Wave Energy-Depth

Tags

Wave Energy, Assessment, WaveWatchIII Grids, Power Density, Energy Period, Significant Wave Height, Hindcast Direction, Study Water Depth, National Renewable Energy Laboratory, NREL, Electric Power Research Institute, EPRI, Virginia Tech, VT

Summary

This data is representing Water Depth. Bathymetric effects are known to have a large effect on wave characteristics at depths shallower than approximately 20m (~65 ft) on the Atlantic coast and 50 m (~160 ft) on the Pacific coast. A variance between depths exists due to the feature differences for each continental shelf. The methodology used in this resource assessment precludes providing site-specific information to such developers. Reliable site-specific information in shallow waters can only be produced using results from models with higher spatial resolution that include shallow- water physics. The wave resource assessment group acknowledges that its results will not be accurate in the shallower waters of the inner continental shelf. These shallow water regions are located within the dark gray boundaries on the map.

Description

Grids are derived from WaveWatch III grids. Near the coast of the lower 48 and HI, grids are squares, 4 minutes by 4 minutes (15 per degree). For the Alaska grids AK and BS, the grid is 4 minutes of latitude by 8 minutes of longitude (15 per deg by 7.5 per deg). EXCEPT: The area in the Bering Sea around the Pribilof (St Paul and St George) Islands is 10 min lat by 15 min lon. Limits: 55.666 to 58.000 N, -172.000 to - 168.000 E, 17 cols, 15 rows Farther offshore, the grid is 10 min by 10 min. (only seen in WM and PR)The 10 min by 10 min grid appears near the edge of a few grids: - SW corner of WM (off Mexican coast) - SE corner of WM (deep water) - PR - around edges (far from PR and US territory)

Credits

The Wave Energy Resource Assessment project is a joint venture between NREL, EPRI, and Virginia Tech. EPRI is the prime contractor, Virginia Tech is responsible for development of the models and estimating the wave resource, and NREL serves as an independent validator and also develops the final GIS-based display of the data. Website: http://en.openei.org/datasets/node/868

Use limitations

There are no access and use limitations for this item.

Extent

There is no extent for this item.

Scale Range

Maximum (zoomed in) 1:5,000,000

Minimum (zoomed out) 1:20,000,000

ArcGIS Metadata

Citation

TITLE Wave Energy Assessment for the United States and Puerto Rico

PUBLICATION DATE 2011-09-27 00:00:00

PRESENTATION FORMATS * digital map

Citation Contacts

RESPONSIBLE PARTY
ORGANIZATION'S NAME National Renewable Energy Laboratory
CONTACT'S ROLE owner

CONTACT INFORMATION
ADDRESS
TYPE both
DELIVERY POINT 1617 Cole Blvd.
CITY Golden
ADMINISTRATIVE AREA
CO POSTAL CODE 80401
COUNTRY US

Resource Details

DATASET LANGUAGES English
DATASET CHARACTER SET utf8 - 8 bit UCS Transfer Format

SPATIAL REPRESENTATION TYPE * vector

* PROCESSING ENVIRONMENT Microsoft Windows Vista Version 6.1 (Build 7601) Service Pack 1; ESRI ArcCatalog
9.3.1.3000

CREDITS
The Wave Energy Resource Assessment project is a joint venture between NREL, EPRI, and Virginia Tech. EPRI is the prime contractor, Virginia Tech is responsible for development of the models and estimating the wave resource, and NREL serves as an independent validator and also develops the final GIS-based display of the data. Website: http://en.openei.org/datasets/node/868

Extents

Resource Points of Contact

POINT OF CONTACT
ORGANIZATION'S NAME National Renewable Energy Laboratory
CONTACT'S ROLE point of contact

CONTACT INFORMATION
ADDRESS
TYPE both
DELIVERY POINT 1617 Cole Blvd.
CITY Golden
ADMINISTRATIVE AREA
CO POSTAL CODE 80401
COUNTRY US

Spatial Reference

REFERENCE SYSTEM IDENTIFIER
*

Spatial Data Properties

VECTOR
* LEVEL OF TOPOLOGY FOR THIS DATASET geometry only

GEOMETRIC OBJECTS
FEATURE CLASS NAME wave_depth
* OBJECT TYPE complex
* OBJECT COUNT 5

ARCGIS FEATURE CLASS PROPERTIES
FEATURE CLASS NAME
wave_depth
* FEATURE TYPE Simple
* GEOMETRY TYPE Polygon
* HAS TOPOLOGY FALSE
* FEATURE COUNT 5
* SPATIAL INDEX FALSE
* LINEAR REFERENCING FALSE

Distribution

DISTRIBUTOR
AVAILABLE
FORMAT
* NAME Shapefile

TRANSFER
OPTIONS
* TRANSFER SIZE 0.464

ONLINE SOURCE
* LOCATION
* ACCESS PROTOCOL Local Area Network
* DESCRIPTION Downloadable Data

Fields

DETAILS FOR OBJECT wave_depth
* TYPE Feature Class
* ROW COUNT 5
DEFINITION
Object ID

FIELD FID
* ALIAS FID
* DATA TYPE OID
* WIDTH 4
* PRECISION 0
* SCALE 0
* FIELD DESCRIPTION
Internal feature number.

* DESCRIPTION SOURCE
ESRI
* DESCRIPTION OF VALUES Sequential unique whole numbers that are automatically generated.

FIELD Shape
* ALIAS Shape
* DATA TYPE Geometry
* WIDTH 0
* PRECISION 0
* SCALE 0
* FIELD DESCRIPTION

Feature geometry.

* DESCRIPTION SOURCE
ESRI

* DESCRIPTION OF VALUES Coordinates defining the features.

FIELD gid
* ALIAS gid
* DATA TYPE Number
* WIDTH 10
FIELD DESCRIPTION
GID

DESCRIPTION SOURCE
National Renewable Energy Laboratory, Electric Power Research Institute, Virginia Tech

FIELD id
* ALIAS id
* DATA TYPE Number
* WIDTH 10
FIELD DESCRIPTION
ID

DESCRIPTION SOURCE
National Renewable Energy Laboratory, Electric Power Research Institute, Virginia Tech

FIELD depth
* ALIAS depth
* DATA TYPE Number
* WIDTH 24
* NUMBER OF DECIMALS 15
FIELD DESCRIPTION
Water Depth

DESCRIPTION SOURCE
National Renewable Energy Laboratory, Electric Power Research Institute, Virginia Tech

Metadata Details

* METADATA LANGUAGE English
METADATA CHARACTER SET utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA dataset
SCOPE NAME * dataset

* LAST UPDATE 2012-12-20

ARCGIS METADATA PROPERTIES
METADATA FORMAT ArcGIS 1.0
METADATA STYLE FGDC CSDGM Metadata
STANDARD OR PROFILE USED TO EDIT METADATA FGDC

CREATED IN ARCGIS FOR THE ITEM 2012-12-20 11:03:41
LAST MODIFIED IN ARCGIS FOR THE ITEM 2012-12-20 11:06:24

AUTOMATIC UPDATES
HAVE BEEN PERFORMED Yes
LAST UPDATE 2012-12-20 11:03:41

Metadata Contacts

METADATA CONTACT
INDIVIDUAL'S NAME Kevin Hlava
ORGANIZATION'S NAME Argonne National Laboratory CONTACT'S POSITION GIS Assistant/Specialist CONTACT'S ROLE
originator

CONTACT INFORMATION
PHONE
VOICE 1-630-252-0060

ADDRESS
TYPE both
DELIVERY POINT 9700 South Cass Avenue, EVS/Bldg 240
CITY Argonne
ADMINISTRATIVE AREA
IL POSTAL CODE 60439
COUNTRY US
E-MAIL ADDRESS khlava@anl.gov

Metadata Maintenance

MAINTENANCE
UPDATE FREQUENCY unknown

Thumbnail and Enclosures

THUMBNAIL
THUMBNAIL TYPE JPG

FGDC Metadata (read-only)