

EISPC Energy Zones Mapping Tool: <u>http://eispctools.anl.gov</u>

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EISPC Energy Zones Mapping Tool Newsletter

July Webinar Demonstration:

Tuesday, July 29, at 3pm ET/2 pm CT/1 pm MT

Use the following link to attend the webinar: <u>http://anl.adobeconnect.com/eispc_tool_demo/</u> (Audio via the webinar or by phone: 1-877-685-5350, participant code: 853223). This one-hour demonstration will feature Wind energy resource data and Land-based and Offshore Wind suitability models.

Clean Energy Technology Spotlight: Nuclear

The tool includes many capabilities for understanding and analyzing nuclear energy technologies, including:

- <u>Technology Descriptions</u> for Nuclear technologies.
- Over 200 <u>policies</u> related to nuclear technologies such as <u>these policies</u> in New Jersey.
- Pre-made PDF maps, such as this map of <u>Electrical Power: Nuclear Power Plants</u>.
- A downloadable Commercial Nuclear Power Plant GIS data layer.
- <u>Metadata</u> for all mapping layers describing the data sources and other details.
- User-configurable Small Modular Reactor (SMR-iPWR), High-Temperature Gas-cooled Reactor (HTGR), and Large Light-Water Reactor (LWR) suitability models.
- A model results <u>report</u> for a user-generated SMR, HTGR, or LWR model. The report provides detailed information and graphs for analyzing the model results and determining what factors influence the suitability results.

Sample results of the Large Light-Water Reactor (LWR) suitability model are displayed in the map below. The areas with highest suitability for implementing LWR technologies are shown in orange and red.





In addition, the Whitepaper and Study titled, <u>Assessment of the Nuclear Power Industry</u> (Navigant Consulting, Inc., July 2013) is available on the <u>Documents</u> page of the Tool. This assessment of the nuclear power industry combines the findings of a Locational Study for new and existing nuclear power plants with a whitepaper analyzing state level policies that encourage or discourage the continued development of nuclear power. The combined document serves as a primer on the development of nuclear power in the United States, identifies current issues facing the industry, and provides an overview of future nuclear technology.

July Mapping Tool Tips and Tricks

The EZ Mapping Tool includes over 260 mapping data layers and metadata records are provided for each data layer contained in the tool. Metadata for spatial data provides background information about each data set which describes the content, quality, condition, source, format, accuracy and other appropriate characteristics of the data. Metadata records include library catalog elements such as Title, Abstract, and Publication Data; geographic elements such as Geographic Extent and Projection Information; and database elements such as Attribute Label Definitions and Attribute Domain Values.

Metadata is important to the Tool user because it provides:

- Credibility to, and reliability of the data,
- Publication dates of the data, and
- Information on accuracy of the data.

Metadata for each Mapping Tool data layer is provided in PDF format. Click on the **Library** icon with the access the entire list of mapping layers available in the tool. A portion of the list is shown in the figure.

Mapping Library										
Map Layer Catalog Model Layer Catalog										
	Actions	Title 🔺	Category	Source	Resource					
±	💦 🔎	Electric Investor Owned Utility (IOU) Servi	Utilities	Platts/Bentek Energy		-				
±	🔀 🔎	Electric Non-Investor Owned Utility (NonIO \ldots	Utilities	Platts/Bentek Energy						
±	🔀 🔎	Electric Planning Areas	Utilities	Platts/Bentek Energy						
±	🔀 🔎 🔍	Electrical Power Plant Capacity	Utilities	U.S. Environmental Protection Agency						
±	🔀 🔎 🔍	Energy Potential Non-Powered Dam	Improvement	Oak Ridge National Laboratory	Water					
±	🔀 🔎 🔍	Enhanced Geothermal System (EGS) Pote	Geology	National Renewable Energy Laboratory	Geothermal					
±	🔀 🔎	Enhanced Geothermal System (EGS) Tech	Geology	National Renewable Energy Laboratory	Geothermal					
±	🔀 🔎 🔍	Environmental Hazard Site	Environmental H	U.S. Environmental Protection Agency						
±	🔀 🔎 🔍	Essential Fish Habitat	Ecology	National Oceanic and Atmospheric A						
±	🔀 📈	Existing Hydropower Dam (At least 50MW)	Utilities	Platts/Bentek Energy		-				
261 of 261 layers										

After sorting or filtering through the list of data layers, click on the 🄑 icon for the layer of interest to download and view the corresponding metadata file. The downloaded PDF file can be opened to view the metadata. The metadata for the Essential Fish Habitat data set is shown in the figure.

Essential Fish Habitat							
Tags EFH, Caribbean Sea, Protected, Atlantic Ocean, Essential Fish Habitat, Pacific Ocean, Gulf of Mexico, Acres Protected							
Summary The purpose of these data is to visually represent spatial information for areas in which fishing has been restricted to minimize the adverse effects of fishing to EFH. The spatial extent of these areas will be calculated and used in partial satisfaction of the performance metric reporting requirements of the Habitat Program.							
Description Designated EFH areas where fishing or the use of fishing gears has been restricted or modified in order to minimize the adverse effects of fishing on EFH, as required by Section 303(a)(7) of the Magnuson Stevens Act.							
Credits NOAA Fisheries							
Use limitations Although these data have been used by the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, no warranty expressed or implied is made by the National Oceanic and Atmospheric Administration as to the accuracy of the data. The act of Distribution shall not constitute any such warranty, and no responsibility is assumed by the National Oceanic and Atmospheric Administration in the use of these data, software, or related materials.							
ArcGIS Metadata							
Topics and Keywords							
* CONTENT TYPEDownloadable Data							
PLACE KEYWORDS Caribbean Sea, Atlantic Ocean, Pacific Ocean, Gulf of Mexico							
THESAURUS TITLE CIESIN Indexing Vocabulary							
THEME KEYWORDS EFH, Protected, Essential Fish Habitat, Acres Protected							
Citation							
TITLE EFH Areas Protected From Fishing PUBLICATION DATE 2010-06-21 CREATION DATE 2009-11-23							

This first page of the Essential Fish Habitat metadata file includes the tags (key search terms), document summary, description of the data set, and where the data was obtained. Additional metadata details, such as the data update of August 2013, are provided in the pages that follow.

Highlight: Model Layer Catalog

To investigate what screening factors are considered for calculating suitability within each of the 37 system models, the user can view the complete menu of model mapping layers. When the Mapping Library window is open as shown above, click on the **Model Layer Catalog** tab to access the list of 65 mapping layers. The list of layers can be filtered by model as shown in the figure, or alphabetically, by category, or by resource. The Land-based wind model includes nine layers, as shown in the figure.

N 1	Mapping Lib	irary				×					
Map Layer Catalog Model Layer Catalog											
Filte	Filter by Model: Land-based wind turbine (100 meter)										
	Actions	Title 🔺		Catego	ory	Resource					
Ŧ	N .	Distance to Airport		Transp	portation						
±	<u>N.</u>	Distance to Transmission (>= 345 kV)		Utilities	;						
	N .	Habitat		Ecolog	У						
	Abstract: A composite of over 70 datasets including national, regional, and state-level data indicating high quality habitat and core conservation areas. Categorized as Develop with Caution (Yellow), and Develop with Extreme Caution (Orange). For more information, see Draft Categorization Document for Protected Lands and Habitat Screening Layers in the Documents section of this web site. Publication Date: 3 2013 Updated:										
±	<u>N</u> .	Imperiled Species		Ecolog	У						
±	20	Land Cover Area		Flora							
±	No	LandScan Population Distribution with two Mile Bu	ffer	Demog	raphics						
±	<u>N</u> .	Major Road		Transp	portation						
±	<u>N</u> .	Protected Land		Land S	Status						
Ŧ	<u>N</u> .	Wind Turbine Gross Capacity Factor (100m) Onsh	ore	Climate	•	Wind					
9 of	9 of 65 layers										

Clicking on the add results icon displays the modeling layer on the map. Clicking on the plus sign displays the abstract for the layer and the publication date, as well as when the data were updated, if applicable. Also, suitability models can be customized by adding any of the 65 layers from the **Model Layer Catalog**. (Please refer to the <u>June 2014 Newsletter</u> for a refresher on customizing suitability models.)

See the tool <u>Help Manual</u> or help videos such as <u>Adding Model Layers</u> for more details. These are available at the top right of the <u>Home Page</u>.

Recent EZ Mapping Tool Updates

The user interface for the **Policy and Regulations** database was updated, improving search capabilities. Also, the following data layers were added/updated:

- Liquefied Natural Gas (LNG) Terminal and the Natural Gas Storage Facility layers (existing and planned)
- National Conservation Easement Database
- Substations
- Transmission Lines Existing