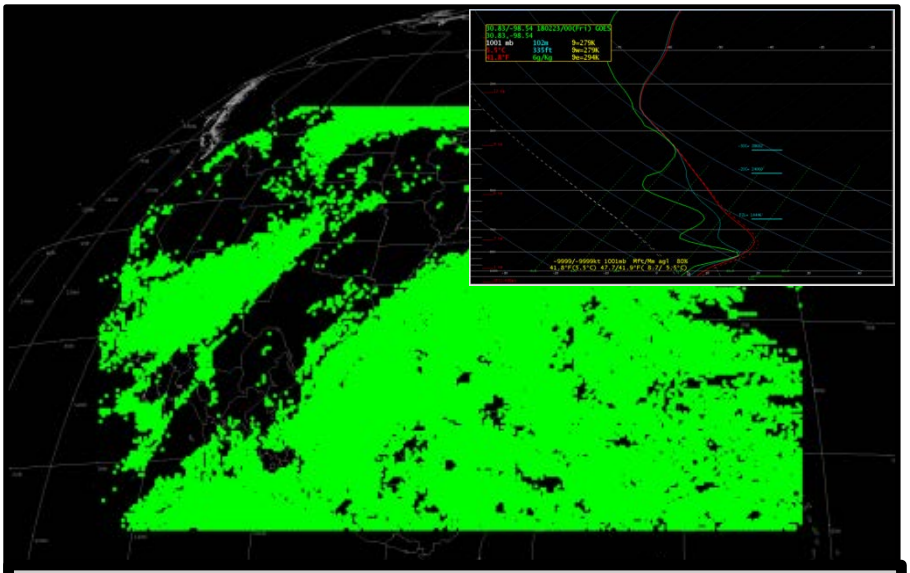
Legacy Vertical Profiles

Quick Guide

Why are Legacy Vertical Profiles Important?

Legacy Vertical Profiles show GFS information that has been adjusted based on satellite observations. Relatively broad bands on GOES-R mean vertical resolution is also broad; do not expect to see thin layers in these profiles. They can be used to monitor the evolution of the atmosphere however. These are produced only in the CONUS domain.



Sounding locations shown by green dots on a mostly clear day in late February 2018; Inset: Legacy Vertical Profile from central Texas at 0000 UTC on 23 February 2018

Vertical Profile Cadence

Domain	Temporal Refresh	Horizontal Resolution
CONUS	Every 30 minutes	10 km

Impact on Operations

Primary Application: Use these to see how the atmosphere is changing with time. The most important information from the product is the time tendency .

Application: The products are created by taking the GFS thermodynamic fields and adjusting them based on satellite observations of temperature and moisture. Satellite moisture observations have the biggest impact in the middle troposphere. ABI Bands have limited impact on temperature profiles.

Limitations

Clear-sky only application: This is a clear-sky only product.

Limitation: Because of the limited spectral information of the ABI, compared to high-spectral resolution infrared sounders, the most reliable information is in the form of temporal and spatial gradients. Vertical profiles have limited vertical information; integrated quantities, such as TPW, are preferable to point values.

Limitation: Profiles are produced on a 10-km domain vs. the 2-km resolution of ABI Infrared channels.

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