and Metagenomics (IMBM), UWC and Department of Biological Sciences, UCT

2010-2011 **Capacity Building Projects:** consulted on the development of a marine-eco tour in Table Bay which is now up and running under the partnership between Oceans 7 and the Two Oceans Aquarium; created a reference data base/digital library for IndiSeas, an international marine ecosystem monitoring organization, organized 2 scientific conferences for IndiSeas (1 in Paris, France, 1 in Cape Town, South Africa); SAEON Egagasini node, completed a web-based educational tool for marine offshore systems around southern Africa; organized and led Ma-Re (Marine Research Institute) Applied Marine Science post-graduate student fieldtrips.

2009

**Oceanographic Research Cruise Organizer:** Antarctic Expedition, CSIR’s Southern Ocean Carbon and Climate Observatory Program aboard the *MV SA Agulhas*. Managed logistics pertaining to cruise organization including all necessary chemical handling and transportation

## Employment continued

paperwork as well as ordering and packing all relevant equipment, supplies, chemicals and spares to ensure a successful scientific cruise.

- 2006-2008 **Marine Research Assistant** Marine Research Institute, University of Cape Town, assisted in an ongoing invertebrate larval settlement and recruit project along the west coast of South Africa. Responsibilities included fieldwork on every new moon spring tide at six different sites spanning 150km, microscope identification and quantification of larval samples, deployment and collection of temperature loggers at each site for continuous temperature data, preparation and maintenance of larval traps and moorings, data entry and maintaining an up-to-date database.
- 2004 **Marine Research Assistant** University of Alaska Southeast and Glacier Bay National Park, assisted in laboratory and field work concerning Dungeness crab (*Cancer magister*) larval recruitment at Glacier Bay National Park, Gustavus, Alaska.
- 2004 **Cartographer** United States Geological Survey, BSO Juneau, Alaska. Worked on a series of vegetation maps of the Arctic tundra which are a part of a long-term study LAII (Land-Atmospheric-Ice-Interactions). Carbon flux was one of many aspects being mapped. Utilized TerraScan to verify and readjust mapped area boundaries on thousands of satellite images of the area of interest. Also introduced to ERDAS Imagine via an intertidal zone mapping project in progress at Glacier Bay National Park.
- 2003 **Cartographer** San Francisco State University. Created a vegetation database and series of riparian and watershed vegetation maps and field survey maps in ArcView 3.2 for San Pedro Creek Watershed Assessment & Enhancement Plan which was funded by California Department of Fish & Game.

\* 4 months maternity leave June-September 2013

## Experience

- 2008-2009 **Oceanographic Research** Antarctic Expedition, 76 days at sea, participating marine scientist in CSIR's Southern Ocean Carbon and Climate Observatory programme aboard the *MV SA Agulhas* where in addition to assisting in all of the biological and oceanographic logistics and scientific sampling throughout the cruise, conducted my own experimental research in primary production and nitrogen metabolism as a function of light availability for my Master's thesis. The cruise covered six oceanographic regions in the south Atlantic sector of the Southern Ocean.

- 2004 **Oceanographic Research** Glacier Bay Expedition, 14 days at sea, volunteer scientific technician, assisted in CTD casts, sediment grabs, and ADCP profiling analysis aboard the *MV Alaskan Gyre*, USGS Alaska Science Centre projects were looking at factors affecting seasonal and regional patterns of surface water oceanographic properties within a fjord estuarine system and seafloor habitat mapping and classification in Glacier Bay, Alaska: Phase 1 & 2, 1996-2004

**Geography research project.** Researched and reported on land use practices surrounding Pine Gulch Creek in Bolinas, CA. Focused on agriculture in the area in relation to the watershed. Worked with the hydrologist at Point Reyes National Seashore as well as several of the farm managers in the area. Utilized ArcView 3.2 for map creations and collected many historical maps.

### Skills

**Analytical/Technical:** (experienced) GIS ArcMap 10.1, Ocean Data View (ODV), Statistica, PRIMER P6, PERManova, Macromedia Freehand 9, ERDAS Imagine, TerraScan, Zotero, Microsoft Office Suite, (introductory) Matlab, Matlab Wavelet analysis, CHEMTAX, ROMS, and Corel Draw

## Experience continued

**Laboratory:** On board dual-labelled  $^{15}\text{N}$  and  $^{13}\text{C}$  new and regenerated production measurements,  $^{13}\text{C}$  primary production measurements, nutrient analysis including the determination of nitrates, silicates, phosphates, urea, ammonia, dissolved oxygen, and salinity in collected water samples. Filtering of sea water for the collection of POC/PIC (Particulate Organic/Inorganic Carbon), BSi (Biogenic Silicate), HPLC (high performance liquid chromatography), and chlorophyll-a concentration.

**Sea going:** CTD, XBT, and drifter deployment, ADCP, sediment grabs, and deploying, setting, and retrieving various fish/shellfish traps and moorings.

**Interpersonal:** Relating science to the public, capacity building, active participant in SOCCO research team for 2 yrs. during completion of M.Sc., proficient in French and Spanish

## Publications, Conferences, Workshops & Short Courses

S. Thomalla, E. Kean, M.-J. Gibberd, R. Barlow, M. Lucas, (2015 **submitted**), Deep Sea Research Part I, Photosynthesis vs. irradiance relationships in the Atlantic sector of the Southern Ocean.; A.O. Amosu, D.V. Robertson-Andersson, G.W. Maneveldt, E. Kean (2014 **accepted**), *Intl. J. of Enviro. Rsch.*, Aquaculture benefits of macroalgae for green energy production and climate change mitigation., Gibberd M.-J., Kean E., Barlow R., Thomalla S., Lucas M. (2013 **accepted**), *Deep-Sea Rsch. I*, Phytoplankton Chemotaxonomy in the Atlantic sector of the Southern Ocean during late summer 2009., SAMS 2008 poster presentation, IMBER IMBIZO I contributor to work presented by Dr. Astrid Jarre 2008, CSIR M.Sc. presentation 2009, ACCESS Workshop on the Seasonal Cycle of the Carbon-Climate System in the Southern Ocean 23-25 August 2010, Primer Permutational Analysis of Variance, Regional Oceanographic Modelling (ROMS) & MatLab, GeoReferencing and Remote Sensing-GEONETCAST and the monitoring of African marine ecosystems.

## Research Interests

Marine conservation and education, marine spatial planning and associated mapping, renewable energy, marine algal culture as an alternative, sustainable energy source, biofuels and alternative energy resources in general as a means of reducing carbon footprint. Southern Ocean ecosystems, phytoplankton ecology, biogeochemistry and physical processes on every scale; upwelling systems; environmental and anthropogenic forcing and biological shifts in marine ecosystems; management of fisheries and MPAs; climate forcing and ecosystem responses such as productivity, diversity and ultimately carbon export; impact of climate change on physical and biological processes over time.

<b>History</b>	Outdoor Fitness Trainer, Get Physical-my own quarter-time business, Kommetjie, RSA	2008-2015
	Volunteer Coordinator, quarter-time for i-to-i South Africa, Kommetjie, RSA	2007-2008
	Eco Adventure Tour Guide for Core African Experiences, Cape Town, RSA	2005- 2007
	Fitness Trainer- Gym and Tonic, Cape Town, RSA	2005
	Server- The Meeting House Restaurant, San Francisco, USA	1999-2003
	Volunteer Social Worker- Asociacion Esperanza del Futuro, Tola, Nicaragua	2001
	Harvester and Propagation Apprentice- Star Route Farm, Bolinas, USA	2000 – 2001
	Crew Person- St. Bart's Yachts, Charleston, USA. St. Maarten Is. to Rio de Janeiro, Brazil	Winter 1998

## Fitness & Interests

Yoga-4-Kids Teacher Training certification, International Sports Science Association fitness trainer certification, PADI SCUBA open water certified, mountain biking, raced mountain bikes at the sport level throughout California, completed 7 triathlons, completed the Honolulu Marathon, snorkeling, surfing, yoga, hiking, camping, reading, soap making and being a mom!