

Dr Claire Siobhan Earlie PhD., MSc., BSc. (Hons)

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Academic career and employment history

- 2023 – present Sea Level Scientist, Jet Propulsion Laboratory, Caltech, Pasadena, CA
- 2017 – 2022 Lecturer in Coastal Processes, School of Earth and Environmental Sciences, Cardiff University
- 2015 – 2017 Marie Curie Prestige and LabexMER Postdoctoral Research Fellow, Université de Bretagne Occidentale, France.
- 2011 – 2015 PhD researcher – Field observations of wave induced coastal cliff erosion, Cornwall, UK, Plymouth University
- 2011 – 2015 Coastal processes field research and teaching assistant, Plymouth University
- 2010 – 2011 MSc. Applied Marine Science, Plymouth University
- 2008 – 2010 Coastal Scientist, Royal Haskoning DHV, Peterborough
- 2007 – 2008 Assistant Quantity Surveyor, Norwest Holst, Bristol
- 2006 – 2007 English Language Teacher, Keenlee Willems International School, Mawanella, Sri Lanka
- 2000 – 2003 BSc. (Hons) Ocean Science, Plymouth University
- 2001 – 2002 Coastal Geology Lab and field assistant, University of North Carolina at Wilmington

Research Interests: My research focuses on the influence of nearshore hydrodynamics and high energy waves on coastal geomorphology. Using a variety of in situ, remotely sensed and modelled data, I aim to understand nearshore processes on a range of spatial and temporal scales. More specifically, my recent research has involved monitoring coastal response to storms and extreme wave conditions as well as glacial response to oceanic waves.

Research grant success

- 2019: The Royal Society – Wave induced microseismic ground and glacier motions in polar environments, NERC Ny Ålesund Research Station, Svalbard (£20,000)
- 2016: Prestige Marie Curie Action Postdoctoral Research fellowship grant (€37,080+€5000 pa)
- 2016: LabexMER Engagement des dépenses - additional funding for extension of research for international field experiments (€8000)
- 2015: LabexMER Postdoctoral Research Fellowship, UBO (2 year research fellowship) awarded following grant proposal (€37,080 salary and €10,000 research budget pa)
- 2014: Plymouth Marine Institute Grant for visit to Brest for IG wave workshop (£300)
- 2013: Plymouth University Marine Institute Grant for collaboration with Scripps Oceanographic Institute, California for PhD research (£3000)
- 2012: Plymouth University Marine Institute Grant for conference attendance (£300)

Research Experience and Professional Activities

- School Deputy Director of Equality, Diversity and Inclusivity, School of Earth and Environmental Sciences, Cardiff University (2018 – present)
- School Director of Outreach, School of Earth and Ocean Sciences, Cardiff University (2018)
- Presenter and contributor - *Time for Geography Educational Videos* (2017 – present)
- 2013 – present: Reviewer for Nature; Scientific Reports, Journal of Coastal Conservation, Earth Surface Processes and Landforms, Geomorphology, Journal of Coastal Research, Anthropocene Coasts, Continental Shelf Research.

Publications

- Earlie, C. Le Dantec, N. and Young, A. (*submitted, ESPL*). Coastal cliff-top ground motions generated by waves across the intertidal zone.

- Cox Rónadh, Arduin Fabrice, Dias Frédéric, Autret Ronan, Beisiegel Nicole, Earlie Claire S., Herterich James G., Kennedy Andrew, Paris Raphaël, Raby Alison, Schmitt Pál, Weiss Robert (2020) Systematic Review Shows That Work Done by Storm Waves Can Be Misinterpreted as Tsunami-Related Because Commonly Used Hydrodynamic Equations Are Flawed, *Frontiers in Marine Science*, 20(4) DOI: 10.3389/fmars.2020.00004
- Earlie, C., Masselink, G., Russell, P. (2018) The role of beach morphology on coastal cliff erosion under extreme waves, *Earth Surface Processes and Landforms*, 43(6) pp. 1213-1228, DOI: 10.1002/esp.4308
- Earlie, C., Masselink, G., Russell, P. (*submitted, JCR*). The effects of surface winds on nearshore cell circulation and rip currents in a macro-tidal environment.
- Earlie, C., Young, A., Masselink, G., Russell, P. (2015) Coastal cliff ground motions and response to extreme storm waves. *Geophysical Research Letters* DOI: 10.1002/2014GL062534
- Earlie, C., Masselink, G., Russell, P., Shail, R., (2014) Application of airborne LiDAR to investigate rates of recession in rocky coast environments, *Journal of Coastal Conservation*, DOI: 10.1007/s11852-014-0340-1
- Earlie, C., Masselink, G., Russell, P., Shail, R., (2013) Sensitivity analysis of the methodology for quantifying cliff erosion using airborne LiDAR – examples from Cornwall, UK., *In: Conley, D.C., Masselink, G., Russell, P.E. and O'Hare, T.J. (eds.), Proceedings 12th International Coastal Symposium* (Plymouth, England), *Journal of Coastal Research*, Special Issue No. 65 pp. 470-475.
- Guthrie, G., Earlie, C., Clipsham, V., (2011) *West of Wales Second Generation Shoreline Management*, Royal Haskoning Ltd, Peterborough.

Teaching Experience

I have 10 years of teaching experience on both Undergraduate and Postgraduate programmes at Plymouth and Cardiff University including delivery and assessment of the following modules:

MSc Level Hazards and Risks from above (Remote sensing of coastal hazards) (CU)
 PG all levels Introduction to Matlab and it's applications (PU and CU)
 UG Level 3 Marine Geomatics – coastal hydrodynamics (CU)
 UG Level 2 Coastal Processes and Geomorphology (CU) *Module Leader: Oceans and Atmosphere (CU); Coastal Processes and Beach Morphology (PU); Marine Techniques (PU)*
 UG Level 1+2 Marine Geography Field Skills (CU) *Year 1 Module Leader*
 UG Level 1 Global Oceans (CU); Science and Policy for Geographers (CU); Dangerous Earth (CU); Earth Surface Processes (CU); Civil and Coastal Engineering Surveying Techniques (PU)

Invited talks and Significant awards

2016 - present: *Numerous media, TV, radio and newspaper interviews* (BBC, Sky News, ITV, The Washington Post, The Conversation among others).

2019: *The UK Villages Lost to the Sea*, Cardiff University, School of Earth and Ocean Sciences, Public Lecture Series (*Invited speaker*)

2019: *Nurture Earth: Living with and building for a sustainable future under a changing climate*, Constructing Excellence in Wales Conference, Cardiff (*Invited speaker*)

2018: *The influence of beach morphology on coastal cliff top ground motions*, Extreme Waves and Boulder Transport Workshop, Nice, France (*Invited speaker*)

2016: *Infragravity waves and vertical cliff top displacements*, Plymouth University Coastal processes research group meeting.

2016: *The storms that shook the south west* – Science lecture Port Eliot Festival, St Germans, Cornwall,

2013: *Cliff recession and climate change in Cornwall*, Geography research seminar, University of Exeter.

2013 and 2014: South West Regional Coastal Monitoring Programme Annual Partners Meeting, Totnes

2012: Royal Geological Society Regional Meeting

2019: The Geographical Association, Silver Publishers Award, Time for Geography educational videos

2016: Marie Curie Prestige co-funding fellowship

2015: LabexMER postdoctoral research fellowship

2013: Best presentation overall (International Coastal Symposium, Plymouth, out of 500 presentations)

2013: Best oral presentation by a student (International Coastal Symposium, Plymouth)