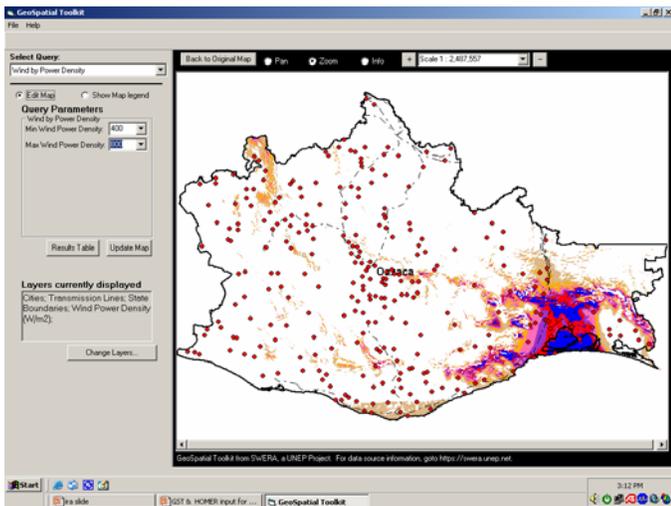
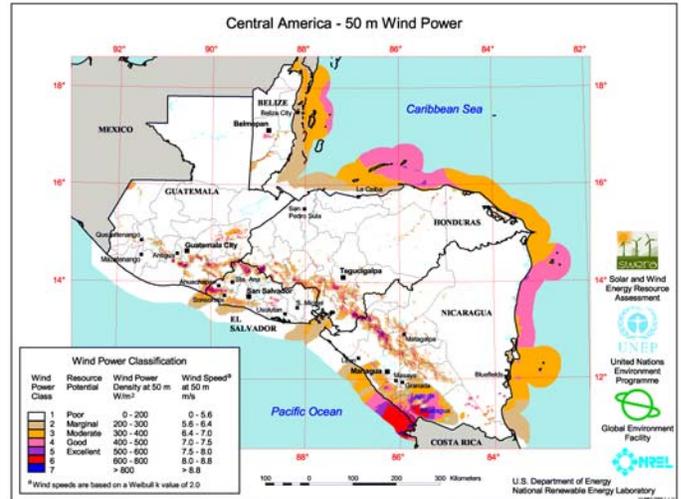


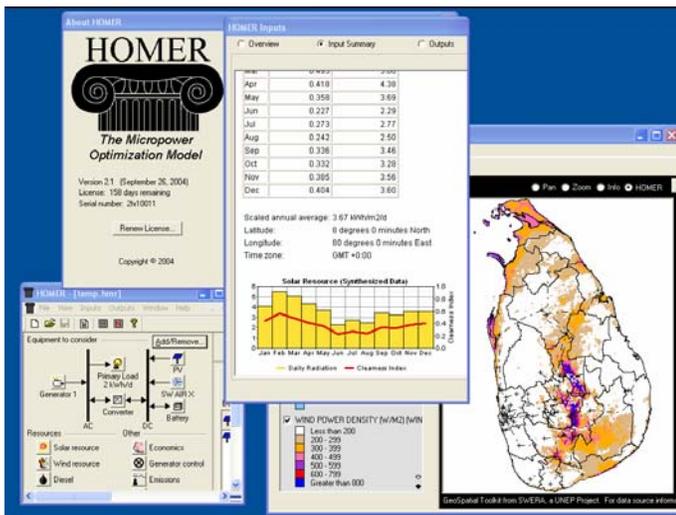
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U.S. National Renewable Energy Laboratory

NREL's international renewable energy decision support tools

Resource Assessment: NREL has developed unique methods for providing high-resolution spatial and temporal information on renewable energy resource characteristics for solar and wind technologies, and have applied these methods to a number of locations around the world. The data sets coming out of these methods are formatted to be incorporated directly into Geographic Information Systems (GIS) software, so they can be applied to a variety of analysis questions. NREL is developing a similar capability for micro-hydro resources, and can take existing information on biomass and geothermal resources so that they can also be incorporated into GIS tools.



The GeoSpatial Toolkit (GsT) is a new, flexible tool designed for the planner and energy project developer. For each GsT (for a country or region), layers of data pertinent to planning and locating renewable energy applications are loaded to a laptop-based GIS application - including solar and wind resource data, terrain data, cities, roads, transmission lines, power plants, protected areas, land use, lakes, rivers, and boundaries. The user can answer simple questions, such as "How many square kilometers of developable wind are within 10 km of a transmission line?" and locate the best areas for development. The GsT is currently available for Sri Lanka, Bangladesh, Guatemala, El Salvador, Nicaragua, Honduras and Ghana, as well as the state of Oaxaca - developed under the United Nations Environmental Programme, the USAID South Asia Regional Initiative for Energy, and support from DOE.



HOMER is NREL's flagship micropower optimization model. It identifies the least cost mix of technologies for supplying a variety of on-grid and off-grid technologies. In other words, HOMER will analyze thousands of combinations of conventional, renewable, and hybrid systems to find the least-cost configuration for a variety of applications and scenarios. HOMER is used for system, market, policy and technology development analysis. Some of the technology development analyses involved hydrogen technologies and plug-in hybrid vehicles. NREL has developed and enhanced this model over many years, leveraging DOE and non-DOE funds. There are over 7000 users of HOMER worldwide.