

## Wind & Siting

### How far should Windspires be from buildings, trees, or each other?

The following are recommended minimum distances between a Windspire and an object. For the purpose of this table, position references are relative to the prevailing wind direction. For example, "in front" means that the object is blocking the prevailing wind; "behind" means the Windspire gets the benefit of the prevailing wind before it reaches the object. The reason there is still a minimal distance is because objects cause turbulence, even if behind the Windspire. Regardless of the distance recommendations, you should check that the wind speeds are still adequate in the exact spot where you plan to site the Windspire.

Obstacle	Position	Min. Distance
Buildings, trees, etc	in front of Windspire	100 feet
	beside Windspire	50 feet
	behind Windspire	30 feet
Other Windspires	beside each other	8 feet
	diagonally from each other	11.2 feet
	60 degrees behind	15.4 feet
	75 degrees behind	26.5 feet
	directly behind each other	50 feet

### How much wind do you need?

In general, you want average wind speeds of around 12 mph (miles per hour), although in some places Windspire makes sense with lesser wind resources. For example, if you have high electricity rates, or substantial rebates or incentives available to you, it may make sense to place a Windspire in a zone with an average wind speed of only 10 mph. Refer to the Economics section to determine what makes sense for you. Note that "average wind speed" means the average 24 hours a day, 365 days a year, for an average year (and year-to-year averages can vary by a good deal).

**How much wind do you have?** Great question. Here are some suggestions for how to find out:

**Use visual references.** This is cheap, but not very precise. On the other hand, people have a very good inherent ability to estimate many things. A couple of more common scales allow you to estimate wind speeds based on open water and land indicators (Beaufort Scale), and tree deformation (Griggs-Putnam Index). We have put together a [useful guide](#) to both scales for you to use.

You should also take note of wind patterns - for example, is it generally windy at one time of day or another? Do the patterns change between seasons? In most places, the answers will be yes.

**Use nearby data.** Check out data from nearby weather stations. This can be used to determine wind conditions on a given day - a reality check. Some stations may provide average data too.

One BIG caution is, don't rely on any data unless you have checked out the circumstances. Old or poorly calibrated anemometers (wind-measuring devices), poor siting, variable anemometer heights, damage, etc. can cause very erroneous measurements. Also, your local site may have anomalies of its own, so nearby data can only give you a general idea. Some sources for nearby data include:

[National Climatic Data Center](#). Search for local stations, and check for wind data. Not all stations have wind data.

[Weather Underground](#): A great source for information from people's personal weather stations across the country. Many include wind data.

**Check wind maps.** Short of collecting a year's worth of wind data using a sophisticated anemometer, wind maps are the best way to get your average wind speed. We have put together an extensive table of wind maps for your use, available in the learn menu.

**Install an anemometer** at your proposed site. An anemometer measures wind speeds, and higher end anemometers have a data logging capability. While simple handheld anemometers can be useful, you will get the most accuracy by installing a sophisticated anemometer on a pole to monitor wind over an extended periods of time. However, this is generally more costly than it is worth for a small wind installation (it can cost upwards of \$3000 to just test your wind in this way). Some retailers and installation contractors can also offer more detailed wind site testing, and some states offer anemometer loan programs to help with wind power siting