A Preliminary look at the Assimilation of Satellite Microwave Brightness Temperature Observations for Tropical Cyclones

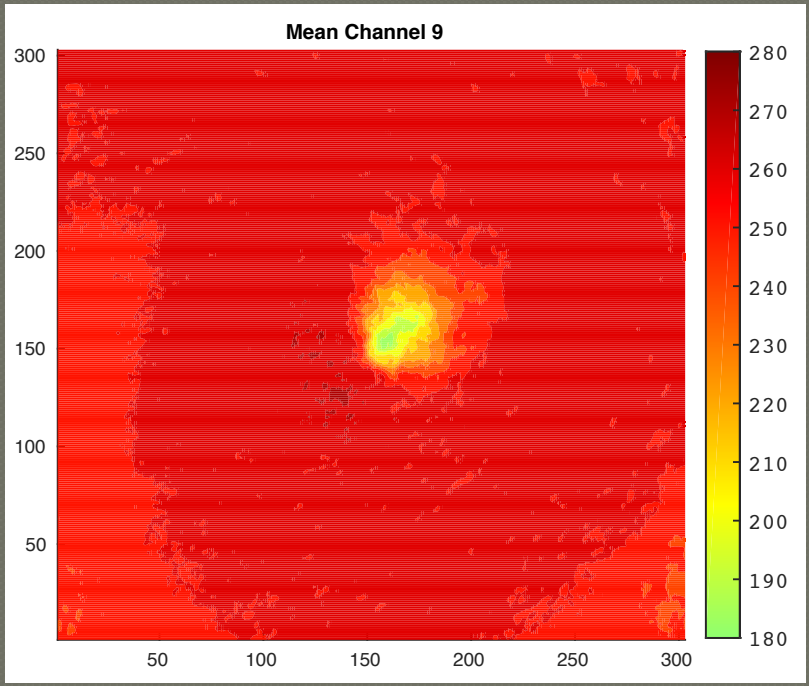
Robert Nystrom

Methodology

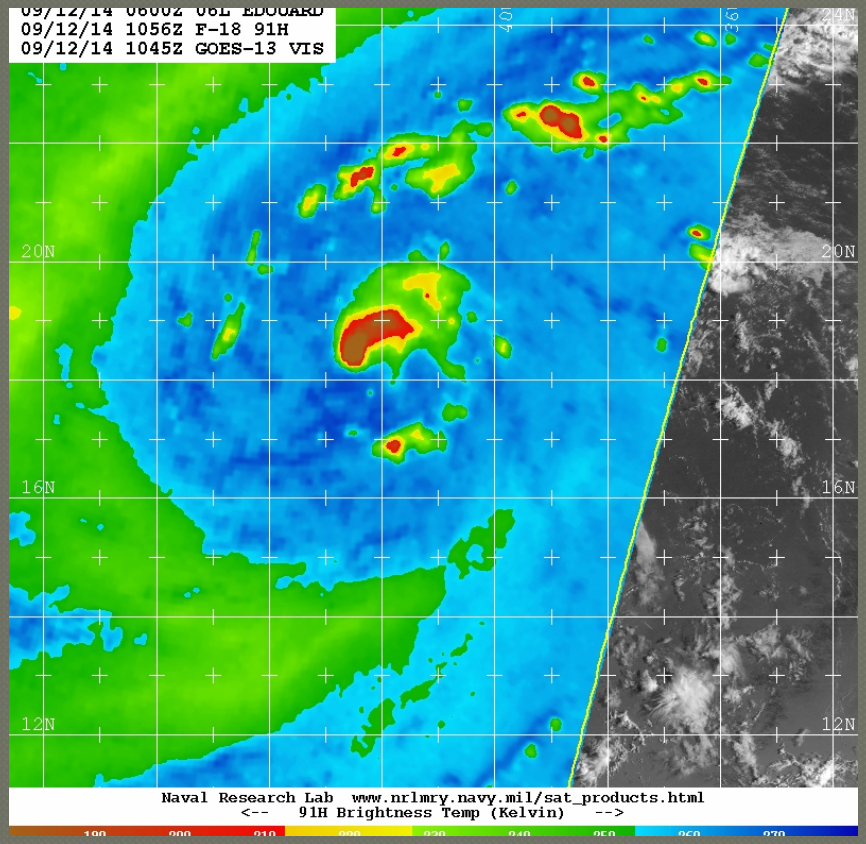
- 2014 APSU Real-time configuration with slightly different initial conditions, that have been filtered.
- CRTM modified for WSM6 microphysics

Comparison of CRTM Output to Real Observation 24 hr Forecast initialized September 11th 2014

CRTM OUTPUT (89 GHz)

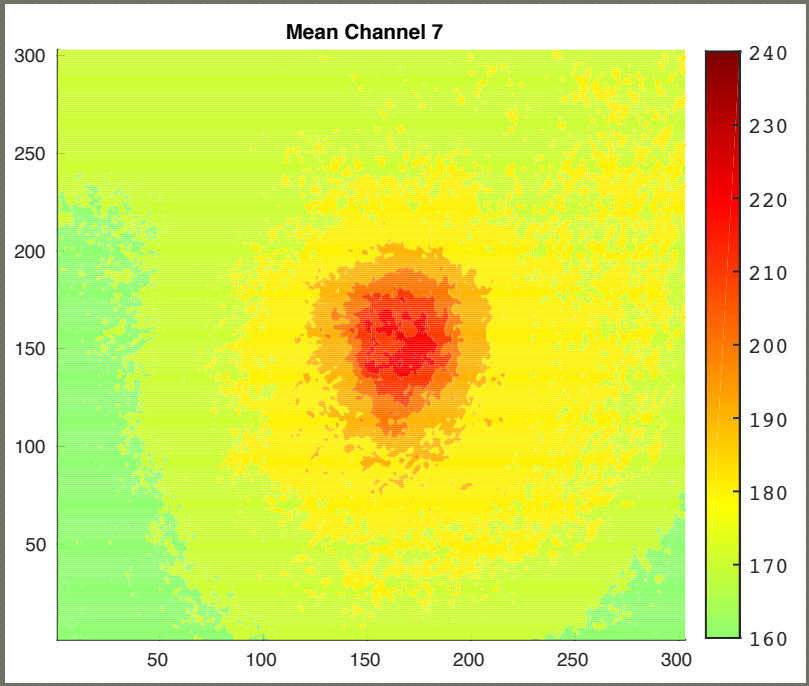


REAL OBSERVATION (89 GHz)

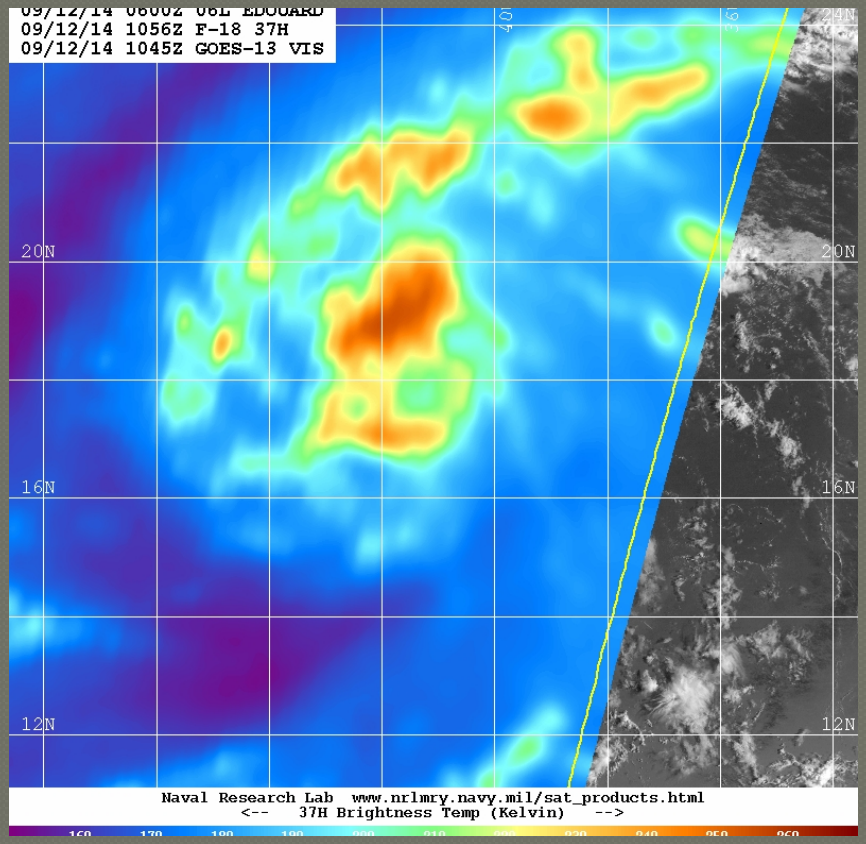


Comparison of CRTM Output to Real Observation 24 hr Forecast initialized September 11th 2014

CRTM OUTPUT (37 GHz)

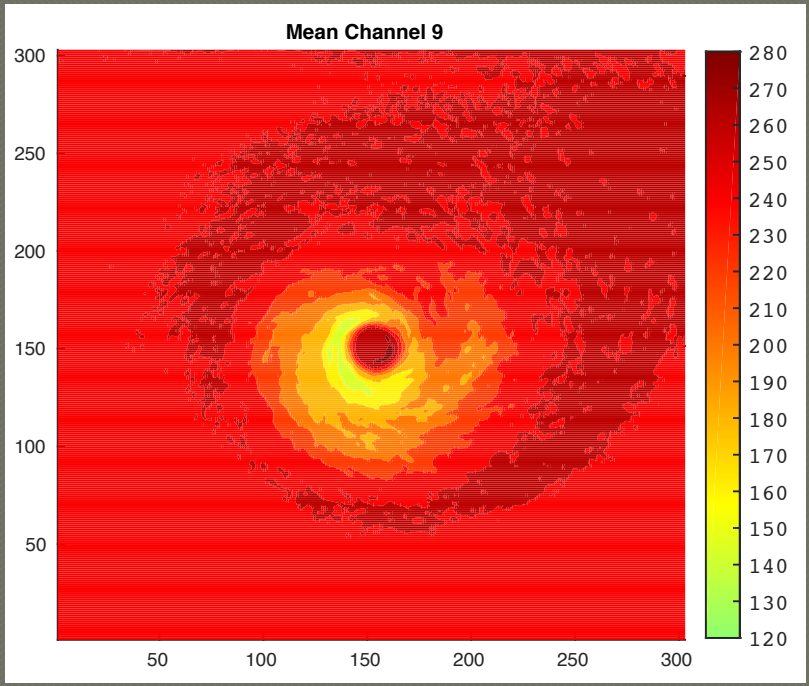


REAL OBSERVATION (37 GHz)

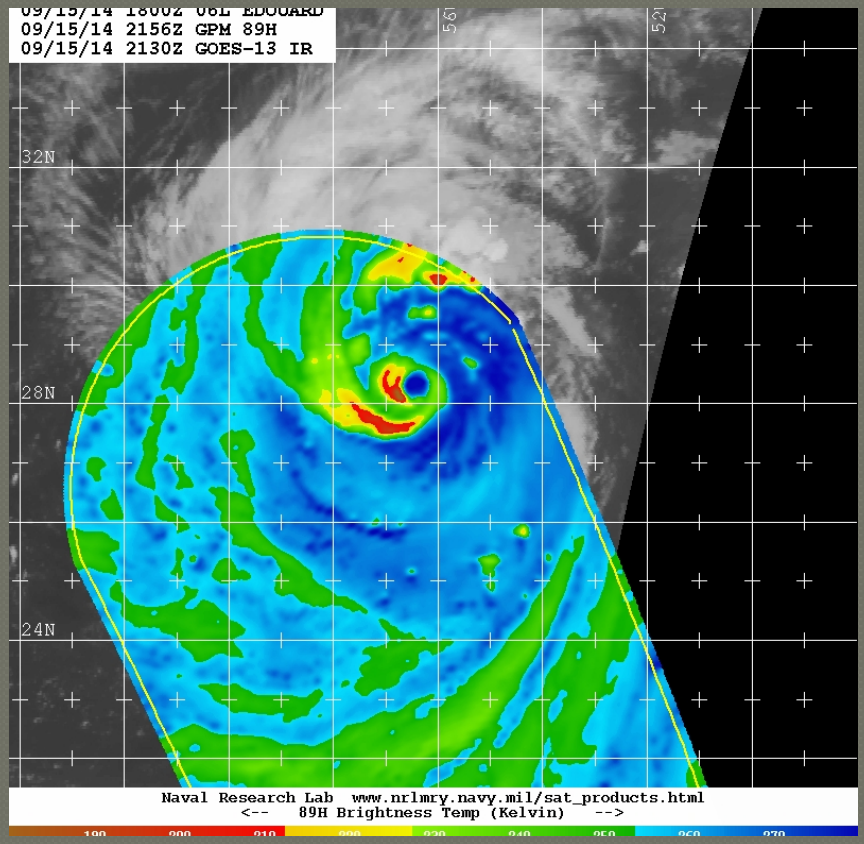


Comparison of CRTM Output to Real Observation 24 hr Forecast initialized September 14th 2014

CRTM OUTPUT (89 GHZ)



REAL OBSERVATION (89 GHZ)



Comparison of CRTM Output to Real Observation 24 hr Forecast initialized September 14th 2014

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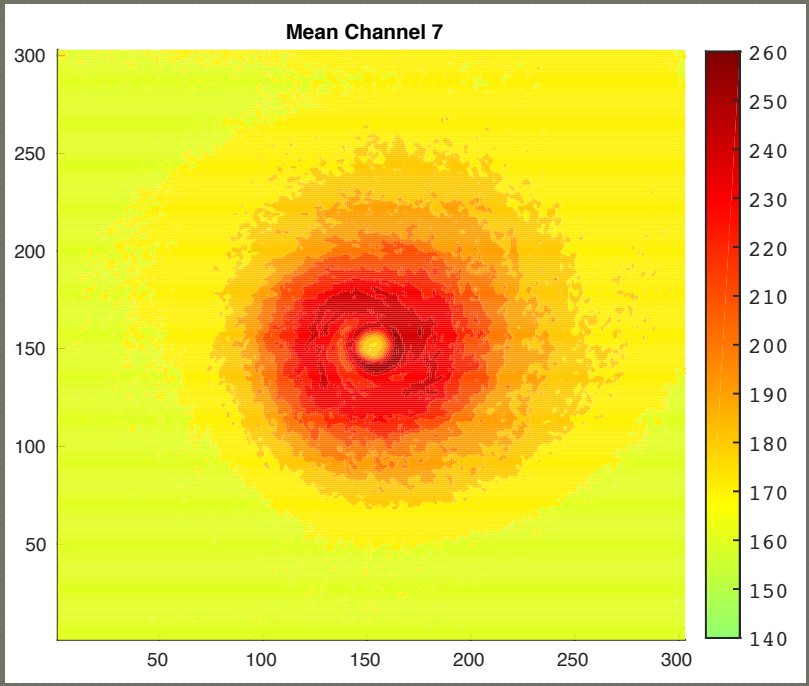
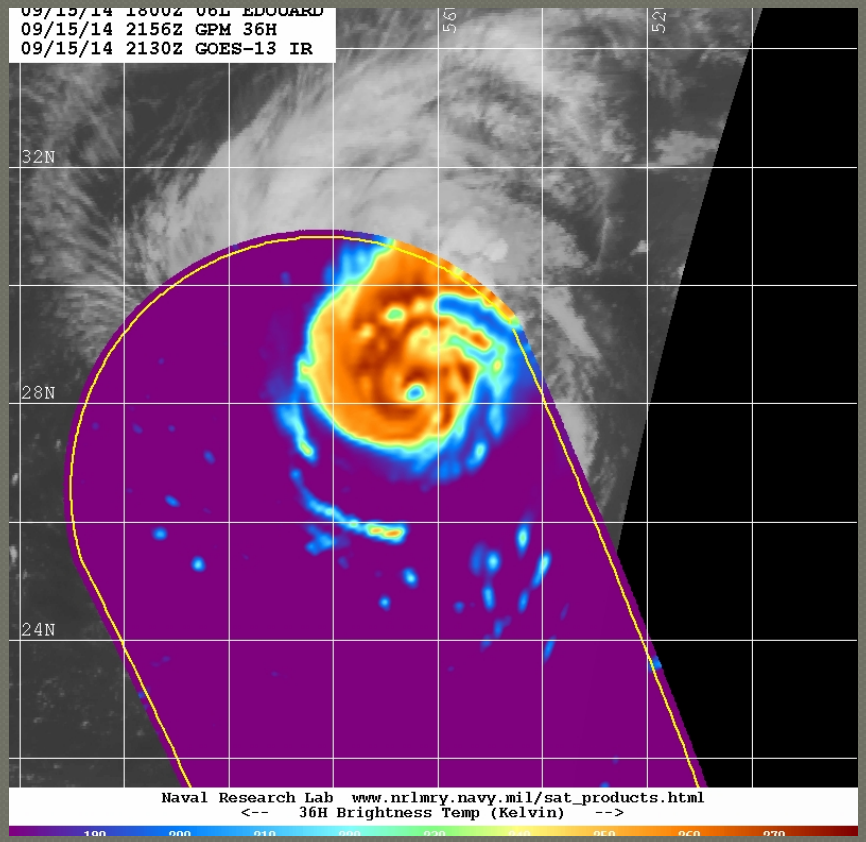
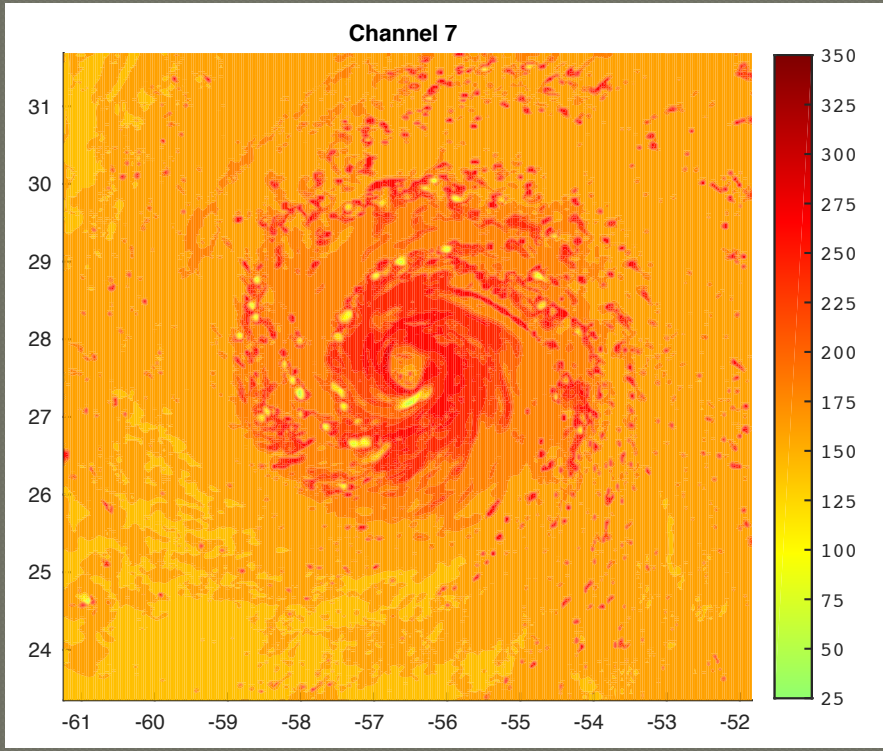
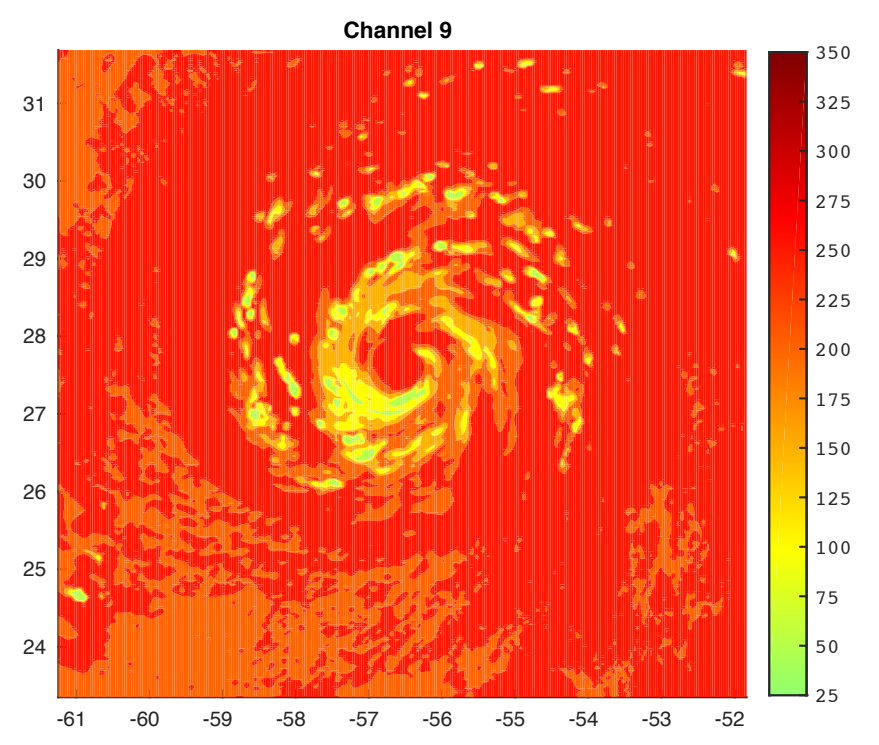


REAL OBSERVATION (37 GHZ)

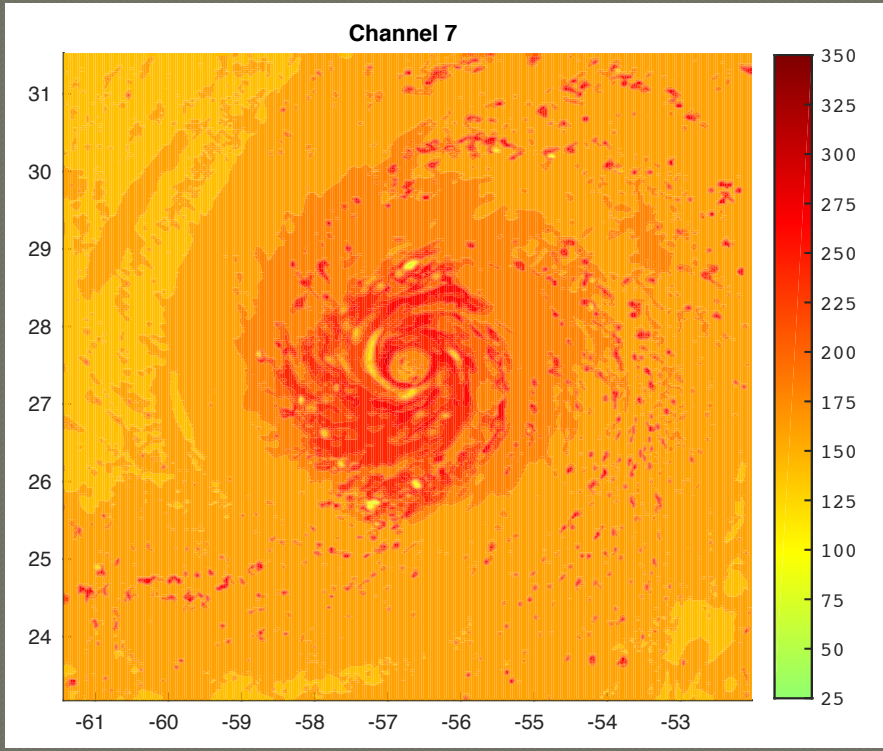


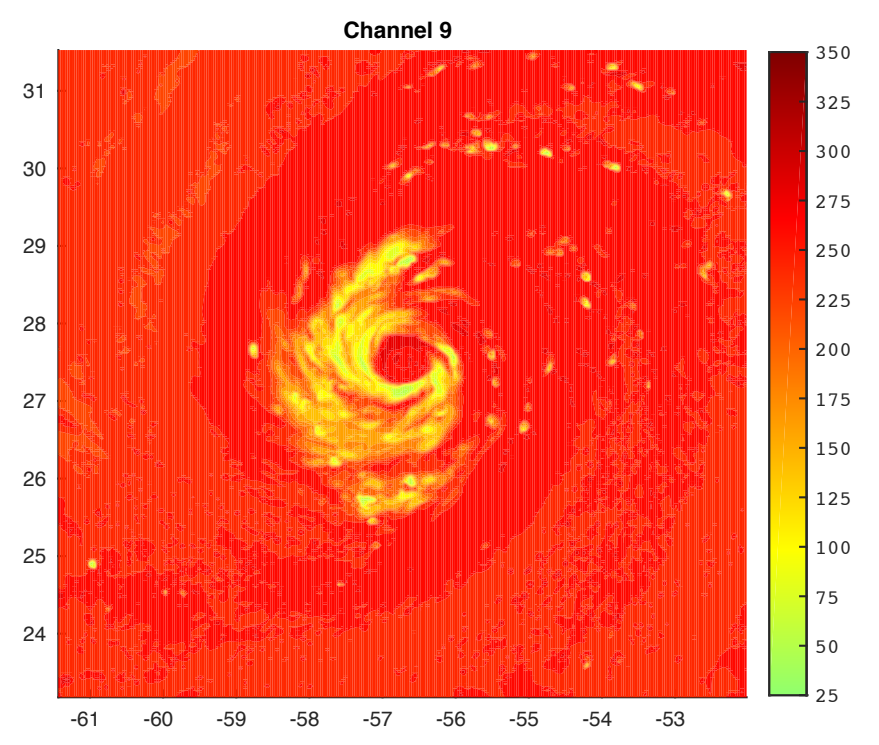
Comparison Of Ensemble Members for September 14th Initialization





Comparison Of Ensemble Members for September 14th Initialization





Next Step

- Perform correlations between simulated brightness temperatures and model state variables.