UNIVERSITY OF BERGEN

Bergen Offshore Wind Centre

Observationally based estimates of wind power potential on the Norwegian Shelf

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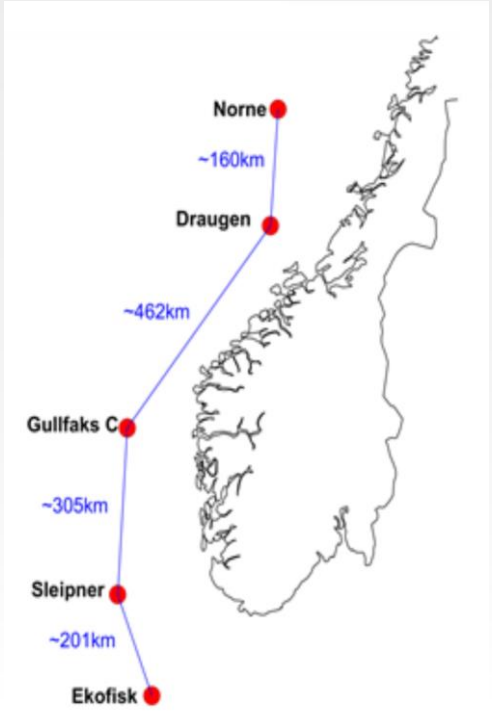
Wind energy potential the Norwegian Sea

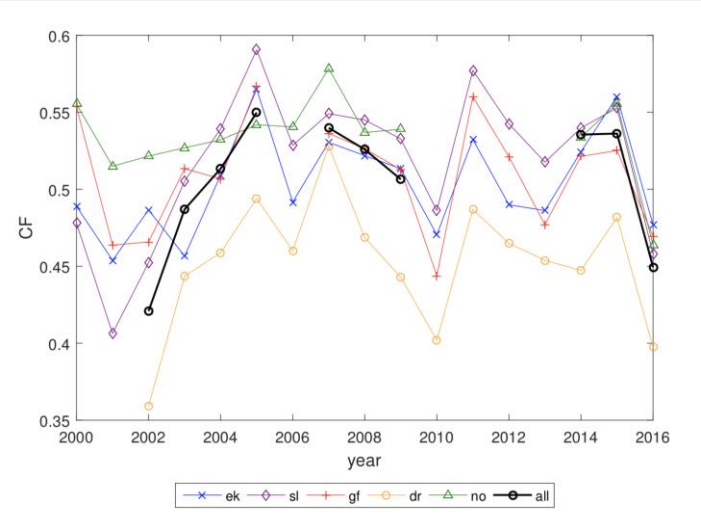


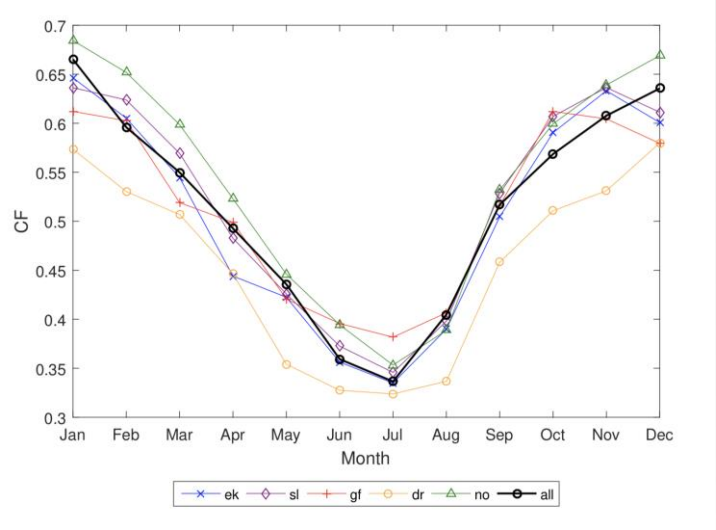
SUPERB

- Met.no
- 10min average
- 2000 - 2016

	Mean Wind [m/s]	Sigma [m/s]
Ekofisk (EK)	10.57	5.13
Sleipner (SL)	10.99	5.61
Gullfaks c (GF)	10.88	5.74
Draugen (DR)	10.08	5.64
Norne (NO)	11.28	5.69

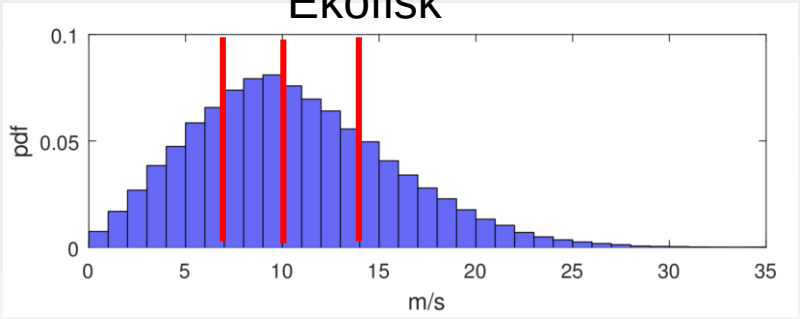
Interannual and seasonal

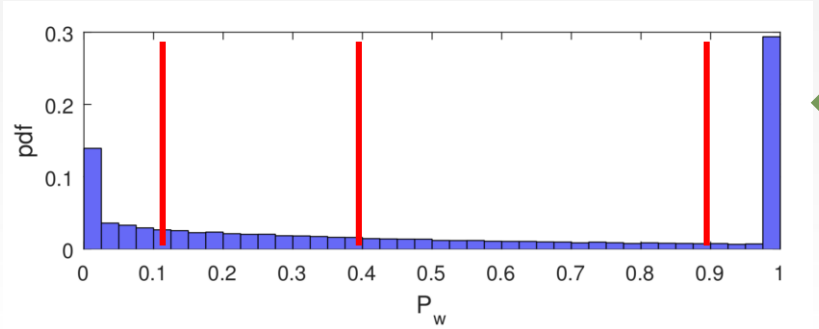


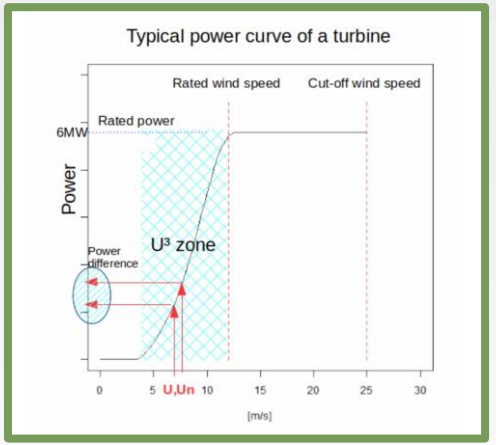


Wind power potential

Ekofisk

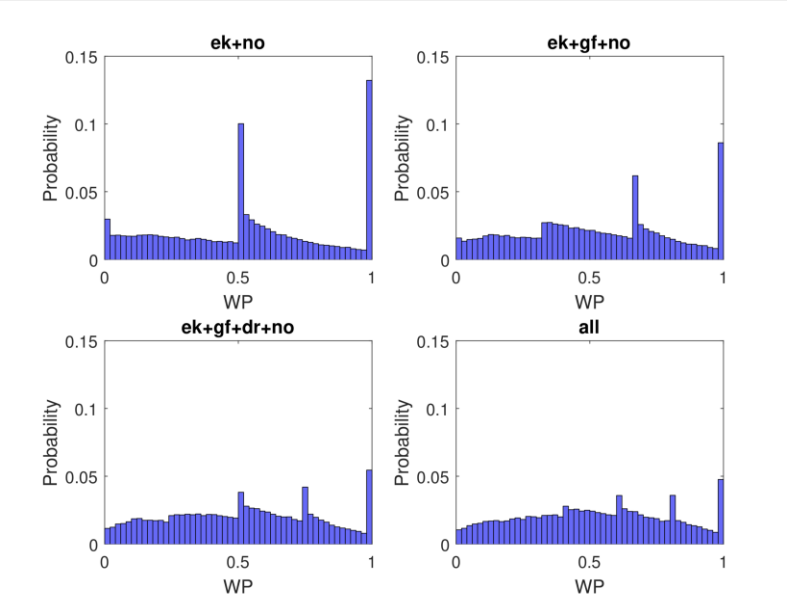






Ulaiza et al (2019)

Collective wind energy potential



Variability of collective wind power generation

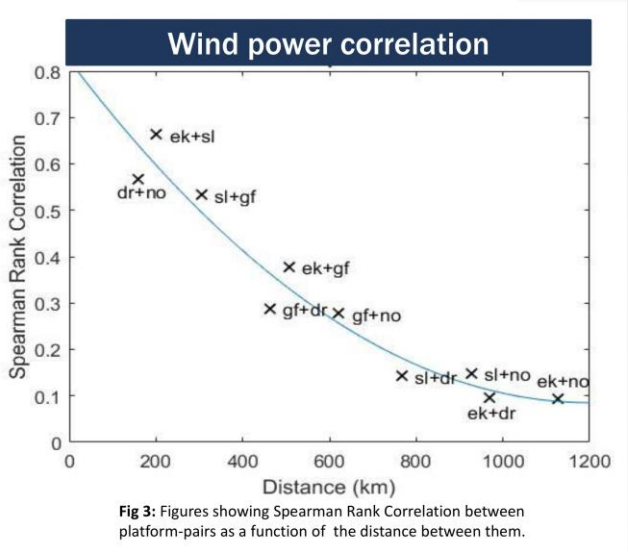
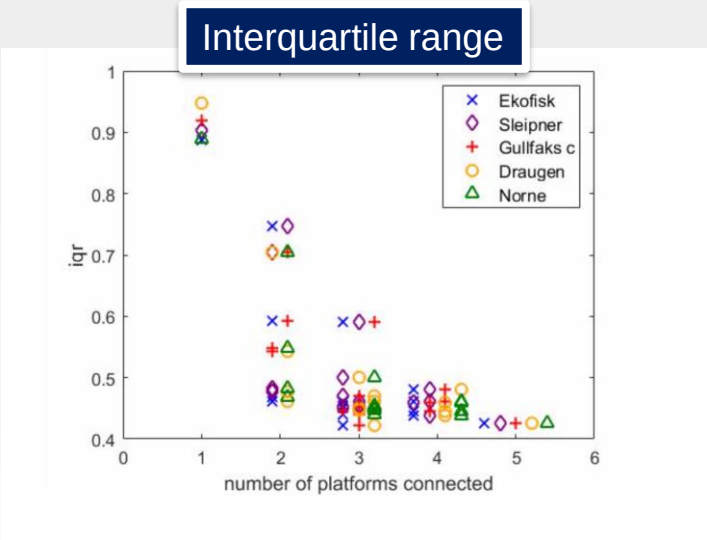


Fig 3: Figures showing Spearman Rank Correlation between platform-pairs as a function of the distance between them.



Risk of zero production

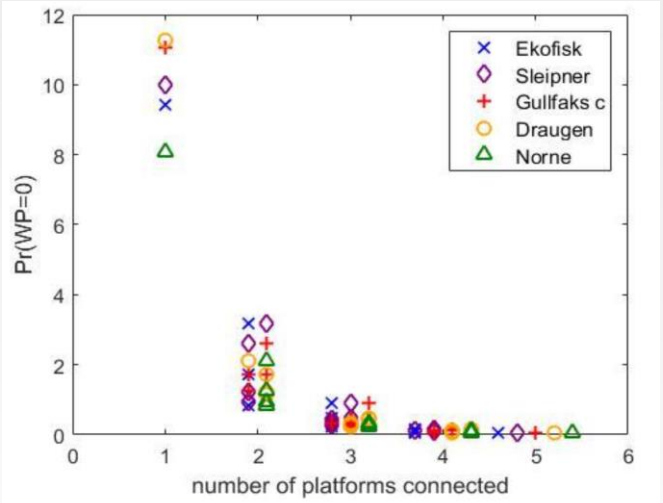
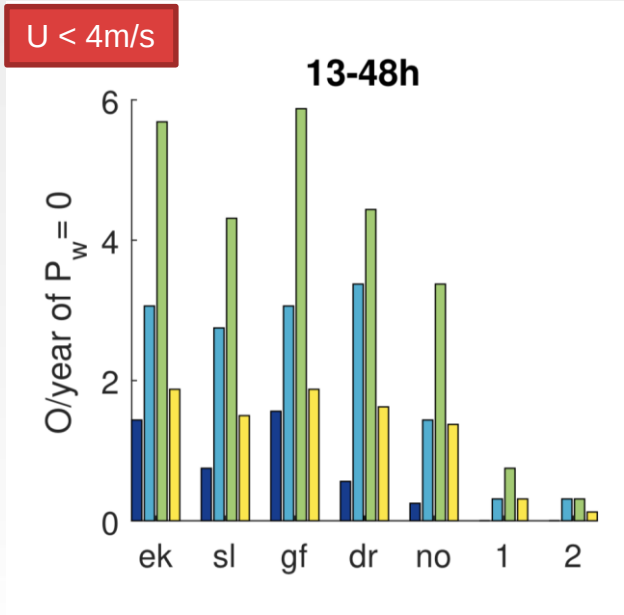


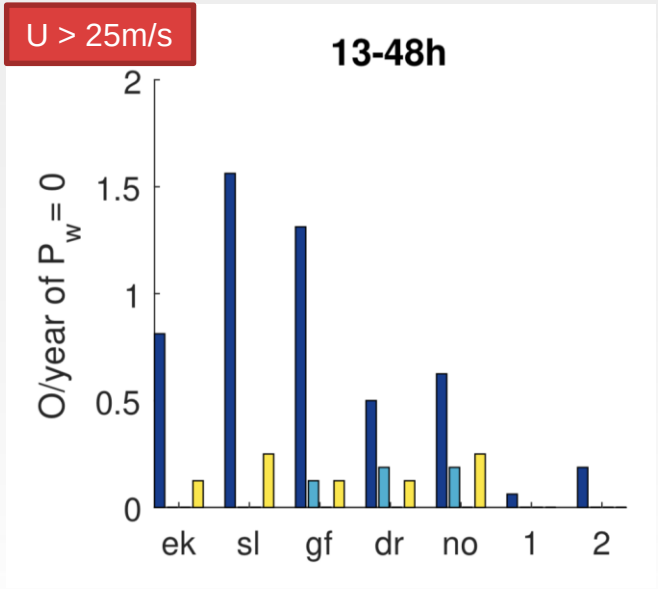
Fig 3: Figures showing the risk (%) of having zero wind power for all the different configurations.

Risk of zero power generation contd

U < 4m/s



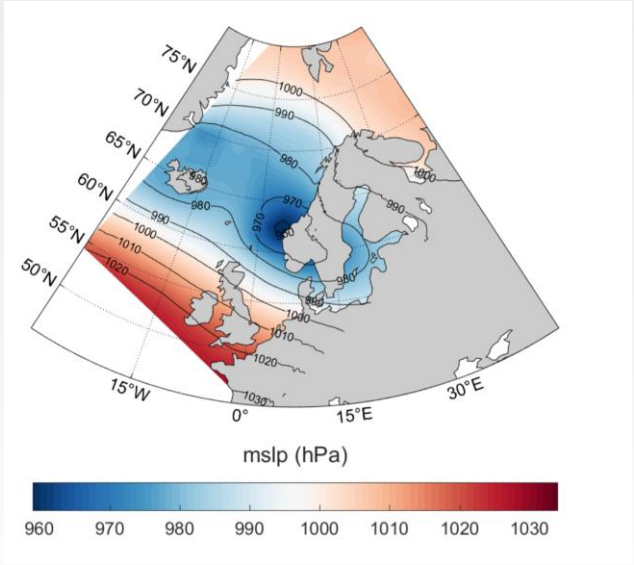
U > 25m/s

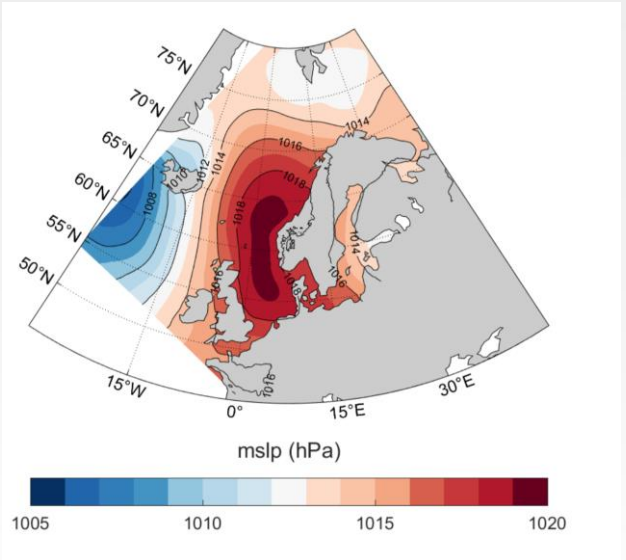


Dark blue – winter. Light Blue – spring
Green – summer. Yellow autumn

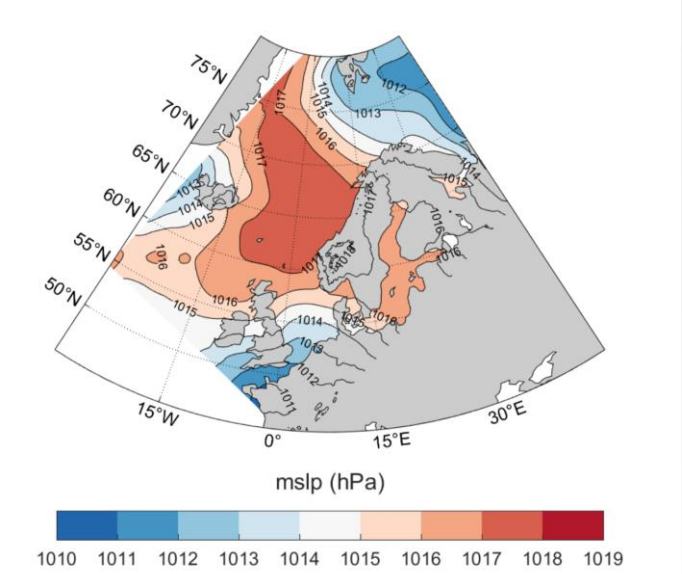
1: Ekofisk & Sleipner
2: Draugen & Norne

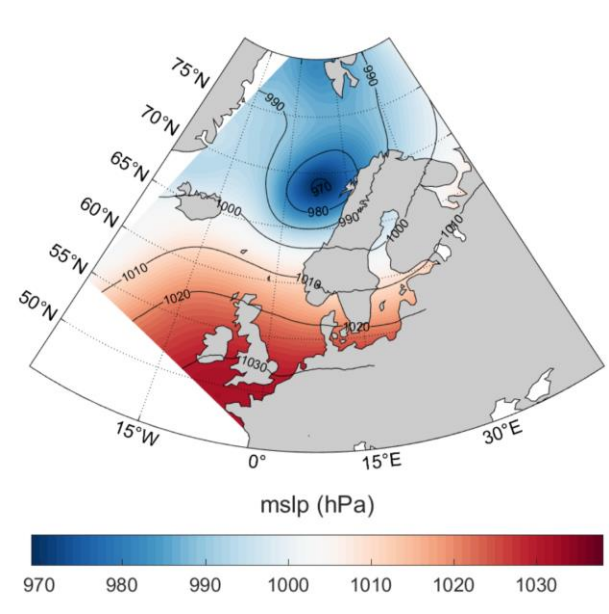
Weather situations for zero events in the Southern part





Weather situations for zero events in the Northern part



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