

Time-Lagged Ensembles

Quick Reference Guide

A **Time-Lagged Ensemble (TLE)** uses output from previous runs of a single model with different model initialization times to create an ensemble of forecasts for a specific forecast valid time.

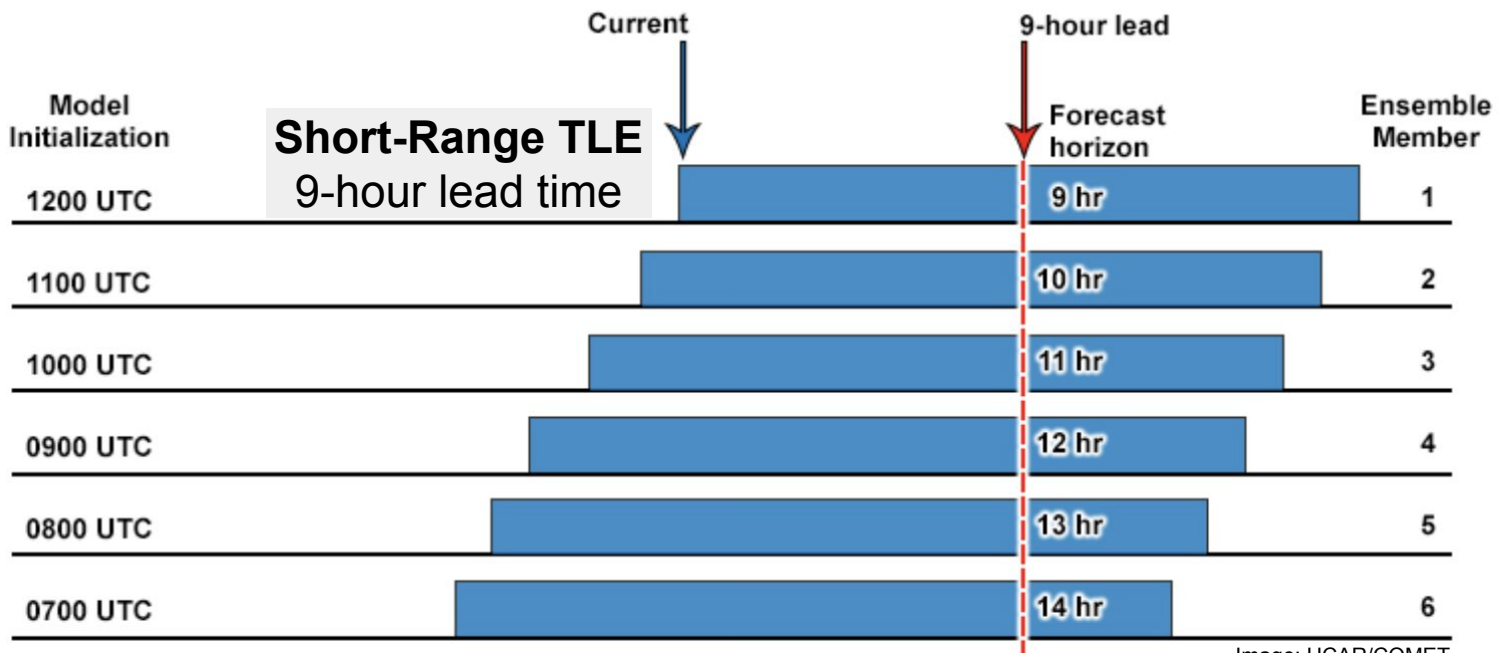


Image: UCAR/COMET

Advantages:

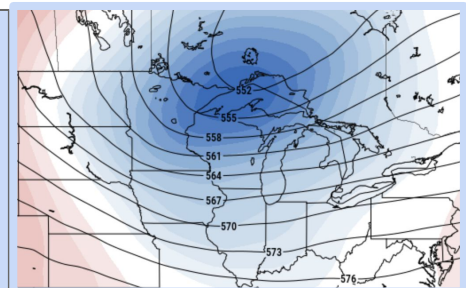
- Computationally-efficient since it just post-processes existing model output
- Can “smooth out” run-to-run jumpiness of a single model

Disadvantages:

- Older runs in the TLE don't include the newest-available initial conditions
- Doesn't help with single-model systemic biases

A TLE can be useful when looking for consistent signals in long-range models where run-to-run jumpiness can be large.

This is a 6-run TLE of 500 mb height anomalies from the Climate Forecast System at 600-hr lead time showing potential for a Great Lakes trough.



Forecasting Guide: [sites.google.com/noaa.gov/nws-fttd/guide](https://www.noaa.gov/nws-fttd/guide)

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