TETHYS BLAST

January 12, 2018

The bi-weekly Tethys Blast will update you with new information on Tethys, news article 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 Webinar

WREN is hosting a public webinar on January 17 about Smart Curtailment – The Global Perspective. Login instructions are available on Tethys.

CWW 2017 Presentations Available

Presentations from CWW 2017 conference are available online. The Conference on Wind Energy and Wildlife (CWW) is the premier gathering of wind and wildlife researchers and practitioners, based in Europe.

Web Conference on the Impacts of EMR on Wildlife

The EKLIPSE project is hosting an interactive web conference on the impacts of artificial electromagnetic radiations on wildlife (flora and fauna) on 22-25 January 2018. The conference will aim to discuss the scope of existing studies, weaknesses and gaps as well as major findings, and to identify and prioritize key research needs potentially in relation to current policy needs. More information is available here.

Conference Abstracts

The Asian Wave and Tidal Energy Conference (AWTEC) will be held in Taipei, Taiwan on 9-13 September 2018. Conference topics will span technical, policy, finance, and environmental subjects related primarily to wave and tidal energy. The abstract deadline was extended to 1 February 2018.

The Marine Energy Technology Symposium (METS) and the International Marine Renewable Energy Conference (IMREC) will be held as part of Waterpower Week April 30 - May 2, 2018 in Washington DC, USA. METS oral abstracts deadline was extended to 17 January 2018 and poster abstracts are due February 15, 2018. More details are available here.

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 introductions to new or popular documents are listed below, accessible by the accompanying Tethys links:

Measuring Changes in Ambient Noise Levels from the Installation and Operation of a Surge Wave Energy Converter in the Coastal Ocean – Henkel and Haxel 2017

> Ecosystem impacts resulting from elevated underwater noise levels generated by anthropogenic activities in the coastal ocean are poorly understood and remain difficult to address as a result of a significant gap in knowledge for existing nearshore sound levels. Ambient noise is an important habitat component for marine mammals and fish that use sound for essential functions such as communication, navigation, and foraging.

The Effects of Wind Power on Birds and Bats: An Updated Synthesis Report – Rydell et al. 2017

> The report is an update of the previous synthesis report: The effects of wind power on birds and bats, published in 2011. The updated report compiles international research in recent years and provides an analysis of Swedish post-construction surveys implemented until 2016. The report describes the types of environments to be avoided, what is important to consider prior to licensing, as well as which species that can be affected in different areas. It includes species facts with a review of species that may be adversely affected by wind power.

Operational Noise from Tidal Turbine Arrays and the Assessment of Collision Risk with Marine Mammals – Marmo 2017

> The ability for marine species to detect and thereby avoid potentially harmful collision with the moving parts of a tidal stream turbine depends on relative levels of the ambient sound with the acoustic emissions from the turbine. Tidal streams targeted for exploitation by renewable energy converters are by their nature highly energetic environments often with high ambient sound levels. Commonly the first time that the operational sound from new tidal turbines can be measured is after it has been installed and is already interacting with animals in the marine environment.

Seabirds and Offshore Wind Farms in European Waters: Avoidance and Attraction – Dierschke et al. 2016

> The extent to which seabirds are displaced from, or attracted to, offshore wind farms (OWFs) is uncertain, but rapid development of OWFs in European waters could conflict with seabird conservation. We review post-construction studies of seabirds at 20 OWFs in European waters to extract and classify evidence for displacement or attraction of 33 different seabird species. Divers and northern gannets showed consistent and strong avoidance behaviour/displacement, and this may also be the case for great crested grebe and northern fulmar. Long-tailed duck, common scoter, Manx shearwater, razorbill, common guillemot, little gull and sandwich tern showed less consistent displacement from OWFs.

A New Wave of Marine Evidence-Based Management: Emerging Challenges and Solutions to Transform Monitoring, Evaluating, and Reporting – Addison et al. 2017

> Sustainable management and conservation of the world's oceans requires effective monitoring, evaluation, and reporting (MER). Despite the growing political and social imperative for these activities, there are some persistent and emerging challenges that marine practitioners face in undertaking these activities. In 2015, a diverse group of marine practitioners came together to discuss the emerging challenges associated with marine MER, and potential solutions to address these challenges. Three emerging challenges were identified: (i) the need to incorporate environmental, social and economic dimensions in evaluation and reporting; (ii) the implications of big data, creating challenges in data management and interpretation; and (iii) dealing with uncertainty throughout MER activities.

Spatial Demographic Models to Inform Conservation Planning of Golden Eagles in Renewable Energy Landscapes – Wiens et al. 2017

> Spatial demographic models can help guide monitoring and management activities targeting at-risk species, even in cases where baseline data are lacking. Here, we provide an example of how site-specific changes in land use and anthropogenic stressors can be incorporated into a spatial demographic model to investigate effects on population dynamics of Golden Eagles (*Aquila chrysaetos*). Our study focused on a population of Golden Eagles exposed to risks associated with rapid increases in renewable energy development in southern California, U.S.A.

Ocean Energy ORJIP working to accelerate offshore consenting

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. ORJIP wishes to make you aware of the following opportunities:

- Funding Ocean Renewable Energy through Strategic European Action (FORSEA) launched their 4th call for support packages, due by 29 June 2018.

- The second call for MaRINET2 opens on 15 January 2018.
- Nova Scotia Department of Energy issued a request for proposals: using dry ports to support Nova Scotia's tidal energy. Deadline is 26 January 2018.
- Opportunity to tender with the Operation of the Clean Energy for EU Islands Secretariat. Deadline is 31 January 2018.
- Call for proposals from Sustainable Blue Economy to scale up SME projects from pilot to demonstration.

News and Current Events

Marine Renewable Energy

NREL Announces New Technology Development and Innovation Project Selections

The National Renewable Energy Laboratory (NREL) has selected two projects to receive U.S. Department of Energy (DOE)-funded Technology Development and Innovation (TD&I) subcontracts. These awards provide recipients access to NREL's National Wind Technology Center (NWTC) facilities and expertise in support of projects involving the research and development of early-stage wind-wildlife impact minimization technologies.

Galway Bay Marine & Renewable Energy Test Site foreshore lease awarded – Ocean Energy Europe

Damien English, Minister of State at the Department of Housing, Planning and Local Government, announced today that the Marine Institute has been awarded a foreshore lease for the Galway Bay Marine and Renewable Energy Test Site. The test site located 1.5km off the coast of An Spidéal will allow for the deployment and testing of a range of prototype marine renewable energy devices, innovative marine technologies and novel sensors.

Wello is supplying a 10 MW wave energy park to Bali - Wello

The Finnish clean energy company Wello has developed a wave energy solution, which captures the energy derived from passing ocean waves. The company has now received its' first order a commercial wave energy park. The electricity produced from the park will have zero emissions. Gapura Energi Utama (GEU), an Indonesian infrastructure construction company has ordered a 10 MW Wello Penguin wave energy park.

Sustainable Marine Energy's Inshore Platform PLAT-I Powers Up – Ocean Energy Europe

> Edinburgh-based tidal energy technology developer Sustainable Marine Energy (SME) completed the installation of its game changing PLAT-I tidal energy system at Connel, near Oban in western Scotland. The operation, including tow-out, was completed in under 5 hours using Green Marine's multicat vessel Green Isle. PLAT-I is a multiple turbine floating tidal energy platform hosting SCHOTTEL HYDRO's (SHY) turbine system rated at 280kW.

Trial Lift Readies Subhub for Quayside Launch – QED Naval Limited

> Transportation contractors, Mar Train, completed a trial lift of the Subhub recently to reduce the risks associated with the load out to the quayside at Harland & Wolffe, Belfast, Northern Ireland. The weight of Subhub throughout the build has been controlled in order to achieve the load out requirements which were proven by the Mar Train test lift.

French wave company starts device construction – Tidal Energy Today

> Hydro Air Concept Energie (HACE) has begun building its full-scale wave energy device prototype in France. The company said on social media the construction of its wave energy device is currently underway at the facilities of the French construction specialist Groupe Ponticelli Frères.

Wind Energy

'Record year' for Danish wind – ReNews

> Wind energy supplied a record 43.6% of Denmark's electricity in 2017, according to the Danish Energy Association (DEA). The DEA said the country's wind turbines generated about 14,700 gigwatt-hours of electricity last year, citing preliminary data from Denmark's transmission system operator Energinet.dk

UK offshore hub seeks innovators: ORE Catapult-led initiative calls for ideas to help reduce costs in sector - ReNews

> The Offshore Wind Information Exchange (OWiX) has opened a new call for ideas for innovative solutions in three high-priority areas identified by major players in the offshore wind industry. The call covers the automated painting process for large composite structures; automated inspection of coatings during production of these structures; and improving the non-destructive testing capabilities during production of composites.

Siemens Gamesa to Deliver 8-Megawatt Turbines to 500 Megawatt French Offshore Wind Farm – Clean Technica

> Siemens Gamesa Renewable Energy announced this week that it will supply 62 of its new 8-megawatt direct-drive offshore wind turbines to the 500 megawatt Saint Brieuc project in France, bringing the company's total supplied capacity in French waters up over 1.5 gigawatts.

Regulators delay power contract essential to UMaine floating wind farm – Press Herald

> Long-running efforts to secure a power contract for the first floating wind farm in the United States suffered a setback Tuesday when the Public Utilities Commission decided to delay its approval. Without a long-term power contract, the experimental project off Maine's coast near Monhegan Island is in danger of losing future federal funding, making it extremely difficult to finance the project.

PacifiCorp's $3.5B wind plan gets PUC blessing, with caveats – Portland Business Journal

> A split vote and a layer of conditions reflected their uncertainty, but Oregon utility regulators nevertheless delivered to Portland-based PacifiCorp what it wanted on Monday: acknowledgement of the company's plan to spend $3.5 billion on wind turbines and a transmission line in the next few years.