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## Energy Zones Mapping Tool Newsletter

### August Webinar Demo: Energy Planning and Climate Change

Wednesday, August 26, at 3pm ET/2 pm CT/1 pm MT

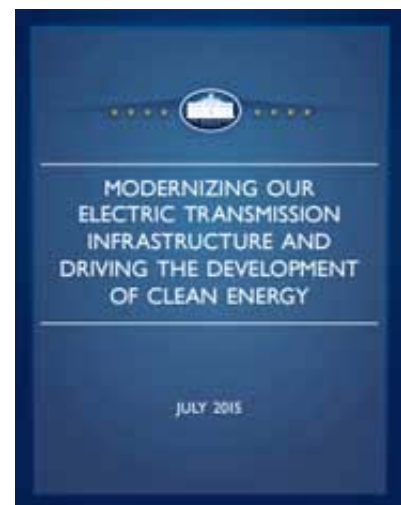
Use the following link to attend the webinar: [http://anl.adobeconnect.com/ezmt\\_demo](http://anl.adobeconnect.com/ezmt_demo)  
(Audio via the webinar or by phone: 1-877-685-5350, participant code: 853223).

This demonstration will highlight the recently added climate change data based on the 2014 National Climate Assessment, and the climate change report which facilitates analysis of climate-energy issues for user-defined areas.

### In the News

These recent news items help illustrate how the Energy Zones Mapping Tool (EZMT) provides current and relevant data and analysis for energy planning challenges:

In a new report published by the Deputy Assistant to the President for Energy and Climate Change, "[Modernizing Our Electric Transmission Infrastructure and Driving the Development of Clean Energy](#)", the Energy Zones Mapping Tool is listed as a tool to "enable transmission planners and regulatory officials to study and compare alternative transmission line routes more efficiently and systematically".



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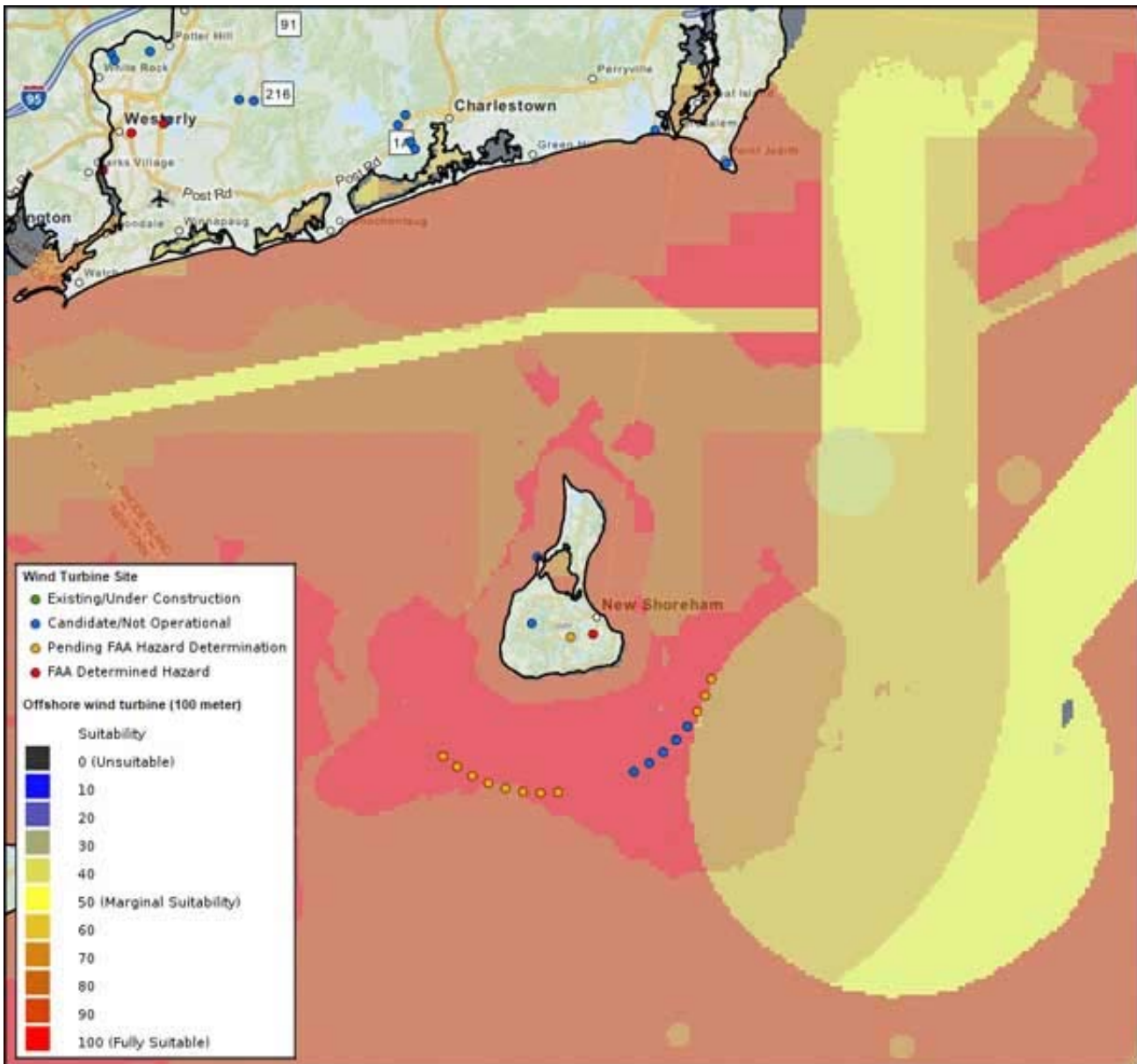
On August 3, 2015, President Obama and the EPA announced the [Clean Power Plan](#), setting the first-ever national limits on carbon pollution from power plants. A key feature of the plan includes rewards to states for early investment in clean energy. Power plant data and reports in the EZMT facilitate analysis of current and planned power plants. The Policies and

Regulations section of the home page provides access to Renewable Portfolio Standards and thousands of other policies. The North American Carbon Dioxide Source database is also available as a mapping layer.

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[A Department of Interior Press Release](#) celebrates the first installation of the Block Island Wind Farm, the Nation's first commercial-scale offshore wind farm. Deepwater Wind is constructing a five-turbine, 30-megawatt wind farm in State waters about three nautical miles southeast of Block Island, RI. At 589 feet above sea level, the turbines will be among the tallest in the world. The project, scheduled to be online in 2016, is expected to power about 17,000 homes.

The map below was made using the EZMT. It shows the planned turbine locations in blue, to the southeast of the island. Default results of the offshore wind turbine model (100m) show high suitability for the location (red). Nearby shipping lanes are clearly seen in the model results with lower suitability (yellow). Other siting factors in the model include wind turbine gross capacity factor, proximity to high population densities, water depth, proximity to a substation, unexploded ordnance areas, proximity to shore, protected areas, and habitat.



Vicinity of the Block Island Wind Farm with FAA Permit Locations and Default Results of the EZMT Offshore Wind Suitability Model

## New Climate Change Report

As part of a broader task to increase the energy-water capabilities of the EZMT, a new Climate Change Report has been added. Data cited in the [2014 National Climate Assessment](#) (NCA) relevant to energy planning was also gathered and added to the EZMT as mapping layers. The new report samples the layers in a user-specified area and provides a concise summary of the following topics: projected temperature change and cooling degree days, sea level rise, water stress, and flood magnitude trends. The report also includes excerpts from the 2014 NCA with links to the document itself.

The 2014 NCA summarizes the impacts of climate change in the United States and projects the effects we can expect in the future. It was written by the U.S. Global Change Research Program (USGCRP), which resulted from the Global Change Research Act of 1990. Representatives from 13 U.S. federal agencies participate in the program, and the NCA is updated every four years.

## Projected Temperature Change and Cooling Degree Days

Over the last 20 years, annual average temperatures typically have been higher than the long-term average; nationally, temperatures were above average during 12 of the last 14 summers. Increases in temperature will result in increased energy use for cooling and decreased energy use for heating. These impacts differ among regions of the country and indicate a shift from predominantly heating to predominantly cooling in some regions with moderate climates. For example, in the Northwest, energy demand for cooling is projected to increase over the next century due to population growth, increased cooling degree days, and increased use of air conditioners as people adapt to higher temperatures (Source: [U.S. National Climate Assessment](#), pg. 116).

Demands for electricity for cooling are expected to increase in every U.S. region as a result of increases in average temperatures and high temperature extremes. The electrical grid handles virtually the entire cooling load, while the heating load is distributed among electricity, natural gas, heating oil, passive solar, and biofuel. In order to meet increased demands for peak electricity, additional generation and distribution facilities will be needed, or demand will have to be managed through a variety of mechanisms. Electricity at peak demand typically is more expensive to supply than at average demand. Because the balance between heating and cooling differs by location, the balance of energy use among delivery forms and fuel types will likely shift from natural gas and fuel oil used for heating to electricity used for air conditioning. In hotter conditions, more fuel and energy are required to generate and deliver electricity, so increases in air conditioning use and shifts from heating to cooling in regions with moderate climates will increase (Source: [U.S. National Climate Assessment](#), pg. 116).

Emissions Model	2020-2050, Relative to 1971-1999	2070-2099, Relative to 1971-1999	
	Increase in Cooling Degree Days (Days/30 Years)	Projected Annual Temperature Change (Degrees Celsius)	Increase in Cooling Degree Days (Days/30 Years)
A2 (Higher Emissions)	240.2	3.2	928.2
B1 (Lower Emissions)	168.9	1.8	428.6

Sources: [Cooling Degree Days - Higher Emissions \(2021-2050\)](#), [Cooling Degree Days - Higher Emissions \(2070-2099\)](#), [Cooling Degree Days - Lower Emissions \(2021-2050\)](#), [Cooling Degree Days - Lower Emissions \(2070-2099\)](#), [Projected Temperature Change](#).

### Sample Section of the New Climate Change Report

To run the report within the EZMT:

1. Click **Analyze** in the Main Menu
2. Click the "Run this report" action for the Climate Change report
3. In the Report Run Launcher dialog, use the Region section to **designate your region of interest**
4. Change the run name and add notes if desired, then click "Launch Report"
5. Click **Results** in the Main Menu
6. When the Status column in the Analysis Results dialog shows the report is ready, click the "Show the generated report" action

## Recent Energy Zones Mapping Tool Updates

- Added Climate Change report
- Added option to run models as draft (low resolution/faster) or final (higher resolution/slower)
- The following **mapping** layers were updated:
  - National Conservation Easement Database
  - National Monument

- Florida Forever Board of Trustees Project Area (FL)
- Florida Conservation Land (FL)
- State Owned/Leased Land (LA)
- State Claimed Water Body (LA)

*This message is being sent to registered users of the Energy Zones Mapping Tool (<http://eispctools.anl.gov>) who indicated in their profile they are interested in e-mail updates. If you are no longer interested you can log in and change this preference by using the Profile option under the My Account menu at the top right of the home page, or e-mail [eispctools@anl.gov](mailto:eispctools@anl.gov) with a request to unsubscribe to the updates.*