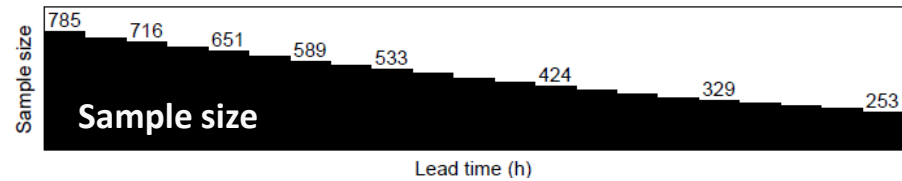
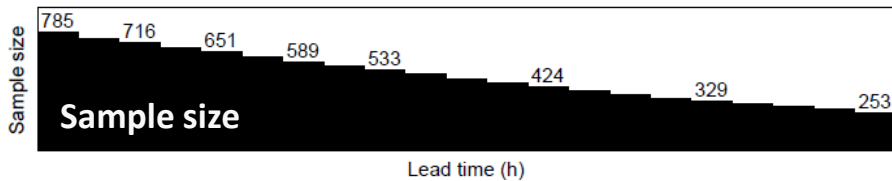
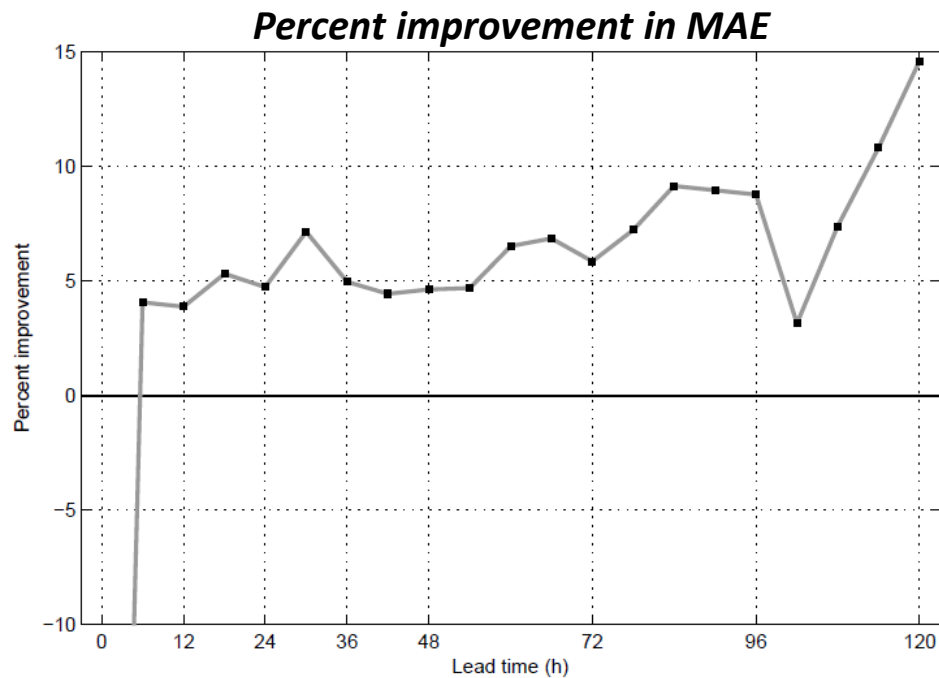
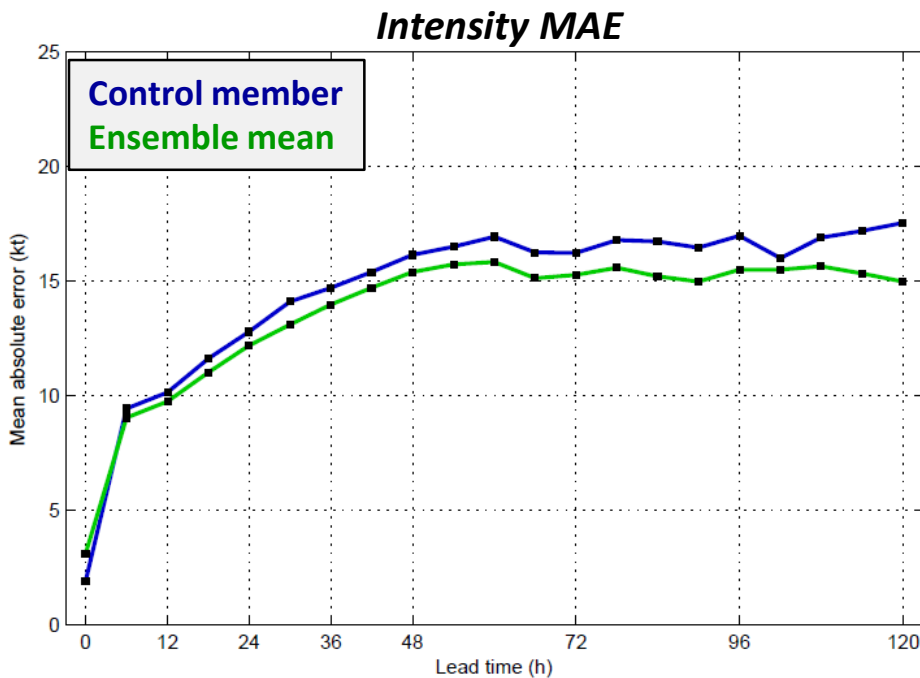


# How can EPSs improve the official deterministic forecast?

From the perspective of regional dynamical model ensembles, the central tendency of the ensemble forecast distribution does provide improved intensity MAE w.r.t. control

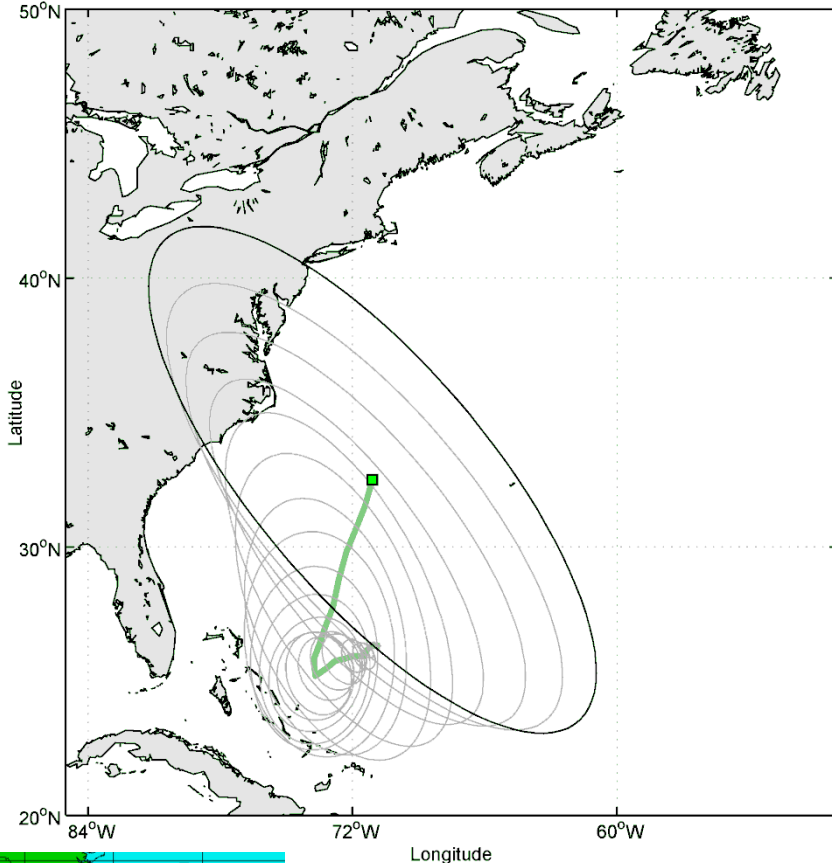


There is still a **lot** of room for improvement in the quality of the ensemble intensity forecast!

# Augment deterministic forecast with flow-dependent uncertainty

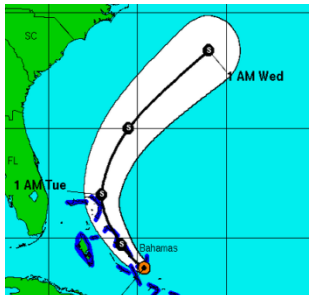
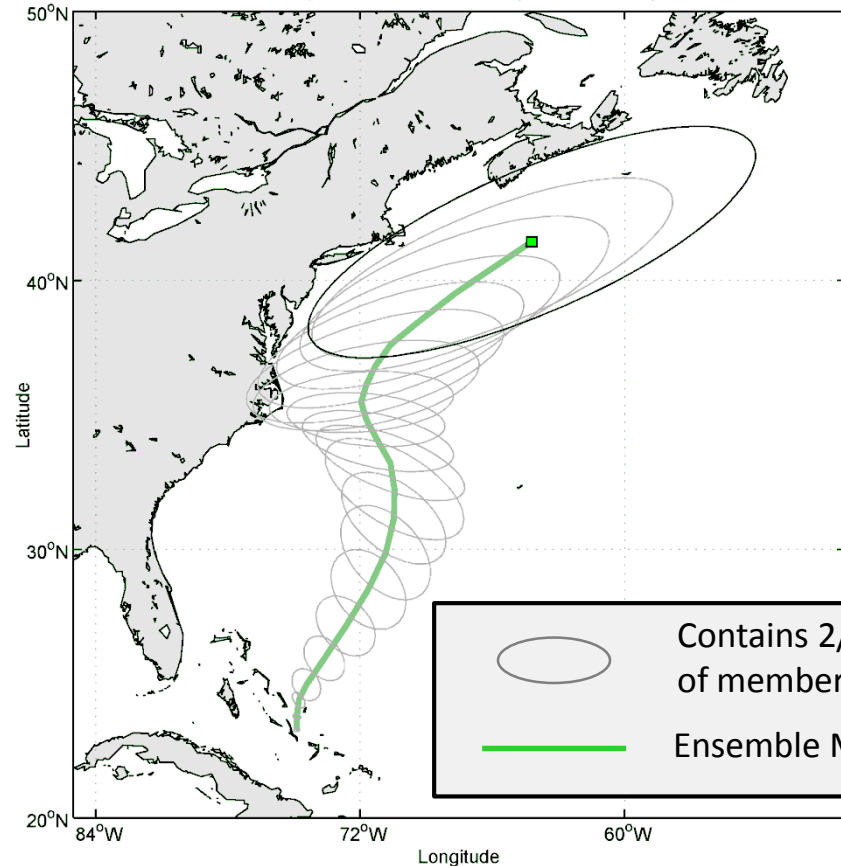
## Joaquin: 2015092912 initial time

TC = al112015, DTG = 2015092912, Tau = 120 h, Mem = 11



## Joaquin: 2015100212 initial time

TC = al112015, DTG = 2015100212, Tau = 120 h, Mem = 11

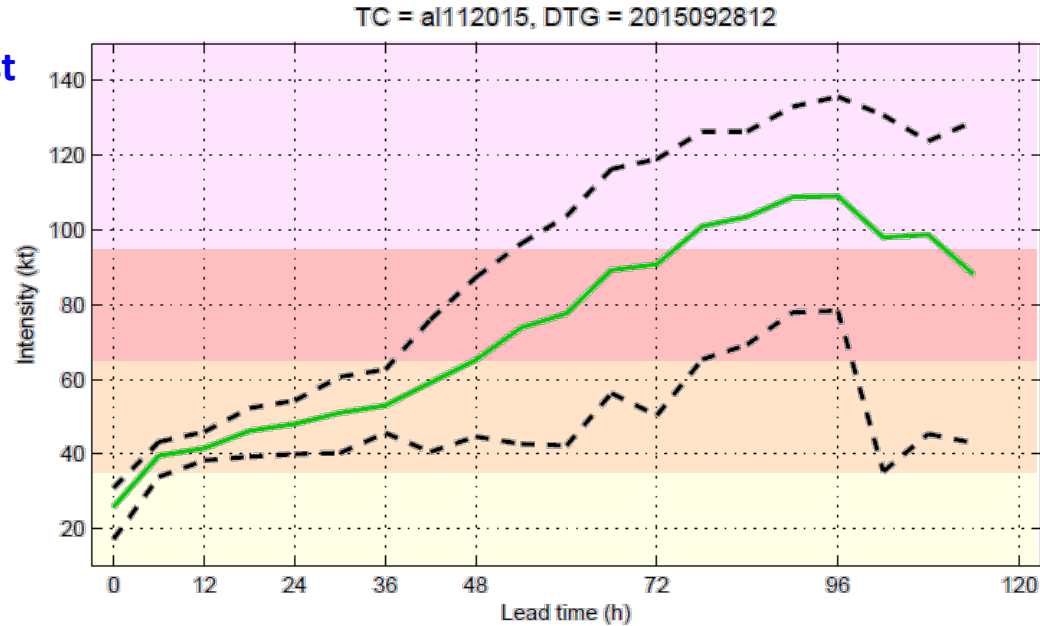


- The official track forecast is already augmented with non-flow dependent uncertainty information via the cone on the track graphics
- Ensemble can distinguish between high and low uncertainty track forecasts and potentially between cross-track and along-track uncertainty

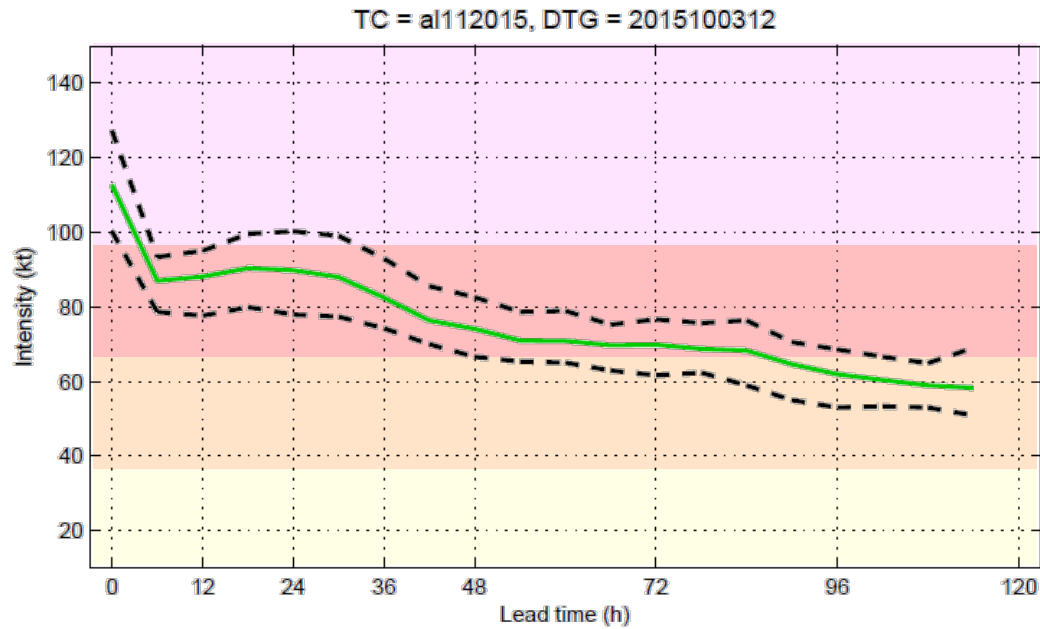
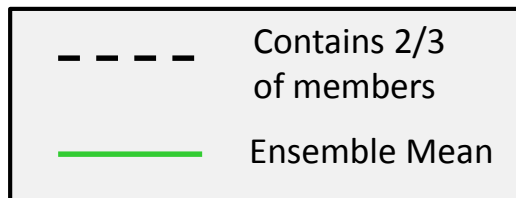
# Augment deterministic forecast with flow-dependent uncertainty

## High uncertainty COAMPS-TC intensity forecast Joaquin: 2015092812 initial time

- Ensemble can distinguish between high and low uncertainty intensity forecasts
- For regional dynamical model ensembles, more work is needed to properly calibrate intensity spread



## Low uncertainty COAMPS-TC intensity forecast Joaquin: 2015100312 initial time



# Use ensemble to evaluate range of possibilities

## Joaquin: 2015092912 initial time

