Tethys Blast

August 22, 2014

Welcome to the second August edition of the Tethys Blast! A new Tethys Blast will be sent to you every 2-4 weeks, unless you choose to unsubscribe; instructions to unsubscribe are at the bottom of this email.

Tethys Blast 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.

This Tethys Blast also contains the second of two attachments about "Tips for Tethys". Learn how to effectively use the tools available on Tethys. See the whole article on Tethys.

New Articles on Tethys

A total of 24 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:

High Intensity Anthropogenic Sound Damages Fish Ears – McCauley et al.

> Despite reports of behavioral responses of fishes and marine mammals to such noise, it is not known whether exposure to air-guns has the potential to damage the ears of aquatic vertebrates. It is shown here that the ears of fish exposed to an operating air-gun sustained extensive damage to their sensory epithelia that was apparent as ablated hair cells.

Numerical Modelling of the Effect of Turbines on Currents in a Tidal Channel - Tory Channel, New Zealand – Plew and Stevens

Numerical modelling is used to assess the effect of a turbine array on tidal currents in the Tory Channel, New Zealand. The Tory Channel is the smaller of two entrances from Cook Strait to the Queen Charlotte Sound with a large island separating the narrow Tory Channel from the main entrance. The 2D depth-averaged finite element model is validated against velocities from shipboard ADCP transects from a survey during spring tide conditions, and water levels recorded at the study site.

Getting it Right for the North Atlantic Right Whale (Eubalaena glacialis): A Last Opportunity for Effective Marine Spatial Planning? – Petruny et al.

The North Atlantic right whale (*Eubalaena glacialis*) faces increasing pressure from commercial shipping traffic and proposed marine renewable energy developments. Drawing upon the successful Stellwagen Bank National Marine Sanctuary model, we propose a multi-stakeholder marine spatial planning process that considers both appropriate positioning of offshore wind farms and redefining commercial shipping lanes relative to whale migration routes: placement of wind turbines within certain right whale habitats may prove beneficial for the species.

The Effects of Wind Power on Human Interests – Henningsson et al.

The aim of the project The Effects of Wind Power on Human Interests is to describe, analyse and value research on how wind power may affect human interests, and to present: 'what we can say based on what we know today". The report addresses managers, officials, wind power projectors and also the general public. Research on how wind power may affect health, economy and businesses, and the landscape is analysed. The process of gaining approval for wind power connected to the above mentioned interests is also studied and valued.

First Interim Report of the Working Group on Marine Renewable Energy (WGMRE) – International Council for the Exploration of the Seas (ICES)

The Group agreed that the first topic based Workshop would focus on methodological requirements to inform cumulative assessments of the effects of both climate change and marine renewable energy upon populations of marine predators afforded species protection (e.g. under the Birds and Habitats Directives). Climate change is considered to be likely to have a dominant effect upon several populations of marine predators, making it highly relevant for any cumulative impact assessments.

Most Recent Blog Article

A new blog post will be available on *Tethys* every 2-4 weeks, so please rate and comment on the blog to engage with your colleagues. If you are interested in submitting a blog article, reply to tethys@pnnl.gov. Check out our most recent article:

Offshore Wind Turbines and Commercial Vessel Traffic in the Atlantic Ocean

> Plans to pin offshore wind turbines to the seafloor in the Atlantic Ocean has raised questions about potential risks to commercial shipping traffic, as vessels maneuver around the installations. To address this potential risk, Pacific Northwest National Laboratory (PNNL) scientists have developed an assessment of navigation safety risks.

Current News

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

Innovation in Power Cables could Help Offshore Wind Energy

> Swiss engineering group ABB has developed technology that can double the power flow of underground cables, making it cheaper to integrate electricity into the grid from distant offshore wind farms.

Tidal Energy Generator Unveiled at Pembroke Port

> WALES'S first full-scale tidal energy generator has been unveiled at Pembroke Port by The First Minister of Wales, Carwyn Jones AM. Tidal stream technology company Tidal Energy developed the device, DeltaStream, which will be installed in Ramsey Sound, Pembrokeshire.

North Carolina Takes a Significant Step Towards Offshore Wind Energy Development

> North Carolina is one step closer to developing its immense offshore wind energy potential. Yesterday, the Bureau of Ocean Energy Management (BOEM) announced three Wind Energy Areas (WEAs) off the coast of North Carolina. The three WEAs, totaling 307,590 acres, have been identified as areas suitable for potential offshore wind energy development.

Carnegie to Partner with Bosch Rexroth and Wave Energy Developers

> Wave energy developer Carnegie Wave Energy is pleased to announce the signing of a Collaboration MOU with leading European power industry firms and a number of UK based wave energy developers aimed at reducing costs and increasing reliability.