



31 May 2019

The bi-weekly *Tethys Blast* highlights 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.

New Short Science Summary

The Bat Interactions with Land-Based Wind Energy: A European and North American Perspective Short Science Summary is now available on *Tethys*! Check it out [here](#).

Upcoming Funding Opportunities

Vineyard Wind has released a [request for proposals](#) from universities, technology companies, and other innovators for implementation of advanced Passive Acoustic Monitoring Systems (PAMS) to be deployed alongside transit routes to the offshore wind area located off the coast of Massachusetts, due 7 June 2019.

The U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) has released a [request for proposals](#) in support of NREL's Technology Development and Innovation program to aid in the advancement of early stage wildlife monitoring and minimization technologies for use at wind energy facilities, due 10 June 2019.

Upcoming Conferences

[US Offshore Wind 2019](#) will be held in Boston, Massachusetts on 10-11 June 2019.

[OCEANS 2019](#) will be held in Marseille, France on 17-20 June 2019 and [OCEANS 2019 Seattle](#) will be held in Seattle, Washington on 27-31 October 2019. The abstract submission deadline for OCEANS 2019 Seattle is 31 May 2019.

[Energy3 Canada](#) will be held in Halifax, Nova Scotia on 16-18 October 2019. Early bird registration is available until 17 July 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:

[Predictable changes in fish school characteristics due to a tidal turbine support structure](#) – Williamson et al. 2019

This study used concurrent ecological and physical measurements to show the predictability of fish school characteristics (presence, school area and height above seabed) in a high energy tidal site across spring/neap, ebb/flood and daily cycles, and how this changed around a turbine structure. The rate of schools and school area per hour increased by 1.74 and 1.75 times respectively around a turbine structure compared to observations under similar conditions without a turbine structure. This study can guide a strategic approach to the monitoring and management of turbines and arrays.

[A smart curtailment approach for reducing bat fatalities and curtailment time at wind energy facilities](#) – Hayes et al. 2019

This study tests a novel approach for reducing bat fatalities and curtailment time at a wind energy facility in the United States, then compares these results to operational mitigation techniques used at other study sites in North America and Europe. The study was conducted in Wisconsin during 2015 using a new system of tools for analyzing bat activity and wind speed data to make near real-time curtailment decisions when bats are detected in the area at control turbines (N = 10) vs. treatment turbines (N = 10).

[Assessing the impact of introduced infrastructure at sea with cameras: A case study for spatial scale, time and statistical power](#) – Bicknell et al. 2019

Detecting the effects of introduced artificial structures on the marine environment relies upon research and monitoring programs that can provide baseline data and the necessary statistical power to detect biological and/or ecological change over relevant spatial and temporal scales. Here we report on, and assess the use of, Baited Remote Underwater Video (BRUV) systems as a technique to monitor diversity, abundance and assemblage composition data to evaluate the effects of marine renewable energy infrastructure on mobile epi-benthic species.

[A three-dimensional underwater sound propagation model for offshore wind farm noise prediction](#) – Lin et al. 2019

A three-dimensional underwater sound propagation model with realistic ocean environmental conditions has been created for assessing the impacts of noise from offshore wind farm construction and operation. This model utilizes an existing accurate numerical solution scheme to solve the three-dimensional Helmholtz wave equation, and

it is compared and validated with acoustic transmission data between 750 and 1250 Hz collected during the development of the Block Island Wind Farm (BIWF), Rhode Island.

[The effect of arrays of wave energy converters on the nearshore wave climate](#) – Atan et al. 2019

The exploitation of wave energy using arrays of wave energy converters (WEC), which contain a large number of devices, could have significant impact on the wave climate in the nearshore region. This research investigates the impact of WEC arrays at the Westwave demonstration commercial site, which is located on the West coast of Ireland. The results of the analysis suggest there is minor impact on the nearshore wave climate for all the scenarios, where the reduction in wave height and wave power was below 1% at a distance of between 1 and 3 km from the shoreline.

[Winds of change – Predicting water-based recreationists' support and opposition for offshore wind energy development in the Great Lakes](#) – Ferguson et al. 2019

This study examined the factors influencing water-based recreationists' perceptions of support and opposition towards off-shore wind energy development (OWD) on Lake Erie. The limited body of OWD research within the United States has suggested there are numerous factors that may influence overall perceptions of support and opposition. From a policy and management standpoint, study results highlight the importance of assessing and communicating recreation experience and use impacts when planning, developing, and managing OWD and related decisions in the United States.

News and Current Events

Marine Renewable Energy

[OceanBased, SNMREC Work on New Ocean Current Energy Project](#) – Marine Energy

OceanBased has signed a Memorandum of Understanding with Florida Atlantic University's Southeast National Marine Renewable Energy Center (SNMREC) to assist the company to develop commercial ocean current energy project. The goal of the project, which plans to focus on an area off the southeast coast of Florida, will be the installation of hundreds of megawatts (MWs) of ocean current generating equipment.

[EnFAIT reports successes from its first 18 months](#) – EnFAIT

Just 18 months after its launch, the €20 million flagship EU tidal energy project, Enabling Future Arrays in Tidal (EnFAIT), has reduced the cost of tidal energy by 15 percent and grown its supply chain from four to 14 EU countries. EnFAIT is an academic-industry collaboration between nine European partners focused on demonstrating the economic viability of tidal power. The project is also paving the way for a new industrial marine manufacturing sector with a supply chain based across Europe.

ProtoAtlantic backs 10 International Start-Ups to test Maritime Technologies – ProtoAtlantic

The ProtoAtlantic project has selected 10 international start-ups to test their maritime technologies free of charge at a number of world-renowned test facilities as part of the Fast Tracked Product Development phase of the project, which is being led by the European Marine Energy Centre (EMEC) in Orkney, Scotland. The successful projects have been selected due to the standard of their innovative concepts from a variety of blue growth sectors including renewable energy, biotechnology, and marine robotics.

French duo plot tidal hybrid path – reNEWS

French renewables companies Sabella and Akuo Energy have signed a partnership agreement as part of the Phares multi-energy clean power project in France. The project is currently under development on the island of Ouessant [Ushant] and will consist of tidal stream, wind, solar and energy storage components. It also aims to be a model for integrating renewables technologies into a hybrid scheme to deliver electricity to an isolated network, the partners said.

UK's BEIS launches next renewables projects funding round – Smart Energy International

The UK's Department of Business Energy and Industrial Strategy (BEIS) will launch the third Contracts for Difference allocation round for new renewable energy projects on 29 May 2019. Developers of offshore wind, remote island wind, and wave and tidal technologies, also known as Pot 2 technologies, have until the 18 June deadline to submit project applications.

Wind Energy

The new Salitrillos wind farm is inaugurated in Mexico – Enel Green Power

A ceremony attended by local authorities marked the inauguration of Mexico's latest renewable energy project. The Salitrillos wind farm boasts 103 MW of installed capacity, a testament to Enel Green Power's role as one of the country's major renewable energy operators. The construction of the project was based on Enel's "Sustainable Construction Site" model, which includes measuring the socio-environmental impact of projects and actions to improve this indicator, through water treatment systems, waste recycling and training of the local population in the construction field.

Fully Autonomous Offshore Wind O&M Solution on Horizon – Offshore Wind

A new GBP 4 million cross-sector project is set to develop the world's first fully autonomous robotic inspection and repair solution for offshore wind farms. The Innovate UK-funded MIMRee (Multi-Platform Inspection, Maintenance and Repair in Extreme Environments) is a two-year project bringing in expertise from the fields of robotics, non-

destructive testing, artificial intelligence, space mission planning, marine and aerial engineering, and nanobiotechnology.

GE Renewable Energy and TÜV NORD have announced the first design conformity statement covering wind turbines for a 40-year period – Renewable Energy Magazine

TÜV NORD issued the statement for GE Renewable Energy's 2.7-116 turbine in accordance with the IEC 61400-22 standard. It is the first time that GE Renewable Energy has sought or received such a certification. “Normally, we certify wind turbines for a period of 20 years” said Mike Wöbbeking, Executive Vice President Renewables at TÜV NORD and General Manager of TÜV NORD EnSys. “The design review for such a long period of time was a real milestone for us as well.”

Climate change could boost wind power in Texas – Physics World

How will climate change affect wind and solar power? By 2050 wind power is likely to fall across the central US and increase in the east. A new study investigates how Texas, currently the US state with greatest installed wind and solar capacity, will cope as climate change kicks in. By 2050 the extra energy in the atmosphere is likely to boost wind-speeds across Texas, according to the team’s climate model simulations, bringing a rise in wind power generation potential of between 1 and 4%.

Wind Industry creates Africa Task Force to speed up development – GWEC

The Global Wind Industry Council (GWEC) has set up a new Task Force to speed up and facilitate the development of wind energy in Africa. The Task Force brings together leading developers, manufacturers and associations that are active in the African market and will be chaired by Jon Lezamiz, African Market Development Director at Siemens Gamesa Renewable Energy, the leading wind turbine manufacturer in the continent with over 50% of the installed capacity in the market.



[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 [€3 million OceanDEMO](#) project has announced the 1st call for applications. The project aims to accelerate ocean energy’s transition from single prototype to multi-device farms by providing access to world-leading test centres. Applications close 1 July 2019.
- The [€2.5 million Blue-GIFT](#) (Blue Growth and Innovation Fast Tracked) project consortium has announced the 1st call for applications for access to test sites in the Atlantic Area region to

perform tests and validation of marine renewable energy technologies. Applications close 6 September 2019.

- 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.