# OU Plan and Initial Data Assimilation Effort for TCI Project

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# Near Term Plan

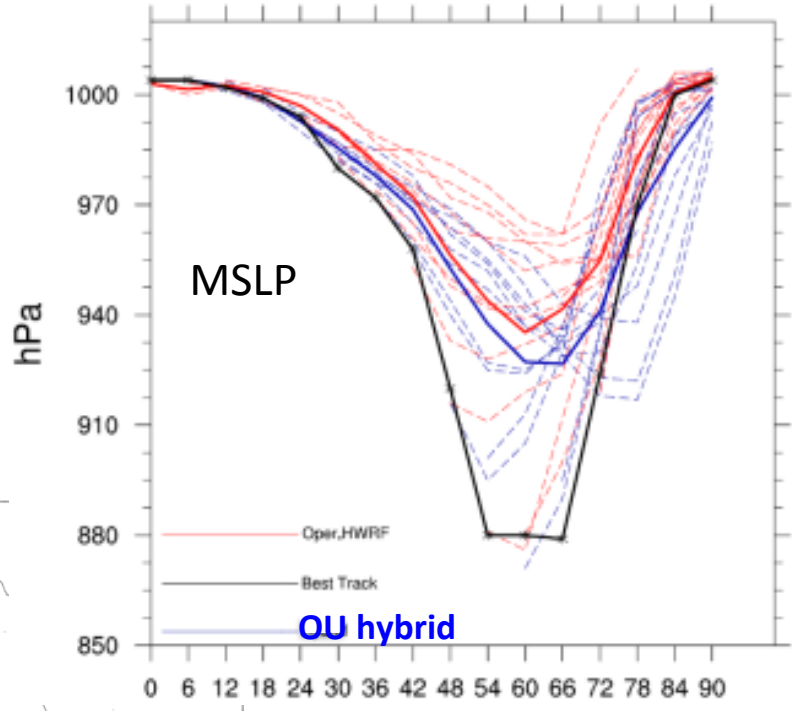
- Assimilate TCI, IFEX and supplement observations ( dropsonde, HIRAD, radar, AMV, flight level, etc.) in addition to operational data stream using ensemble/hybrid data assimilation system, in collaboration with TCI PIs [NRL, U. Hawaii, CIMSS, NASA, NOAA, etc.] to

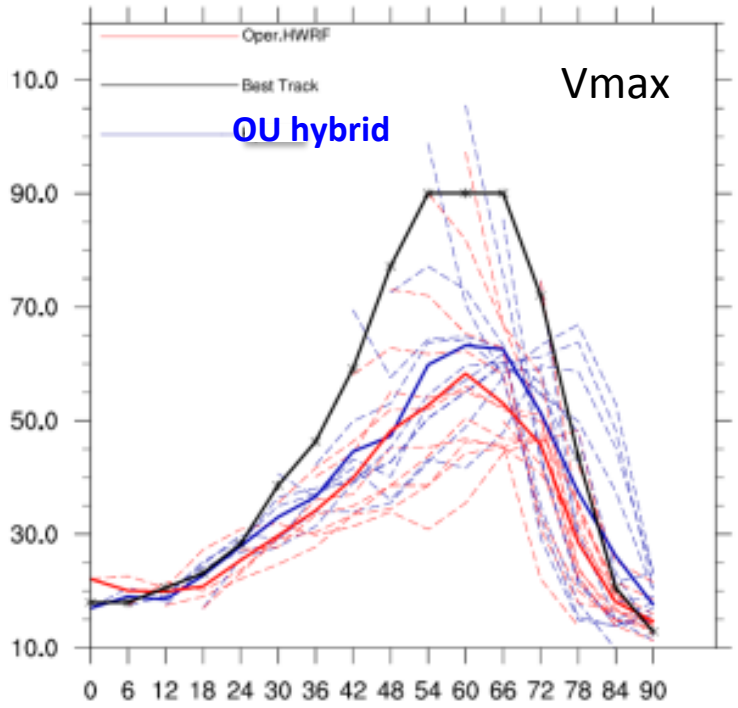
➢ Create 4D continuous ensemble analyses and forecasts for TCI cases: Patricia, Jaoquin, Marty.

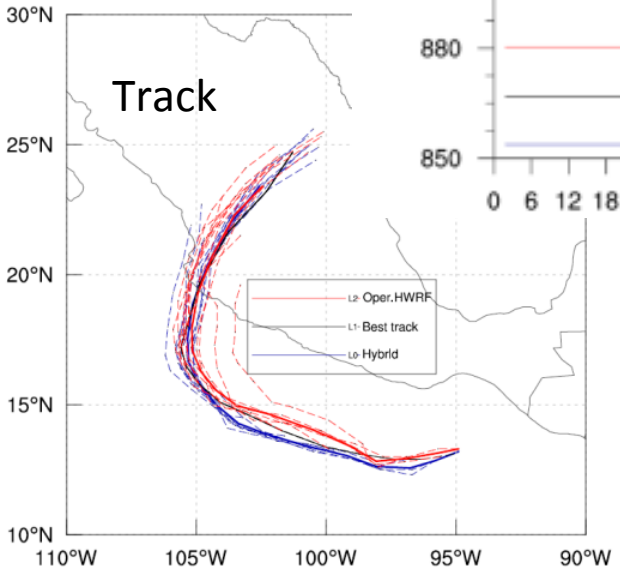
➢ Study the impact of data on the analysis and forecast

➢ Conduct ensemble diagnostics study to understand the impact of outflow on intensification

# Baseline analysis and forecast: Patricia 2015



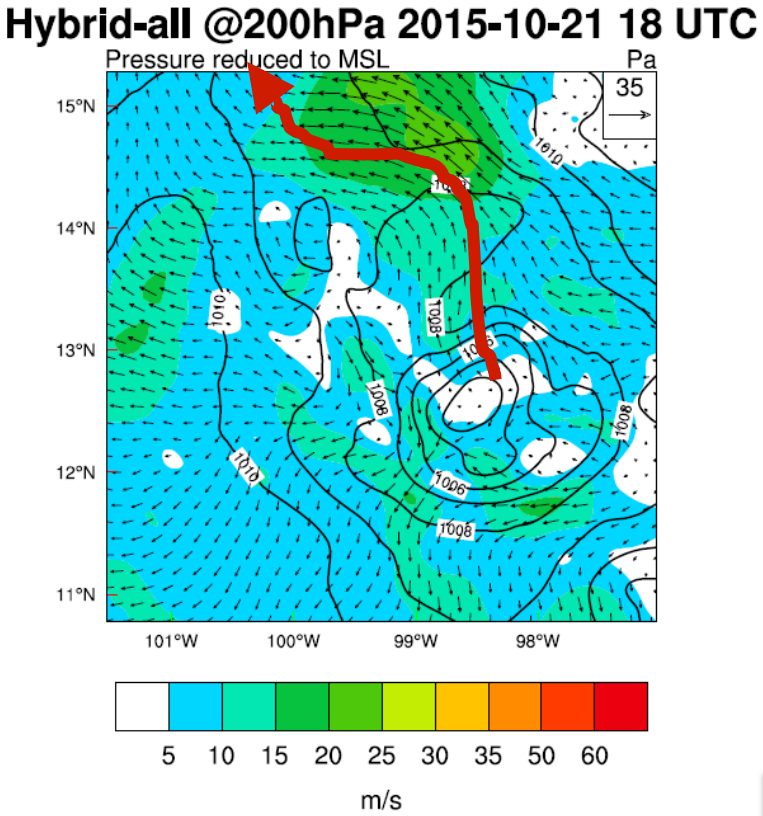



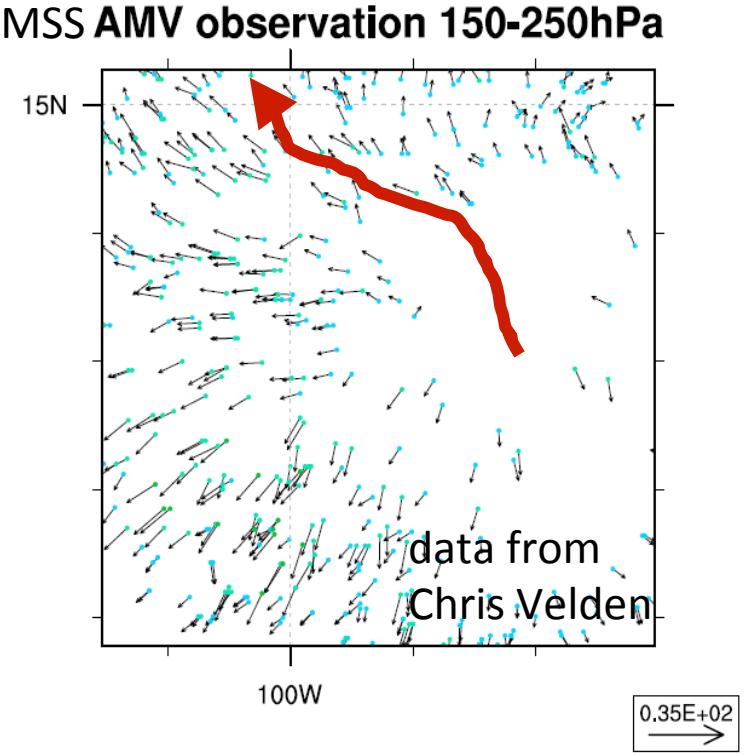

- OU hybrid showed better intensity forecasts during RI and peak intensity period compared to operational HWRF.
- Assimilating TCI observations may further improve the analyses and forecasts.

Lu and Wang

# Initial efforts of assimilating TCI data: Patricia 2015




With HDSS




- Assimilation of TCI HDSS dropsondes was able to catch the northbound outflow, which was missing when not assimilating TCI HDSS.