UMaine Deepwater Offshore Wind Test Site
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Prepared for*:*
Northeast Regional Ocean Council (NROC)
www.northeastoceandata.org

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1. INTRODUCTION

This dataset contains the University of Maine's offshore wind test site at Monhegan Island. In 2009 state legislature established this site to be used for offshore wind energy demonstration projections conducted by or in cooperation with the University of Maine. Usage of the site is limited to a maximum of 2 wind turbines, 3 meteorological towers per wind turbine, one submerged utility line with up to 25 MW capacity, up to 2 wave energy converters, and an ocean sensor package.

The UMaine Deepwater Offshore Wind Test Site is located approximately 3 miles south west of Monhegan Island, ME, more than 12 miles off the coast of Maine. The site was selected due to is distance from the mainland, strong and consistent winds, a limited number of fishermen, and its proximity to an island with high energy costs.

Maine Aqua Ventus I, GP, LLC, is leading a demonstration project called New England Aqua Ventus I, a 12 MW floating offshore wind pilot project to develop a renewable energy source off Maine's shores. Project participants include Cianbro Corporation, the University of Maine, and DCNS. This demonstration project will deploy two 6 MW turbines on VolturnUS, the floating concrete semi-submersible hull designed by UMaine, south of Monhegan Island, off the coast of Maine. Each floating hull/turbine is held in position in the ocean by three marine mooring lines securely anchored to the seabed, with the electrical generation connected by subsea cable to the Maine power grid on shore. The floating offshore wind turbine platforms and column segments will be fabricated and assembled at an existing industrial facility

adjacent to the Penobscot River in Hampden. Turbine components will be assembled on the hull in Searsport and subsequently towed to the UMaine Deepwater Offshore Wind Test Site at Monhegan Island. An interconnection alternate current (AC) cable will join the turbines, and then connect to a 34.5 kilovolt (kV) subsea power cable extending from the test site to a proposed onshore transition point. Several routes to the mainland are currently being evaluated. Once installed, the turbines are expected to produce clean renewable energy for the duration of a 20-year power purchase agreement (PPA). Below is a project timeline. For more information about the project, visit: MaineAquaVentus.com.

Project Timeline

2017-2018: Conduct additional ecological studies, secure all appropriate permits
2019: Start VolturnUS platform fabrication
2019: Install onsite anchors, lay cable
2020: Commercial Operation Date (COD)

2. PURPOSE

To represent the location of renewable energy projects in the northeastern U.S. in support of coastal and ocean use planning.

3. SOURCES AND AUTHORITIES

- The University of Maine Deepwater Offshore Wind Test Site at Monhegan Island (https://umaine.edu/offshorewindtestsite/)

4. DATABASE DESIGN AND CONTENT

Native storage format: ArcGIS File Geodatabase – simple feature class

Feature Types: Polygon

Data Dictionary:

Line	Name	Definition	Type	Size
1	OBJECTID	Uniquely identifies a feature	OBJECTID	*
2	Shape	Geometric representation of the feature	geometry	*
3	Id	Unique Numeric Identifier	Long	*
4	Name	Site Name	Text	50

Feature Class Name: MaineAquaVentus

Total Number of Unique Features: 1

Dataset Status: Complete

5. SPATIAL REPRESENTATION

Geometry Type: vector polyline
Reference System: GCS North American 1983
Horizontal Datum: North American Datum 1983
Ellipsoid: Geodetic Reference System 1980

XY Resolution: 1000000000.0000001
Tolerance: 0.000000008983152841195211 7

Geographic extent: 43.722, -69.338

IS0 19115 Topic Category: environment, oceans, energy

Place Names: Place Names:
Atlantic, Monhegan Island, Gulf of Maine,

Recommended Cartographic Properties:
(Using ArcGIS ArcMap nomenclature)

Simple Line Symbol: Color: No Color, Outline Color: 100-100-100, Color Model: HSV, Outline Width: 3

Scale range for optimal visualization: 200,000 to 2,000,000

6. DATA PROCESSING

Processing environment: ArcGIS 10.1 SP1, Windows 7 Professional, Intel Core i5 CPU

	Process Steps Description
1	Saved map on project website as a PNG file (https://umaine.edu/offshorewindtestsite/)
2	Georeferenced PNG file based on boundary coordinate pairs listed on project website
3	Digitized Maine Aqua Ventus boundary based on georeferenced map
4	Projected shapefile
5	Added informative attribution

7. QUALITY PROCESS

Attribute Accuracy: Descriptive information was acquired from authoritative sources.

Logical Consistency: Polygon features are topologically consistent.

Completeness: This data was digitized based on a map provided on the project website. It is complete based on information provided on this website.

Positional Accuracy: The Maine Aqua Ventus layer represents the general site area based on source material and does not contain precise boundary information except at the locations of the 4 coordinate pairs provided by the project website.

Timeliness: Up to date as of November 2017

Use restrictions: Not for Navigation.

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