Tethys Blast

October 30, 2015

Welcome to the latest bi-weekly Tethys Blast, which will update you with new information available on Tethys, new features of 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

Studying Wildlife on the Mid-Atlantic Outer Continental Shelf

> The regional Mid-Atlantic Baseline Studies and Maryland projects (www.briloon.org/mabs) recently provided comprehensive baseline ecological data to regulators, developers, and other stakeholders that will help inform the siting and permitting of offshore wind facilities on the mid-Atlantic Outer Continental Shelf. Researchers studied the distributions, abundance, and movements of birds, marine mammals, sea turtles, and other wildlife.

New Documents on Tethys

A total of 25 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 new or popular documents that can be accessed through the accompanying Tethys links:

Wildlife Densities and Habitat Use Across Temporal and Spatial Scales on the Mid-Atlantic Outer Continental Shelf (2012-2014) - Williams et al. 2015

The Mid-Atlantic Baseline Studies Project was funded by the Department of Energy's (DOE) Wind and Water Power Technologies Office in 2011, with additional support from a wide range of partners. The study was intended to help address environmental barriers to offshore wind energy development in the mid-Atlantic region and promote the incorporation of environmental data into siting and permitting processes. The study goal was to provide regulators, developers, and other stakeholders with comprehensive baseline ecological data and analyses that could help address environmental permitting requirements for current and future projects, and would serve as a starting point for more site-specific studies.

Towards Acoustic Monitoring of Marine Mammals at a Tidal Turbine Site: Grand Passage, NS, Canada - Malinka et al. 2015

There is a growing interest in extracting energy from tidal flows using in-stream kinetic energy conversion devices, and among the many questions are the possible effects on marine mammals. Underwater sound is used as a tool for detecting marine mammal presence via their vocalisations, but such Passive Acoustic Monitoring (PAM) requires an understanding of site-specific acoustic detection ranges, and the naturally occurring ambient noise in high-flow environments imposes constraints on detectability.

Advancing the Environmentally Responsible Development of Offshore Wind Energy in New York State: A Regulatory Review and Stakeholder Perceptions - NYSERDA 2015

Offshore wind energy development (OSW) is a nascent industry in NYS and the United States that will require both federal and State environmental review. A proposed project in federal waters (more than three miles off NYS' coast) would trigger a National Environmental Policy Act (NEPA) review, compliance with multiple federal wildlife laws, a Coastal Zone Management Act (CZMA) consistency review, and compliance with multiple State laws. Because there is currently no OSW in NYS, there is little precedent for permitting, leading to questions and uncertainties about the environmental permitting process for this type of development.

Disruption to Benthic Habitats by Moorings of Wave Energy Installations: A Modelling Case Study and Implications for Overall Ecosystem Functioning - Kristov and Linfoot 2012

This paper presents the research carried out in the marine renewables group of Heriot-Watt University, where the physical models of wave energy converters are first tested in the wave basin, and the results of their behaviour are then compared to the simulations performed using mathematical modelling. An OrcaFlex model is used to assess the scouring effect on bottom sediments and consequent disruption of benthic habitats, and open water tests are being conducted to compare the model performance with the actual observations.

Ecological Research at the Offshore Windfarm Alpha Ventus: Challenges, Results and Perspectives - Beiersdorf and Radecke 2014

> At present and over the next few years, large-scale windfarms are being installed far off the coast of Germany in the North and Baltic Sea, making a major contribution to electricity generation from renewable energy sources. One of the German government's aims is to ensure the environmentally sound and sustainable development of offshore wind energy.

Current News

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

World's biggest offshore wind farm confirmed for Cumbria

> Permission has been granted today (29 October) to put steel in water for what will be the world's biggest offshore wind farm off the coast of Cumbria. Danish utilities DONG Energy has received the final investment decision from authorities to construct the 660MW Walney Extension Offshore Wind Farm in the Irish Sea, which will deliver electricity to more than 460,000 UK homes.

Cape Sharp Tidal moves forward on 4-MW MHK project at FORCE

> Cape Sharp Tidal, in a joint venture between Emera Inc. and OpenHydro, is taking final steps to deploy 2-MW Open-Centre marine hydrokinetic (MHK) ducted turbines at the Fundy Ocean Research Center for Energy (FORCE) in the Bay of Fundy, Nova Scotia, Canada.

Adwen Plans Factories For 8 MW Offshore Wind Turbine

> Adwen, an offshore wind turbine joint venture between Gamesa and Areva, has tapped Egis, Auxitec and Enia Architectes to design two factories the manufacturer plans to build in Le Havre, France. Adwen says these facilities will produce the nacelles and blades for its 8 MW offshore wind turbines, whose serial production is scheduled to start in 2018.

Minesto fully-funds Deep Green MHK technology after raising US $17.2 million

> Minesto AB is a marine hydrokinetic (MHK) energy company based in Vastra Frolund, Sweden that developed the Deep Green MHK technology. Minesto announced it has raised about US$17.2 million through more than 2,500 new shareholders in connection with its listing on First North at NASDAQ Stockholm and a separate issue to institutional investors.