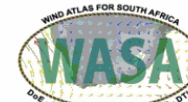


# A single wind farm changes its power output quickly

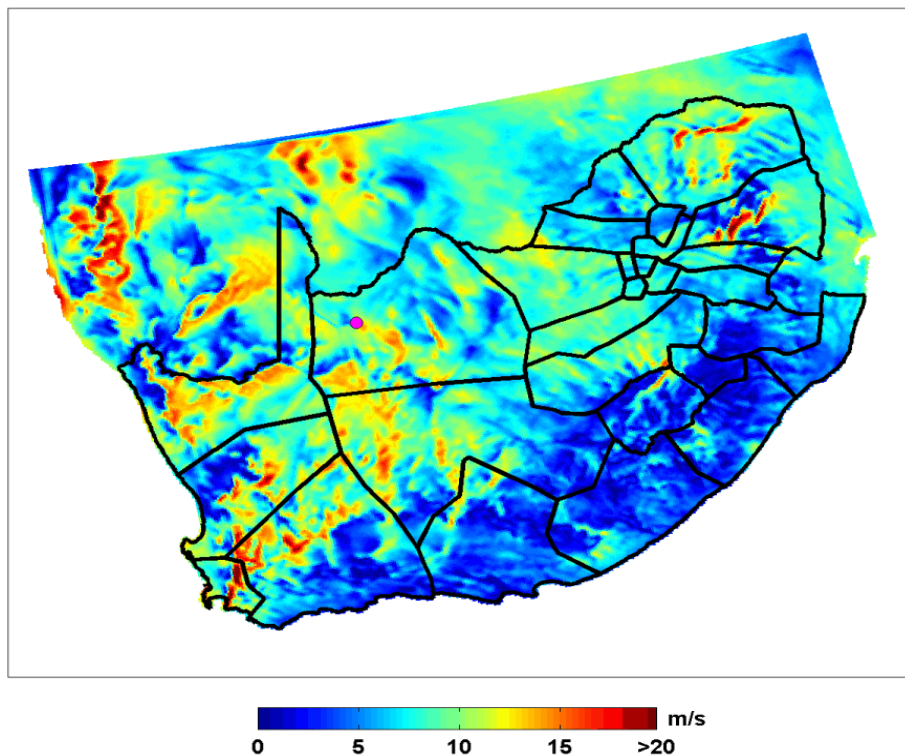
Simulated wind-speed profile and wind power output for 14 January 2012

14 Jan 2012 23:45 SAST

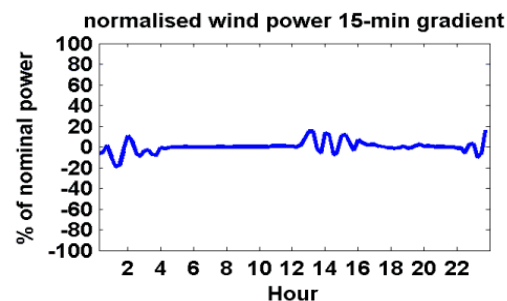
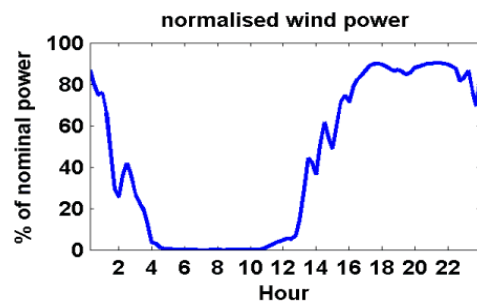
Fraunhofer  
IWES



wind speed at 100m above ground



Aggregation level: 0  
Number of wind pixel: 1



REV 1

# Aggregating just 10 wind farms' output already reduces short-term fluctuations

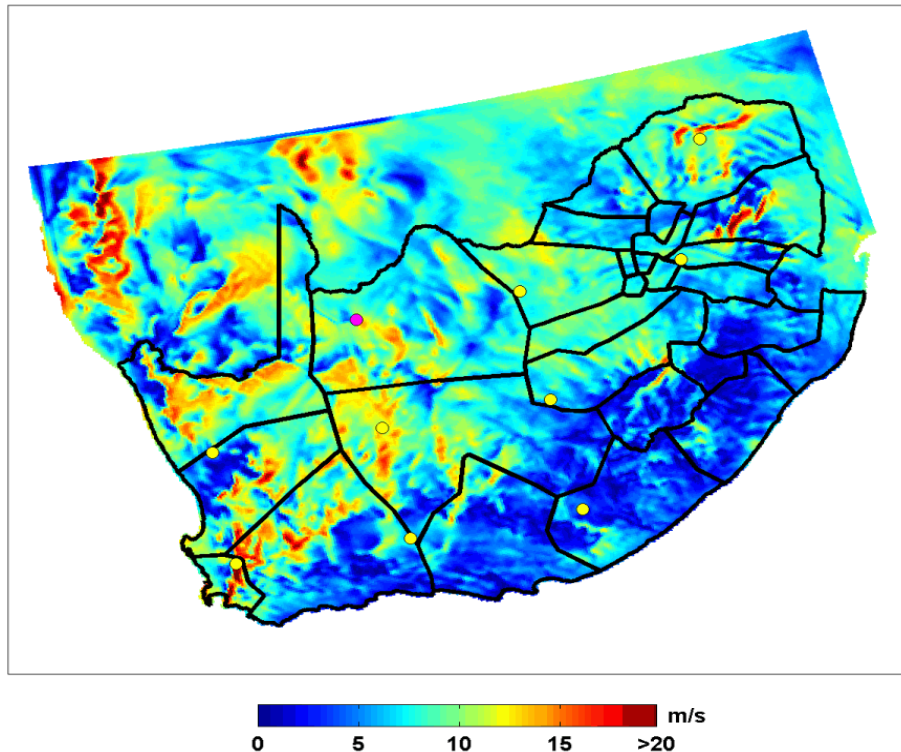
Simulated wind-speed profile and wind power output for 14 January 2012

14 Jan 2012 23:45 SAST

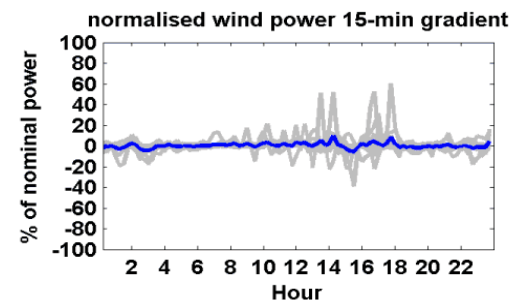
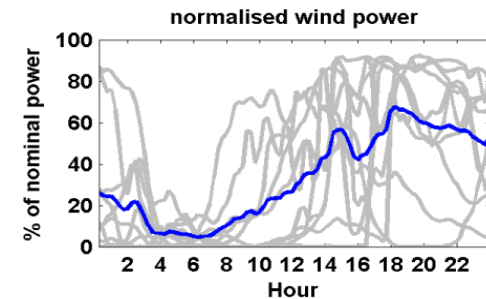
Fraunhofer  
IWES



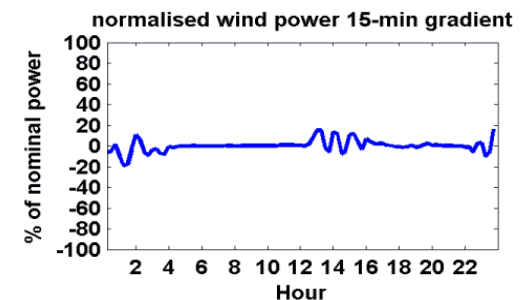
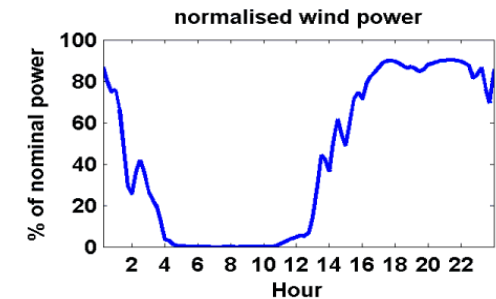
wind speed at 100m above ground



Aggregation level: 1  
Number of wind pixel: 10



Aggregation level: 0  
Number of wind pixel: 1



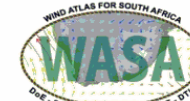
REV 1

# Aggregating 100 wind farms: 15-min gradients almost zero

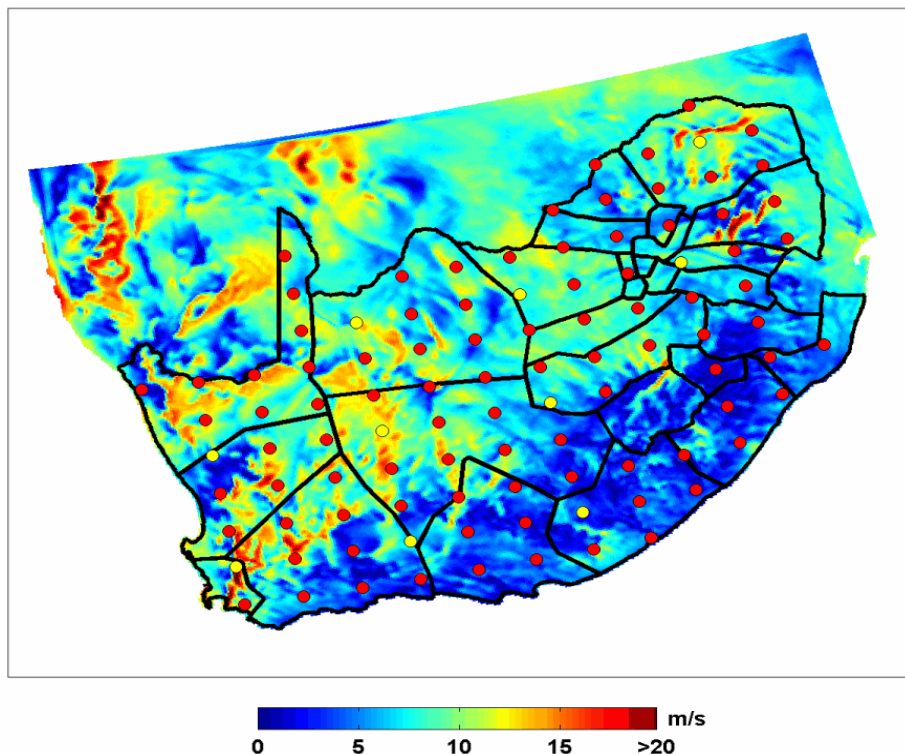
Simulated wind-speed profile and wind power output for 14 January 2012

14 Jan 2012 23:45 SAST

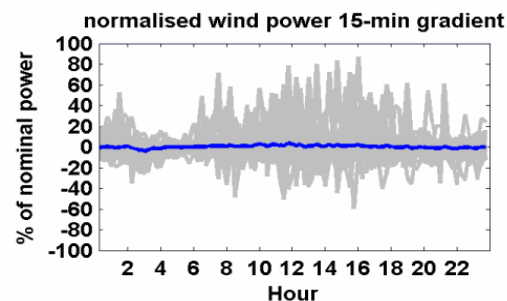
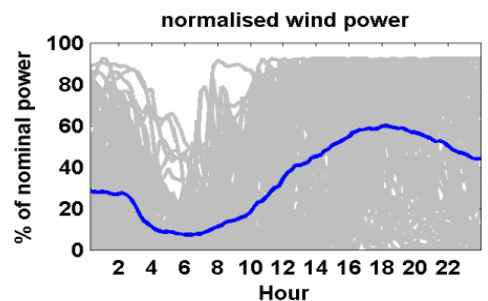
Fraunhofer  
IWES



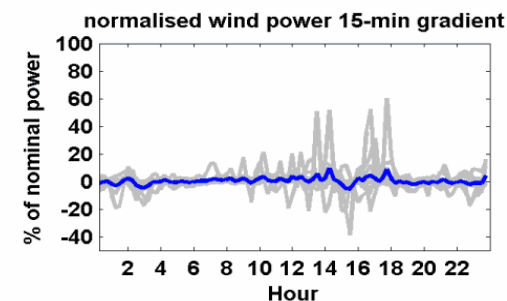
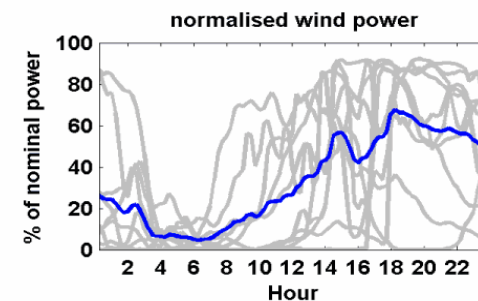
wind speed at 100m above ground



Aggregation level: 2  
Number of wind pixel: 100



Aggregation level: 1  
Number of wind pixel: 10



REV 1

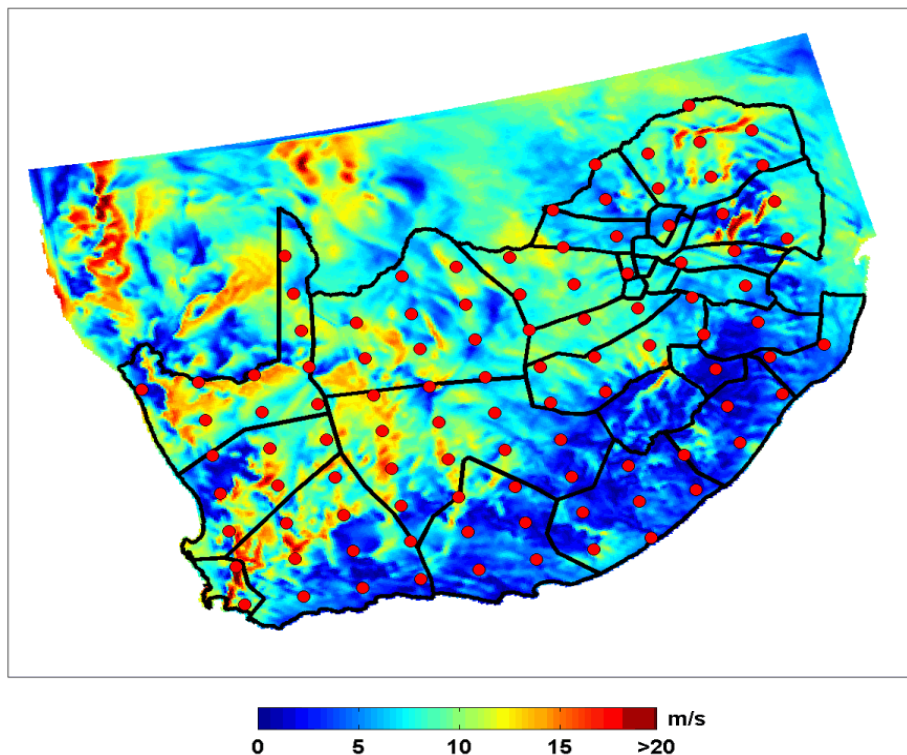
# Aggregation across entire country: wind output very smooth

Simulated wind-speed profile and wind power output for 14 January 2012

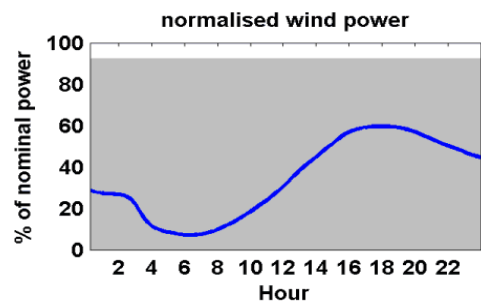
14 Jan 2012 23:45 SAST



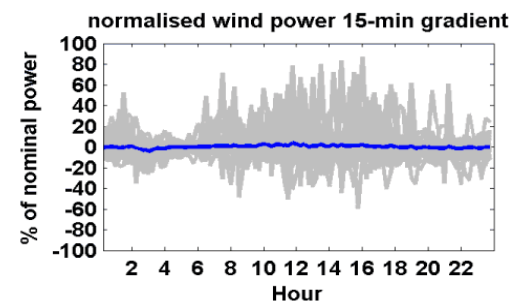
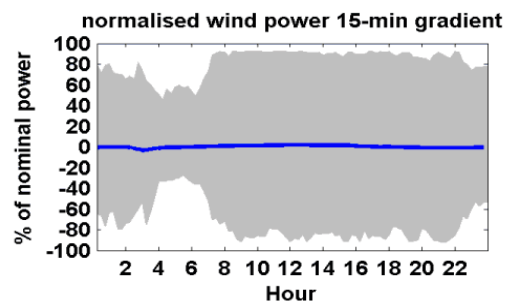
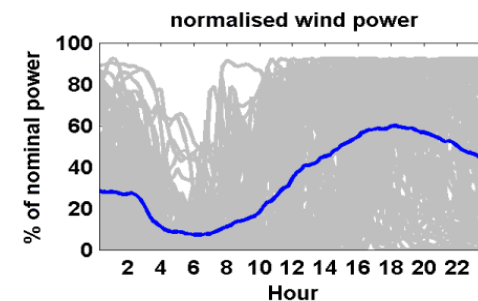
wind speed at 100m above ground



Aggregation level: 3  
Number of wind pixel: 43113



Aggregation level: 2  
Number of wind pixel: 100



REV 1