

Challenges faced conducting fieldwork in tidal stream sites

Alice Goward Brown (1), Sophie Ward (1), Timothy Whitton (1), and Rory O'Hara Murray (2)

(1) Bangor University, Centre for Applied Marine Science, Menai Bridge, United Kingdom (ossa19@bangor.ac.uk), (2) Marine Scotland Science, Marine Laboratory, 375 Victoria Road, Aberdeen, AB11 9DB, Scotland, UK

Mariners working in the marine environment have long been aware of the risks of operating in highly dynamic coastal areas. The hunt for fossil fuel alternatives has led to a greater research effort to observe dynamic offshore environments for tidal stream energy. Marine biologists, oceanographers, technologists, engineers and, technicians have risen to the challenge to get the infrastructure in place, to monitor fast tidal flows, to survey the seabed and to understand how animals use these dynamic environments. Throughout the SEACAMS2 project, there has been much research effort in the energetic tidal streams of Wales, UK. Along with the many successful data collection field campaigns, there have been some cases of equipment loss and incomplete data collection. As a result, in November 2018, SEACAMS2 and Marine Scotland Science hosted a workshop at the MASTS conference in Glasgow, bringing numerous researchers, technicians and marine renewable energy developers together to discuss best practices for working in tidal energy sites. The workshop was built around the following key themes of Vessel selection and Deployment and Recovery Techniques, with some discussion surrounding the setup of equipment, mooring designs and post-processing of data collected. Scotland is leading the UK's tidal energy research with multiple devices in the water, however, there are a number of differences between the tidal stream energy sites being developed in Scotland and those being prospected in Wales, namely regarding seabed suitability, water visibility and suitable vessel availability which provide additional challenges. A number of case studies from Pembrokeshire, the Llyn Peninsula, and Anglesey will be presented. A key conclusion from the workshop is that accurately characterising tidal stream energy environments is key to the development of best-practices for marine operations.