http://akenergyinventory.org/metadata/WND2006-2B.faq.html#getacopy.0

# Gridded Wind Parameters of Southeast Alaska

Metadata also available as - [[Parseable text](http://akenergyinventory.org/metadata/WND2006-2B.txt)] - [[XML](http://akenergyinventory.org/metadata/WND2006-2B.xml)]

#### Frequently-anticipated questions:

* [What does this data set describe?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#what)
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* [Who produced the data set?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#who)
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  3. [To whom should users address questions about the data?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#who.3)
* [Why was the data set created?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#why)
* [How was the data set created?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#how)
  1. [From what previous works were the data drawn?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#how.1)
  2. [How were the data generated, processed, and modified?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#how.2)
  3. [What similar or related data should the user be aware of?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#how.3)
* [How reliable are the data; what problems remain in the data set?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#quality)
  1. [How well have the observations been checked?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#quality.1)
  2. [How accurate are the geographic locations?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#quality.2)
  3. [How accurate are the heights or depths?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#quality.3)
  4. [Where are the gaps in the data? What is missing?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#quality.4)
  5. [How consistent are the relationships among the data, including topology?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#quality.5)
* [How can someone get a copy of the data set?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#getacopy)
  1. [Are there legal restrictions on access or use of the data?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#getacopy.0)
  2. [Who distributes the data?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#getacopy.1)
  3. [What's the catalog number I need to order this data set?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#getacopy.2)
  4. [What legal disclaimers am I supposed to read?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#getacopy.3)
  5. [How can I download or order the data?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#getacopy.4)
* [Who wrote the metadata?](http://akenergyinventory.org/metadata/WND2006-2B.faq.html#metaref)

### What does this data set describe?

Title: Gridded Wind Parameters of Southeast Alaska

Abstract:

This file was created using the MesoMap system which consists of an integrated set of atmospheric simulation models, databases, and computers and storage systems. At the core of MesoMap is MASS (Mesoscale Atmospheric Simulation System), a numerical weather model, which simulates the physics of the atmosphere. MASS is coupled to a simpler wind flow model, WindMap, which is used to refine the spatial resolution of MASS and account for simple localized effects of terrain and surface roughness. MASS simulates weather conditions over a region for 366 historical days randomly selected from a 15-year period. When the runs are finished, the results are input into WindMap. Truewind subsequently validates the wind maps. In addition to the raster wind maps that are created, the final product is a grid of points each containing values for various wind parameters. The points are spaced at 2 kilometers apart and include predicted wind speed frequency distribution, and speed and energy in 16 directions. This information is necessary for the production of a wind rose image at a given point.

Supplemental\_Information:

The layers listed below are available as ArcGIS shape files and in Google Earth format. Attribute information for the following layers (entities) is included in this metadata file under the "Entity\_and\_Attribute\_Information" section. Each layer is listed and described in detail under its own heading starting "Entity\_Type\_Label." Layers include:

AK\_SE\_rose predicted wind speed frequency distribution, wind speed, and wind energy in 16 directions (Southeast Alaska)

1. **How should this data set be cited?**

AWS Truewind, LLC, and Authority, Alaska Energy , 2006, Gridded Wind Parameters of Southeast Alaska: Wind Energy WND 2006-2B, State of Alaska, Department of Commerce, Community & Economic Development, Alaska Energy Authority, Anchorage, AK.

Online Links:

* + [<http://akenergyinventory.org/data>](http://akenergyinventory.org/data)

1. **What geographic area does the data set cover?**

West\_Bounding\_Coordinate: -141.640039

East\_Bounding\_Coordinate: -127.996348

North\_Bounding\_Coordinate: 60.648682

South\_Bounding\_Coordinate: 54.153350

1. **What does it look like?**
2. **Does the data set describe conditions during a particular time period?**

Calendar\_Date: 2006

Currentness\_Reference: publication date

1. **What is the general form of this data set?**

Geospatial\_Data\_Presentation\_Form: vector digital data

1. **How does the data set represent geographic features?**
   * **How are geographic features stored in the data set?**
   * **What coordinate system is used to represent geographic features?**

Grid\_Coordinate\_System\_Name: Universal Transverse Mercator

Universal\_Transverse\_Mercator:

UTM\_Zone\_Number: 7

Transverse\_Mercator:

Scale\_Factor\_at\_Central\_Meridian: 0.999600

Longitude\_of\_Central\_Meridian: 141.000000

Latitude\_of\_Projection\_Origin: 0.000000

False\_Easting: 500000.000000

False\_Northing: 0.000000

Planar coordinates are encoded using coordinate pair  
Abscissae (x-coordinates) are specified to the nearest 0.008192  
Ordinates (y-coordinates) are specified to the nearest 0.008192  
Planar coordinates are specified in meters

The horizontal datum used is D\_WGS\_1984.  
The ellipsoid used is WGS\_1984.  
The semi-major axis of the ellipsoid used is 6378137.000000.  
The flattening of the ellipsoid used is 1/298.257224.

1. **How does the data set describe geographic features?**

**AK\_SE\_rose.shp**

Object type is vector, describing predicted wind speed frequency distribution, wind speed, and wind energy in 16 directions (Southeast Alaska) (Source: AWS Truewind, LLC)

**X**

UTM easting coordinate, Zone 7, WGS\_1984 (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 466900 |
| **Maximum:** | 1216900 |
| **Units:** | m |

**Y**

UTM northing coordinate, Zone 7, WGS\_1984 (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 6057700 |
| **Maximum:** | 6691700 |
| **Units:** | m |

**Longitude**

Longitude coordinate, WGS\_1984 (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | -141.6 |
| **Maximum:** | -129.639 |
| **Units:** | decimal degree |

**Latitude**

Latitude coordinate, WGS\_1984 (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 54.391 |
| **Maximum:** | 60.349 |
| **Units:** | decimal degree |

**FILE**

File name of the corresponding wind rose image (Source: AWS Truewind, LLC)

Name assigned to each wind rose image in JPEG format. Naming format is AK####\_####.JPG where the numbers most likely correspond to the location's relative position on the larger grid.

**FREQ1**

Percent Frequency (N direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ2**

Percent Frequency (NNE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ3**

Percent Frequency (NE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ4**

Percent Frequency (ENE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ5**

Percent Frequency (E direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ6**

Percent Frequency (ESE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ7**

Percent Frequency (SE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ8**

Percent Frequency (SSE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ9**

Percent Frequency (S direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ10**

Percent Frequency (SSW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ11**

Percent Frequency (SW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ12**

Percent Frequency (WSW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ13**

Percent Frequency (W direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ14**

Percent Frequency (WNW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ15**

Percent Frequency (NW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**FREQ16**

Percent Frequency (NNW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**SPEED1**

Wind Speed Ratio (N direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED2**

Wind Speed Ratio (NNE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED3**

Wind Speed Ratio (NE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED4**

Wind Speed Ratio (ENE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED5**

Wind Speed Ratio (E direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED6**

Wind Speed Ratio (ESE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED7**

Wind Speed Ratio (SE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED8**

Wind Speed Ratio (SSE direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED9**

Wind Speed Ratio (S direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED10**

Wind Speed Ratio (SSW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED11**

Wind Speed Ratio (SW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED12**

Wind Speed Ratio (WSW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED13**

Wind Speed Ratio (W direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED14**

Wind Speed Ratio (WNW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED15**

Wind Speed Ratio (NW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**SPEED16**

Wind Speed Ratio (NNW direction) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | Dimensionless |

**POWER1**

Percent Wind Power Density (direction N) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER2**

Percent Wind Power Density (direction NNE) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER3**

Percent Wind Power Density (direction NE) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER4**

Percent Wind Power Density (direction ENE) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER5**

Percent Wind Power Density (direction E) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER6**

Percent Wind Power Density (direction ESE) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER7**

Percent Wind Power Density (direction SE) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER8**

Percent Wind Power Density (direction SSE) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER9**

Percent Wind Power Density (direction S) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER10**

Percent Wind Power Density (direction SSW) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER11**

Percent Wind Power Density (direction SW) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER12**

Percent Wind Power Density (direction WSW) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER13**

Percent Wind Power Density (direction W) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER14**

Percent Wind Power Density (direction WNW) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER15**

Percent Wind Power Density (direction NW) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**POWER16**

Percent Wind Power Density (direction NNW) (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 100 |
| **Units:** | percent |

**WEIBC1**

Weibull C (direction N): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC2**

Weibull C (direction NNE): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC3**

Weibull C (direction NE): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC4**

Weibull C (direction ENE): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC5**

Weibull C (direction E): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC6**

Weibull C (direction ESE): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC7**

Weibull C (direction SE): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC8**

Weibull C (direction SSE): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC9**

Weibull C (direction S): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC10**

Weibull C (direction SSW): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC11**

Weibull C (direction SW): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC12**

Weibull C (direction WSW): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC13**

Weibull C (direction W): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC14**

Weibull C (direction WNW): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC15**

Weibull C (direction NW): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBC16**

Weibull C (direction NNW): weighted average speed. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 3 |
| **Units:** | m/s |

**WEIBK1**

Weibull K (direction N): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK2**

Weibull K (direction NNE): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK3**

Weibull K (direction NE): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK4**

Weibull K (direction ENE): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK5**

Weibull K (direction E): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK6**

Weibull K (direction ESE): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK7**

Weibull K (direction SE): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK8**

Weibull K (direction SSE): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK9**

Weibull K (direction S): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK10**

Weibull K (direction SSW): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK11**

Weibull K (direction SW): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK12**

Weibull K (direction WSW): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK13**

Weibull K (direction W): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK14**

Weibull K (direction WNW): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK15**

Weibull K (direction NW): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**WEIBK16**

Weibull K (direction NNW): shape parameter, specifies how sharp a peak the curve has. See <<http://nswep.electricalcomputerengineering.dal.ca/tools/weibull.html>> for more information. (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Range of values** | |
| **Minimum:** | 0 |
| **Maximum:** | 4 |
| **Units:** | Dimensionless |

**Rose**

Indicates which records have an associated wind rose image (Source: AWS Truewind, LLC)

|  |  |
| --- | --- |
| **Value** | **Definition** |
| 0 | Record has an associated wind rose image |
| 1 | Record does not have an associated wind rose image |

**Hyperlink**

Indicates relative directory location of each wind rose image; often set up as a GIS hyperlink for each point in the grid (Source: AWS Truewind, LLC)

Name and directory assigned to each wind rose image in JPEG format. Naming format is WindRose\AK####\_####.JPG where the numbers most likely correspond to the location's relative position on the larger grid.

### Who produced the data set?

1. **Who are the originators of the data set?** (may include formal authors, digital compilers, and editors)
   * AWS Truewind, LLC
   * Alaska Energy Authority
2. **Who also contributed to the data set?**

AWS Truewind, LLC

1. **To whom should users address questions about the data?**

AWS Truewind  
c/o Michael Brower  
463 New Karner Road  
Albany, New York 12205  
United States

(518) 213-0044 (voice)

### Why was the data set created?

The purpose of creating this file was to use MesoMap to create high-resolution wind maps and to provide wind resource data in a format enabling the assessment of potential wind development sites in a GIS. By combining a sophisticated numerical weather model capable of simulating large-scale wind patterns with a microscale wind flow model responsive to local terrain and surface conditions, they enable the mapping of wind resources with much greater accuracy than has been possible in the past. In addition, they do not require surface wind data to make accurate predictions. While on-site measurements will be required to confirm the predicted wind resource at any particular location, mesoscale-microscale modeling can greatly reduce the time and cost required to identify and evaluate potential wind project sites.

### How was the data set created?

1. **From what previous works were the data drawn?**
2. **How were the data generated, processed, and modified?**

Date: 2006 (process 1 of 4)

The MesoMap system creates a wind resource map in several steps. First, the MASS model simulates weather conditions over 366 days selected from a 15-year period. The days are chosen through a stratified random sampling scheme so that each month and season is represented equally in the sample; only the year is randomized. Each simulation generates wind and other weather variables (including temperature, pressure, moisture, turbulent kinetic energy, and heat flux) in three dimensions throughout the model domain, and the information is stored at hourly intervals. When the runs are finished, the results are compiled into summary data files, which are then input into the WindMap program for the final mapping stage. The two main products are usually (1) color-coded maps of mean wind speed and power density at various heights above ground and (2) data files containing wind speed and direction frequency distribution parameters. For the standard MesoMap configuration MASS is run on the following nested grids: First (outer) grid level: 30 km, Second (intermediate) grid level: 8 km, Third (inner) grid level: 2.5 km.

Person who carried out this activity:

Brower, Michael  
AWS Truewind, LLC  
Principal  
463 New Karner Road  
Albany, New York 12205  
United States

(518) 213-0044 (voice)

Date: 2006 (process 2 of 4)

Metadata imported.

Date: 2006 (process 3 of 4)

Written summary of the data processing procedures that are performed on the raw measured data in order to create an annual dataset of "typical" wind speeds, which could then be used to calculate potential power production from wind turbines. There are various methods and reasons for adjusting the raw data, so the purpose of these notes is to document what is typically done in AEA reports. See the associated PDF file, <<http://akenergyinventory.org/metadata/WND2006_process.pdf>> for more information.

Person who carried out this activity:

Jensen, James  
AEA  
Project Manager  
813 W. Northern Lights Blvd.  
Anchorage, AK, Alaska 99503  
United States

(907) 771-3043 (voice)

Date: 2009 (process 4 of 4)

Formal FGDC metadata (this document) was rewritten for the entire AK wind dataset (K.R. Papp, AEA, 18-Jun, 2009). The dataset will be viewable/distributed online via the Alaska Energy Data Inventory ([<http://akenergyinventory.org>](http://akenergyinventory.org/)) project.

1. **What similar or related data should the user be aware of?**

AWS Truewind, LLC, and Authority, Alaska Energy , 2006, High-resolution Wind Resource Maps of Alaska: Wind Energy WND 2006-1A, State of Alaska, Department of Commerce, Community & Economic Development, Alaska Energy Authority, Anchorage, AK.

Online Links:

* + [<http://akenergyinventory.org/data>](http://akenergyinventory.org/data)

AWS Truewind, LLC, and Authority, Alaska Energy , 2006, High-resolution Wind Resource Maps of Southeast Alaska: Wind Energy WND 2006-2A, State of Alaska, Department of Commerce, Community & Economic Development, Alaska Energy Authority, Anchorage, AK.

Online Links:

* + [<http://akenergyinventory.org/data>](http://akenergyinventory.org/data)

AWS Truewind, LLC, and Authority, Alaska Energy , 2006, Gridded Wind Parameters of Alaska: Wind Energy WND 2006-1B, State of Alaska, Department of Commerce, Community & Economic Development, Alaska Energy Authority, Anchorage, AK.

Online Links:

* + [<http://akenergyinventory.org/data>](http://akenergyinventory.org/data)

### How reliable are the data; what problems remain in the data set?

1. **How well have the observations been checked?**

Raster cell values of the average wind speed (m/s) and wind power (W/m^2) density were computed from the MASS (Mesoscale Atmospheric Simulation System), a numerical weather model, which simulates the physics of the atmosphere. The maps and data can then be compared with land and ocean surface wind measurements, and if significant discrepancies are observed, adjustments to the wind maps can be made. The usual geophysical and meteorological inputs were used. The WindMap program adjusted the wind resource estimates to reflect local topography and surface roughness changes on a grid spacing of 200 m. For the topographical data, we used the National Elevation Dataset, a digital terrain model produced on a 30 m grid by the US Geological Survey (USGS). For the land cover, we used the National Land Cover Dataset, which is derived from Landsat imagery. It was also produced by the USGS on a 30 m grid. In converting from land cover to surface roughness, certain roughness length values were assumed to be typical of conditions in the region. The displacement height is defined as the height at which the wind speed becomes zero in the logarithmic shear formula. For this project, we assumed that the displacement height was 10 times the surface roughness length, which was in turn defined to be approximately 7.5% of the vegetation height. For deciduous forests with a roughness length of 0.9 m, this resulted in a displacement height of 9 m.

1. **How accurate are the geographic locations?**

The WindMap program adjusted the wind resource estimates to reflect local topography and surface roughness changes on a grid spacing of 200 m. The data presented in this data set, however, are spaced at 2-km intervals.

1. **How accurate are the heights or depths?**
2. **Where are the gaps in the data? What is missing?**

The shaded raster images display the average wind speed (m/s) and wind power (W/m^2) density for a large portion of mainland Alaska (North Slope and the Aleutians not included).

1. **How consistent are the relationships among the observations, including topology?**

MASS is coupled to a simpler wind flow model, WindMap, which is used to refine the spatial resolution of MASS and account for simple localized effects of terrain and surface roughness. MASS simulates weather conditions over a region for 366 historical days randomly selected from a 15-year period. When the runs are finished, the results are input into WindMap. Truewind subsequently validates the wind maps.

### How can someone get a copy of the data set?

**Are there legal restrictions on access or use of the data?**

Access\_Constraints:

This report, map, and/or data set have been published as part of the Alaska Energy Data Inventory (AEDI) project. The vector layers may be accessed and downloaded at the user's convenience. All of the data are available directly from AWS Truewind, LLC.

Use\_Constraints:

This data was created by AWS Truewind using the MesoMap system and historical weather data. Although it is believed to represent an accurate overall picture of the wind energy resource, estimates at any location should be confirmed by measurement. Please site AWS Truewind, LLC when using this data.

1. **Who distributes the data set?** (Distributor 1 of 1)

State of Alaska, Department of Commerce, Community & Economic Development, Alaska Energy Authority  
Wind Program Manager  
813 W. Northern Lights Blvd.  
Anchorage, AK 99504  
USA

907-771-3043 (voice)  
907-771-3044 (FAX)  
jjensen@aidea.org

Hours\_of\_Service: 8 am to 4:30 pm, Monday through Friday, except State holidays

Contact\_Instructions:

Please view our web site ([<http://akenergyinventory.org>](http://akenergyinventory.org/)) for the latest information on available data. Please contact us using the e-mail address provided above when possible.

1. **What's the catalog number I need to order this data set?**

Wind Energy 2006-2B

1. **What legal disclaimers am I supposed to read?**

The State of Alaska makes no express or implied warranties (including warranties of merchantability and fitness) with respect to the character, function, or capabilities of the electronic services or products or their appropriateness for any user's purposes. In no event will the State of Alaska be liable for any incidental, indirect, special, consequential, or other damages suffered by the user or any other person or entity whether from the use of the electronic services or products, any failure thereof, or otherwise, and in no event will the State of Alaska's liability to the requester or anyone else exceed the fee paid for the electronic service or product.

1. **How can I download or order the data?**
   * **Availability in digital form:**

|  |  |
| --- | --- |
| **Data format:** | Google Earth KML (version KML Version 2.2) |
| **Network links:** | [<http://akenergyinventory.org/data>](http://akenergyinventory.org/data) |

|  |  |
| --- | --- |
| **Data format:** | ArcGIS Shapefile (version ESRI ArcGIS 9.x) |
| **Network links:** | [<http://akenergyinventory.org/data>](http://akenergyinventory.org/data) |

|  |  |
| --- | --- |
| **Data format:** | ArcGIS Shapefile (version ESRI ArcGIS 9.x) |
| **Network links:** | [<http://www.awstruewind.com/>](http://www.awstruewind.com/) |
| **Media you can order:** | DVD-ROM (format Joliet) |

* + **Cost to order the data:**

Digital files on DVD-ROM are available upon request from AWS Truewind, LLC. Scanned images, GIS shapefiles, and Google Earth files of these products may be viewed online or downloaded for free from the Alaska Energy Data Inventory website.

* + **Special instructions:**

Requests may be made by phone (518) 213-0044 or fax (518) 213-0045.

* + **How long will it take to get the data?**

Offline DVD-ROMs: Approximately 1-2 weeks

1. **What hardware or software do I need in order to use the data set?**

ESRI ArcGIS 9.+, MapInfo, and/or Google Earth. Please check the MapInfo web site ([<http://www.mapinfo.com/>](http://www.mapinfo.com/)) for the latest documentation on importing ESRI shape files.

### Who wrote the metadata?

Dates:

Last modified: 23-Jun-2009  
Last Reviewed: 23-Jun-2009  
To be reviewed: 23-Jun-2011

Metadata author:

State of Alaska, Department of Commerce, Community & Economic Development, Alaska Energy Authority  
Energy Data Project Manager  
813 W. Northern Lights Blvd.  
Anchorage, AK 99504  
USA

907-771-3049 (voice)  
907-451-5050 (FAX)  
kpapp@aidea.org

Hours\_of\_Service: 8 am to 4:30 pm, Monday through Friday, except State holidays.

Contact\_Instructions:

Please contact us through the e-mail address above whenever possible.

Metadata standard:

FGDC Content Standard for Digital Geospatial Metadata (FGDC-STD-001-1998)

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