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Energy Zones Mapping Tool Newsletter

Next Webinar: Recent Enhancements and Updates

Thursday, September 19, at 3pm ET / 2 pm CT / 1 pm MT / Noon PT

Use the following link to attend the webinar: <https://bluejeans.com/225447147>

Audio: 866.226.4650, Meeting Id: 225 447 147#

After a brief introduction about the project, a live demonstration will highlight:

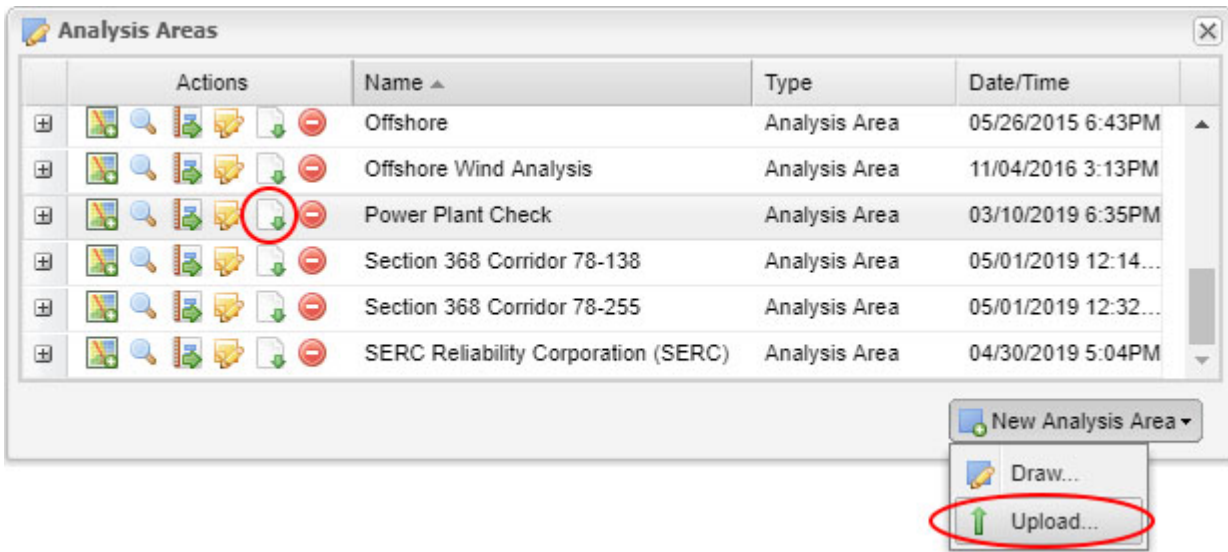
- New import/export tools for analysis areas and corridors.
- Modeling updates to solar, wind, and corridor models extending them to the 48 contiguous states
- Examples of locating and analyzing higher suitability solar, wind, and energy corridor locations in the western U.S.
- Most notable new mapping layers - added, updated, or extended to the full U.S.
- Audience questions and comments

New Upload and Download Tools

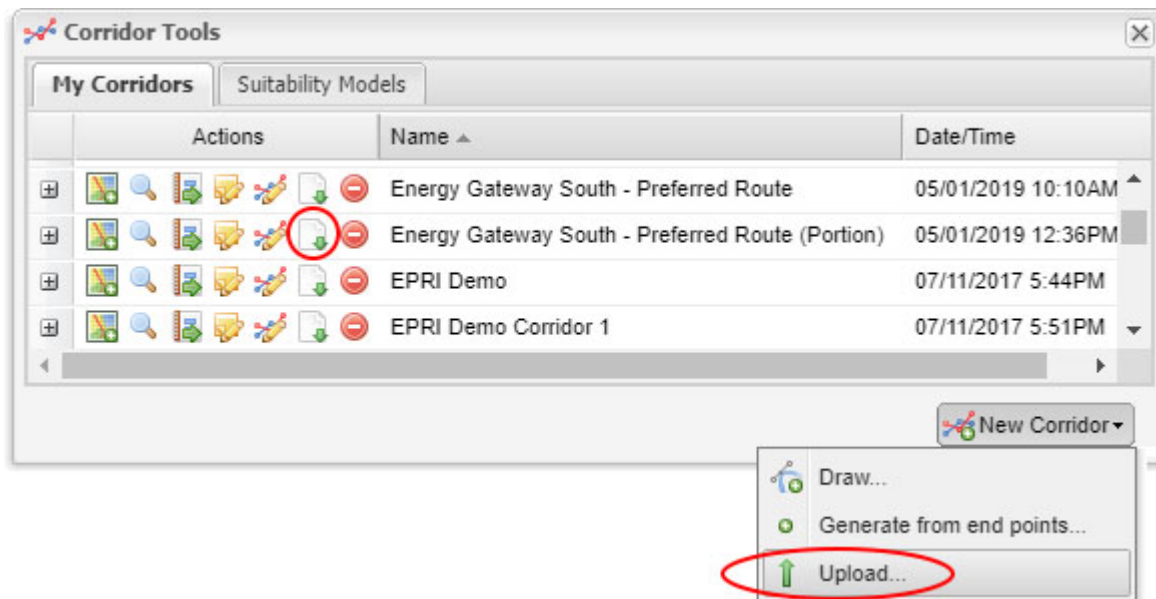
New tools were added to upload and download analysis areas and corridors, as shown below.

Uploads can be shapefile or GeoJSON format, and may contain up to 10 features. Each feature is loaded as a separate analysis area or corridor and can be used for map display, or to specify extents when generating reports. Examples include summarizing infrastructure in a service territory or fire-prone area, or rapidly tabulating the features crossed by, and near a potential pipeline or transmission line route.

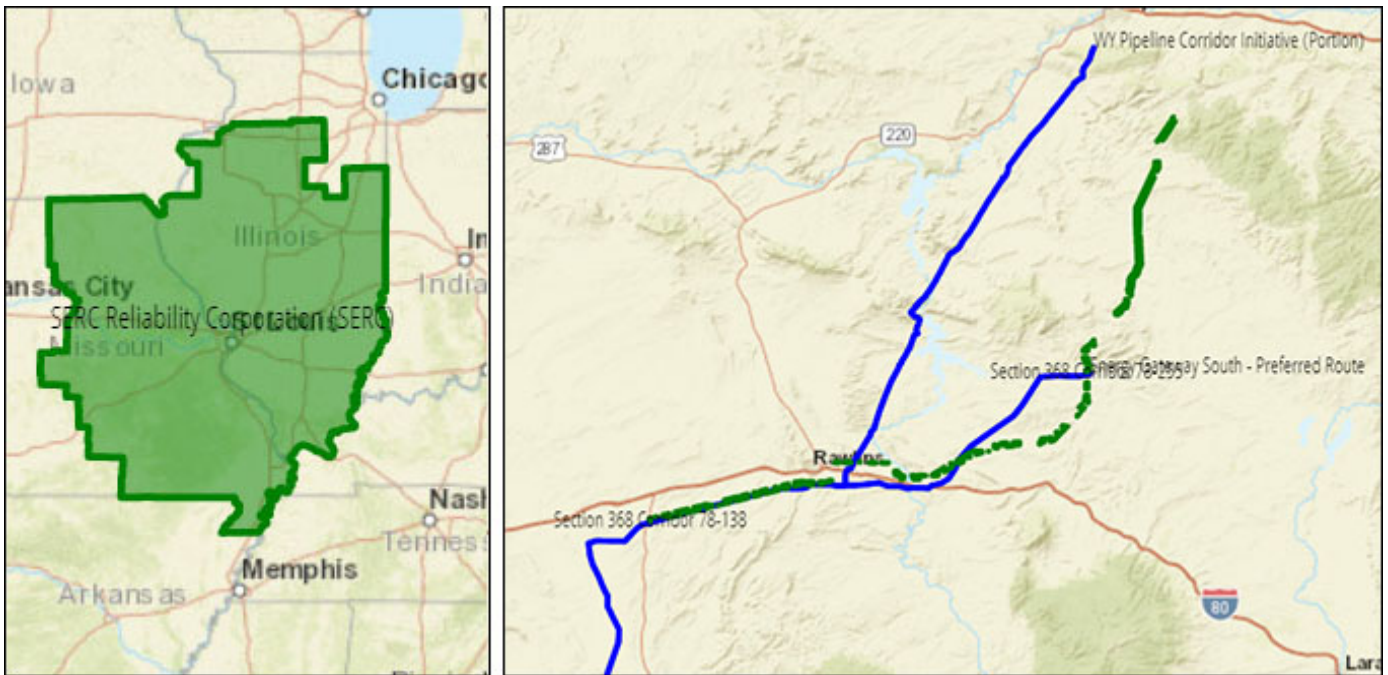
The download tools produce shapefiles, enabling areas and corridors that were generated in the EZMT to be easily used in other GIS systems.



Analysis Areas dialog with upload and download tools



Corridor Tools dialog with upload and download tools

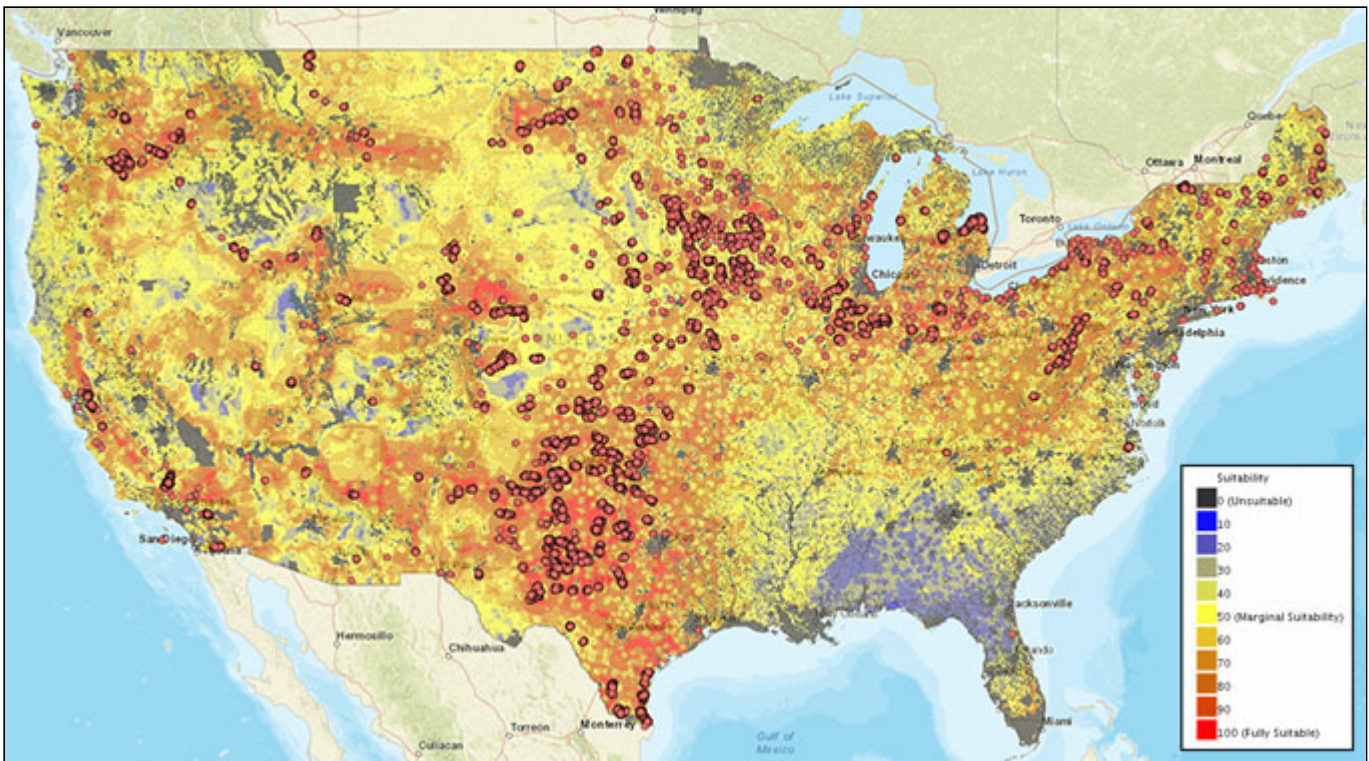


(Left) Gateway Subregion of SERC, loaded as an analysis area. (Right) Designated corridors and proposed project routes in the western U.S. loaded as corridors and analysis areas

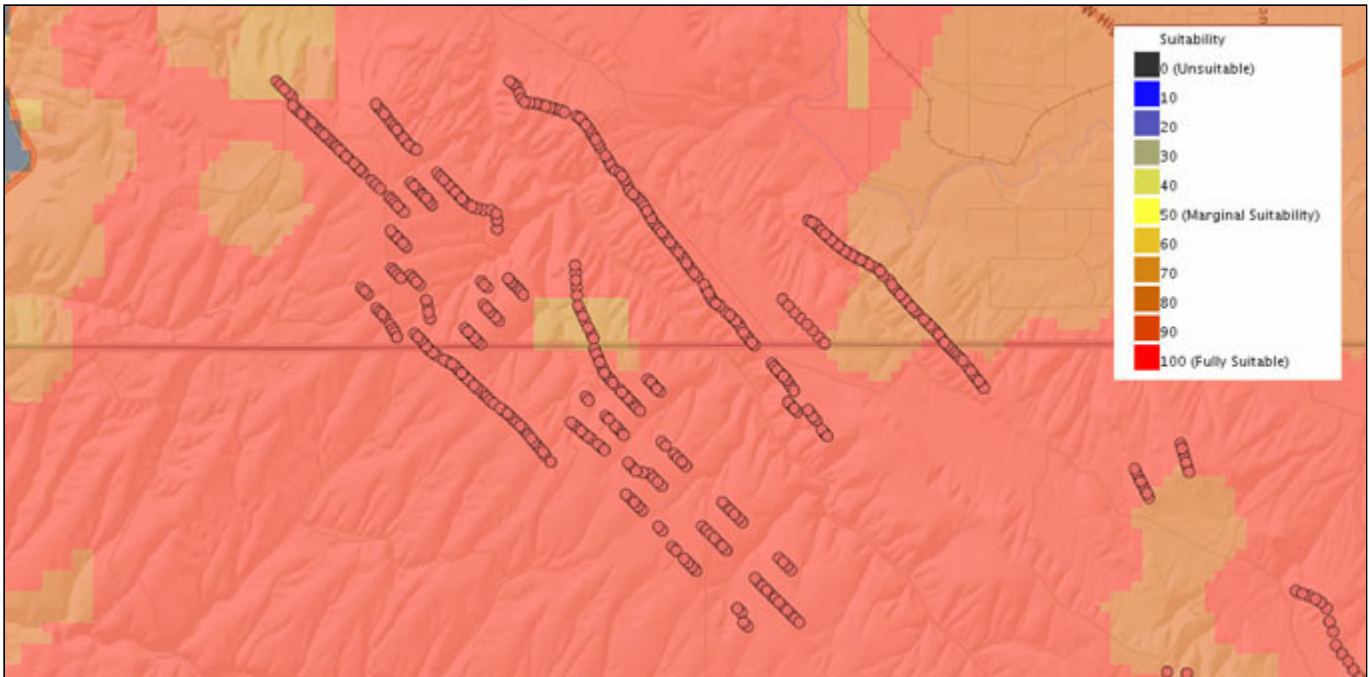
Results from EZMT reports using the Gateway Subregion depicted above indicate that the highest total capacity in the region is from coal (19,588 MW), followed by natural gas (6,162 MW), nuclear (4,519 MW), and wind (3,287 MW). The region also has 3,346 miles of high capacity (over 315 kV) transmission lines. Over 11,000 acres of brownfield sites are in the region, which may be suitable repurposing as power plant projects without incurring loss of higher quality land. There are 16 non-hydroelectric dams in the region which could each generate at least 10 MW if turbines were installed, and over 1,000 MW for all 16. Three sites in the region along the Mississippi River have a preliminary permit issued for river hydrokinetic projects which could collectively have a capacity of 280 MW.

Extended Solar, Wind, and Corridor Suitability Models

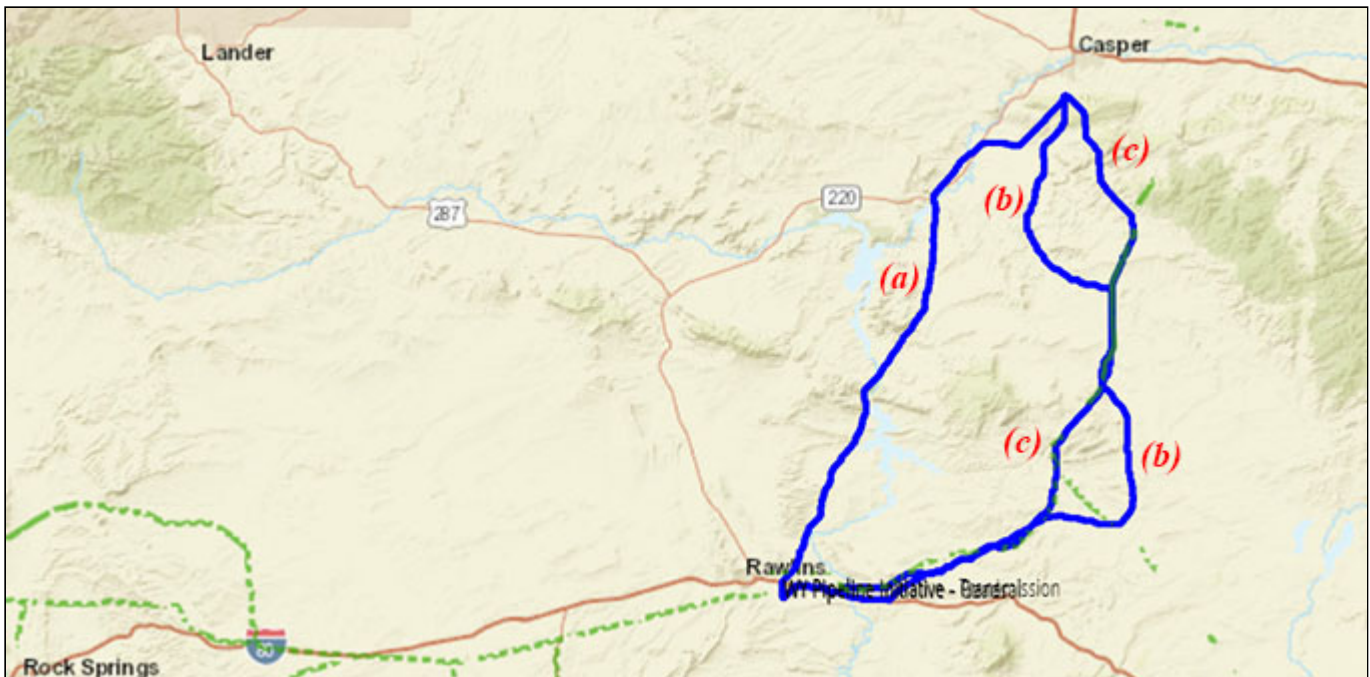
Work is completed to extend the suitability models for solar (photovoltaic and concentrating), wind (land-based and offshore), and corridors. These models, and the 30 input modeling layers they use, have been extended to the lower 48 states and offshore areas.



Example model results for land-based 100m wind turbines, shown with existing wind turbine locations



Existing wind turbines at the FPL Energy Vansycle LLC project in Oregon and Washington within the area rated as high suitability by the EZMT Land-based 100m Wind Turbine model



Example potential corridor routes (blue) between Casper and Rawlins Wyoming generated by the EZMT using variations of routing assumptions, including (a) higher weight for following existing transmission lines, (b) higher weight for following roads, and (c) more balanced weights. Note that portions of the generated routes follow designed Section 368 Energy Corridors (green), (which were not used as input routing criteria).

Recent Mapping Catalog Data Updates

The following layers have recently been added or updated in the EZMT mapping catalog:

- (NEW) Transmission Line - HIFLD
- (NEW) Natural Gas Compressor Station - HIFLD
- Coal/Mine Facility
- Biodiesel Plants
- Liquefied Natural Gas (LNG) Import/Export Terminals
- National Conservation Easement Database v6
- National Trail
- Natural Gas Processing Plants
- Natural Gas Underground Storage
- Navigational Aid - Aircraft
- Navigational Aid - Marine
- NERC Subregions
- Northeast Petroleum Reserve Sites
- Petroleum Refineries
- Pipelines - Crude Oil
- Pipelines - Hydrocarbon Gas Liquid (HGL)
- Pipelines - Natural Gas
- Pipelines - Petroleum Product
- Power Plants
- Section 368 Energy Corridor
- Solar CSP: Direct Normal Potential
- Solar PV: 1-Axis Tracking Flat-Plate Collector
- Solar Potential: 1-Axis Tracking Flat-Plate Collector

- Scenic Byway
- Strategic Petroleum Reserves
- Tight Oil/Shale Gas Plays
- Tribal Reservation
- Unexploded Ordnance (Offshore)
- USFS Roadless Area

