



Tethys Blast

August 7, 2015

Welcome to the latest edition of the bi-weekly Tethys Blast!

Tethys Blasts 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.

We need your help to ensure that Tethys functions at peak performance! Please notify us of any errors or broken links you come across within Tethys. The Tethys team is continuously on the lookout for these, but a short message with the name of the page or URL is extremely helpful! You can provide comments in the comment box on the bottom of each page. Thanks in advance!

Ocean Sciences 2016

The 2016 Ocean Sciences Meeting will be held 21-26 February 2016 in New Orleans, LA, USA. Cosponsored by American Geophysical Union (AGU), American Society of Limnology and Oceanography (ASLO), and The Oceanography Society (TOS), the Ocean Sciences Meeting will consist of a diverse program covering topics in all areas of the ocean sciences discipline.

There are two marine renewable energy sessions currently accepting abstracts, submissions are due September 23, 2015. Visit the event page on Tethys for more information:

<http://tethys.pnnl.gov/events/ocean-sciences-2016>

New Documents on Tethys

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:

[Eco-Maintenance for Complex Systems: Application on System of Renewable Energy Production - Tchertchian & Millet 2014](#)

The marine energy sector is experiencing a growing interest; large offshore wind farms continue to emerge, particularly in northern Europe. The electrical energy produced by these turbines is intended as clean and renewable. Operations and Maintenance (O&M) of offshore wind farms is however costly and generating environmental impacts. Indeed in view of the circumstances on the high seas the accessibility to Wind Turbine (WT) is greatly complicated causing long periods of unavailability compared to onshore wind farm.

[A Computational Method to Predict and Study Underwater Noise due to Pile Driving - Schecklman et al. 2015](#)

A hybrid modeling approach that uses the parabolic equation (PE) with an empirical source model is presented to study and predict the underwater noise due to pile driving in shallow, inhomogeneous environments over long propagation ranges. The empirical source model uses a phased point source array to simulate the time-dependent pile source. The pile source is coupled with a broadband application of a PE wave propagation model that includes range dependent geoacoustic properties and bathymetry.

[Dogger Bank Creyke Beck Environmental Statement - Chapter 14: Marine Mammals - Mackey & Keenan 2014](#)

This chapter of the Environmental Statement (ES) describes the existing environment with regard to marine mammals; which includes pinnipeds (seals) and cetaceans (whales, dolphins and porpoise) and assesses the potential impacts of Dogger Bank Teesside A & B during the construction, operation and decommissioning phases. Where appropriate, mitigation measures and residual impacts are presented.

[Pelagic Seabirds off the East Coast of the United States 2008-2013 - Veit et al. 2015](#)

We collected data on the distribution and abundance of seabirds on twenty-two research cruises over the shelf waters of the eastern United States between August 2008 and February 2013. Having this knowledge in hand will allow us to determine changes in abundances and have greater ability to determine the factors influencing these changes-- such as changing climates, changing prey bases, or the development of wind facilities.

[Trends of Harbour Porpoise \(*Phocoena phocoena*\) Density in the Southern North Sea - Peschko et al. 2016](#)

In the southern North Sea, harbour porpoise occurrence increased in recent years after a phase of low abundances during earlier decades. Only very few studies on porpoise presence in the southern German North Sea exist so far. As anthropogenic activities will strongly increase in this part of the North Sea during the next years it is most important to assess population level effects.

Current News

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

[New Tidal Energy System could Help Power UK, Say Developers](#)

Harnessing tidal power around the UK's coast has so far been limited by the cost of the large dams and barrages required and unpredictable results. A British company, in conjunction with Oxford University researchers, believes it has devised a way to overcome this obstacle by creating a new type of horizontal axis turbine that can be used underwater at depths of up to 30 meters, at an economical cost.

[Approval paves way for world's largest offshore wind farm](#)

The second half of the world's biggest offshore wind farm, which will be built in the North Sea, has received planning consent from the Government. The Dogger Bank Teesside A and B project proposed by the Forewind consortium of SSE, RWE, Statkraft and Statoil would see as many as 400 turbines built around 100 miles off England's North East coast, with the potential to power roughly two million homes.

[WavePOD Secures £2m Funding from Wave Energy Scotland](#)

The WavePOD (Wave Power Offtake Device) project, which launched last year, aims to produce a standardised device that can be installed on a wide range of wave energy generation units in order to more efficiently convert the wave motion into exportable electricity. Edinburgh-based developer Aquamarine Power is collaborating with British wave developer Carnegie Wave Energy and German engineering firm Bosch Rexroth to develop and test the innovative device.

[Full Power at Butendiek Offshore Wind Farm](#)

Full power at Butendiek offshore wind farm Bremen - Bringing the 80th and thus final wind turbine into operation, the construction of the offshore wind farm Butendiek is now complete.