TETHYS BLAST

May 4, 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.

Annex IV Workshop at ICOE

OES-Annex IV invites you to a workshop in Cherbourg, France on June 12th from 9am-12:30pm (CEST) in conjunction with the International Conference on Ocean Energy (ICOE). The workshop focuses on ways to "transfer" data, information, and learning on environmental effects from early MRE projects to extend learning from these early projects and to reduce the high costs of environmental monitoring and accelerate consenting for future projects. The workshop will focus on developing best management practices for data transfer and collection consistency. Space is limited; if you wish to register for the workshop, email mikaela.freeman@pnnl.gov. More information on the workshop can be found here.

Marine Energy Data

Do you use data and information associated with marine energy? Please help the US Department of Energy national laboratories develop the most useful system for storing and discovering data. Please take our survey at https://goo.gl/RkJ3n5.

MHK Maritime Markets Report

The US Department of Energy Waterpower Technologies Office has published a report on 12 maritime markets that represent potential opportunities for providing marine energy for new and emerging markets, most smaller than utility scale electricity market. They are seeking comments and input on the content. Please download the report and comment on any portions of the report you like; the deadline for online comments is June 26th.

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:

Landscape-Scale Wildlife Species Richness Metrics to Inform Wind and Solar Energy Facility Siting: An Arizona Case Study – Thomas et al. 2018

> The juxtaposition of wildlife and wind or solar energy facility infrastructure can present problems for developers, planners, policy makers, and management agencies. Guidance on siting of these renewable energy facilities may help identify potential wildlife-facility conflicts with species of regulatory or economic concern. However, existing spatial guidance usually does not consider all wildlife that might use a potential facility location or corridors for its servicing infrastructure. We illustrate an approach toward assessing potential wildlife-facility conflicts using readily available vertebrate habitat models.

Offshore Energy and Marine Spatial Planning – Yates et al. 2018

> The global demand for energy continues to grow, with a projected 30% increase over the next 25 years (International Energy Agency 2016). By 2022, global spending on offshore oil and gas development and operations is estimated to be US$114 billion, which is more than 2.5 times the US$43 billion spent in 2012 (Marine Board 2013). New, highly lucrative resource discoveries are being made regularly (Chapter 14), and multibillion-dollar investments in previously unexplored areas are announced every year (Eurasia Group 2014; Mann 2016).

Flight Response to Spatial and Temporal Correlates Informs Risk from Wind Turbines to the California Condor – Poessel et al. 2018

> Wind power is a fast-growing energy resource, but wind turbines can kill volant wildlife, and the flight behavior of obligate soaring birds can place them at risk of collision with these structures. We analyzed altitudinal data from GPS telemetry of critically endangered California Condors (*Gymnogyps californianus*) to assess the circumstances under which their flight behavior may place them at risk from collision with wind turbines.

Fisheries, Marine Conservation, Marine Renewable Energy and Displacement: A Fresh Approach – Campbell 2015

> Fishers are among the biggest commercial resource users in the marine environment. In order to meet international, national and local policies, the UK has to designate a suite of marine protected areas and reach marine renewable energy targets. Inevitably, there will be conflict between these two industries and marine conservation. This study uses a multi-disciplinary approach to examine evaluate the suitability of various sources of data, which could be used to detect, assess, and ultimately predict, fishing effort displacement within the different sectors of the > 15 m fleet in the South West of the UK.

Electromagnetic Field (EMF) Impacts on Elasmobranch (shark, rays, and skates) and American Lobster Movement and Migration from Direct Current Cables – Hutchison et al. 2018

> The BOEM-URI project had five major components: (1) A synthesis of existing information published subsequent to the report entitled " Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species" (Normandeau et al., 2011) for BOEM on EMF and the potential effects on marine species; (2) Field surveys to characterize the EMF from two high voltage direct current cables; the Cross Sound Cable and the Neptune Cable…

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:

- Innovate UK is providing £15 million to invest in great ideas for new innovations in a range of technology and business areas. The deadline for application is May 9.
- The FORESEA (Funding Ocean Energy through Strategic European Action) programme has launched its 4th call for proposals, due June 29.

News and Current Events

Marine Renewable Energy

Atlantis unveils plans for 1GW of tidal power in France by 2025 – Water Power Magazine

> A study by marine power developer Atlantis Resources Ltd has concluded 2GW of tidal energy is immediately available to be harnessed in the Raz Blanchard, Normandy, with the potential to make 1GW operational by 2025. Atlantis has submitted a strategic plan to the French government setting out plans to deliver 1GW by 2025 at Le Raz Blanchard which will drive the reduction of Levelized Cost Of Energy (“LCOE”) for tidal energy lower than any offshore wind farm currently under construction in France or in the UK when the final phase of the proposed 1GW project is commissioned.

Oregon Wave Energy Testing Project Looks To Feds For Approval - OBP

The Pacific Northwest could soon become a hub of ocean energy technology. An Oregon State University project to set up a wave energy test site is now applying for the federal permits needed to move ahead. Oregon has some of the best potential in the world to generate energy from the motion of the waves.

Carnegie wraps up CETO 6 wave tank testing – Marine Energy Biz

The tank testing program, conducted jointly with the University of Western Australia (UWA), investigated the response of wave energy converters in extreme conditions as well as methods for determining the design of the CETO wave device. The trials were successfully completed and data analysis is ongoing to produce the final load and motion cases for Albany ocean deployment, Carnegie informed.

US to support marine energy segment with USD 23m in financing – Renewables Now

The US Department of Energy (DOE) will provide up to USD 23 million (EUR 19m) in financing to support innovative technologies aimed at reducing capital costs and shortening deployment timelines of marine energy devices.

Pico wave power plant caves in – Marine Energy Biz

The owner and operator of the Pico wave power plant – WavEC Offshore Renewables – has informed the plant was disconnected from the grid after partial collapse earlier in April. WavEC said the collapse occurred on April 17, 2018, and all the necessary measures were undertaken to contain potential risks. The Pico wave power plant, located in the Azores on the island of Pico off Portugal, was completed in 1999 as a European pilot project.

Wind Energy

Vineyard Wind files environmental report for 800MW offshore wind farm in US – CTBR Green Power Wind

Vineyard Wind has submitted the draft environmental impact report to the Massachusetts Environmental Policy Act Office for the 800MW offshore wind farm to be built off the state's coast. The draft report advances its proposal to build the offshore wind farm, which will be located 15 miles south of Martha's Vineyard. Vineyard Wind expects to begin construction on the wind farm in 2019 and start operations by 2021.

Seajacks to install turbines for Taiwanese offshore wind farm – Marine Log

> U.K.-based offshore installation contractor Seajacks recently won a contract from Siemens Gamesa to install its 6MW wind turbines during Phase 2 of the 120MW Formosa 1 offshore wind farm in Taiwan. It's Seajacks first renewables contract outside of Europe.

Global Wind Turbine Market Growth, Trends, and Forecasts to 2023 – ResearchAndMarkets

> The "Global Wind Turbine Market - Growth, Trends, and Forecast (2018 - 2023)" report has been added to ResearchAndMarkets.com's offering. The usage of wind energy as a source of electricity generation has attracted exceptional demand across regions. In 2017, the total wind power installation capacity remained above 50 GW, with Europe and Asia-Pacific regions; a record high.

Bladt wins substation deal for 244-MW Northwester 2 offshore wind farm – Renewables Now

> Danish steel contractor Bladt Industries A/S has secured a turnkey contract to supply an offshore substation for Parkwind NV's 224-MW Northwester 2 project in the Belgian North Sea. Under a deal with Northwester NV, Bladt will take care of all aspects related to the project, from design to final installation of the substation

NYSERDA Offering $5 Million For Offshore Wind Resource Assessment – North American Windpower

> The New York State Energy Research and Development Authority (NYSERDA) is making up to $5 million available to support meteorological and oceanographic (metocean) data collection off the New York coast in areas with the potential for future offshore wind development. NYSERDA is issuing a request for proposals (RFP) to collect more detailed metocean information about the wind resources off New York to help secure reliable and bankable data for wind farm developers to reduce uncertainty about site conditions.