

LASSO's Data Bundles for Consumption

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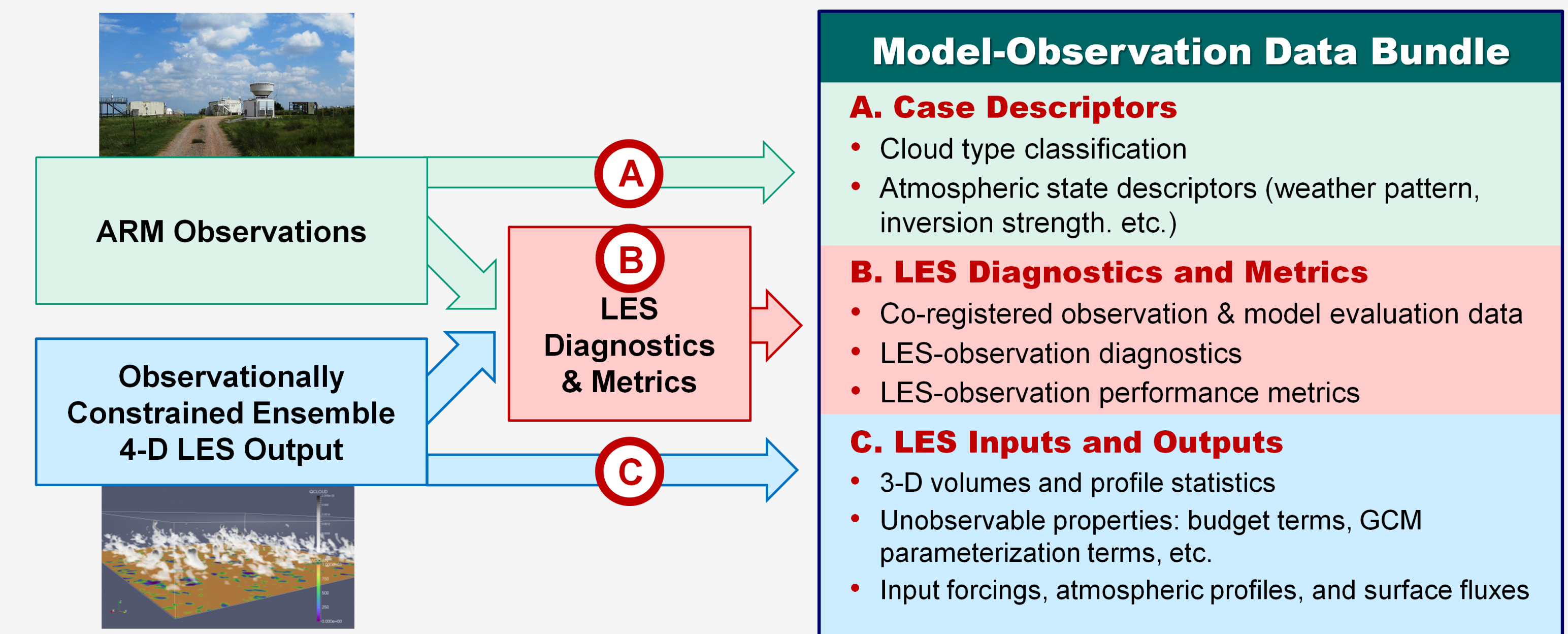
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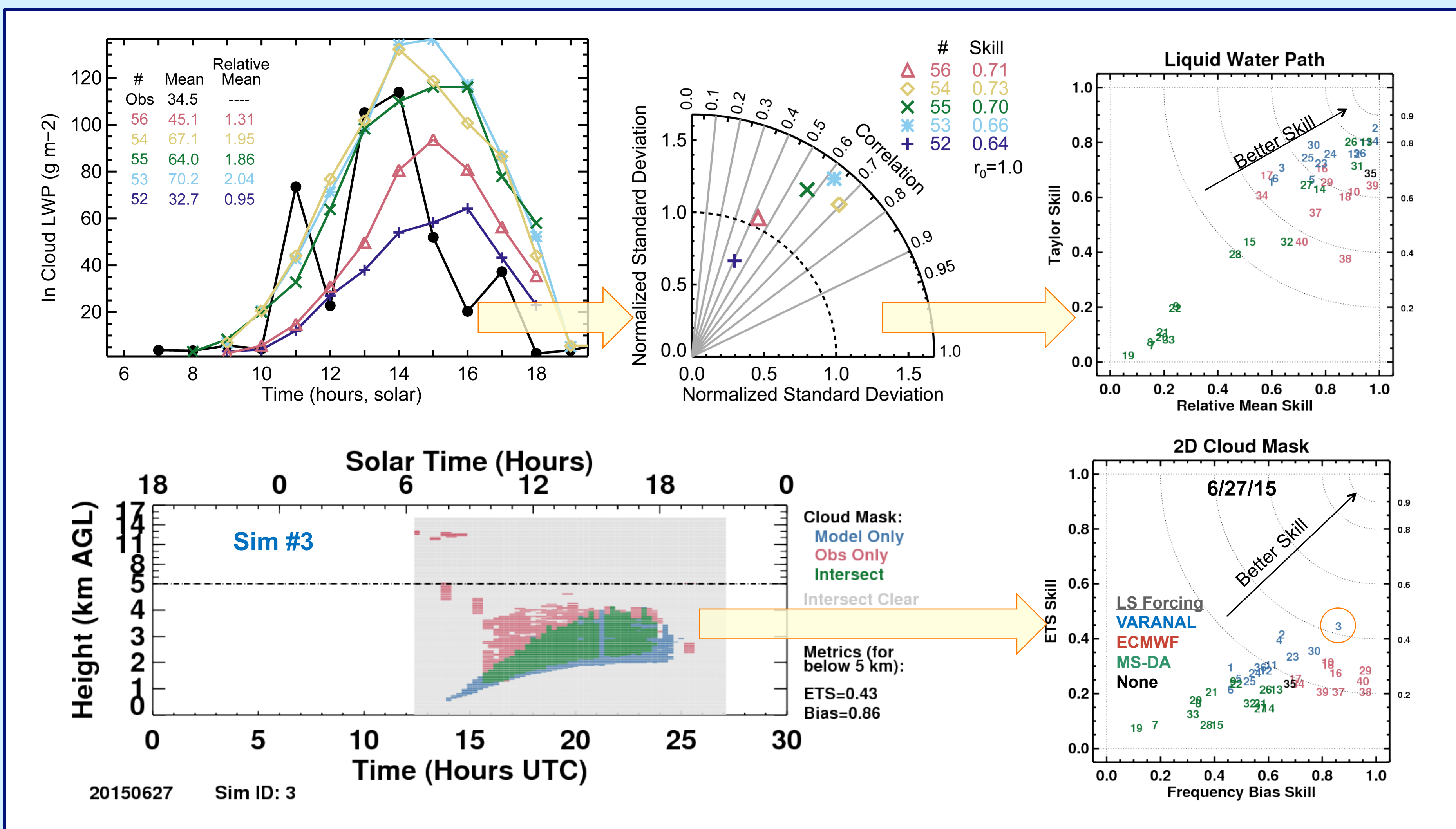
Summary

- A "data bundle" is a unified data structure consisting of LASSO model output, observations, and model metrics aimed at providing the best description of the atmosphere for use by the research community.
- Project Schedule
 - Prior to operations are two bundle releases with expanding capabilities:
 - Alpha 1, released in July 2016
 - Alpha 2, planned for May 2017
 - The LASSO pilot project transitions to operations starting May 2017
- This poster describes the observations and model skill scores in the releases.



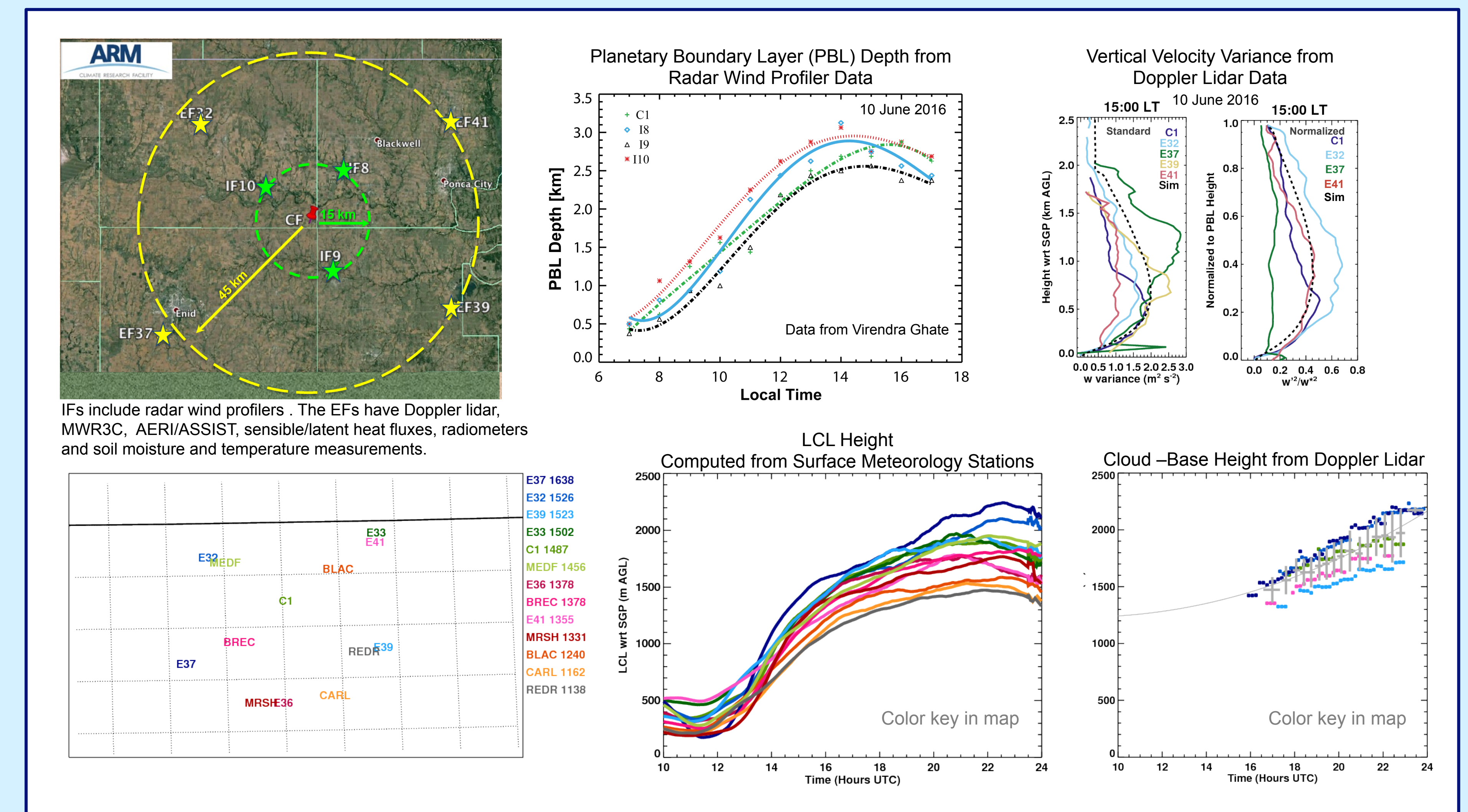
Alpha 1: Focus on Central Facility & Initial Development

- 5 case days with model initialization and validation based on point measurements at the SGP central facility (CF).
- Initial model-observation diagnostics and skill scores developed to find cases of interest.
- Diagnostics and metrics incorporated into the LASSO Bundle Browser for easy access (see Bhargavi's Poster #172).
- Observations include cloud and environmental variables at the CF:
 - Cloud: Cloud fraction (TSI, ARSCL), Liquid water path (AERloe, MWR-2C), Time-height cloud location (ARSCL)
 - Environment: LCL (from MET/Mesonet), Soundings (T, q_v, RH, θ, θ_e), and q_v, RH, T at mid-BL (Raman Lidar) & surface (MET/Mesonet)



Alpha 2: Focus on Regional Observations

- 14 case days with model initialization and validation using distributed measurements from the CF, Intermediate Facilities (IF), and Extended Facilities (EF).
- Expand diagnostics and skill scores to use measurements from surrounding sites to capture the regional variation
- Include more observations, particularly focused on boundary layer properties. New to Alpha 2 are:
 - Cloud: Improved and regional liquid-water path (AERloe v2.4), Cloud-base height (Doppler Lidar)
 - Environment: Planetary boundary layer height (Radar Wind Profiler), Vertical velocity variance (Doppler Lidar)



LASSO Webpage

<https://www.arm.gov/capabilities/modeling/lasso/>

Sign up for the LASSO e-mail list to get updates at

<http://eepurl.com/bCS8s5>

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