

Employment history

Postdoc

Memorial University, St. John's, NL, Canada 2014-2016

- Coordinated extended deployments with underwater gliders
- Obtained seawater CO₂ measurements from a glider
- Assisted with profiling of icebergs in coastal Newfoundland

Intern

Environment Department, Isle of Man Summer 2008 & 2009

- Reviewed the impacts of climate change for the Isle of Man

Education

PhD Oceanography

University of Victoria, Victoria, BC, Canada 2009-2014

- Investigated global seasonality of ocean carbon parameters in the context of ocean acidification

BSc Geophysical Sciences with a Year in North America*

University of East Anglia, Norwich, UK 2005-2009

**University of British Columbia, Vancouver, BC, Canada* 2007-2008

SEA Semester: Ocean Exploration

Sea Education Association, Falmouth, MA, USA 2008

- Research cruise from Tahiti to Hawaii aboard a US tall ship

Expertise

- Marine carbon cycle and biogeochemistry
- Sea surface temperature and mixed layer dynamics
- Subpolar North Atlantic and Tropical Pacific
- Operation of underwater gliders

Personal background

- Hometown: Douglas, Isle of Man
- Lived in Canada, the UK and France

Online profiles

LinkedIn **ResearchGate**

ACADEMIA **Google Scholar**

Skills and Experience

- **Broad knowledge**
Ocean, atmospheric & climate science
- **Logistics and teamwork**
Organization of field expeditions
- **'Big data'**
Experience with global oceanographic products and datasets
- **Fieldwork**
Underwater gliders, Research cruises
- **Modelling**
Experience with intermediate complexity climate modelling
- **Outreach and teaching**
TV appearances, Blogging, Hands-on demonstrations, Teaching assistantships
- **Journal refereeing**
Reviewed for *GRL*

Skills and Experience (detailed)

Broad knowledge

- Physical oceanography, Marine biogeochemistry, Meteorology, Climate modelling, Iceberg science

Logistics and teamwork

- Organization of and participation in fieldwork in remote locations (Tropical Pacific, S. Labrador)

'Big data'

- Creation of global sea surface climatologies
- Use of global oceanographic and meteorological datasets and products
- Real-time processing of underwater glider data

Fieldwork

- Nine weeks at sea across fishing boats, research vessels and a tall ship
- Maintenance and piloting of underwater gliders
- Integrated observing using moorings, gliders and floats
- Sampling for seawater carbon parameters and oxygen

Modelling

- Simulation of underwater glider mission tracks
- Assessment of uncertainty in marine CO₂ chemistry computations
- Modelling of ship seawater engine intake warming
- Use of an intermediate-complexity climate model
- Analysis of ocean fields from climate and ocean models

Outreach and teaching

- Talks and poster presentations at project meetings, international workshops and conferences
- TV appearances, blogging, hands-on demonstrations, leadership of field trips
- Training and advice on underwater glider operations

Journal refereeing

- Reviewed on the marine carbon cycle for *Geophysical Research Letters*

Key Achievements

Publications (selected)

Peer-reviewed articles

[J.B.R. Matthews \(2013\): Comparing historical and modern methods of sea surface temperature measurement – Part I: Review of methods, field comparisons and dataset adjustments, *Ocean Science*: doi:10.5194/os-9-](#)

683-2013. [[Link](#)]

[J.B.R. Matthews](#) and J.B. Matthews (2013): [Comparing historical and modern methods of sea surface temperature measurement – Part 2: Field comparison in the central tropical Pacific](#), *Ocean Science*, doi:10.5194/os-9-695-2013. [[Link](#)]

PhD Thesis

[J.B.R. Matthews](#) (2014): [Seasonal variability of sea surface carbonate chemistry and temperature](#), University of Victoria, Victoria, BC, Canada. [[Link](#)]

Projects

Ventilation, Interactions and Transports Across the Labrador Sea (VITALS) 2014-2016
- Canadian project investigating the seasonal dynamics of the central Labrador Sea

Field campaigns

Glider deployments: Newfoundland (bays and shelf) and Southern Labrador [2014-2016](#)
Various fishing vessels

Iceberg surveying: Conception Bay, Newfoundland [June 2015](#) & [May 2014](#)
Vessels of the Marine Institute, NL, Canada

Cruise: HUD2014-017 - Gulf of St. Lawrence & Labrador Sea [June-July 2014](#)
Canadian Coast Guard Ship Hudson

Cruise: S217 - Tahiti to Hawaii via the Marquesas Islands [May-June 2008](#)
SSV Robert C. Seamans ([US tall ship](#)), Sea Education Association

Outreach

Blogging: vitalsgliders.blogspot.com 2014-2016
- Documents the glider component of the VITALS project via maps and photos

TV: 'Forces of Nature with Brian Cox' – Episode I (BBC, PBS) [Summer 2016](#)
- Appear conducting fieldwork in the segment on icebergs

Community: School outreach 2009-2014
Climate Modelling Lab, University of Victoria
- Creating and performing hands-on climate science demos to school groups

Community: Educator training June 2011
CMOS Congress, Victoria, BC, Canada
- Training session for educators on hands-on climate science demos