

Energy Currents

ESRI • Fall 2009

GIS for Energy

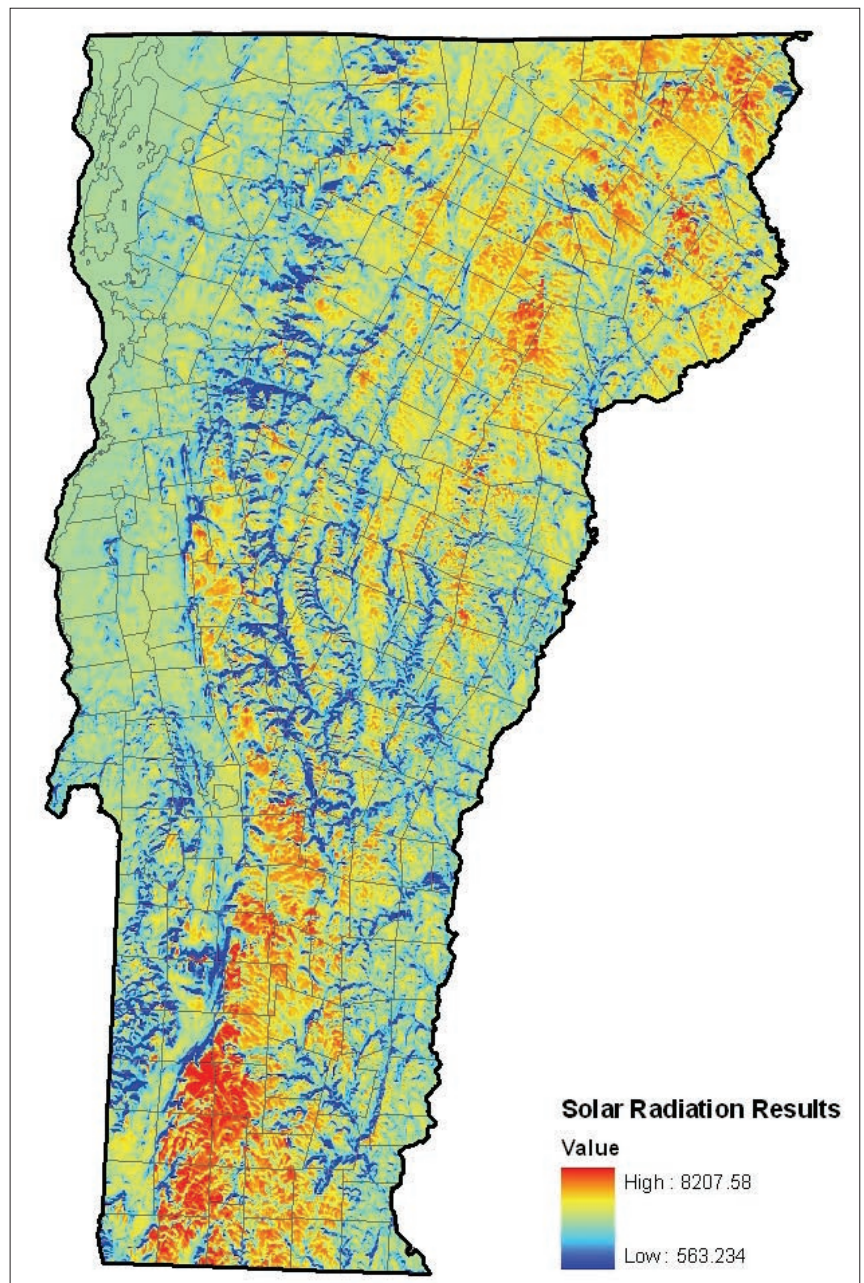
Vermont Identifies Resources for Renewable Energy Development

The Green Mountain State of Vermont is getting even more green with digital maps to support renewable energy development. Transmission and distribution utility Green Mountain Power is using GIS technology from ESRI to identify areas of the state most suitable for wind and solar power generation. Green Mountain Power serves more than 94,000 customers, with a service territory of approximately one quarter of Vermont's population.

"In looking for a way to identify renewable energy resources throughout the state, we realized we could track them with GIS," said Mike Burke, distribution engineering lead for Green Mountain Power. "Using GIS mapping tools, we located and color-coded the resources, or green areas. On top of that, we built a modeling system that considers criteria such as proximity to transmission lines, the slope of the land, and environmental factors like wetlands or bear habitat."

The renewable energy maps and models were created using ESRI's ArcGIS Spatial Analyst, an extension of ESRI's core software, ArcGIS Desktop. ArcGIS Spatial Analyst enables users to build elevation models, perform analysis of land use and spatial relationships, and bring in outside data that is related to wind energy and restricted areas. Additionally, ArcGIS Spatial Analyst includes a solar radiation tool to map and analyze the intensity of the sun over a geographic area.

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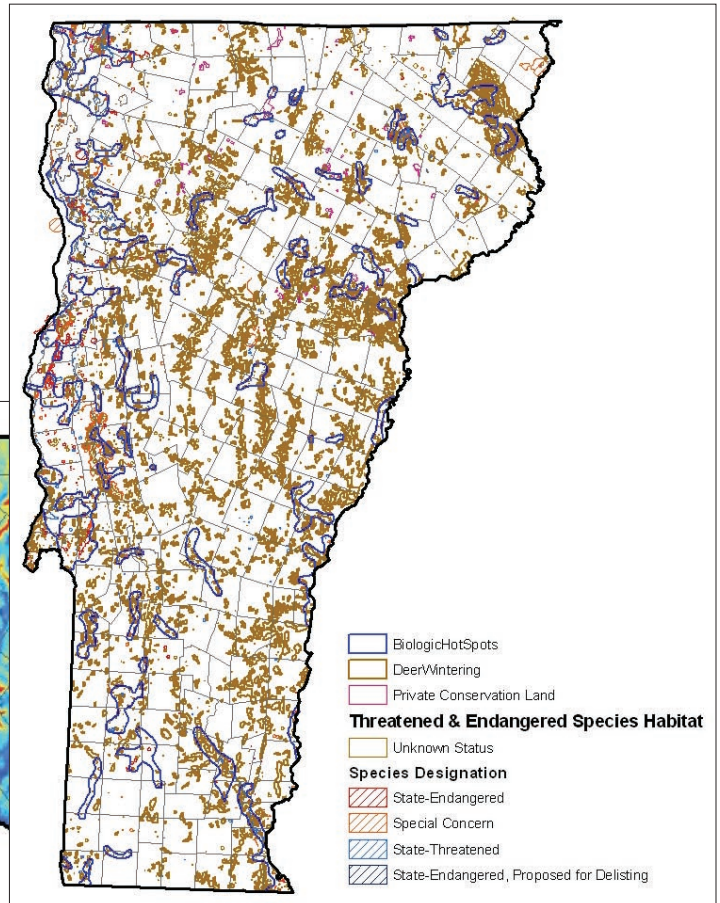
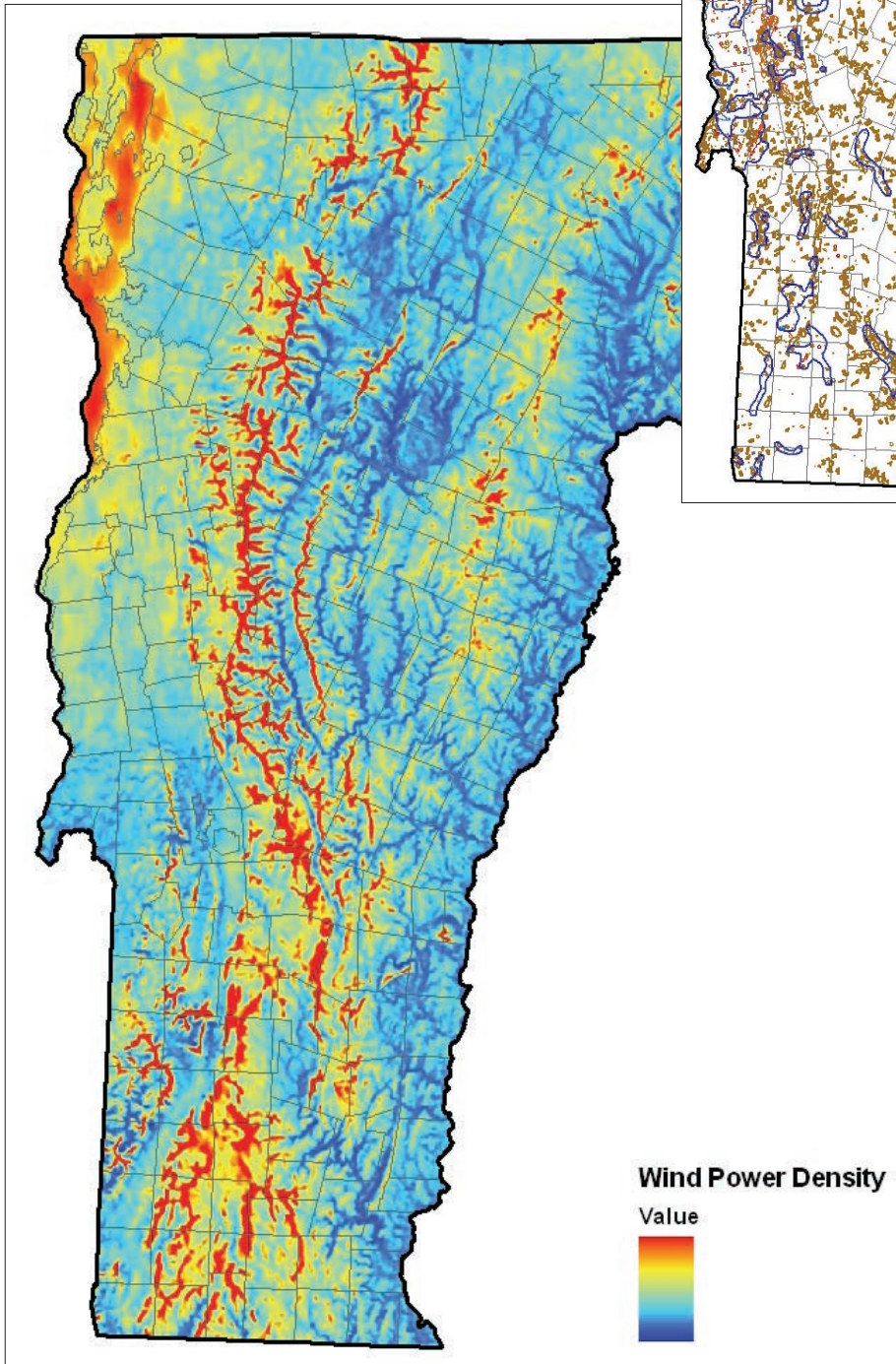


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“As more and more utilities look to locate and develop renewable energy, ESRI is striving to assist those efforts with advanced GIS technology for mapping and managing projects,” said Mitchell Garnett, ESRI’s electric industry solutions manager. “We have already been an integral part of major solar and wind projects across the United States and around the world, and we are excited to work with Green Mountain Power to bring low-cost, carbon-free energy to the state of Vermont.”

To learn more about the role of GIS in renewable energy, listen to the podcast at www.esri.com/electric.



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