



RADAR Service Life Extension Program

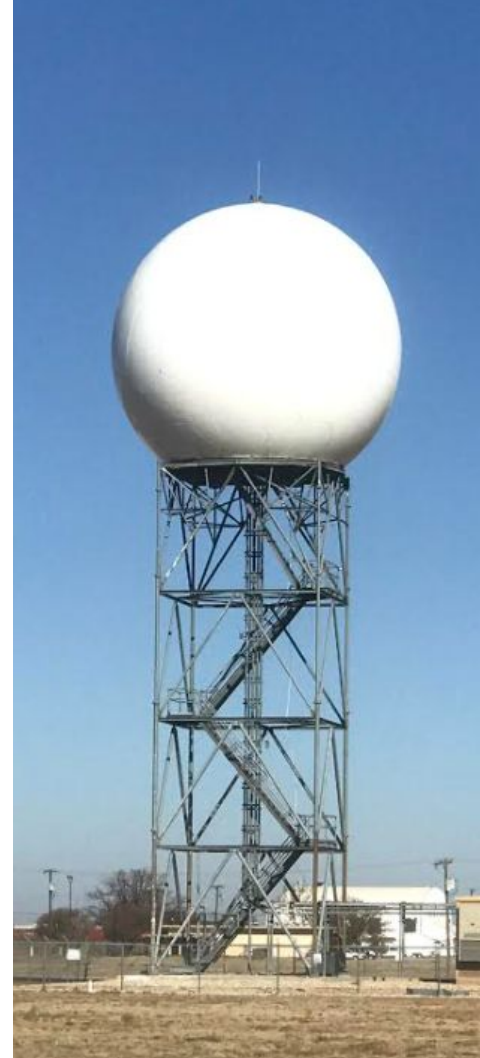
Pedestal Refurbishment
National Weather Service Lubbock

Marissa Pazos & William Iwasko
NWS Lubbock Meteorologists



Overview

- National effort to extend the life of the RADARs.
 - Extended RADAR life into the 2030s
- Consists of 4 Projects
 - This step: Pedestal Refurbishment
 - Previous steps: Signal Processor, Transmitter Chassis
 - Final step: Equipment Shelter
- Pedestal Refurbishment means:
 - New azimuth and elevation bull gears
 - The primary components for antenna movement



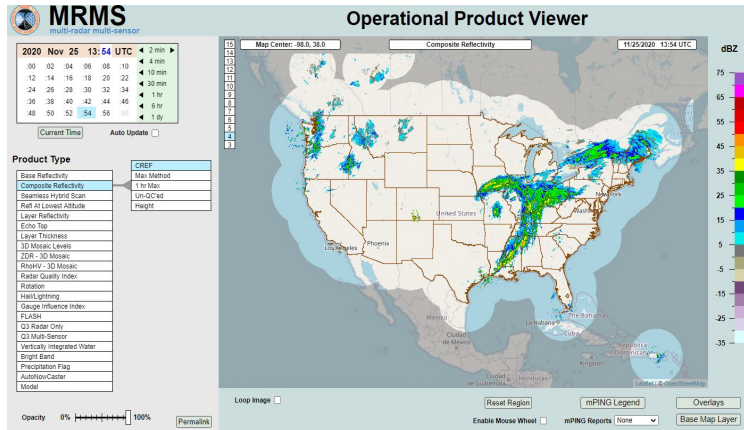
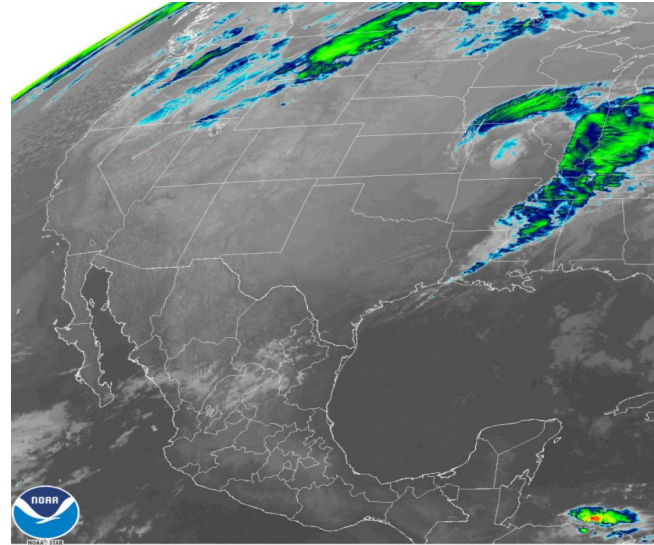
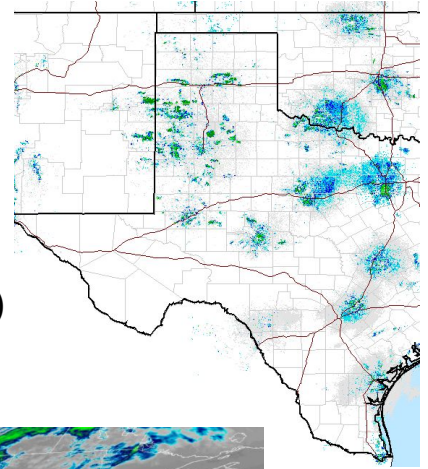
Pedestal Refurbishment

- Site:
 - KLBB: December 2, 2020
- RADAR Down Time:
 - Approximately two weeks
- Flexibility:
 - Very little
- Weather Restrictions:
 - Wind threshold for dome removal 15 knots. A night dome removal possible if winds are too strong.
 - Otherwise, no delays or stops



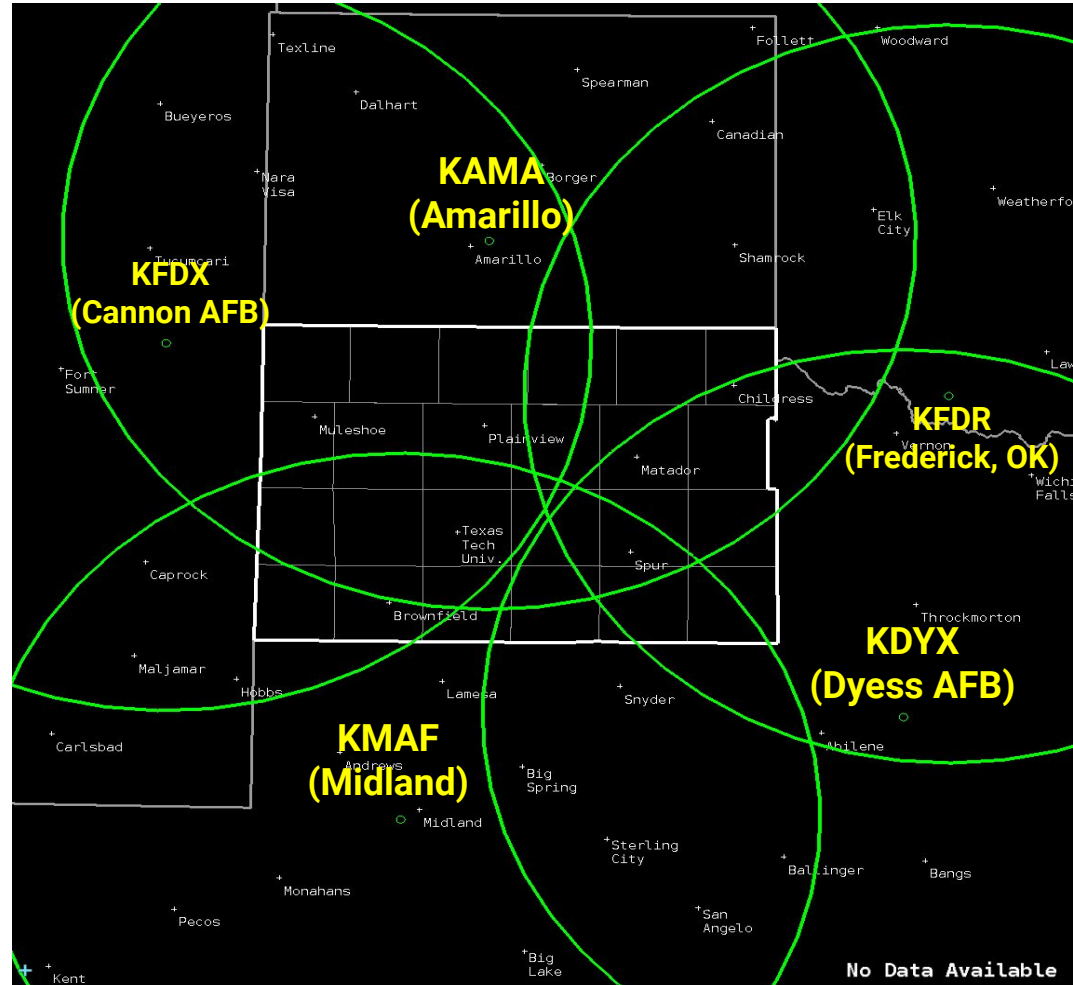
RADAR Life Savers

- Surrounding Nearby RADARs
 - Amarillo (KAMA), Cannon Air Force Base (KFDX)
 - Frederick, OK (KFDR), Midland (KMAF), and Dyess Air Force Base (KDYX)
- Satellite
 - GOES-16 & 17
 - Lightning Detection
- Multi-RADAR Multi-Sensor (MRMS)



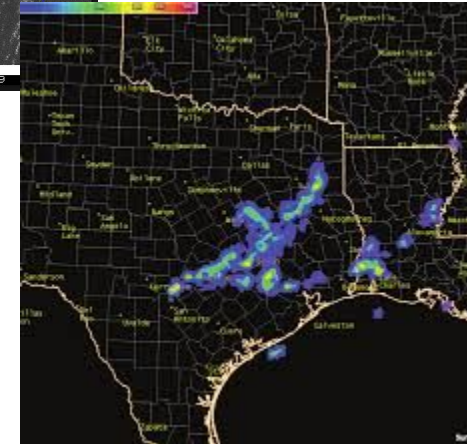
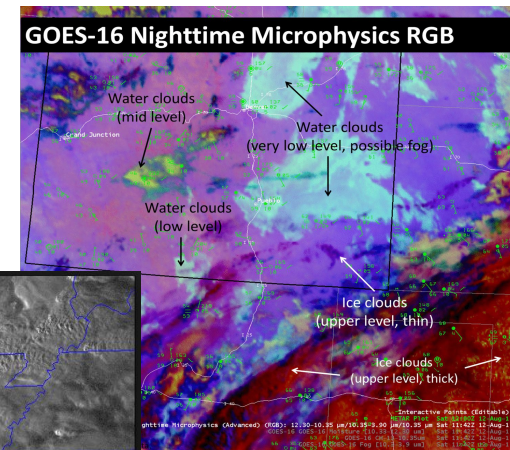
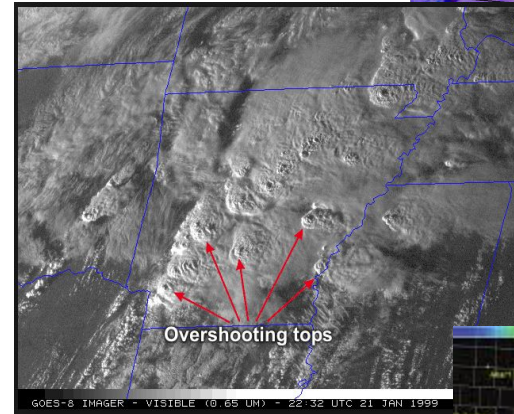
Surrounding Doppler RADARs

- Surrounding RADARs will be utilized to maintain weather awareness.
- During winter weather radar beam heights could limit detection of very low level precipitation such as drizzle, but this is where satellite helps.



Satellite

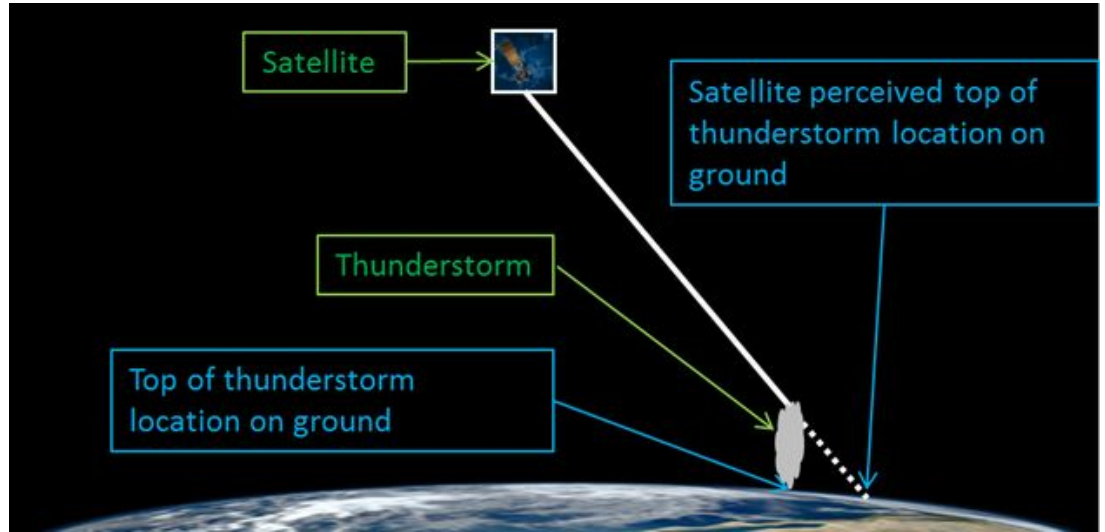
- Using the nighttime microphysics satellite channel we can make a distinction between lower and higher level clouds so long as lower clouds are not obscured by high clouds.
- Visible and infrared satellite channels are some of the best tools for identifying high impact storms.
- Geostationary Lightning Mapper (GLM)
 - Lightning detector placed on the new GOES satellites that detect and map lightning day and night.



Satellite Location Errors (Parallax)

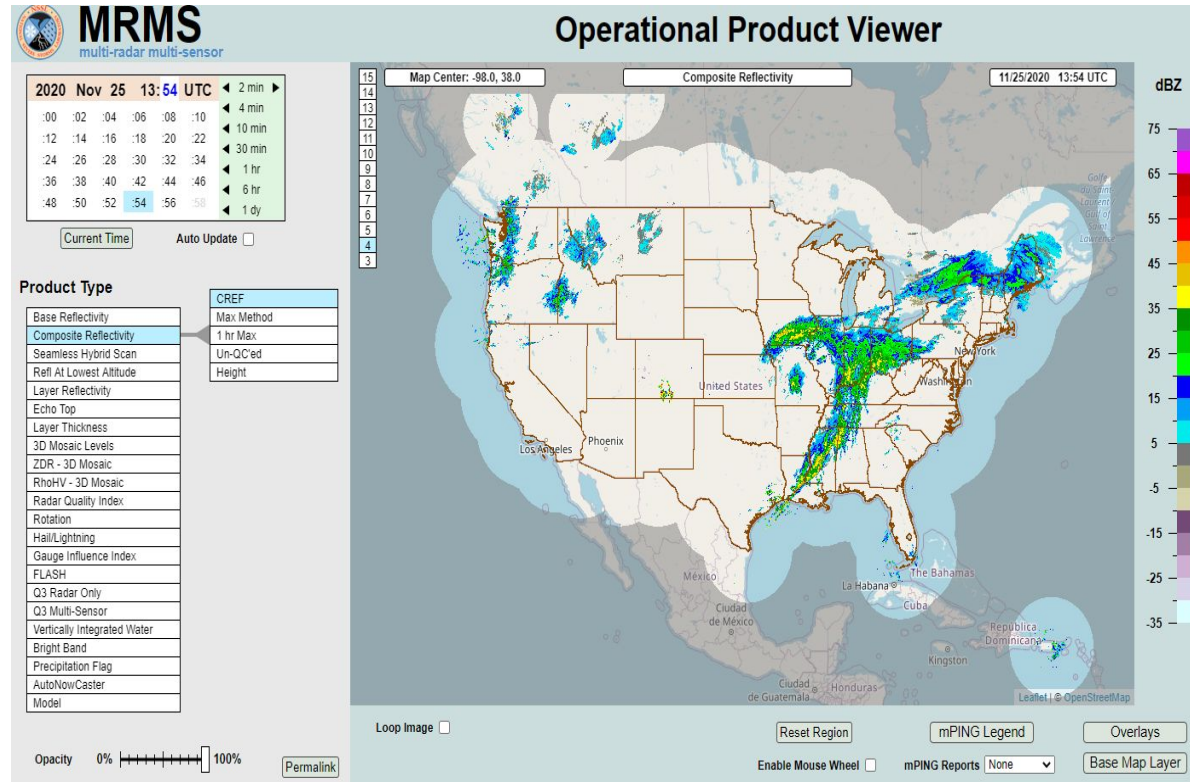
A Word of Caution:

Since our geostationary satellite is not directly overhead, the displayed location of a storm on satellite is offset a bit from its true location at the surface. This error increased with the height of the cloud.



Multi-RADAR Multi-Sensor (MRMS)

- A system developed to combine data streams from multiple RADARs to create a single seamless radar reflectivity mosaic.



<https://mrms.nssl.noaa.gov/>

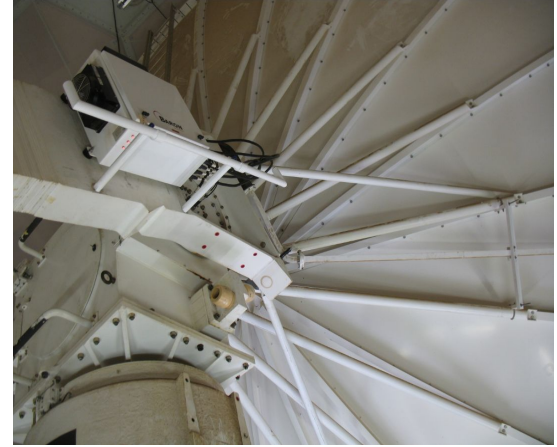
A Preview: Pedestal Replacement Time Lapse



<https://youtu.be/UvYADkB-LMY>

In Summary...

- RADAR outage begins December 2nd, 2020.
- Outage will last approximately two weeks.
- Satellite and RADAR data from surrounding sites will be used to maintain weather awareness.



Questions...



- Have questions?
 - Call us: 806-745-4260
 - Tweet us: @NWSLubbock
 - Facebook us: @NWSLubbock
 - Email us: sr-lub.webmaster@noaa.gov
 - Chat us: NWS Chat

- Need an interview? Want to film the dome removal?
 - Contact:
 - Joe Jurecka at joe.jurecka@noaa.gov
 - Jody James at jody.james@noaa.gov

