

Supplement of Wind Energ. Sci., 9, 263–280, 2024
<https://doi.org/10.5194/wes-9-263-2024-supplement>
© Author(s) 2024. CC BY 4.0 License.



Supplement of

Quantitative comparison of power production and power quality onshore and offshore: a case study from the eastern United States

Rebecca Foody et al.

Correspondence to: Sara C. Pryor (sp2279@cornell.edu)

The copyright of individual parts of the supplement might differ from the article licence.

The following page contains the Spearman correlation coefficients computed from 10-minute power production estimates for the IEA 15 MW reference wind turbine derived using LiDAR wind speeds collected at 17 NYSM stations onshore in the state of New York and on two buoys in New York Bight (offshore). The location abbreviations are as defined in Table 2 and shown in Figure 1 of the main text.

Table S1. Spearman spatial correlation coefficients of the wind power production between the 2 NYSERDA buoys and the 17 NYSM stations. Cells are color coded to aid legibility using the following classes: white [0.8, 1], yellow [0.6, 0.8), orange [0.4, 0.6), red [0.2, 0.4), and purple [0, 0.2].

	AL.	BE.	BR.	BU.	CH.	CL.	EH.	JO.	OW.	QU.	RE.	STA.	STO.	SU.	TU.	WA.	WE.	H. N.	H. S.
ALBA	1	0.541	0.349	0.368	0.510	0.416	0.371	0.509	0.576	0.420	0.570	0.412	0.405	0.404	0.488	0.373	0.402	0.283	0.275
BELL	0.541	1	0.297	0.590	0.601	0.497	0.338	0.644	0.574	0.366	0.434	0.409	0.333	0.435	0.506	0.349	0.616	0.160	0.219
BRON	0.349	0.297	1	0.259	0.334	0.310	0.621	0.344	0.366	0.783	0.359	0.750	0.696	0.713	0.431	0.714	0.343	0.523	0.463
BUFF	0.368	0.590	0.259	1	0.372	0.635	0.281	0.584	0.487	0.310	0.335	0.329	0.318	0.297	0.492	0.286	0.600	0.271	0.302
CHAZ	0.510	0.601	0.334	0.372	1	0.404	0.341	0.514	0.489	0.341	0.328	0.335	0.360	0.313	0.556	0.308	0.445	0.282	0.294
CLYM	0.416	0.497	0.310	0.635	0.404	1	0.308	0.584	0.591	0.332	0.286	0.357	0.340	0.322	0.476	0.312	0.577	0.266	0.288
EHAM	0.371	0.338	0.621	0.281	0.341	0.308	1	0.349	0.378	0.657	0.386	0.621	0.764	0.618	0.418	0.719	0.342	0.657	0.579
JORD	0.509	0.644	0.344	0.584	0.514	0.584	0.349	1	0.654	0.378	0.379	0.386	0.393	0.389	0.558	0.345	0.681	0.288	0.307
OWEG	0.576	0.574	0.366	0.487	0.489	0.591	0.378	0.654	1	0.407	0.466	0.430	0.428	0.412	0.520	0.389	0.563	0.342	0.340
QUEE	0.420	0.366	0.783	0.310	0.341	0.332	0.657	0.378	0.407	1	0.444	0.807	0.765	0.707	0.429	0.786	0.359	0.561	0.532
REDH	0.570	0.434	0.359	0.335	0.328	0.286	0.386	0.379	0.466	0.444	1	0.414	0.436	0.457	0.364	0.376	0.322	0.287	0.281
STAT	0.412	0.409	0.750	0.329	0.335	0.357	0.621	0.386	0.430	0.807	0.414	1	0.704	0.703	0.417	0.735	0.378	0.520	0.501
STON	0.405	0.333	0.696	0.318	0.360	0.340	0.764	0.393	0.428	0.765	0.436	0.704	1	0.680	0.429	0.771	0.402	0.609	0.556
SUFF	0.404	0.435	0.713	0.298	0.313	0.322	0.618	0.389	0.412	0.707	0.457	0.703	0.680	1	0.422	0.655	0.348	0.455	0.418
TUPP	0.488	0.506	0.431	0.492	0.556	0.476	0.418	0.558	0.520	0.429	0.364	0.417	0.429	0.422	1	0.398	0.508	0.364	0.329
WANT	0.373	0.349	0.714	0.286	0.308	0.312	0.719	0.345	0.389	0.786	0.376	0.735	0.771	0.655	0.398	1	0.349	0.630	0.574
WEBS	0.402	0.616	0.343	0.600	0.445	0.577	0.342	0.691	0.563	0.359	0.322	0.378	0.402	0.348	0.508	0.349	1	0.292	0.302
H. Nor.	0.283	0.160	0.523	0.271	0.282	0.266	0.657	0.288	0.342	0.561	0.287	0.520	0.609	0.455	0.364	0.630	0.292	1	0.834
H. Sou.	0.275	0.219	0.463	0.302	0.294	0.288	0.579	0.307	0.340	0.532	0.281	0.556	0.556	0.418	0.329	0.574	0.302	0.834	1