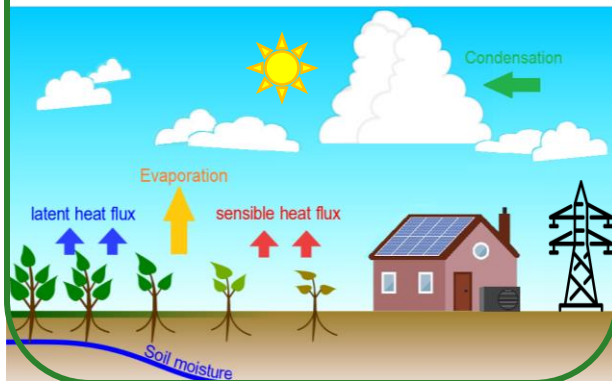


Physical processes and observation



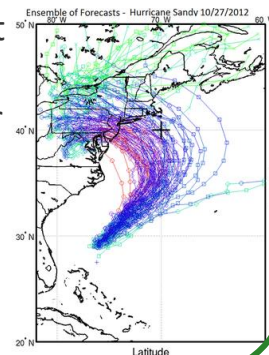
Observation

Physics-based numerical weather forecasting

Ensemble forecast

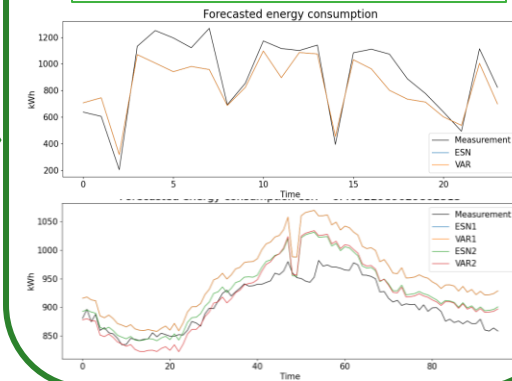
- Multi-physics
- Multi-parameter
- Initial condition

HRRR, RAP
WCWMF,
NAM,GFS



Weather forecast

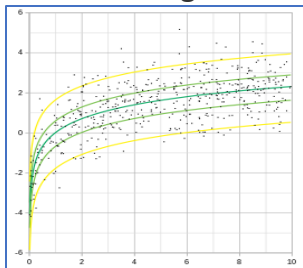
Physics-informed probabilistic load forecast



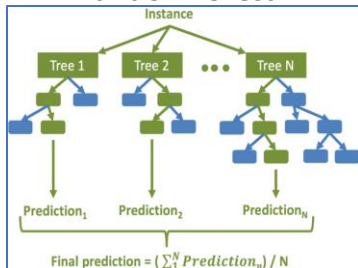
Ensemble forecast

Machine learning models

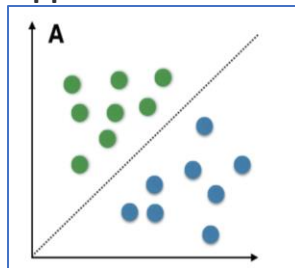
Quantile regression



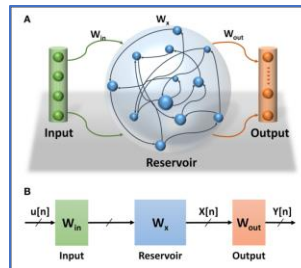
Random forest



Support vector machine



Echo state network



Long short-term memory

