

# Deep learning/LSTM/RF forecasting for renewables – P. Papazek & I. Schicker

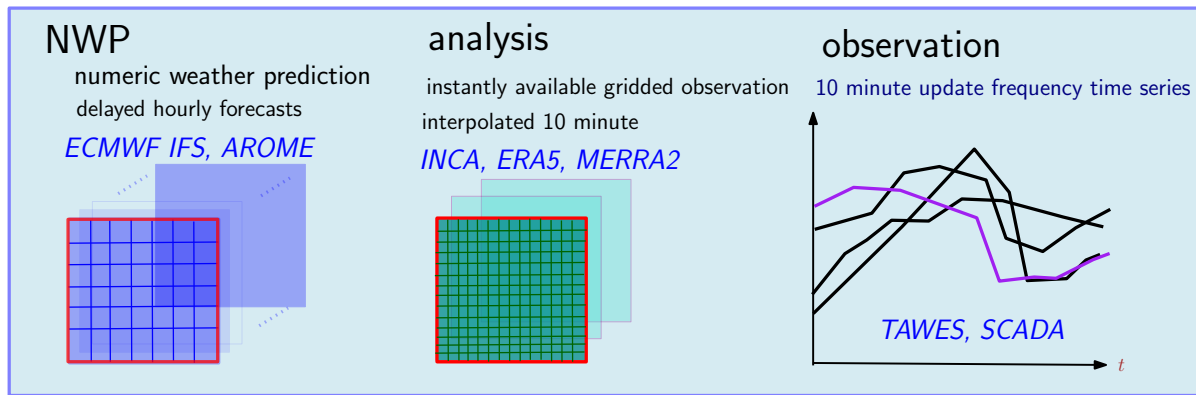
**OBJECTIVE:** short-range **point-forecasting** for wind farms and solar power plants; **hourly & 10-minute** resolution

spatial domain



- ...target station
  - ...neighbor stations
- specific location of interest

meteorological data sources: feature selection



learning

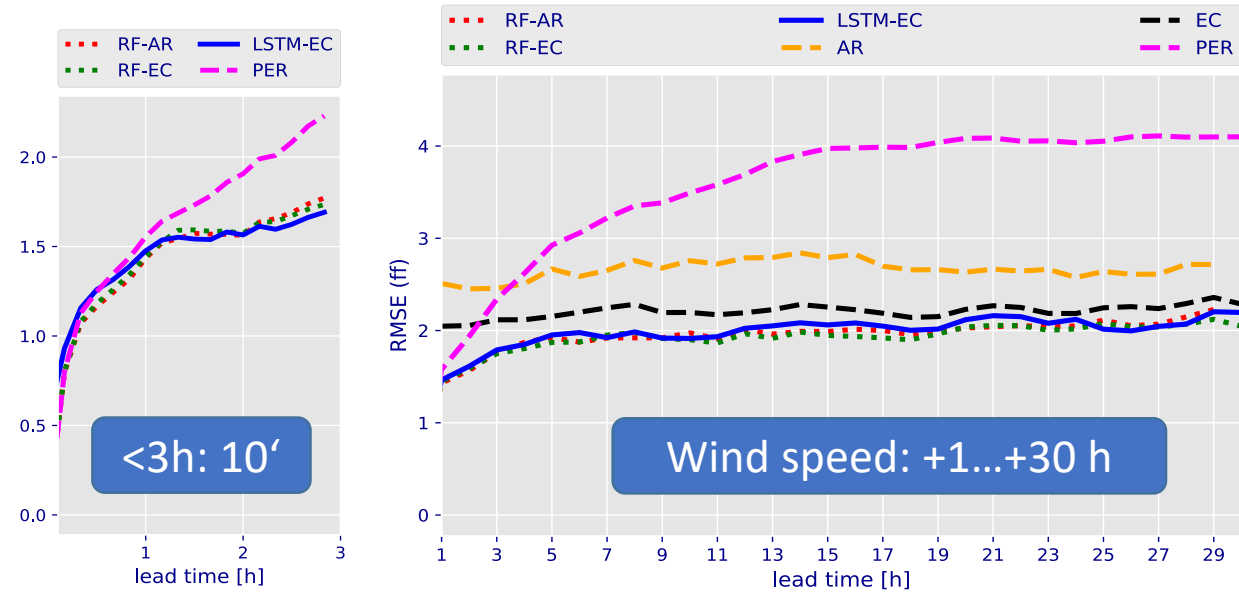
**LSTM:** long short-term memory  
sequence-to-sequence ANN setup  
input: sequences of model lead times, observations  
conserve timesteps of NWP

Sequence INPUT → Sequence OUTPUT

**RF:** random forest  
input: linearize time steps/grid points  
individual RF per lead time and location

multiple RFs  
join outputs

CASE STUDY: 2020, solar power, wind speed



RMSE : nowcasting & short-range

