

How to calculate ice throw

Tutorial Summary:

Learn how to calculate ice throw probability statistics for each specified zone.

- 1) Import topography data (elevation data needed for ice throw calculations)
 - Go to 'Input' tab
 - Click 'Import Elevation data'
 - File type: GeoTIFF or ADF
- 2) Import (at least) one met site (wind speed and wind direction distribution needed for ice throw calculations)
 - Go to 'Input' tab
 - Click 'Import TAB file(s)' or 'Import Met TS file'
- 3) Import turbine sites
 - Go to 'Input tab'
 - Click 'Import' under Turbine Sites
 - .CSV file: Turbine Name, Latitude, Longitude

	A	B	C
1	1	26.3207	-103.488
2	2	26.32041	-103.485
3	3	26.32126	-103.48
4	4	26.32108	-103.476
5	5	26.32202	-103.472
6	6	26.32626	-103.492
7	7	26.3268	-103.49

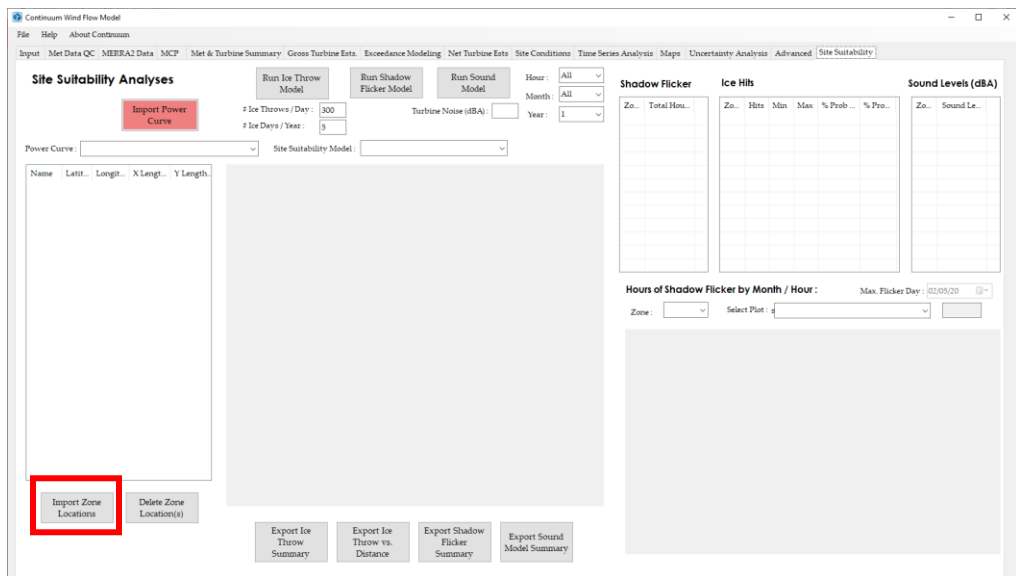
- 4) Import power curve
 - Go to 'Site Suitability' tab
 - Click 'Import Power Curve'
 - .CSV file
 - Name
 - Wind speed, Power, Thrust

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	A	B	C
1	Test_Turbine		
2	3	0	0
3	3.5	26.46	0.9024
4	4	62.72	0.85056
5	4.5	106.82	0.81312
6	5	158.76	0.792
7	5.5	222.46	0.78912
8	6	297.92	0.792
9	6.5	387.1	0.79296
10	7	491.96	0.79392
11	7.5	609.56	0.79008

5) Import zone locations

- Go to 'Site Suitability' tab,
 - Click 'Import Zone Locations'



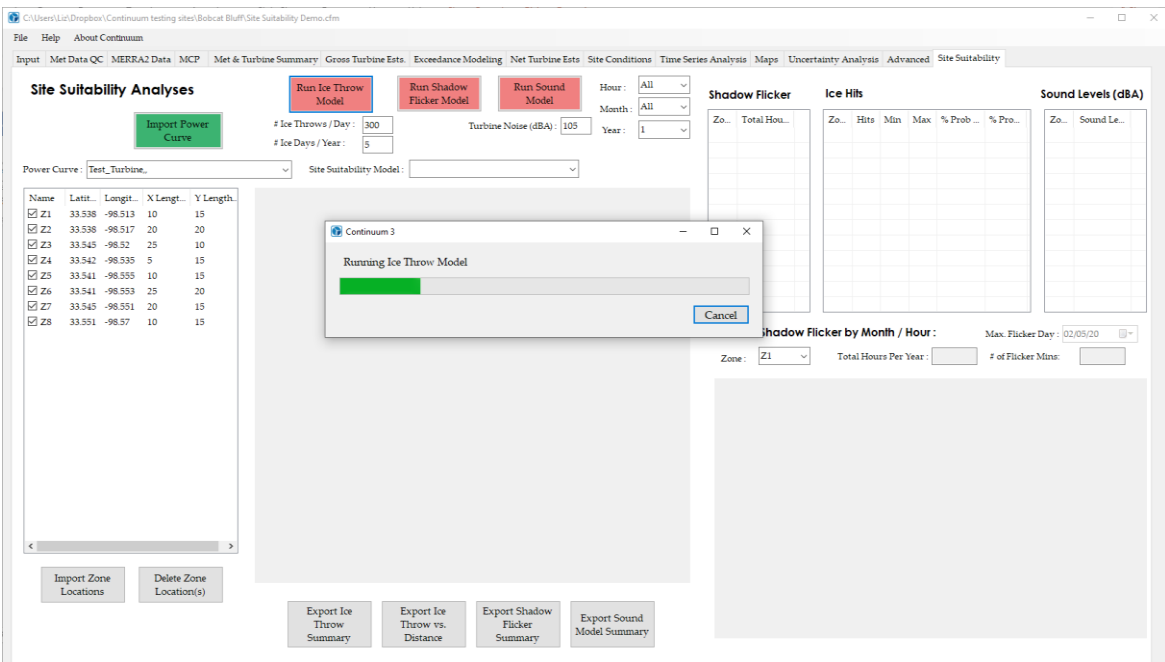
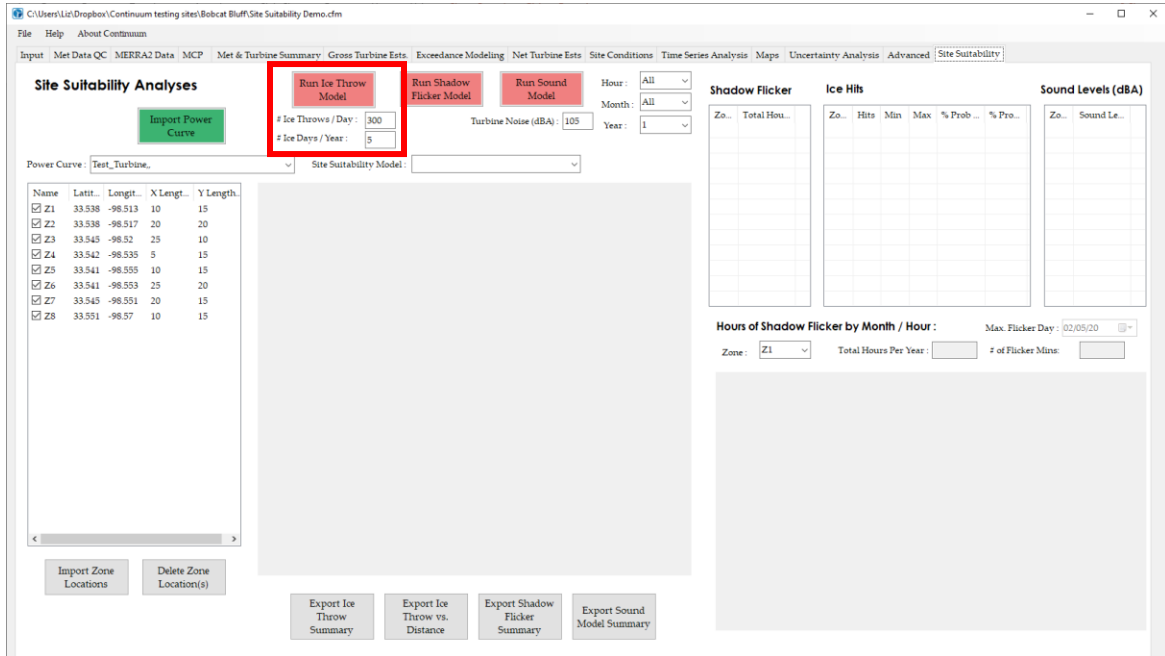
- Specify zone name, latitude, longitude, size (E-W), size (N-S) in .CSV file as shown below:

	A	B	C	D	E	F
1	Z1	49.56952	-117.526	10	15	
2	Z2	49.56856	-117.531	20	20	
3	Z3	49.57949	-117.535	25	10	
4	Z4	49.57474	-117.553	5	15	
5	Z5	49.57373	-117.577	10	15	
6	Z6	49.57356	-117.574	25	20	

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6) Calculate ice throw probability statistics

- Specify the number of ice throws per ice throw day
 - Default is 300
- Specify the number of ice throw days per year
 - Default is 5
- Click 'Run Ice Throw Model'



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7) Export Ice Throw Summary and/or Ice Throw vs. Distance

The screenshot displays the 'Site Suitability Analyses' window in the Continuum software. The interface includes several key components:

- Site Suitability Analyses Panel:** Contains buttons for 'Run Ice Throw Model', 'Run Shadow Flicker Model', and 'Run Sound Model'. It also features input fields for '# Ice Throws / Day' (300), '# Ice Days / Year' (5), and 'Turbine Noise (dBA)' (105). A 'Power Curve' dropdown is set to 'Test_Turbine...'. The 'Site Suitability Model' is set to 'Ice Throw'.
- Zone List Table:** A table listing zones Z1 through Z8 with their respective latitude, longitude, and dimensions.
- Ice Hits over Annual Period:** A scatter plot showing the distribution of ice hits across the site area, with axes representing distance from the turbine.
- Ice Hits by Dist. Table:** A table showing the number of hits for each zone. Zone Z1 has 812 hits, while zones Z2 through Z8 have 0 hits.
- Ice Hits by Distance:** A dropdown menu set to 'Ice Hit vs. Distance'.
- Number of Ice Impacts over Turbine Lifetime:** A line graph showing the cumulative number of ice impacts over a distance of 0 to 1000 meters. The number of impacts starts at approximately 800 at 0 meters and drops to 0 by 200 meters.
- Export Buttons:** At the bottom, there are buttons for 'Export Ice Throw Summary', 'Export Ice Throw vs. Distance', 'Export Shadow Flicker Summary', and 'Export Sound Model Summary'. The first two buttons are highlighted with a red box.