Tethys Blast

March 20, 2015

Welcome to the second March edition of the bi-weekly Tethys Blast!

Tethys Blasts will keep you updated with new information available on Tethys, new features on Tethys, and current news articles of international interest on offshore renewable energy. We hope that this becomes a valuable tool to help you stay connected to your colleagues and to introduce you to new research, new contacts, and ongoing milestones in renewable ocean energy development.

New Tethys Story

Tethys Stories are an opportunity to learn more about organizations, events, ideas, and news from the perspective of someone closely involved with the topic. If you are interested in submitting a Tethys Story, reply to tethys@pnnl.gov. Check out our most recent story:

European Experts to Look at Ways of Accelerating the Approval of Offshore Energy Projects

> The European Commission's competitive Horizon 2020 programme has awarded €1.4 million to fund the Risk-based Consenting of Offshore Renewable Energy (RiCORE) project. Comprised of a team of experts from Ireland, Spain, Portugal, France and Scotland, the eighteen month project will examine ways to accelerate and streamline the environmental requirements associated with consents for offshore wind, wave, and tidal projects.

New Articles on Tethys

A total of 26 new documents have been added to Tethys in the last two weeks. These documents have been hand-selected for their relevance to the environmental effects of offshore renewable energy. The listings below are short introductions to several popular documents that can be accessed through the accompanying Tethys links:

Curtailing Wind Turbine Operations to Reduce Avian Mortality - Singh et al. 2015

> While wind power is a promising source of renewable energy, there have been persistent questions about the safety of migrating birds in the presence of wind farms. In this paper we develop a framework that allows us to consider the costs and benefits of a very simple strategy: curtailing (turning off) the turbines during high-risk periods for endangered species. We develop a model that allows us to find the lowest financial cost strategy (where cost is represented in dollars) for the curtailing operation, given a specific goal for bird mortality reduction.

Consenting Processes for Ocean Energy on OES Member Countries - WavEC 2015

> The present report summarises several aspects of the consenting process for ocean energy in the OES member countries, based on a collection of information provided by the Delegates. The term 'consenting process' is used in this report to describe all of the consents or permissions necessary to deploy a device or array of devices in the sea. The following technologies are considered: wave, tidal current, salinity gradient and OTEC. Tidal barrage is not considered due to its distinct stage of development.

Orientation Behaviour of Leatherback Sea Turtles within the North Atlantic Subtropical Gyre - Dodge et al. 2015

> Leatherback sea turtles (*Dermochelys coriacea*) travel thousands of kilometres between temperate feeding and tropical breeding/over-wintering grounds, with adult turtles able to pinpoint specific nesting beaches after multi-year absences. Their extensive migrations often occur in oceanic habitat where limited known sensory information is available to aid in orientation.

Quieting Technologies for Reducing Noise During Seismic Surveying and Pile Driving - CSA Ocean Sciences Inc. 2014

> The focus of the Bureau of Ocean Energy Management's (BOEM's) Quieting Technologies for Reducing Noise during Seismic Surveying and Pile Driving Workshop was to examine current and emerging technologies that have the potential for reducing noise generated during certain ocean activities. Specifically, the Workshop considered technologies that have potential for quieting noise from geological and geophysical exploration, pile driving, and support vessel operations.

A Marine Spatial Planning Framework for the Optimal Siting of Marine Renewable Energy Installations: Two Danish Case Studies - Azzellino et al. 2013

> In this analysis two Danish case studies are investigated using a spatial planning approach. The first case study concerns the area on the west coast of Denmark that has been elected as test site by the Danish Wave Energy Center (DanWEC), a foundation constituted by local authorities, Aalborg University supported by the national wave energy industry.

Current News

Current news articles of international interest on offshore renewable energy include:

Edinburgh Wave Energy Company Releases Exceptional Data

> Edinburgh-based Aquamarine Power has today published operational information gathered during months of testing their Oyster 800 wave machine at the European Marine Energy Centre (EMEC) in Orkney. The academic analysis examines data generated by the Oyster 800 machine last year – which includes operating during major storms with waves reaching eight metres – and verifies that the Oyster flap generates power as predicted in wave tank and numerical tests.

America's First Offshore Wind Farm Funded

> America’s first offshore wind farm may soon be generating electricity off the coast of Rhode Island. Deepwater Wind’s Block Island Wind Farm received more than $290 million in project financing, enough to get the five wind turbines in business by their target date of late 2016.

Sea Power Can Eclipse Solar

> In the drive to switch more of the world to renewable energy sources, solar panels don't light up when it's dark, and turbines don't rotate when the wind doesn't blow. The sea, though, is constant, reliable -- and scandalously underutilized.

China Ming Yang Connects Two-Bladed Offshore Wind Turbine Prototype To Grid

> China Ming Yang Wind Power Group says its 6.5 MW offshore wind prototype has been connected to the grid in China's Jiangsu province and is producing power under a trial run. According to the company, the prototype features a two-bladed design that is powered by a permanent magnet generator - or what the company is calling a super compact drive (SCD).