TETHYS BLAST

March 8, 2019

The bi-weekly Tethys Blast will update you with new information on Tethys, news articles of international interest, and opportunities in wind and marine renewable energy. We hope you find this a valuable tool to keep you connected to colleagues, new research, opportunities, and industry milestones.

Upcoming Conferences

The Scottish Renewables Annual Conference will be held in Edinburgh on 12-13 March 2019.

The Waterpower Week will be held in Washington DC on 1-3 April 2019. There will be sessions around the National Hydropower Association and the International Marine Renewable Energy Conference (IMREC), and a poster presentation hosted by the Marine Energy Technology Symposium (METS). You can find more information and register here.

The 5th Conference on Wind Energy and Wildlife impacts (CWW2019) will be held in Stirling, Scotland, 27-30 August 2019. Early-bird registration rates are available until April 2019. CWW2019 is now accepting abstracts.

Job Posting

The Offshore Energy Research Association of Nova Scotia (OERA) is seeking a fulltime Project Manager. This is a one (1) year contract position that will report to the Executive Director and be responsible for the successful delivery of a new marine renewable energy research program focused on environmental monitoring. If interested, please respond to Nalani Perry with a resume and cover letter in one PDF document by 14 March 2019.

New Documents on Tethys

New documents are regularly added to Tethys, hand-selected for their relevance to the environmental effects of wind and marine renewable energy. Short excerpts from new or popular documents are listed below, accessible by the accompanying Tethys links:

Detection of Visual Signatures of Marine Mammals and Fish within Marine Renewable Energy Farms using Multibeam Imaging Sonar – Fransisco and Sundberg 2019

Techniques for marine monitoring have been greatly evolved over the past decades, making the acquisition of environmental data safer, more reliable and more efficient. On the other hand, the marine renewable energy sector has introduced dissimilar ways of exploring the oceans. Marine energy is mostly harvested in murky and high energetic places where conventional data acquisition techniques are impractical.

Carcass Age and Searcher Identity Affect Morphological Assessment of Sex of Bats – Nelson et al. 2018

Carcasses provide an important resource for assessing the vulnerability of bat species and sexes to threats, but the reliability of sex data derived from the external morphology of bat carcasses remains uncertain. We used genetic-based assessment of sex to evaluate the effect of carcass age and searcher identity on morphology-based assessments of eastern red (*Lasiurus borealis*) and hoary (*Lasiurus cinereus*) bat carcasses identified by 15 different searchers at a wind-energy facility.

Potential local environmental impacts of salinity gradient energy: A review – Seyfried et al. 2019

Marine renewable energy development aims to harness the vast resources of the coastal environment to meet growing energy demands. Among the variety of coastal energy sources, salinity gradient energy technology captures the energy released from the controlled mixing of waters of different salinities found naturally in estuarine systems or in other combinations of anthropogenic sources of brine and fresh waters. Although SGE technology is in the pilot stage of development, there is currently no comprehensive published assessment of its environmental impacts.

Ultrasonic Bat Deterrent Technology – Kinzie 2018

The project objective was to advance the development and testing of a near commercial bat-deterrent system with a goal to increase the current GE deterrent system effectiveness to over 50% with broad species applicability. Additionally, the research supported by this program has provided insights into bat behavior and ultrasonic deterrent design that had not previously been explored. Prior research and development had demonstrated the effectiveness of a commercial-grade, air-powered, ultrasonic bat deterrent to be between 30-50% depending upon the species of bat.

Handbook on Marine Environment Protection: Science, Impacts, and Sustainable Management – Salomon and Markus 2018

This handbook is the first of its kind to provide a clear, accessible, and comprehensive introduction to the most important scientific and management topics in marine environmental protection. Leading experts discuss the latest perspectives and best practices in the field with a particular focus on the functioning of marine ecosystems, natural processes, and anthropogenic pressures. The Emerging Management Topics section includes chapters on offshore windfarms and wave and tidal energy.

News and Current Events

Marine Renewable Energy

Sustainable Marine Energy's PLAT-I tidal energy platform has generated first power from the tidal currents of Grand Passage in Digby County – Sustainable Marine Energy

> Following a period of commissioning and testing environmental monitoring equipment, Sustainable Marine Energy has satisfied the requirements set out by the Canadian Department of Fisheries and Oceans to commence operation of tidal turbines on the PLAT-I platform installed in Grand Passage, Nova Scotia. On Saturday, February 23rd, the system generated first power, becoming the only operational in-stream tidal energy system currently installed in Nova Scotia.

3rd MaRINET2 call gives another €1.2m testing boost to offshore renewables – MaRINET2

> 36 offshore renewable energy developers will benefit from €1.2 million worth of free lab, tank and open-sea testing, courtesy of the MaRINET2 project. Since 2017, the project has awarded €3.5 million in free testing access to almost 100 users, giving an important boost to wave, tidal and offshore wind projects heading towards commercialisation.

EMEC guides marine energy centre in China – EMEC

> The European Marine Energy Centre (EMEC), based in Orkney, Scotland, will support Qingdao Pilot National Laboratory for Marine Science and Technology (QNLM) to develop the first wave and tidal test centre for marine energy converters (MECs) in China.

Symposium on Global Market Opportunities for Marine Renewable Energy – Aquatera

> Aquatera Ltd, the European Marine Energy Centre (EMEC) Ltd and Pacific Northwest National Laboratories (PNNL), hosted a symposium on Global Market Opportunities for Marine Renewable Energy in Edinburgh on 28th February 2019. The symposium brought together leading organisations and individuals in the global energy sector to discuss the opportunities for marine renewable energy development around the globe.

PLOCAN Hosts Delegation of 'Canary Islands Future Lab' Initiative – Marine Energy Biz

> Oceanic Platform of the Canary Islands (PLOCAN) has hosted a delegation of technology companies linked to the field of innovation in vertical mobility in air and sea, which participate in the "Canary Islands Future Lab" initiative.

Wind Energy

Joint Industry Project Tackles Wind Turbine Blade Erosion – North American Wind Power

> DNV GL, an independent energy advisory and certification body, has launched a joint industry project with 10 commercial partners to develop a COmprehensive methodology for Blade Rain erosion Analysis (COBRA). The COBRA project will investigate damage caused to leading-edge wind turbine blades from high-speed impacts of foreign objects, such as raindrops, and identify how best to develop protection systems.

UK says offshore wind will provide one-third of its electricity by 2030 – CNBC

> One-third of the U.K.'s electricity will come from offshore wind power by the year 2030, with jobs in the sector potentially tripling to 27,000, according to plans announced by authorities Thursday. Launching the joint government-industry Offshore Wind Sector Deal, Energy and Clean Growth Minister Claire Perry said it would "drive a surge in the clean, green offshore wind revolution that is powering homes and businesses across the U.K."

Vestas launches 'extreme climate' wind turbine – Power Technology

> Danish wind energy company Vestas introduced the V136-4.2MW Extreme Climate wind turbine on Thursday. The new turbine is built directly from Vestas' V136-4.2 MW model, with reinforced blades and a strengthened hub. Vestas tested the model and found it was capable of withstanding wind speeds of up to 78 m/s. The turbine has also been designed to withstand by-products of extreme weather, such as lightning bolts from typhoons.

N.J. fishermen and offshore wind firms learning to coexist – Press of Atlantic City

> Offshore wind developers and fishing representatives gathered Wednesday evening at the Ocean County Library in Toms River, USA to discuss how the two groups can lessen proposed wind projects' disturbance of wildlife.

Offshore wind manager sees North Sea wind power island ready by 2030 – Clean Energy Wire

> The plan to build an artificial island in the North Sea that will serve as a hub for offshore wind turbines with a capacity of more than 100 gigawatts is making good progress, Pieter van Oord, CEO of offshore wind farm builder Van Oord, told the newspaper Tagesspiegel.

ORJIP Ocean Energy is a UK-wide collaborative programme of environmental research with the aim of reducing consenting risks for wave, tidal stream and tidal range projects. Partnering with Annex IV, ORJIP provides content input to Tethys Blasts and wishes to make you aware of the following opportunities:

- The Scottish Government has relaunched the £10 million Saltire Tidal Energy Challenge Fund to help commercial deployment of tidal projects. Applications close 6 December 2019.