Speedup and deflection

Some users prefer alternative extreme-wind estimation methods. This calculates speedup and deflection from a reference mast and height to turbine positions, possibly with a different height. The idea is that the users can uses these corrections to translate mast observations to turbine site conditions and make their preferred extreme-wind analysis.

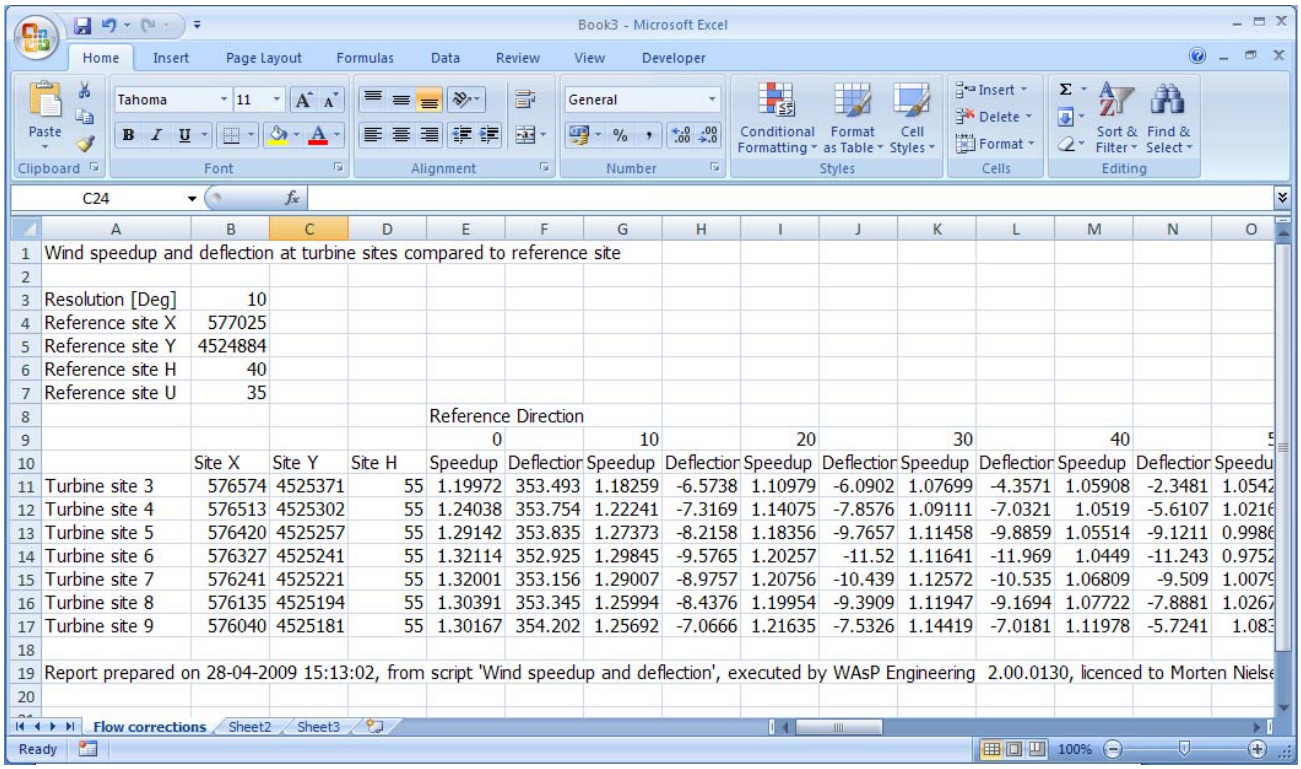
Input

First select a set of turbine sites and their (common) hub height. The script will then prompt for

- The number of calculated reference-site directions
- Reference-site height
- Reference-site velocity
- Reference-site coordinates

Result

An Excel table like this... (If you need many columns, you may have to use Excel 2007)



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Wind speedup and deflection at turbine sites compared to reference site														
2															
3	Resolution [Deg]	10													
4	Reference site X	577025													
5	Reference site Y	4524884													
6	Reference site H	40													
7	Reference site U	35													
8					Reference Direction										
9					0		10		20		30		40		5
10		Site X	Site Y	Site H	Speedup	Deflection	Speedup	Deflection	Speedup	Deflection	Speedup	Deflection	Speedup	Deflection	Speedu
11	Turbine site 3	576574	4525371	55	1.19972	353.493	1.18259	-6.5738	1.10979	-6.0902	1.07699	-4.3571	1.05908	-2.3481	1.0542
12	Turbine site 4	576513	4525302	55	1.24038	353.754	1.22241	-7.3169	1.14075	-7.8576	1.09111	-7.0321	1.0519	-5.6107	1.0216
13	Turbine site 5	576420	4525257	55	1.29142	353.835	1.27373	-8.2158	1.18356	-9.7657	1.11458	-9.8859	1.05514	-9.1211	0.9986
14	Turbine site 6	576327	4525241	55	1.32114	352.925	1.29845	-9.5765	1.20257	-11.52	1.11641	-11.969	1.0449	-11.243	0.9752
15	Turbine site 7	576241	4525221	55	1.32001	353.156	1.29007	-8.9757	1.20756	-10.439	1.12572	-10.535	1.06809	-9.509	1.0079
16	Turbine site 8	576135	4525194	55	1.30391	353.345	1.25994	-8.4376	1.19954	-9.3909	1.11947	-9.1694	1.07722	-7.8881	1.0267
17	Turbine site 9	576040	4525181	55	1.30167	354.202	1.25692	-7.0666	1.21635	-7.5326	1.14419	-7.0181	1.11978	-5.7241	1.083
18															
19	Report prepared on 28-04-2009 15:13:02, from script 'Wind speedup and deflection', executed by WAsP Engineering 2.00.0130, licenced to Morten Nielse														
20															