EISPC Energy Zones Mapping Tool: http://eispctools.anl.gov  E-mail: eispctools@anl.gov

EISPC Energy Zones Mapping Tool Newsletter

August Webinar Demonstration:

Tuesday, August 26, at 3pm ET/2 pm CT/1 pm MT
Use the following link to attend the webinar: http://anl.adobeconnect.com/eispc_tool_demo/
(Audio via the webinar or by phone: 1-877-685-5350, participant code: 853223).
This one-hour demonstration will feature Solar energy resource data, and utility-scale concentrating and photovoltaic solar suitability models.

Clean Energy Technology Spotlight: Solar

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

- Technology Descriptions for Solar technologies.
- Over 200 policies related to solar technologies such as these policies in Florida.
- Pre-made PDF maps, such as this map of Solar Resources: Concentrating Solar Power (Direct Normal) Potential.
- Solar mapping layers, with access to downloadable GIS data, including:
  - 1-Axis Tracking Flat-Plate Collector
  - Tilted Photovoltaic Potential
  - Concentrating Solar Direct Normal Potential
  - Photovoltaic Potential
- Metadata for all mapping layers describing the data sources and other details.
- User-configurable Concentrating Solar Power (CSP) and Utility-scale Photovoltaic (PV) suitability models.
- A model results report for a user-generated CSP or Utility-scale PV suitability 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 utility-scale PV suitability model are displayed in the map below. The areas with highest suitability for implementing utility-scale PV technologies are shown in orange and red.
August Mapping Tool Tips and Tricks

The EZ Mapping Tool includes over 260 mapping data layers. The tool sorting and filtering features simplify the search process to find specific layers.

Under the Main Menu, click on the Library icon to access the entire list of mapping layers available in the Mapping Library. Filters are used to search for specific layers, and are accessed by placing the cursor over the column heading, clicking on the down arrow, and using the menu that displays. Any column can be sorted using the same menu, or by left-clicking on the column header. The example below shows the results of filtering titles by "natural gas."
However, to find shale gas layers, filtering for “gas” would be necessary to capture additional layers. The three additional layers that would be displayed, North American Oil & Gas Fields, Shale Gas Basins, and Shale Gas Plays as shown in the Figure.

![Mapping Library Screenshot]

Natural gas can be stored in salt formations and filtering the catalog for “salt” provides the Bedded Salt Formations and Domal Salt Formations layers. To remove all filters, click on the checked box in front of “Filters.”

![Mapping Library Screenshot]

The mapping layers can also be filtered by Category, Data Source, or Resource as shown in the illustrations below.
### Map Layer Catalog

#### Utilities
- **Coal Power Plant**
- **Submarine Cable**
- **Petrochemical Facility**
- **Crude Oil Pipeline - Existing**
- **Crude Oil Pipeline - Proposed**
- **Electric Investor Owned Utility (IOU) Service Territory**
- **Electric Non-Investor Owned Utility (NonIOU) Service Territory**
- **Electric Planning Areas**
- **Existing Hydropower Dam (At least 50MW)**
- **Independent System Operator (ISO) Zone**
- **Liquefied Natural Gas (LNG) Terminal - Existing**
- **Liquefied Natural Gas (LNG) Terminal - Proposed**
- **Natural Gas Pipeline - Existing**
- **Natural Gas Pipeline - Proposed**
- **Natural Gas Storage Facility - Existing**
- **Natural Gas Storage Facility - Planned**
- **Potential Retrived-Palvenized Coal Plant**
- **Power Plant - Existing**
- **Power Plant - Not Operational/Unknown**
- **Power Plant - Planned**
- **Refined Product Pipeline - Existing**
- **Refined Product Pipeline - Proposed**
- **Substation**
- **Transmission Line - Existing**
- **Transmission Line - Planned**
- **Commercial Nuclear Power Plant**
- **Coal Plants Suitable for Co-Firing Biomass**
- **Electrical Power Plant Capacity**
- **Wastewater Treatment Facility**

#### Resource
- **Utilities**

### Filters:
- CATEGORY_NAME = Utilities

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### Map Layer Catalog

#### Water
- **HydroKinetic Project Issued Preliminary Permit**
- **HydroKinetic Project Pending Preliminary Permit**
- **Tidal - Mean Current Speed**
- **Tidal - Mean Kinetic Power Density**
- **Wave Energy - Energy Period**
- **Wave Energy - Power Density**
- **Wave Energy - Significant Wave Height**
- **Wave Energy - Water Depth**
- **Energy Potential Non-Powered Dam**

#### Resource
- **Water**

### Filters:
- RESOURCE_NAME = Water
Analysis Highlight: Investigating EPA Brownfield Data and Reports

Brownfields are properties that have already been disturbed, may be especially appropriate for redevelopment for power generation, but may require cleanup activities. The U.S. Environmental Protection Agency Brownfields Program helps provide information, and includes grants and funding that may be advantageous for energy projects.

Add the EPA Renewable Energy Sites layer to the map to view contaminated and mining sites that, according to the U.S. EPA Re-Powering America’s Land Initiative, provide for potential renewable energy development. These EPA program sites include abandoned mines, brownfields, federal and non-federal Superfund, and landfill sites, and are shown in the figure.

The EPA Renewable Energy Sites layer can be used to obtain specific information about a site’s potential for energy development projects. First click on the identify tool icon and then on an EPA Renewable Energy site to display details about the site. Information including distance to infrastructure such as roads, railways, and transmission lines, is also provided. A portion of the information displayed using the identify tool for a site in Iowa is shown in the figure. This Iowa site in the example below offers outstanding potential for biopower and biorefinery facility development and moderate to good potential for solar project development.
The EPA Brownfields report provides detailed information about the sites within a specified area. To run the Brownfields report, click Analyze in the Main Menu, find the Brownfields report in the Reports section, then click the Run This Report action. Change any settings, then click Launch Report. Click Results in the Main Menu to access report runs, and view the finished report. A portion of the EPA Brownfields report results for the state of Iowa is shown in the figure. Other sections of the report highlight other energy technologies and site characteristics.

### Sites with Solar Energy Generation Potential

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<tr>
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<td>IN000704999</td>
<td>Former Carter White LEAD FACILITY/AREA</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
<td>4.3</td>
<td>Good</td>
<td>4.79</td>
<td>Good</td>
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<tr>
<td>24611</td>
<td>Former Atlas &quot;F&quot; Missile Site #1</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<td>4.29</td>
<td>Good</td>
<td>4.79</td>
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<td>Deere, John-Des Moines Works</td>
<td>Yes</td>
<td></td>
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<td></td>
<td>4.93</td>
<td>Good</td>
<td>4.58</td>
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<td>15382</td>
<td>1201 Camanche Avenue</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>3.72</td>
<td>Moderate</td>
<td>4.45</td>
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<tr>
<td>IAD966526108</td>
<td>Dana Gacher Vandervel/Dyco</td>
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<td></td>
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<td>4.24</td>
<td>Good</td>
<td>4.71</td>
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<tr>
<td>72641</td>
<td>Larry Wilkin Property</td>
<td>Yes</td>
<td></td>
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<td></td>
<td>4.07</td>
<td>Good</td>
<td>4.65</td>
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<tr>
<td>615</td>
<td>Boone County SLP</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>4.01</td>
<td>Good</td>
<td>4.55</td>
<td>Good</td>
</tr>
</tbody>
</table>

An additional excerpt from the EPA Brownfields report identifies Iowa properties that have outstanding potential for biopower and biorefinery energy generation and is shown in the figure.
See the tool Help Manual or help videos such as Running a Report for more details. These are available at the top right of the Home Page.

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:

- Crude Oil Pipelines - Existing
- Crude Oil Pipelines - Proposed
- Existing Hydropower Dams (at least 50MW)
- Imperiled Species
- Midwest Wind Energy Multi-Species Habitat Conservation Plan GI Network
- Natural Gas Pipelines - Existing
- Natural Gas Pipelines - Proposed
- Potential Retrofitted Pulverized Coal Plants
- Power Plants - Existing
- Power Plants - Not Operational/Unknown
- Power Plants - Planned
- Refined Product Pipelines - Existing
- Refined Product Pipelines - Proposed
- Transmission Lines - Planned
- West Virginia Conservation Network
- Wind Turbine Site