

Solar PV Nowcasting Update

✓ Solar forecasting for every 2km² grid

✓ Data enabling operational visibility over your assets & network

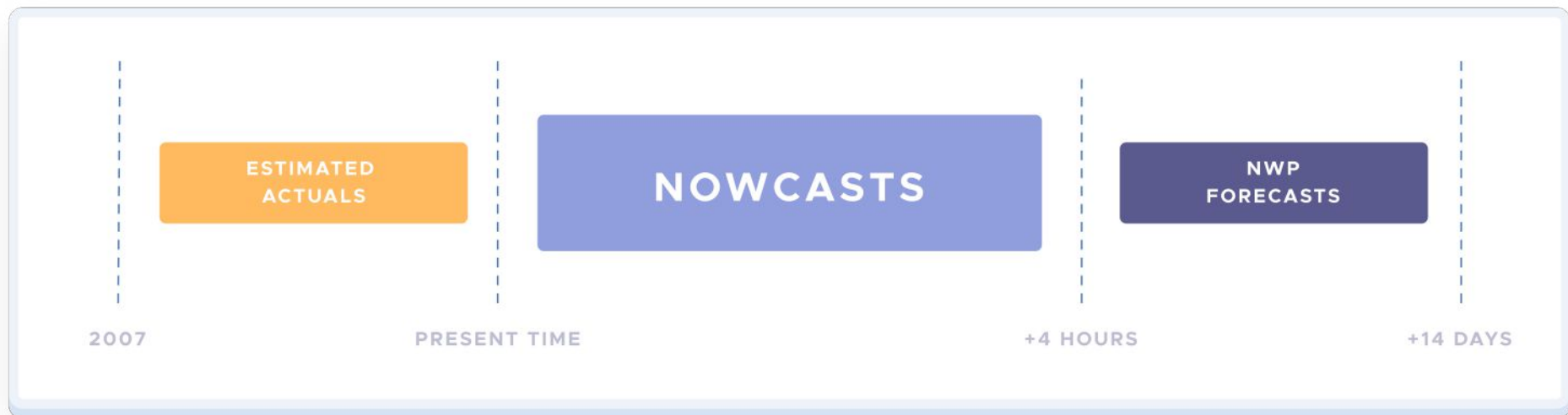
Dr. Nick Engerer
Chief Technology Officer

✓ Real-time solar irradiance

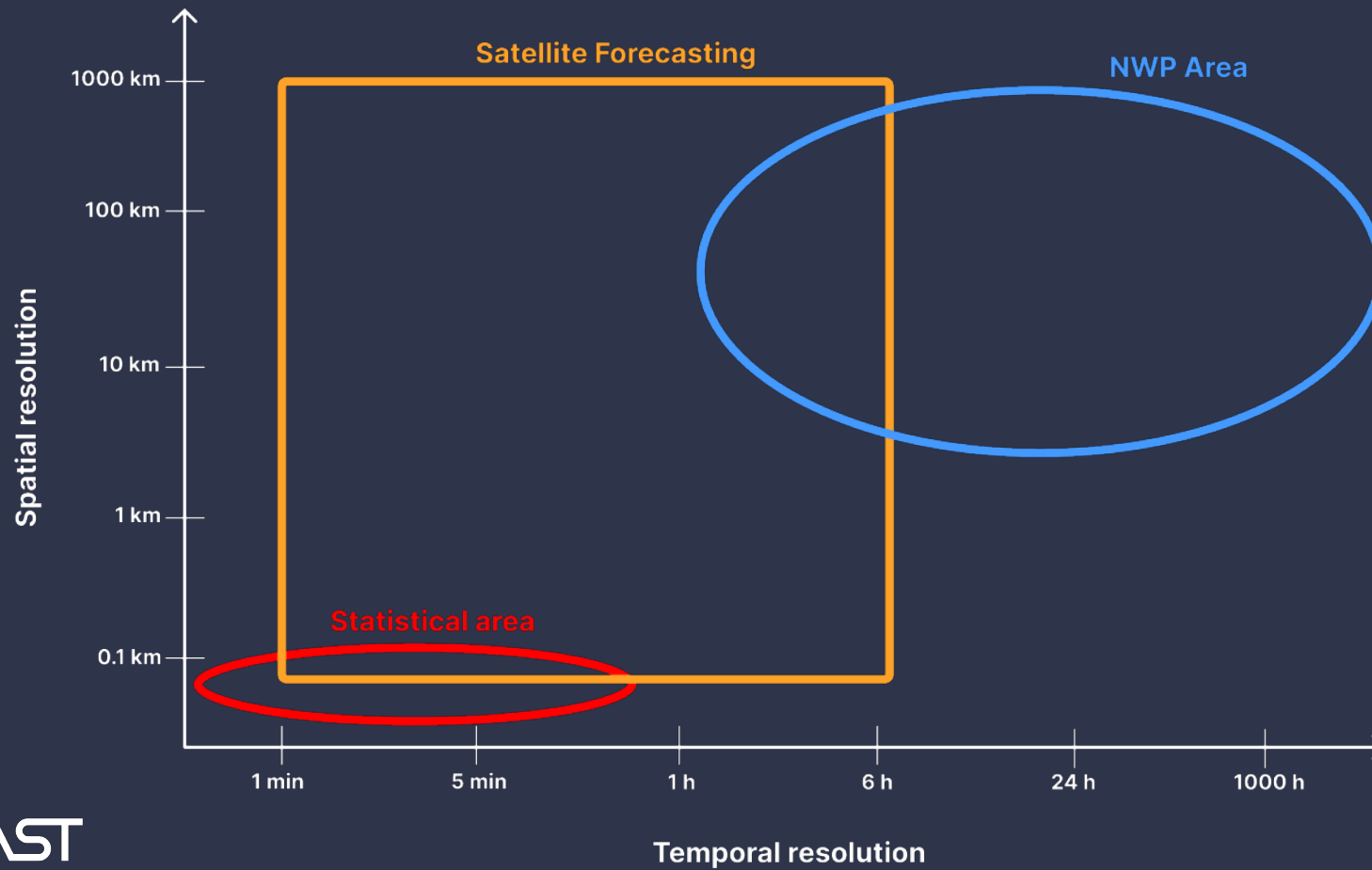
✓ Data and tools for the solar powered future



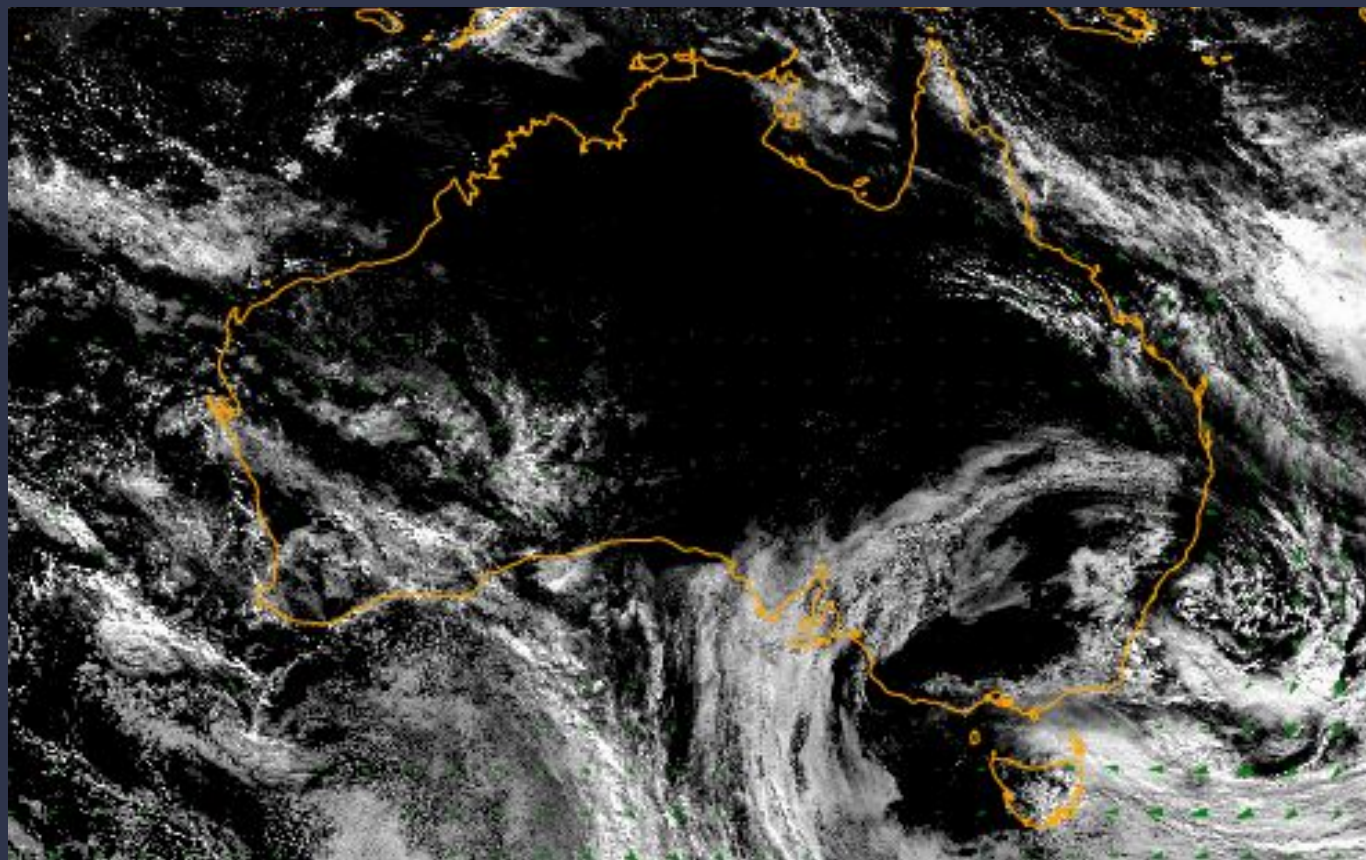
What is Nowcasting?



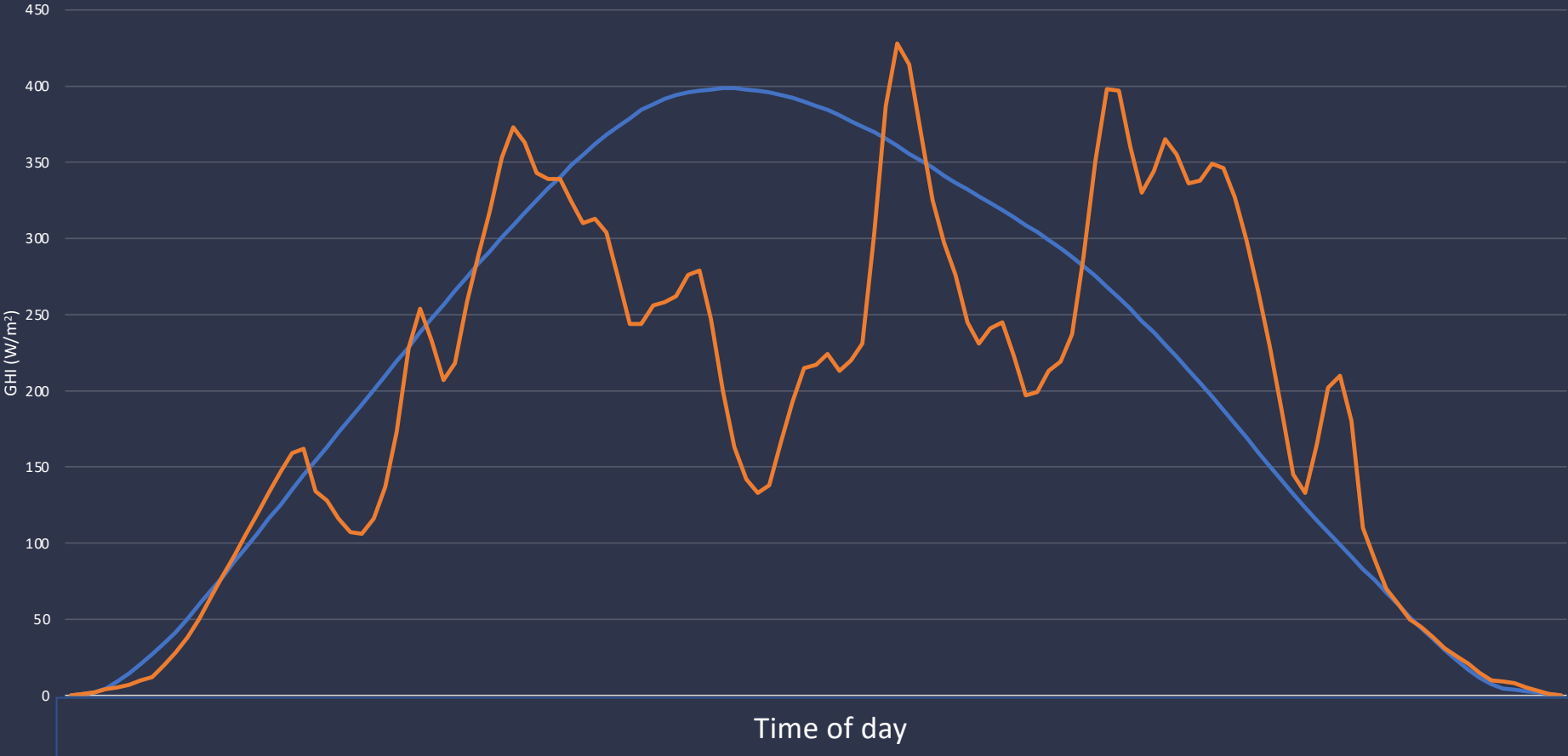
Different Irradiance Forecasting Methods



Semi-dynamical Nowcasting

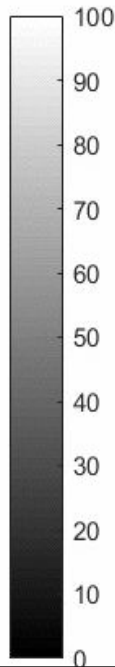
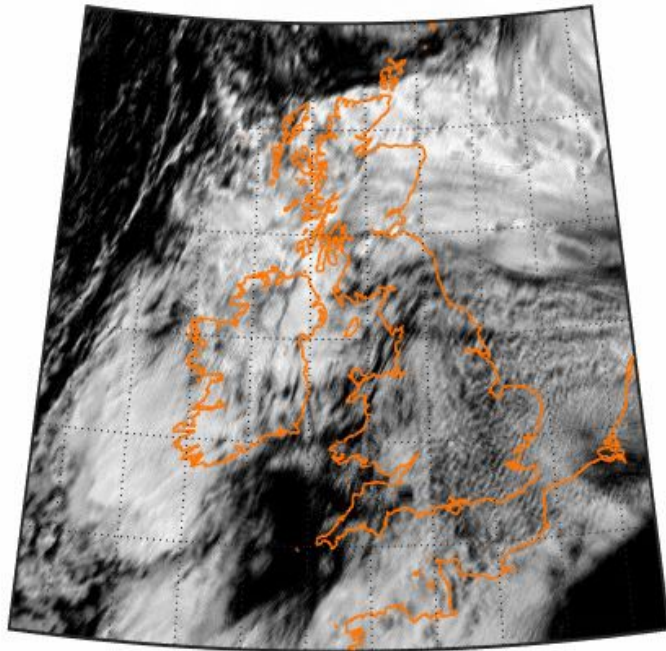


What does this look like? - NWP vs Nowcasts

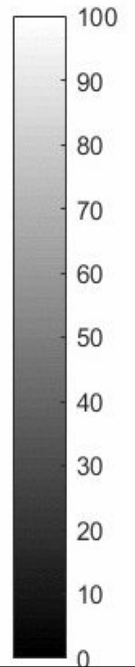
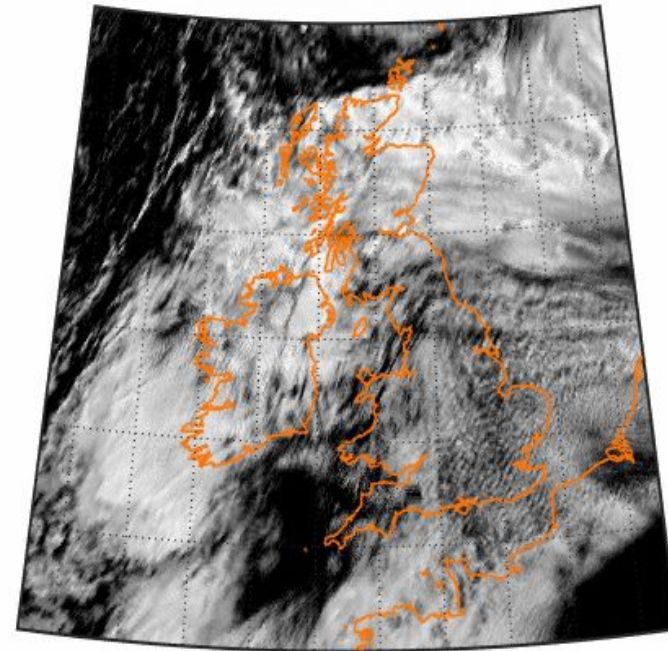


Nowcasting Probabilistic Ensemble

observed estimated actual cloud opacity
2018-03-17 09:42 UTC



ensemble forecast, +0.00hrs
2018-03-17 09:42 UTC



Cloud Observations

Forecast



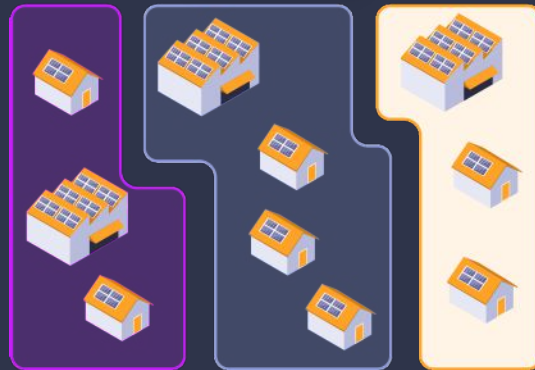
Data For Every 2km² Grid



Grid Aggregations



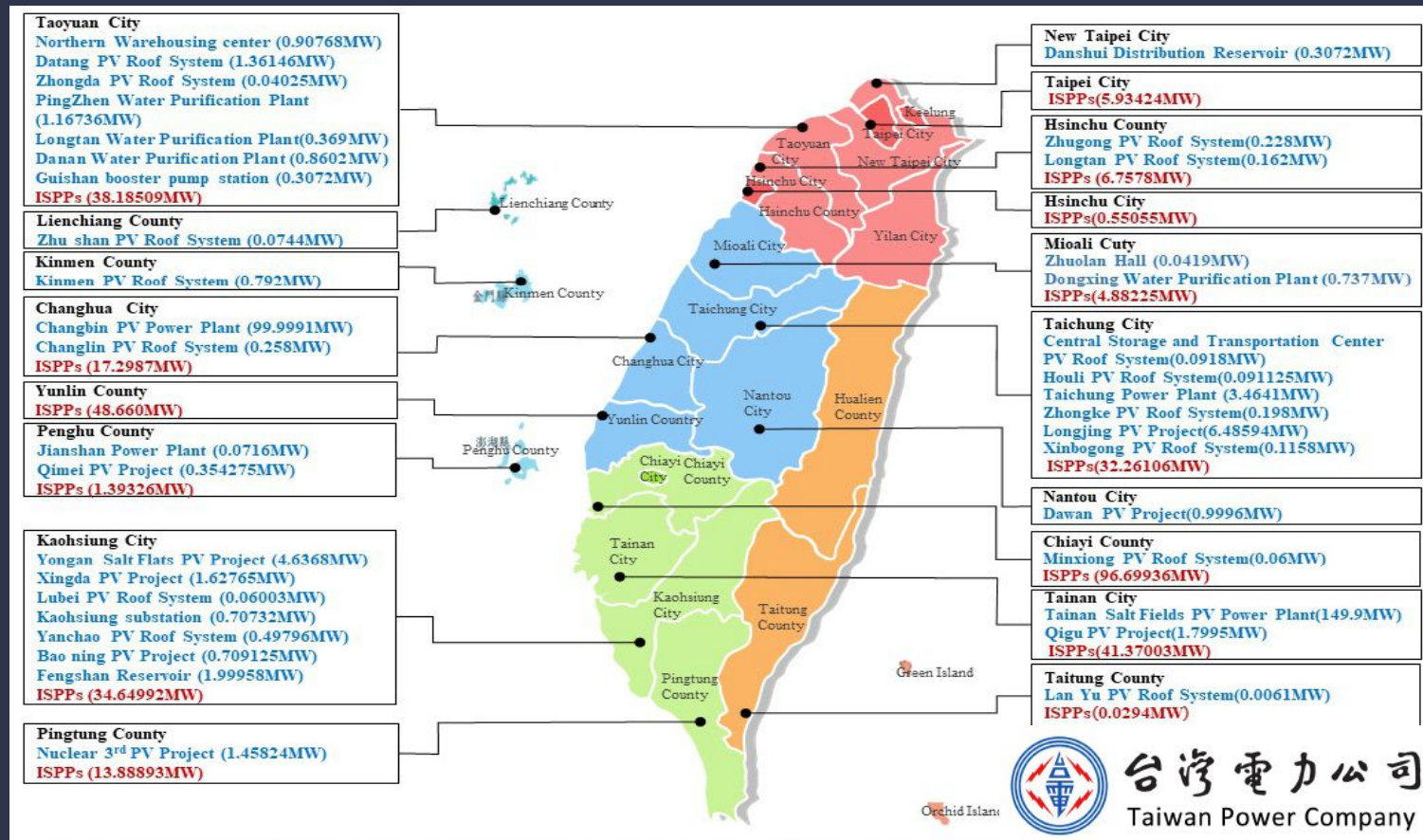
BY REGION



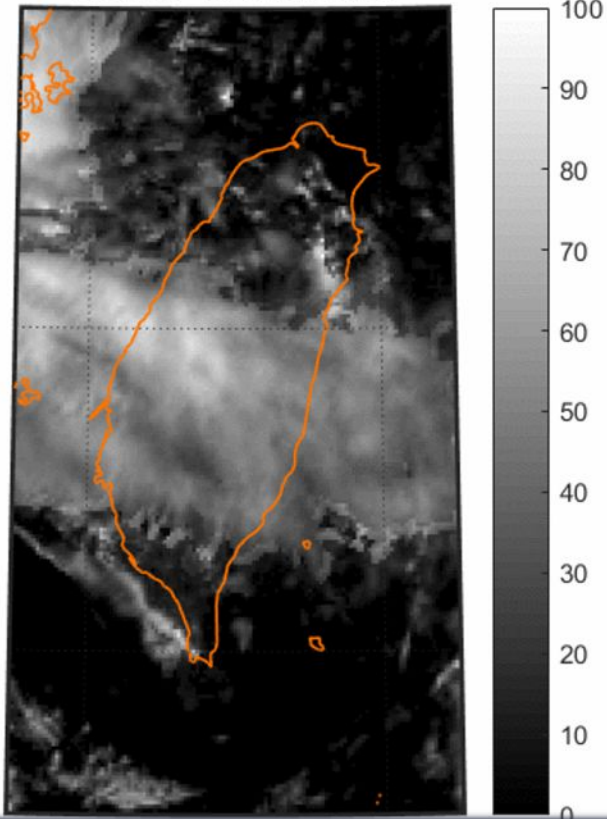
BY NETWORK



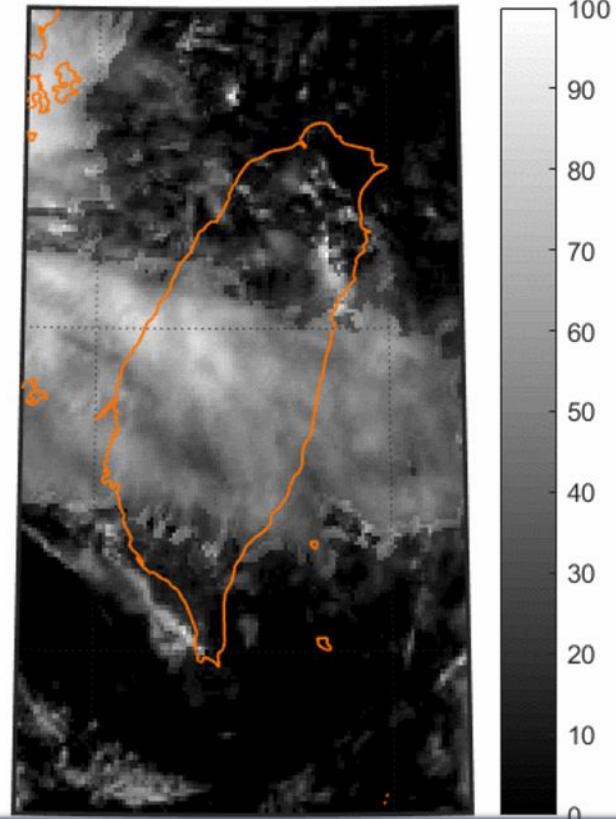
Taiwan installed capacity by county/city



estimated actual cloud opacity
2018-07-15 00:23 UTC



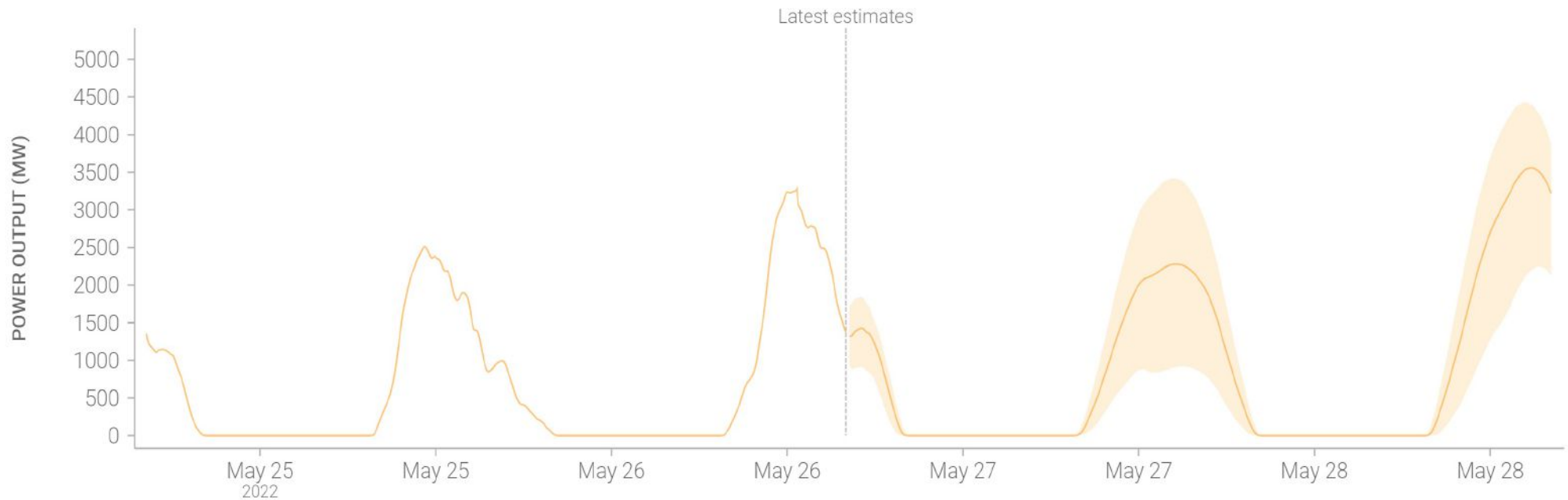
forecast ensemble member 2, +00mins
2018-07-15 00:23 UTC



Cloud Observations

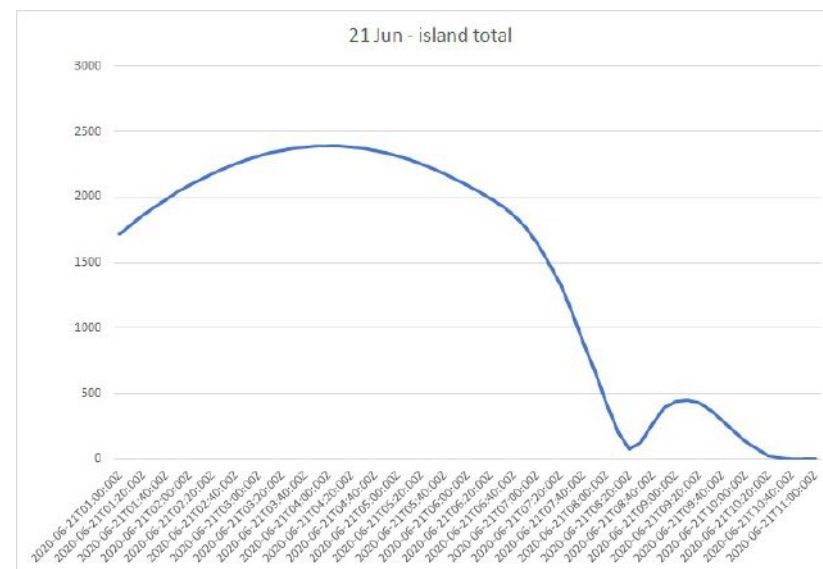
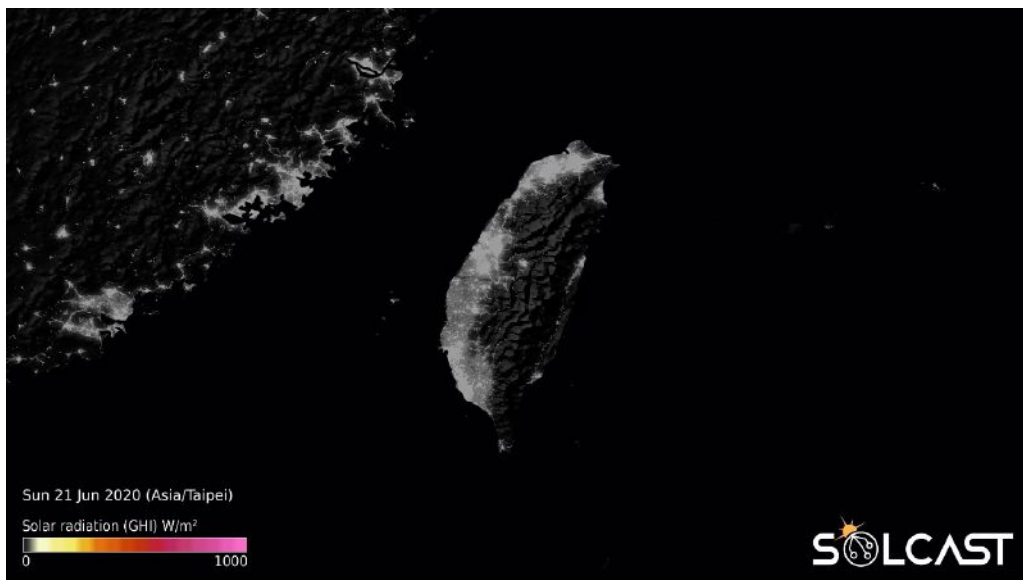
Forecasts

Taiwan Island Total Power Estimate



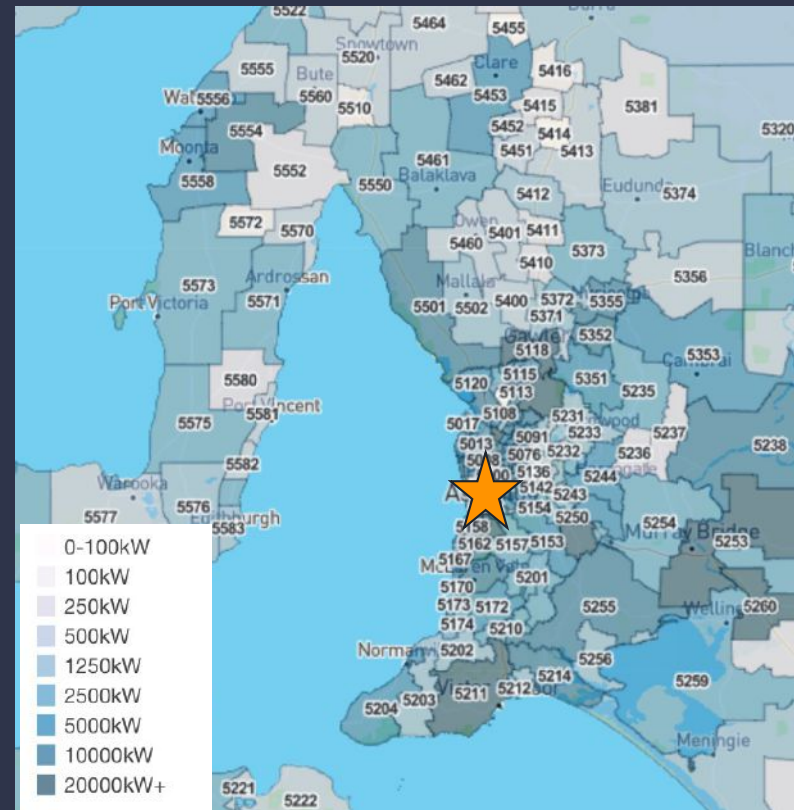
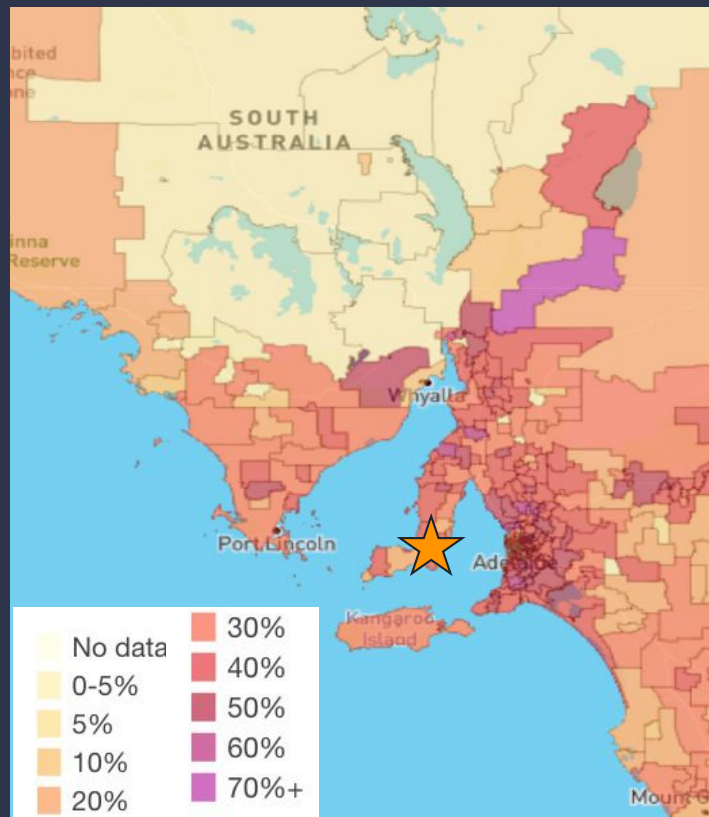
Operational visibility

Solar eclipse event causing dramatic fall in afternoon generation of Taiwan grid-connected PV captured in Solcast data. June 21 2020





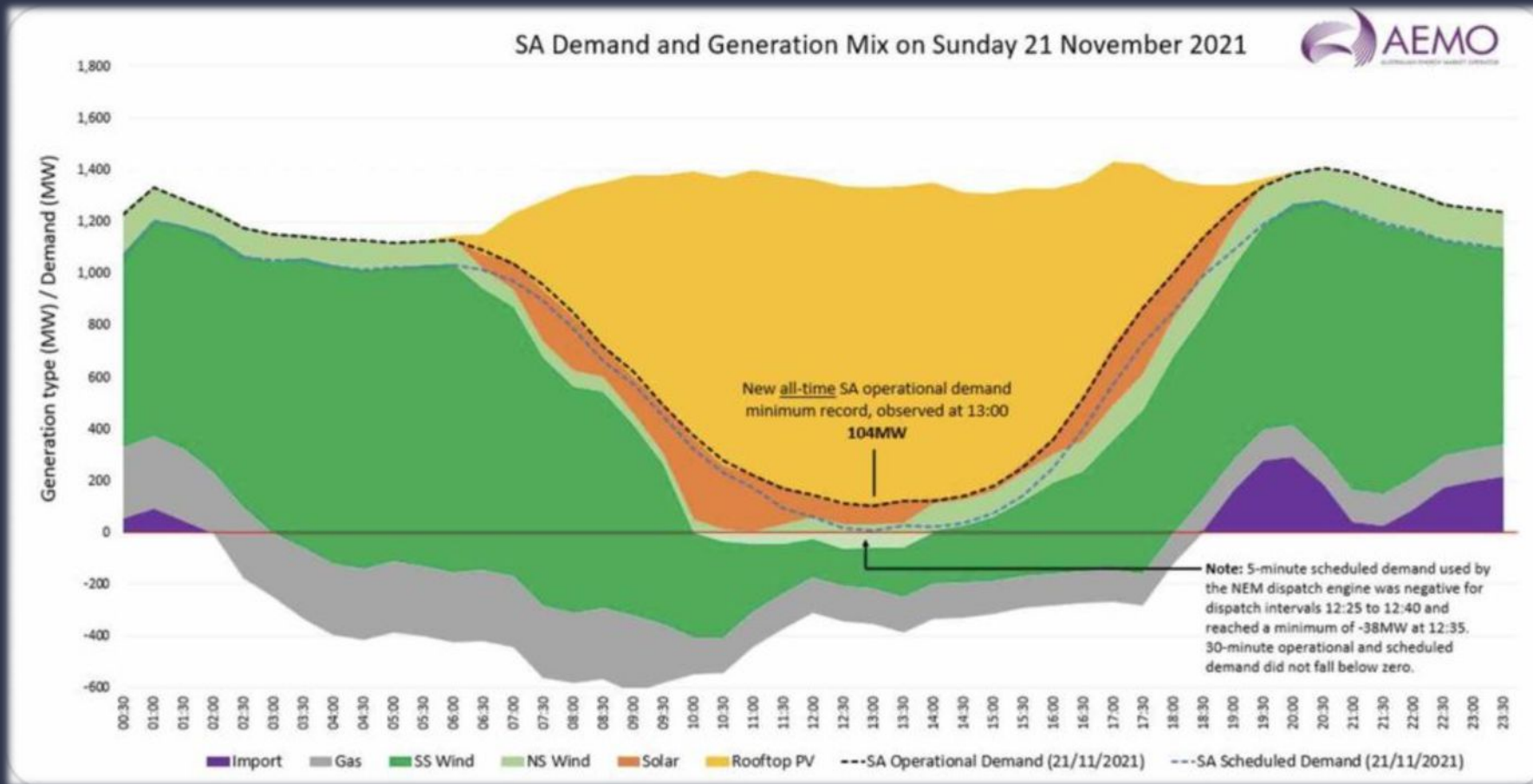
High Penetration of Rooftop Solar in South Australia



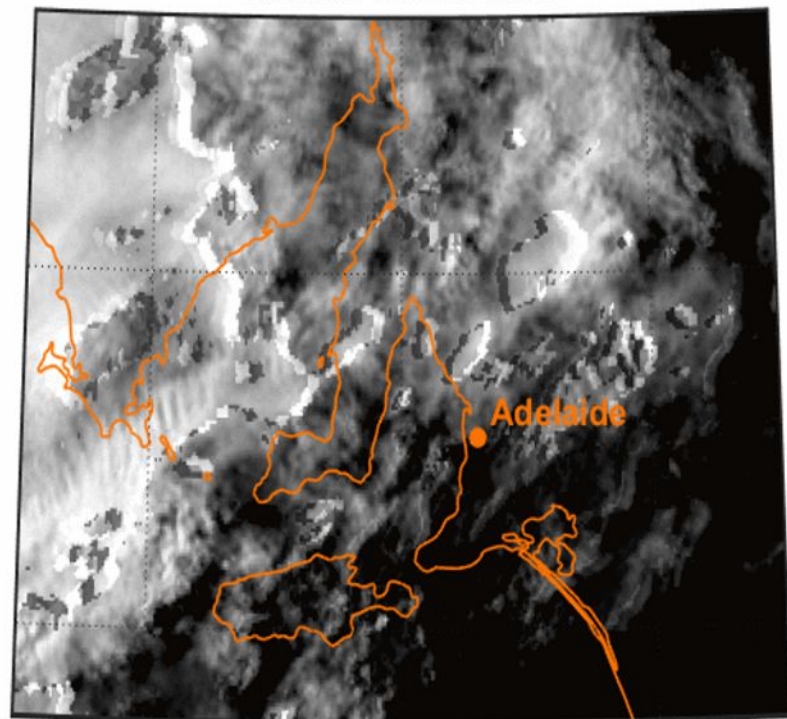
Credit:
Australia PV
Institute



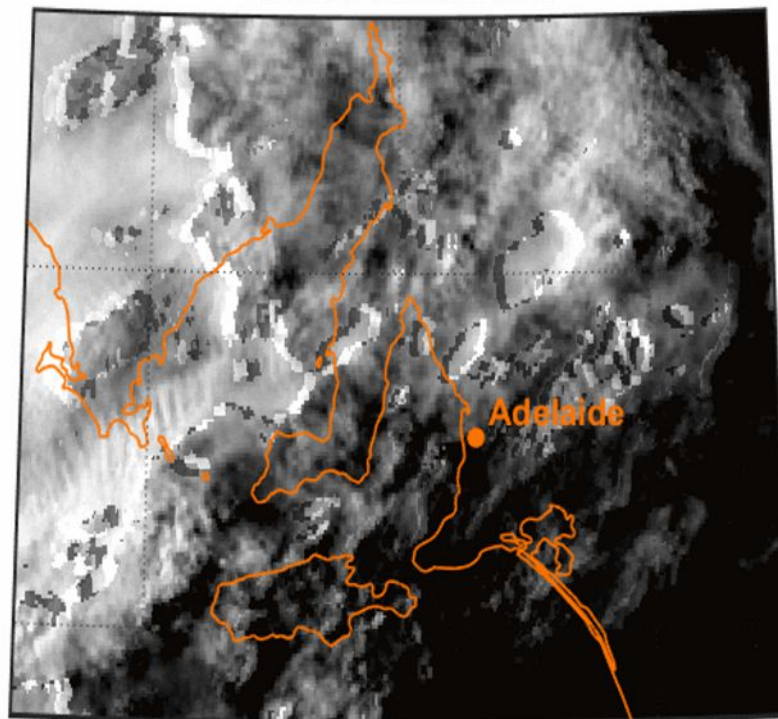
South Australia Rooftop PV Generation



observed estimated actual cloud opacity
2018-03-15 22:57 UTC



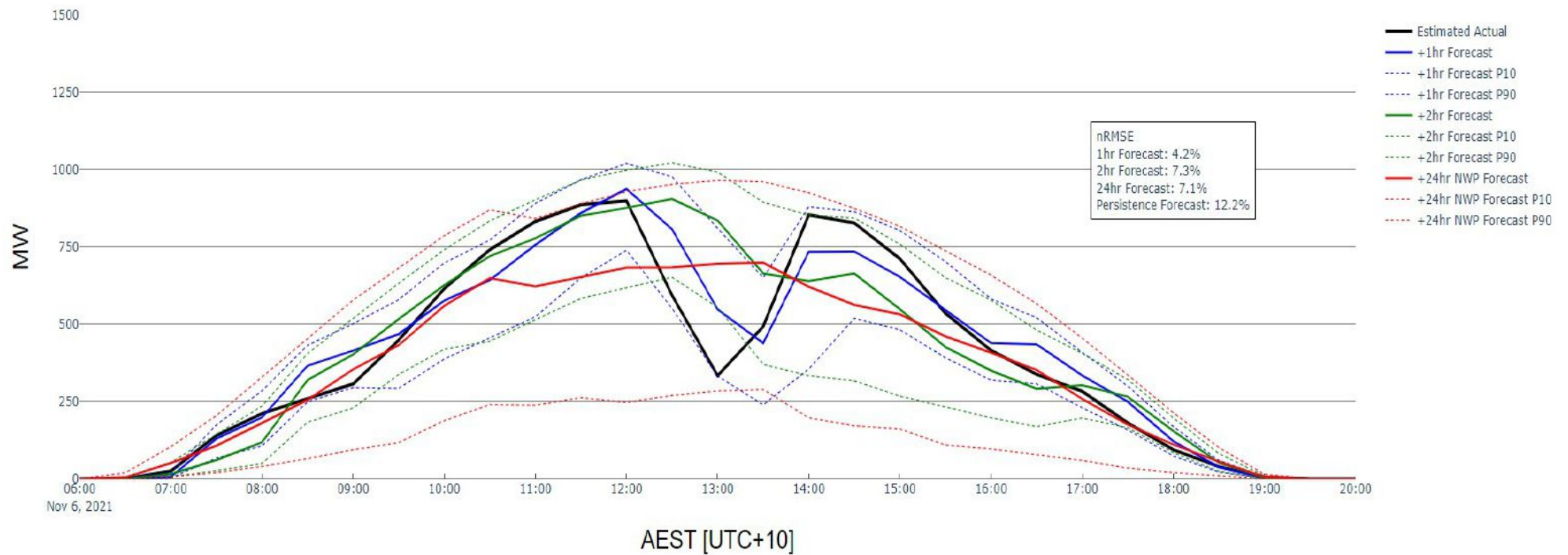
forecast ensemble member 1, +0.00hrs
2018-03-15 22:57 UTC



Cloud Observations

Forecasts

South Australia Rooftop Forecasts Total (MW)



Clients Utilising Nowcasts



RWE

VAISALA



EATON



NEOEN ESCO Pacific

TESLA ENERGY



MOTT MACDONALD

adani™



TOTAL eren lightsource bp



amp

JGC



enel



voltalia

blueshore

TESLA



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