



# Marine Energy Atlas



## Marine Energy Mapping

The **Marine Energy Atlas** is an interactive mapping tool and knowledge hub that stores geospatial information related to marine energy.

The Marine Energy Atlas allows users to easily visualize, analyze, and download geospatial datasets relevant to marine energy. This open-access, interactive platform allows users to map U.S. wave, tidal, riverine current, ocean current, and ocean thermal resources to explore potential for marine energy projects. It supports everything from project siting to device design through high-resolution and spatially comprehensive data sets. In addition to using the in-app analytical tools, data can be downloaded for offline analysis.



**40+**  
MAPPING LAYERS



**200+ TB**  
OF DATA

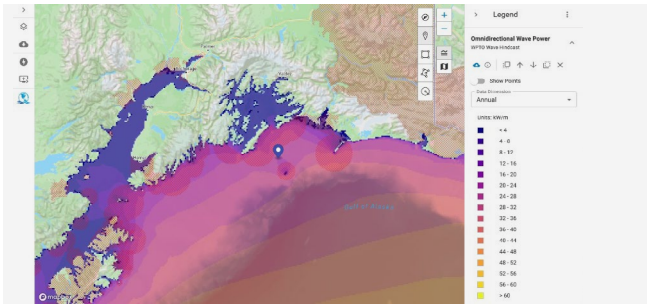


**1/2 M**  
WAVE RESOURCE  
RESOLUTION



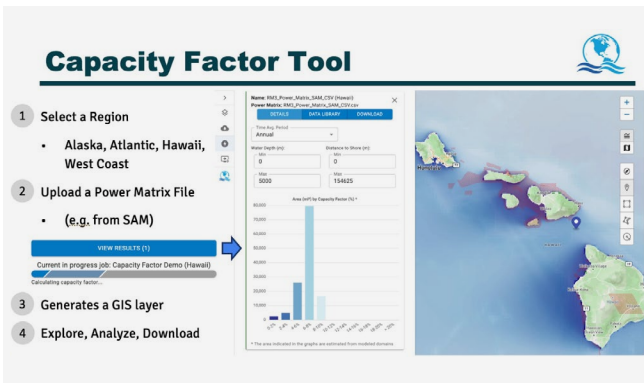
**42 Yrs**  
OF WAVE  
HINDCAST DATA





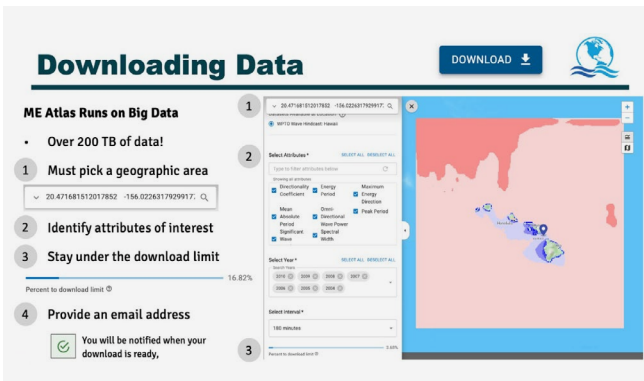
## Data Library

The Marine Atlas runs on big data. It contains over 200 TB of data in dozens of map layers, including data on marine energy projects, bathymetry, test facilities, marine protected areas, resource characterization data, and the Water Power Technologies Office (WPTO) WPTO Wave Hindcast Dataset.



## Capacity Factor Tool

The Capacity Factor Tool feature is an in-app processing functionality to calculate capacity factors (the ratio of actual time-averaged power output to maximum possible power output) across the entire WPTO Wave Hindcast Database. Users provide a power matrix that represents a particular wave energy converter, and results are produced in minutes thanks to optimized calculation strategies.



## Downloading Data

Maps can also be spatially-queried so only areas of interest are downloaded to the user's machine. Start by selecting an area (1) and then identifying the data attributes you are interested in (2). Adjust your inquiry to get under the download limit (3) and then provide your email address (4). The download tool will email you a customized download link when your data is ready.

## International Data

Ocean Energy Systems Geographic Information System (OES-GIS) data has been transferred to the Marine Energy Atlas, where publicly available data layers (i.e. bathymetry, ports, Marine Protected Area boundaries) are shared to ensure consistency across platforms. The data primarily documents marine energy projects (concept/dormant, in planning, operational).

## PRIMRE

Marine Energy Atlas is one of seven knowledge hubs in the [Portal and Repository for Information on Marine Renewable Energy \(PRIMRE\)](#), which hosts additional marine energy data, information, and resources. Subscribe to the [PRIMRE Blast](#) newsletter to stay up-to-date with the marine energy community!

### For More Information

Visit: <https://maps.nrel.gov/marine-energy-atlas>  
 Contact: [primrehelp@groups.nrl.gov](mailto:primrehelp@groups.nrl.gov)



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of ENERGY

