MOBILE WEATHER TEAM, INC.

Meteorologist Mike McClellan

Weather Apps!
What you see is not always what you get!

May 9, 2024

StormLapse.com

WEATHER QUIZ

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~~It does not mean that there is a 20 % chance that it will rain on you.~~

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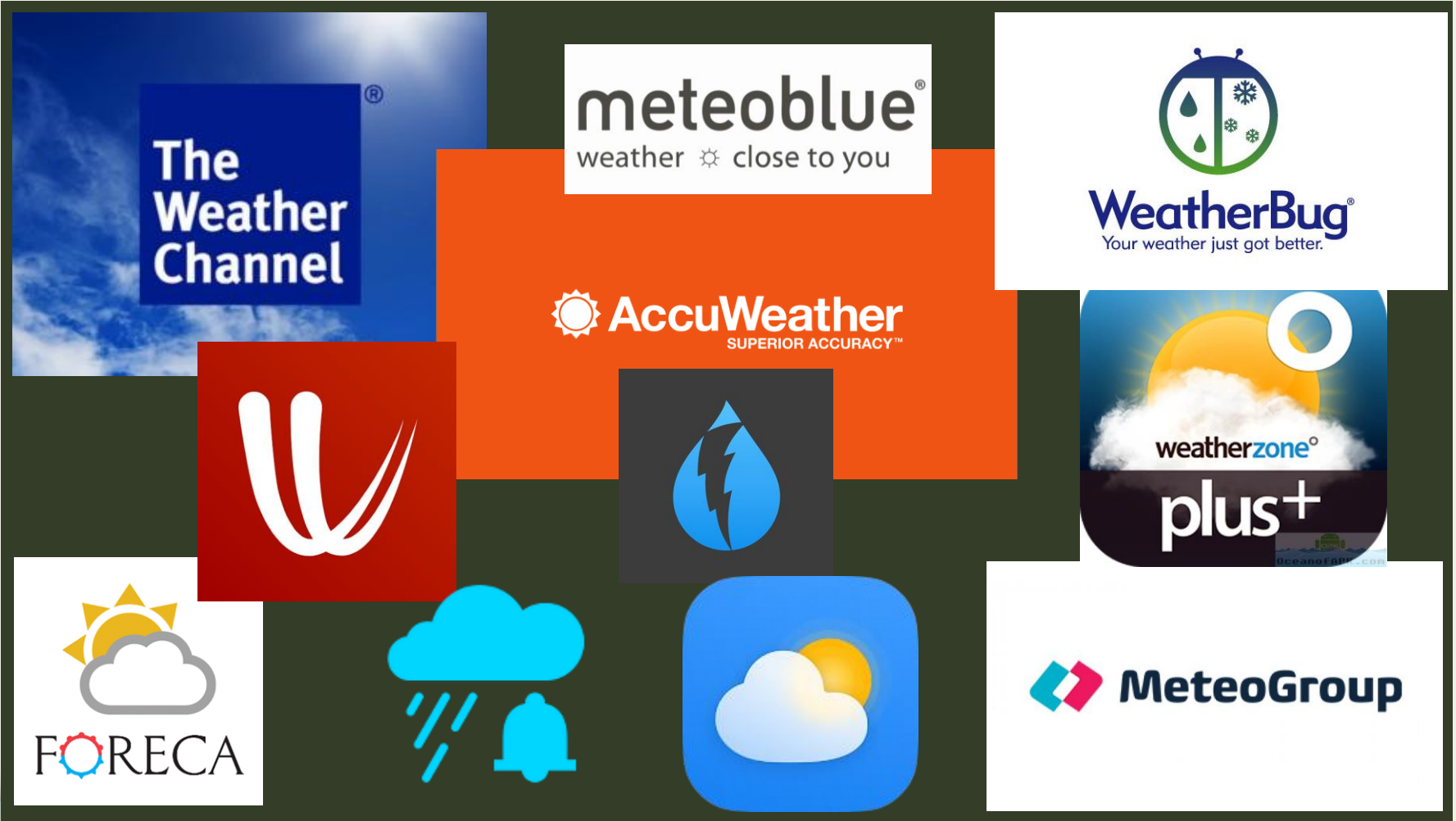
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WHY?

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WHY?

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## Literally there are thousands of weather apps but which is the best?

- The forecast process starts with weather data and observations from around the world.

- All of these measurements are fed into supercomputers that use mathematical equations to create a model of the atmosphere.

- These models are then used to create weather forecasts.

- Since each computer model uses a different mathematical formula, each weather forecast may be slightly different.

Hundreds and hundreds of computer forecast models.

- GFS – Global Forecast Model (.25, .50, 1 degree, 2.5 degree)
- ECMWF – European Model
- CMC – Canadian Model
- UKMET – Great Britain Model
- NAVGEM – US Navy Environmental Model
- NEMS
- NMM
- NAM
- BOLAM
- LILAM
- ALADIN
- HIRLAM
- BAMS
- ETA
- ARW
- SKIRON
- GME
- JMA
- GDAPS
- HRRR
- WRF
- RAP
- RUC
- SREF
- ARPEGE
- ICON
- YRNO
- BRAMS
- AROME
- COAMPS
- KNMI
- ALARO
- MANY…MANY…MORE
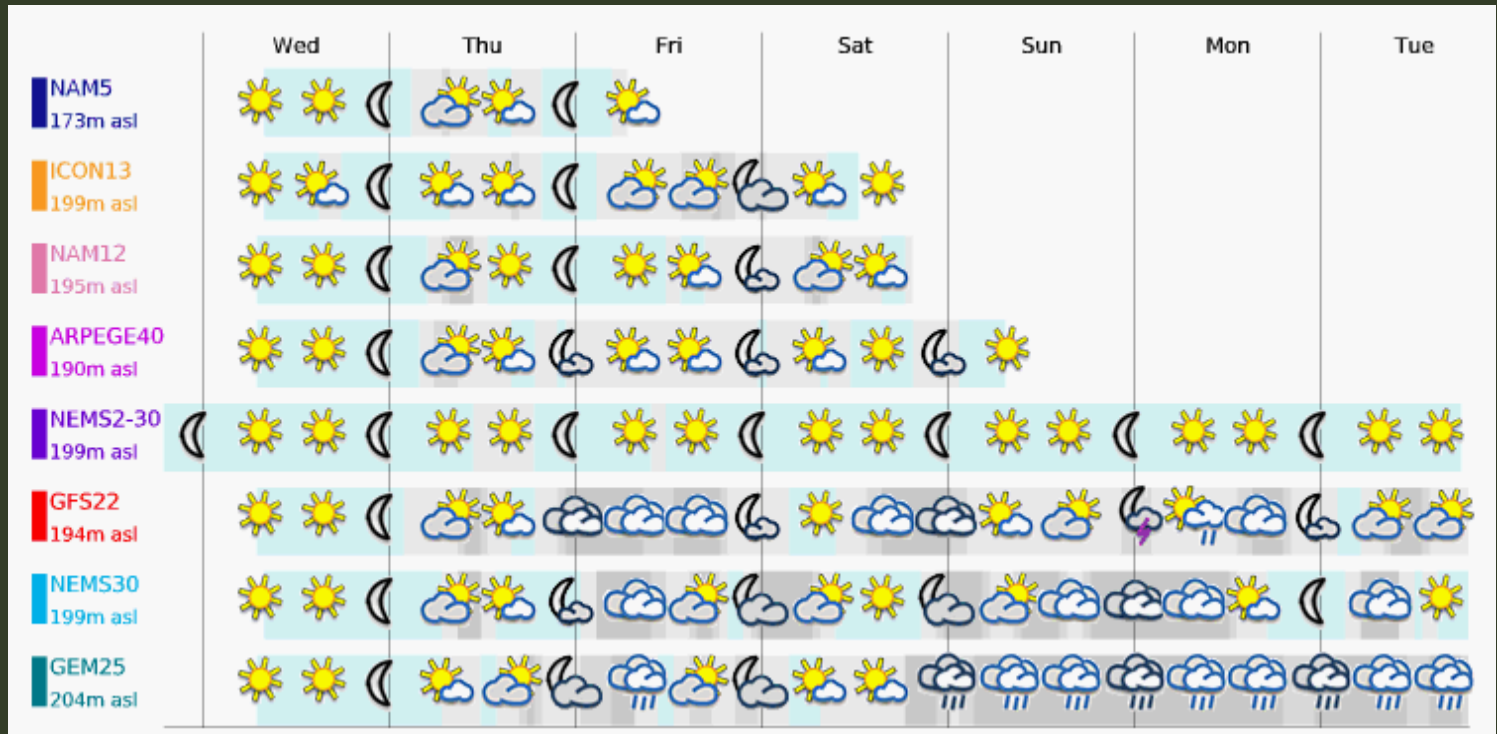
Hundreds and hundreds of computer forecast models.

- ▣ It's the meteorologist's job to know the reputation of each model and adjust and improve the forecast based on this knowledge.

- ▣ However, automated weather apps have no interaction by a meteorologist.

- ▣ **Therefore, not very accurate.**

Let's make it even more Complicated.

▣ Did you know that 90% of all weather apps use the same computer model?

GFS (Global Forecast Model)
and the forecasts are still different and inaccurate.

Let's assume all weather apps us the same computer model and weather data.

- ▣ How can 3 different apps have 3 different weather forecasts for the same location?

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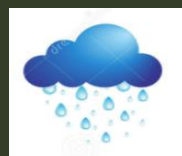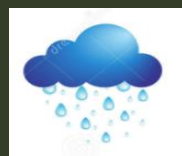- **For example:** The weather model calculates a 20% probability of rain on Thursday morning.

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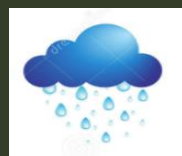
- App #1:

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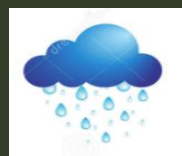
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- *ALL THIS IS DONE BEHIND THE SCENES, TRYING TO INCREASE FORECAST ACCURACY.*

Let's make it even more Complicated.

Unfortunately, this just creates mass confusion!

MOBILE
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What you see, may not be what you get

▣ Questions:

▣ Who looks at radar images?

What you see, may not be what you get

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- ▣ Satellite Images?

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What you see, may not be what you get

▣ Questions:

▣ Who looks at radar images?

▣ Satellite images?

▣ Lightning data?

▣ Weather maps showing severe weather potential, heavy snow areas or flooding?

RADAR IMAGES

▢ There are many different radar products but the two best known are "base reflectivity" and "base velocity".

▢ **SINGLE SITE RADARS**

▢ Base reflectivity displays echo intensity measured when the radar sees objects such as rain drops, hail or snowflakes.

▢ Base velocity displays and measures the speed in which a particle is traveling toward or away from the radar.

9TH PHILIPPINE GOLF COURSE MANAGEMENT CONFERENCE

RADAR IMAGES
Single Site
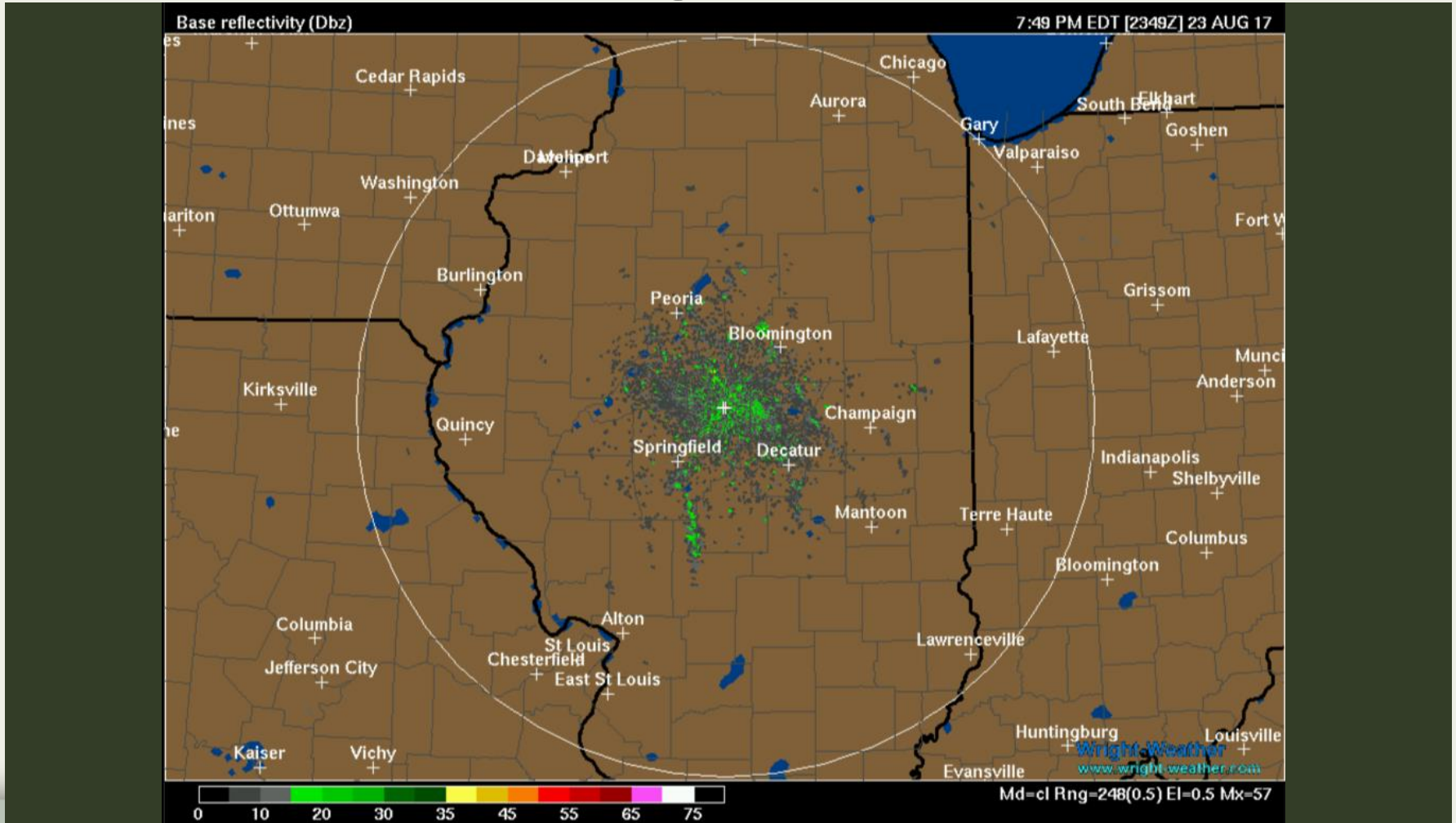
RADAR IMAGES
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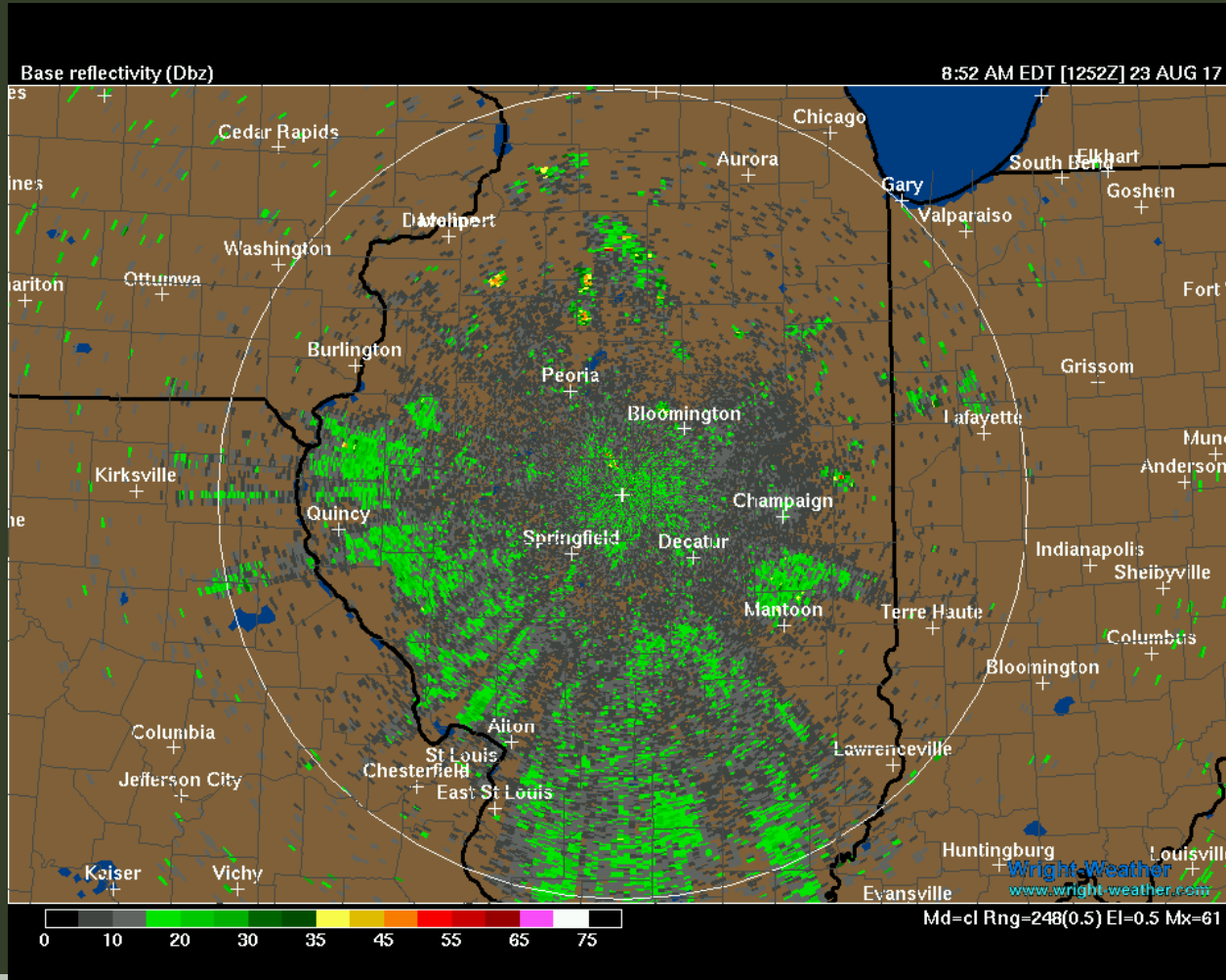
RADAR IMAGES

▫ <u>MOSAIC RADAR IMAGES</u>

▫ A radar product that combines information from multiple radars to give a regional or national view of reflectivity. An individual NEXRAD radar is limited to a range of 248 nm. Typically, a mosaic product is produced for regions spanning several hundreds to several thousands of miles. Mosaic products are produced by vendors external to the NEXRAD system.

RADAR IMAGES
Mosaic Images
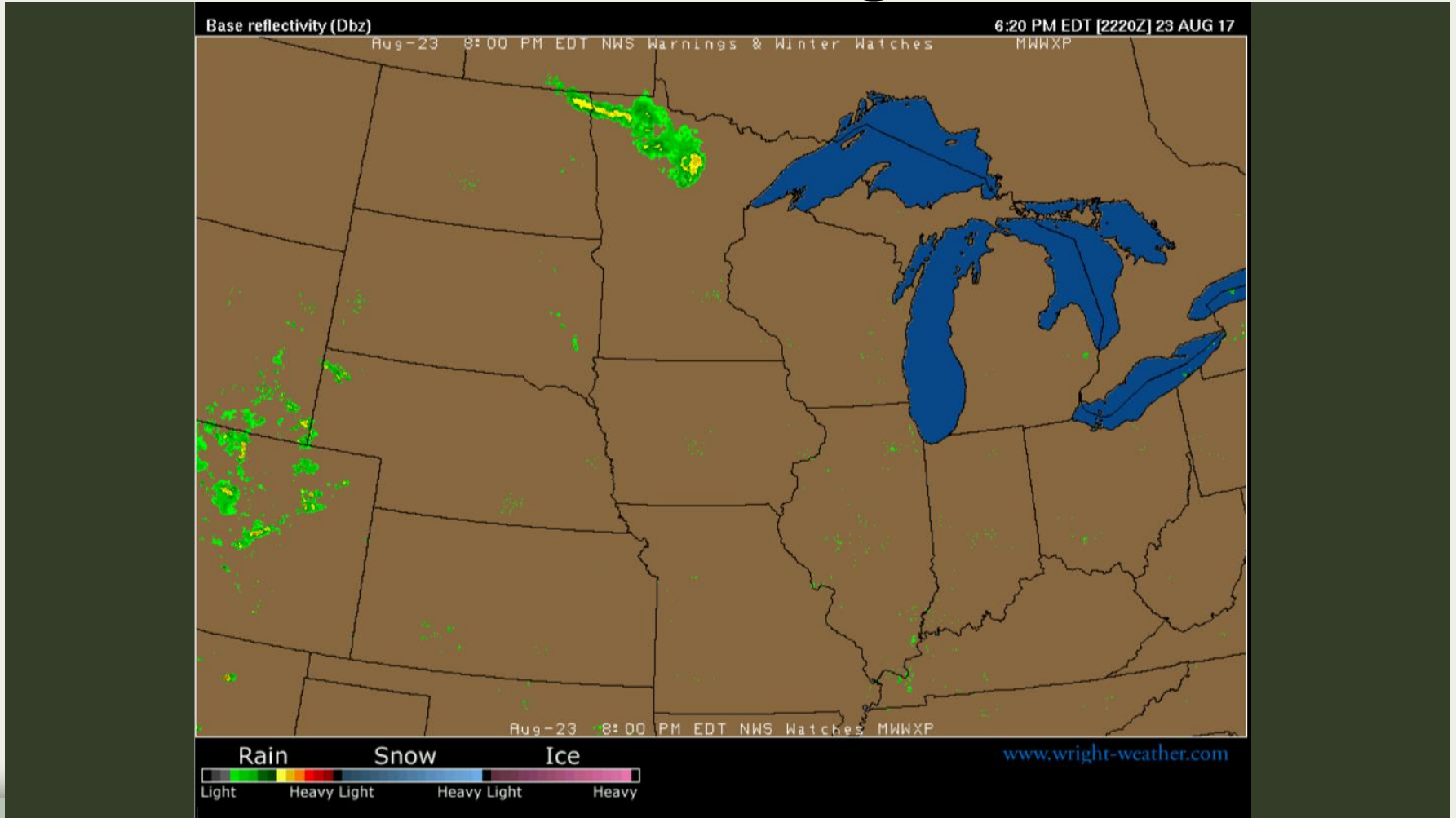
RADAR IMAGES
Rain or No Rain?
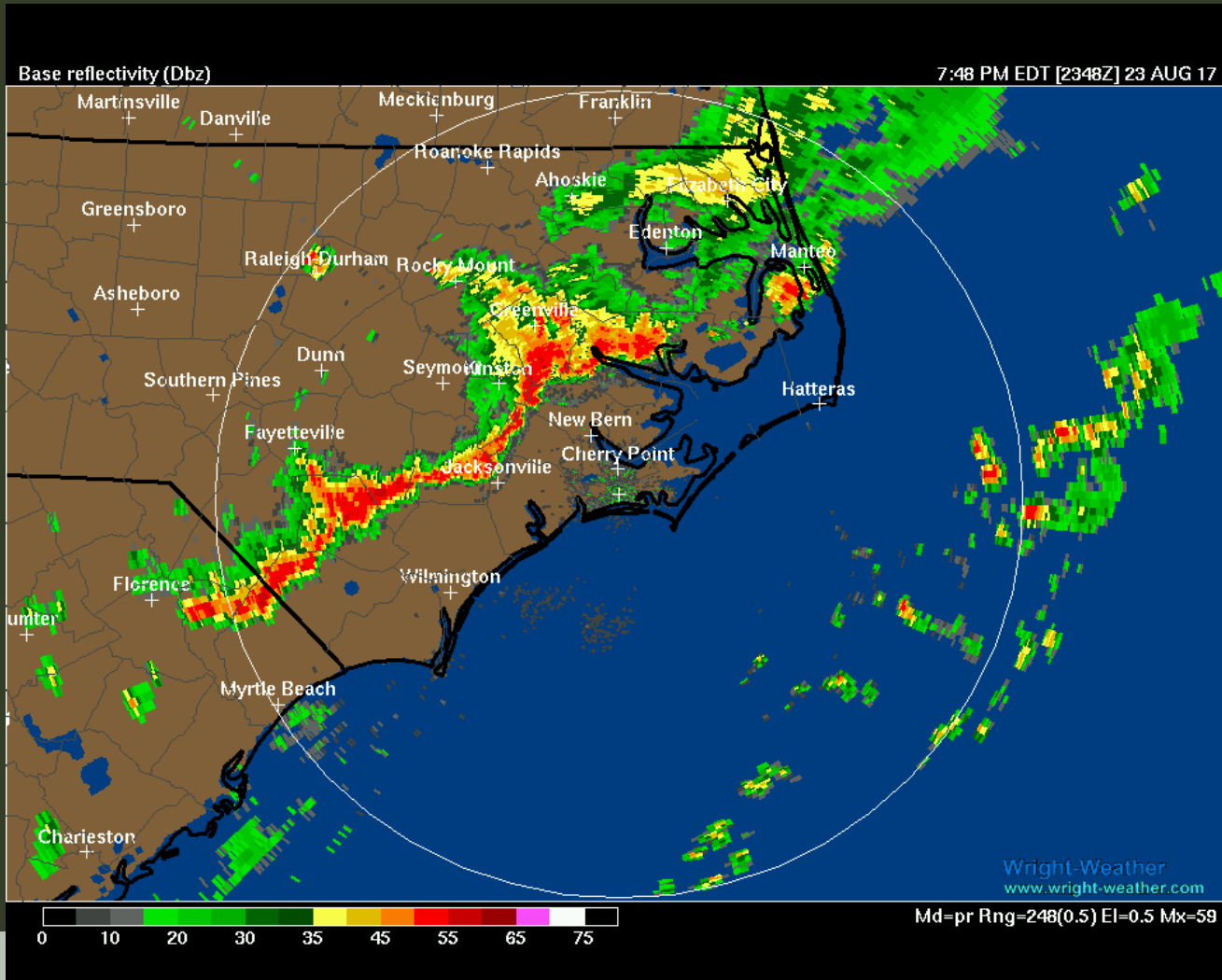
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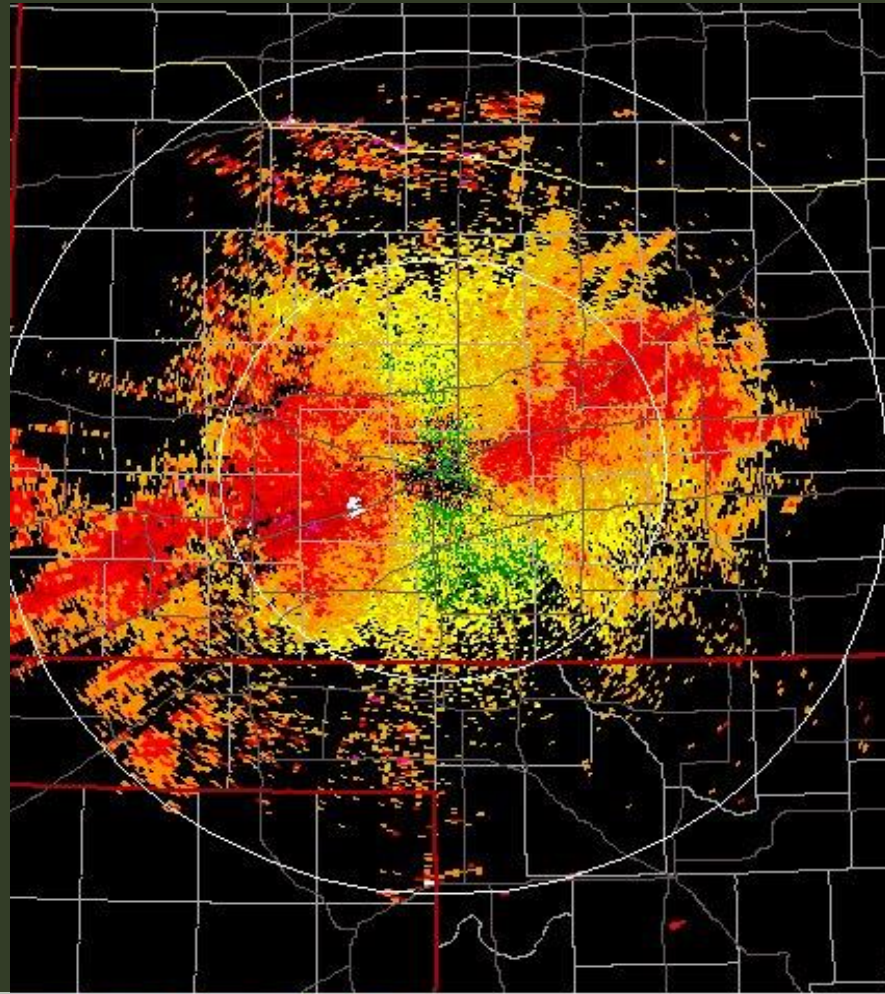
RADAR IMAGES
Rain or No Rain?

NO....

Just
Ground
Clutter
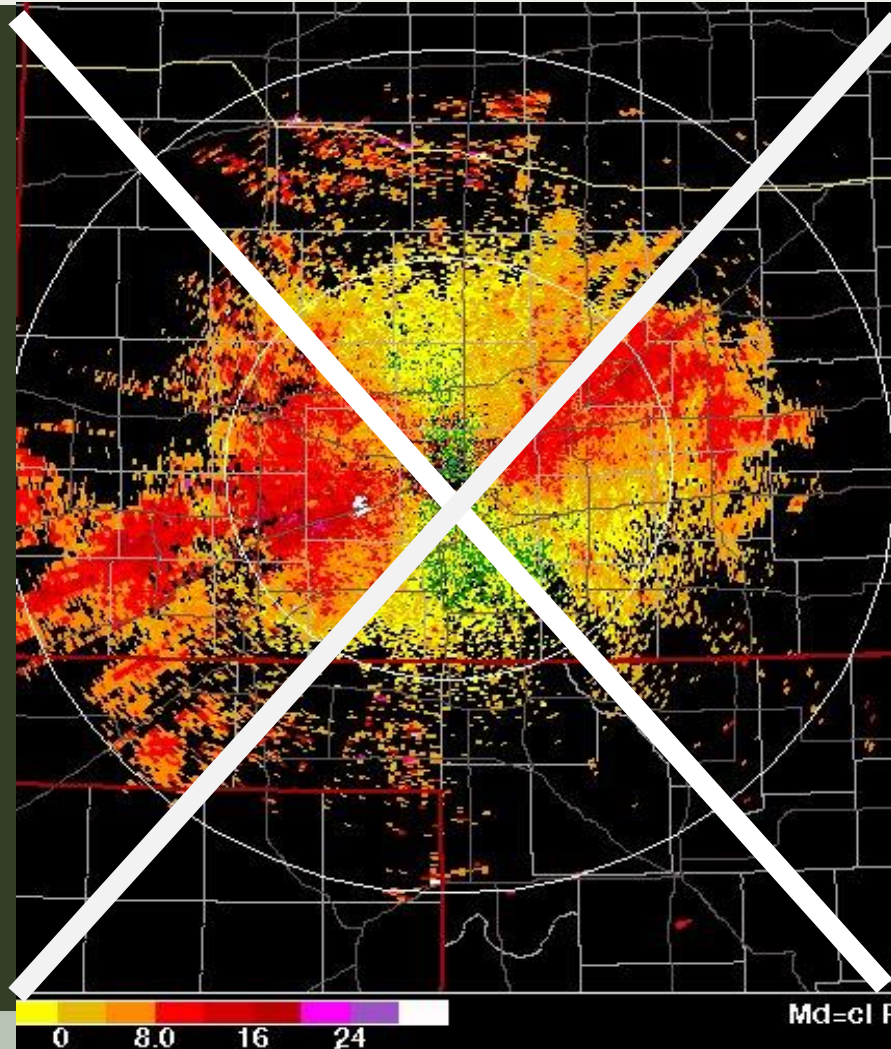
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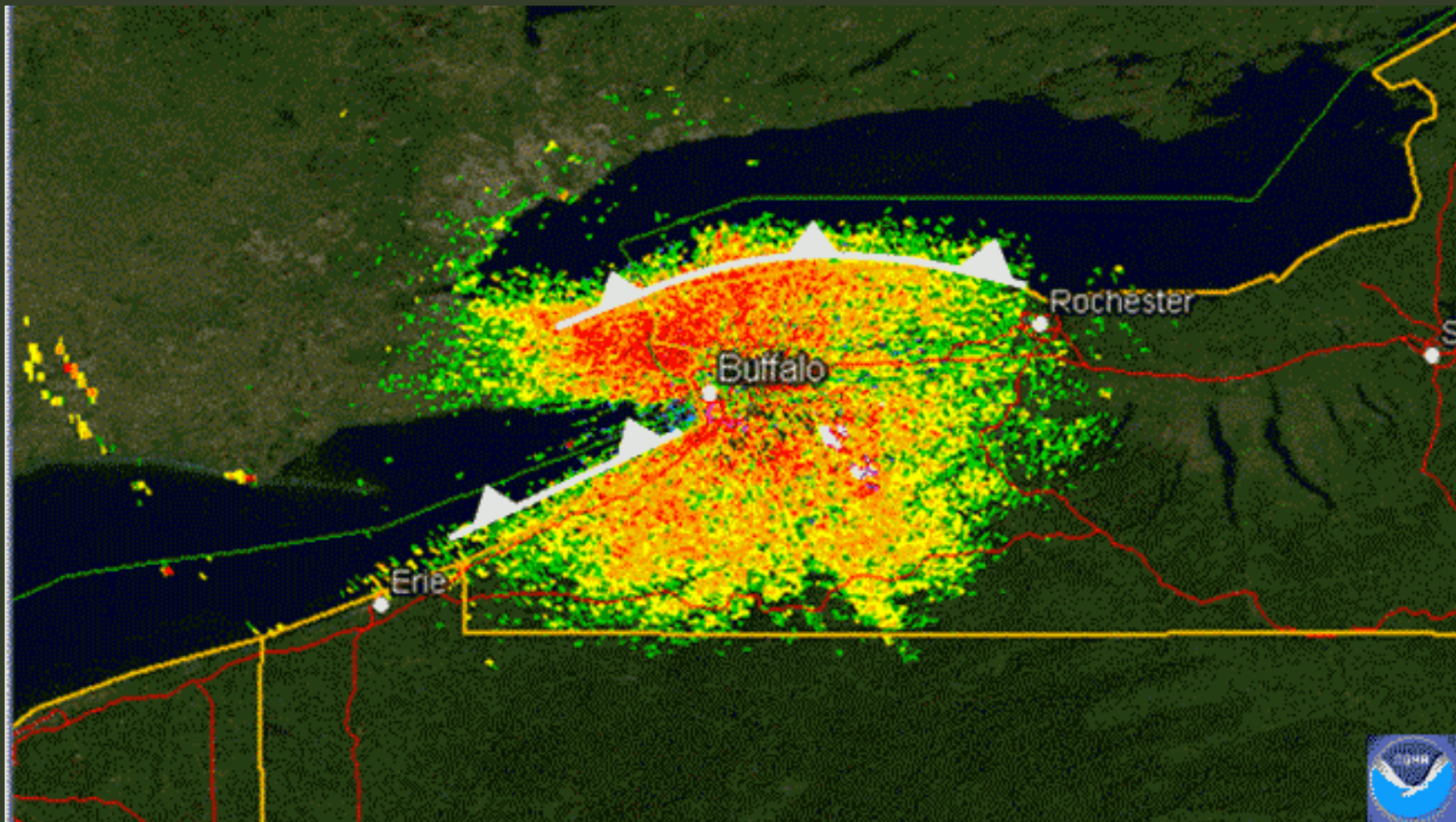
RADAR IMAGES
Rain or No Rain?
NO.... Just Bird Migration
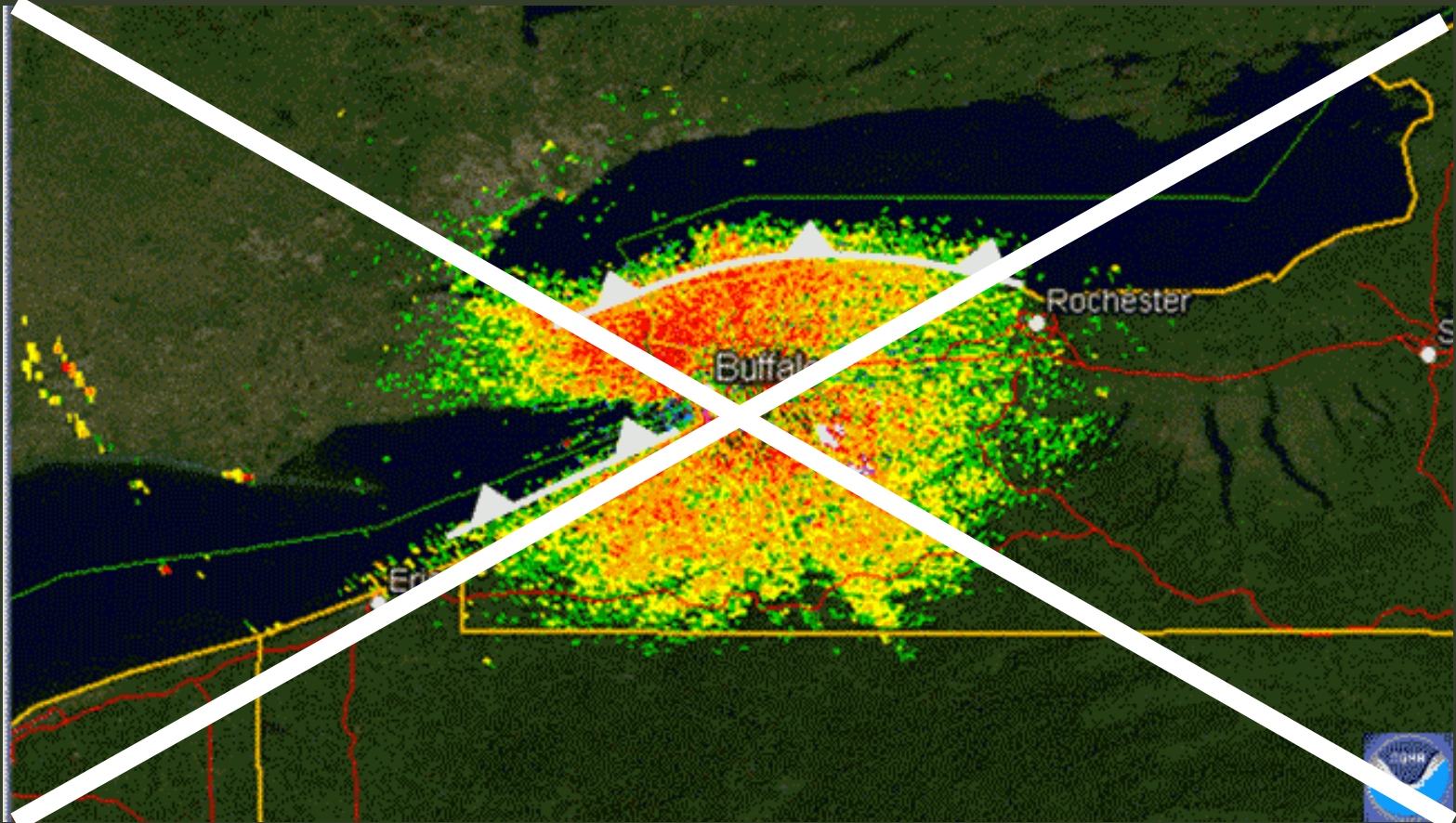
RADAR IMAGES
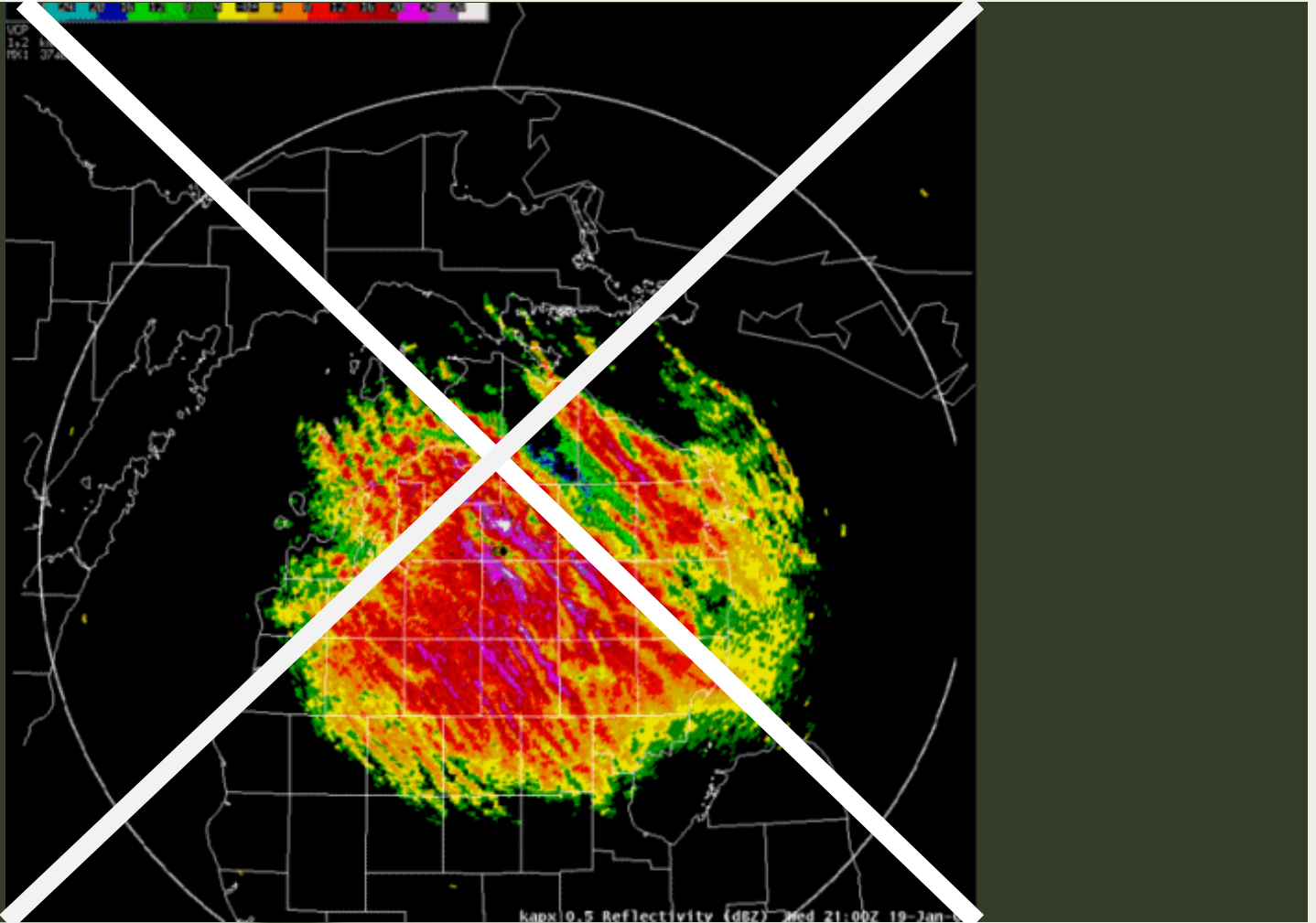## Rain or No Rain?
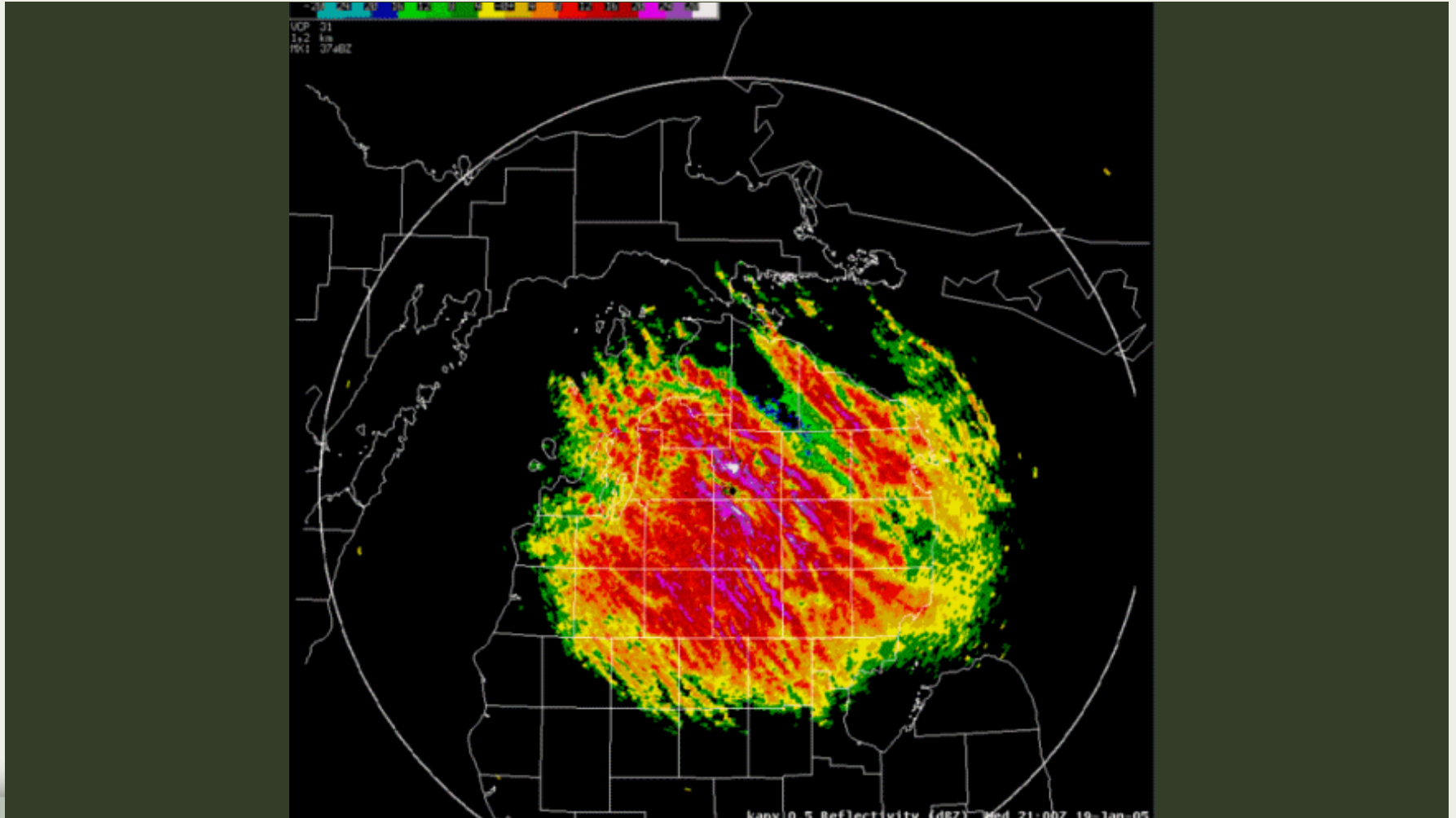
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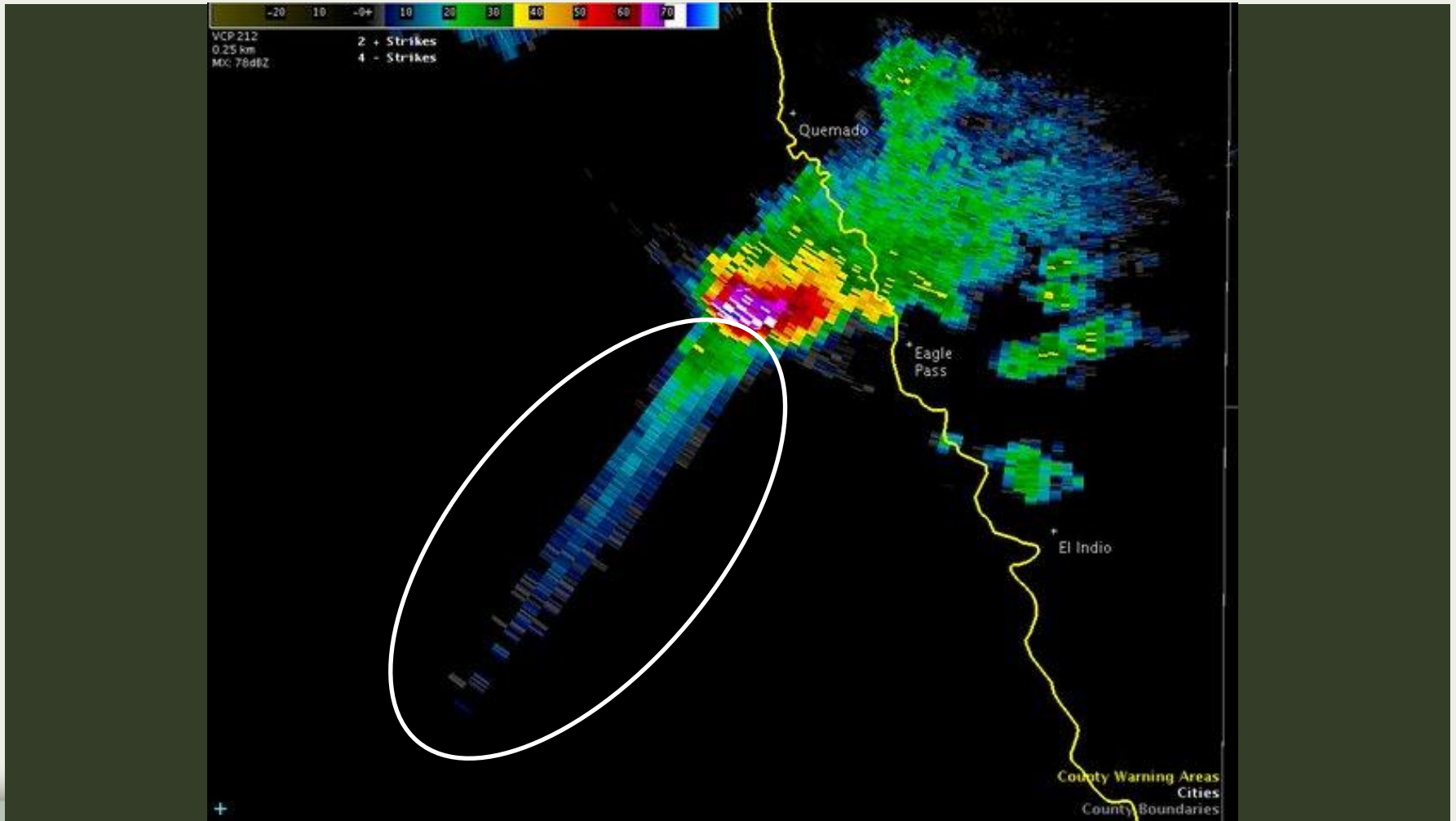## Rain or No Rain?
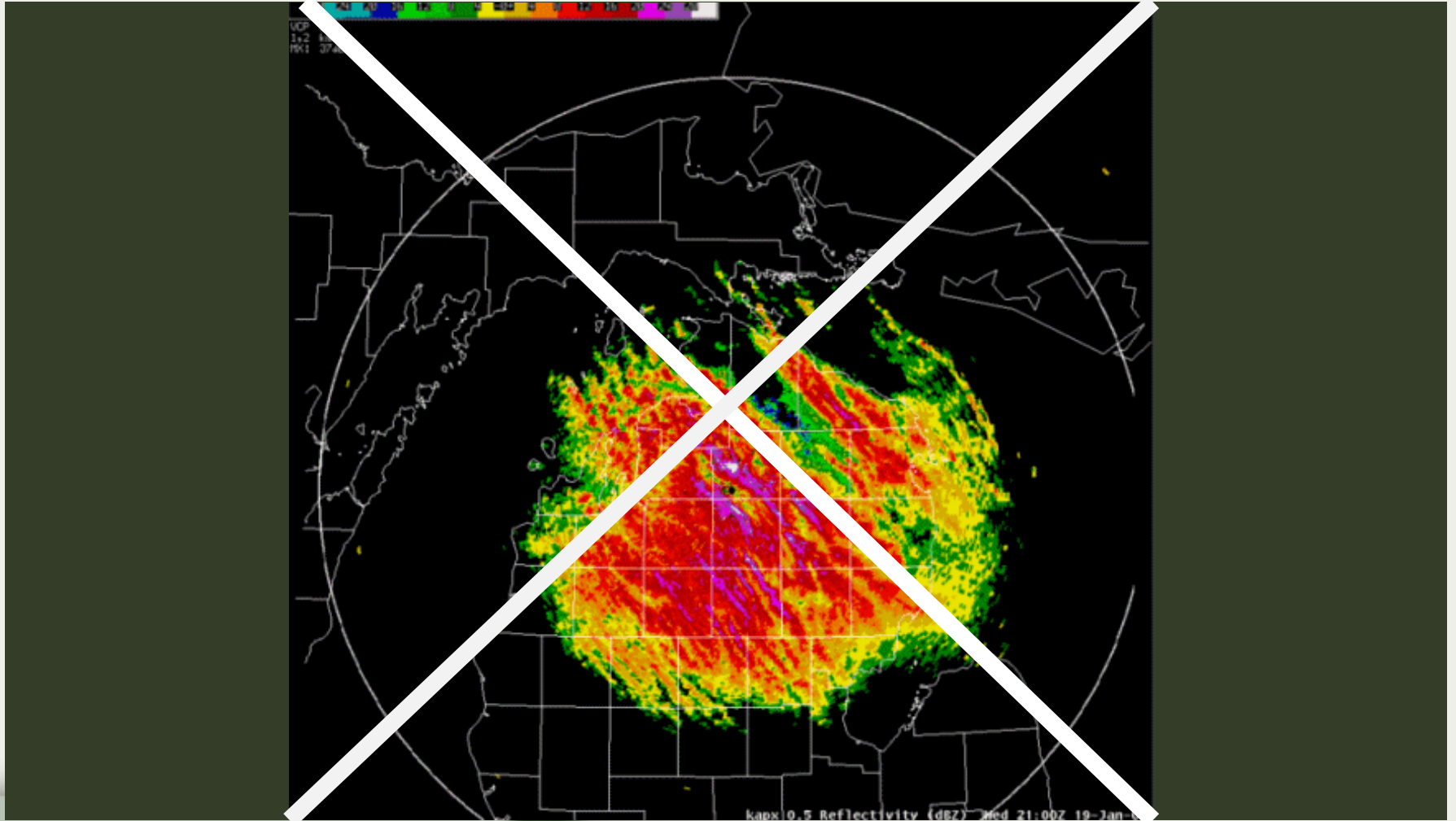
RADAR IMAGES
Rain or No Rain?

YES....

It's
Actually
Snow

RADAR IMAGES
Rain or No Rain?

RADAR IMAGES
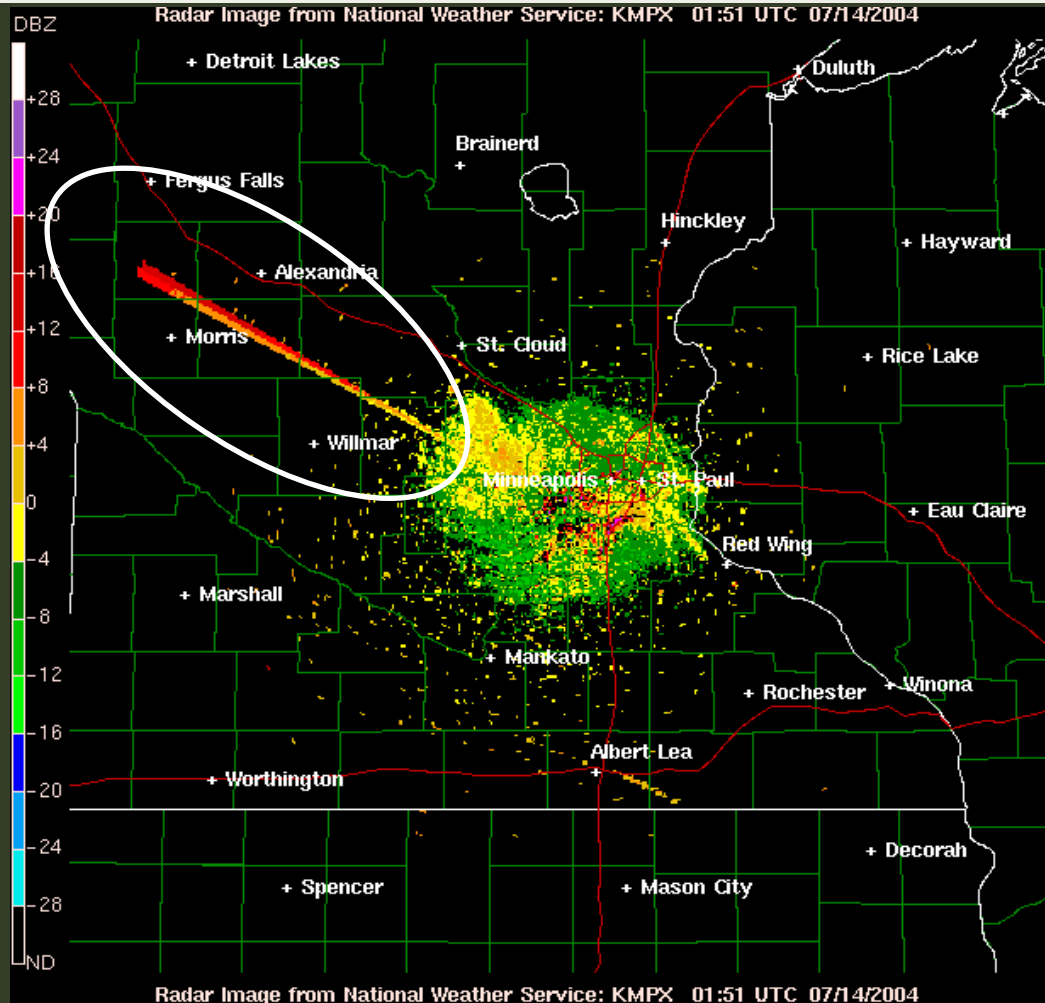## Rain or No Rain?

NO....

It's Actually
A Hail Spike
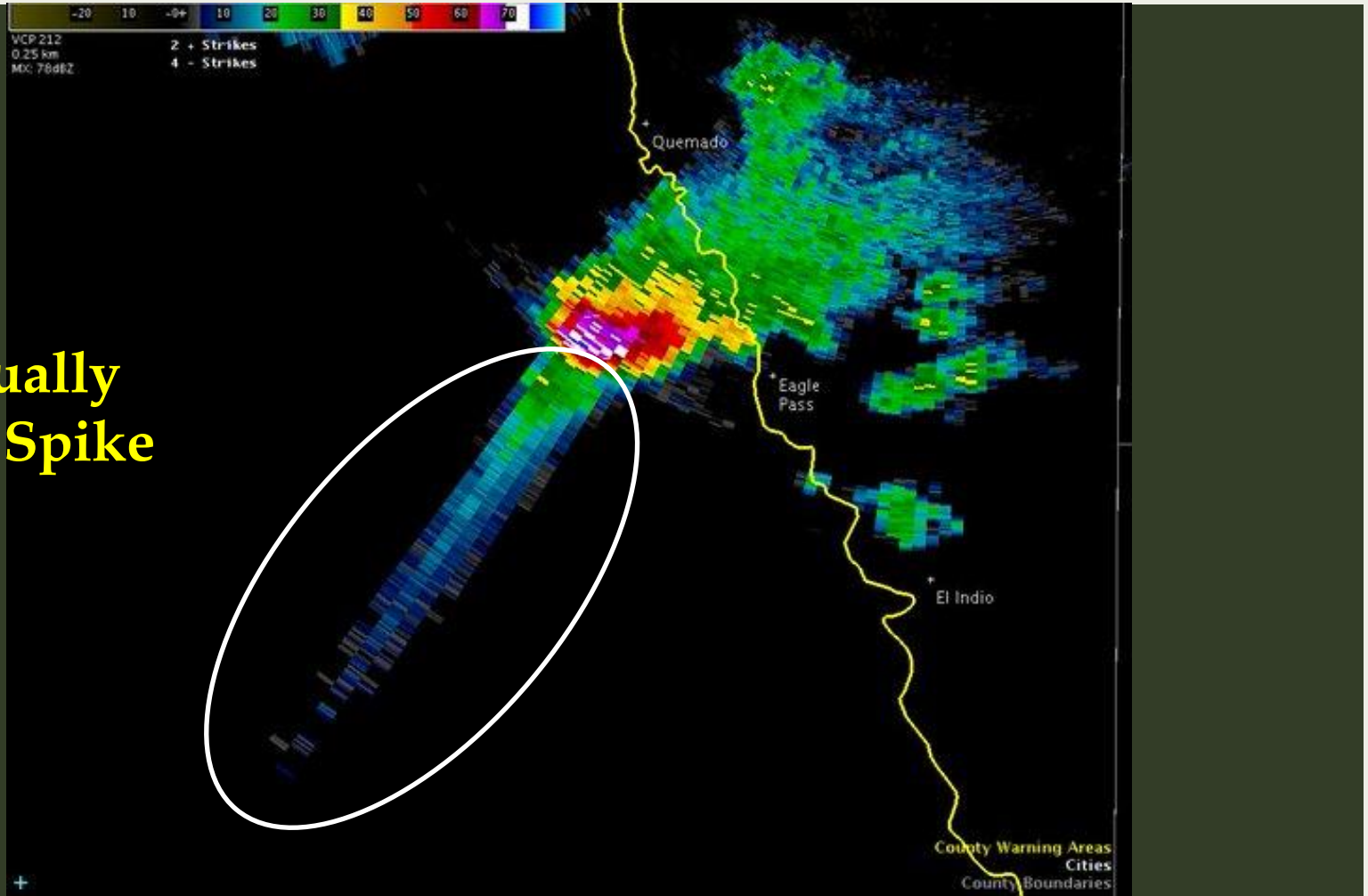
RADAR IMAGES
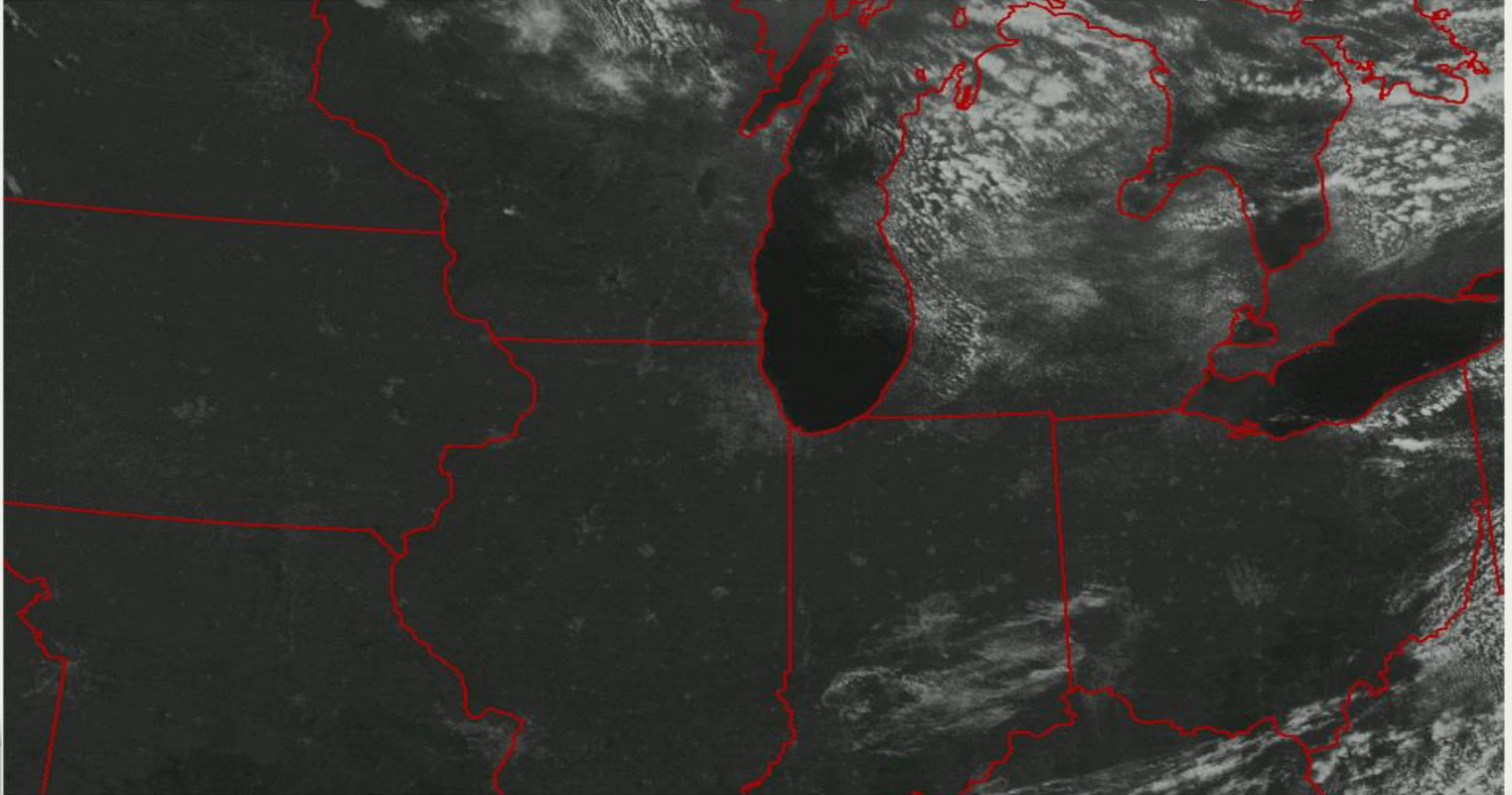## Rain or No Rain?

NO....

It's
Actually
A
Sunset
Spike

Radar Image from National Weather Service: KMPX 01:51 UTC 07/14/2004

SATELLITE IMAGES
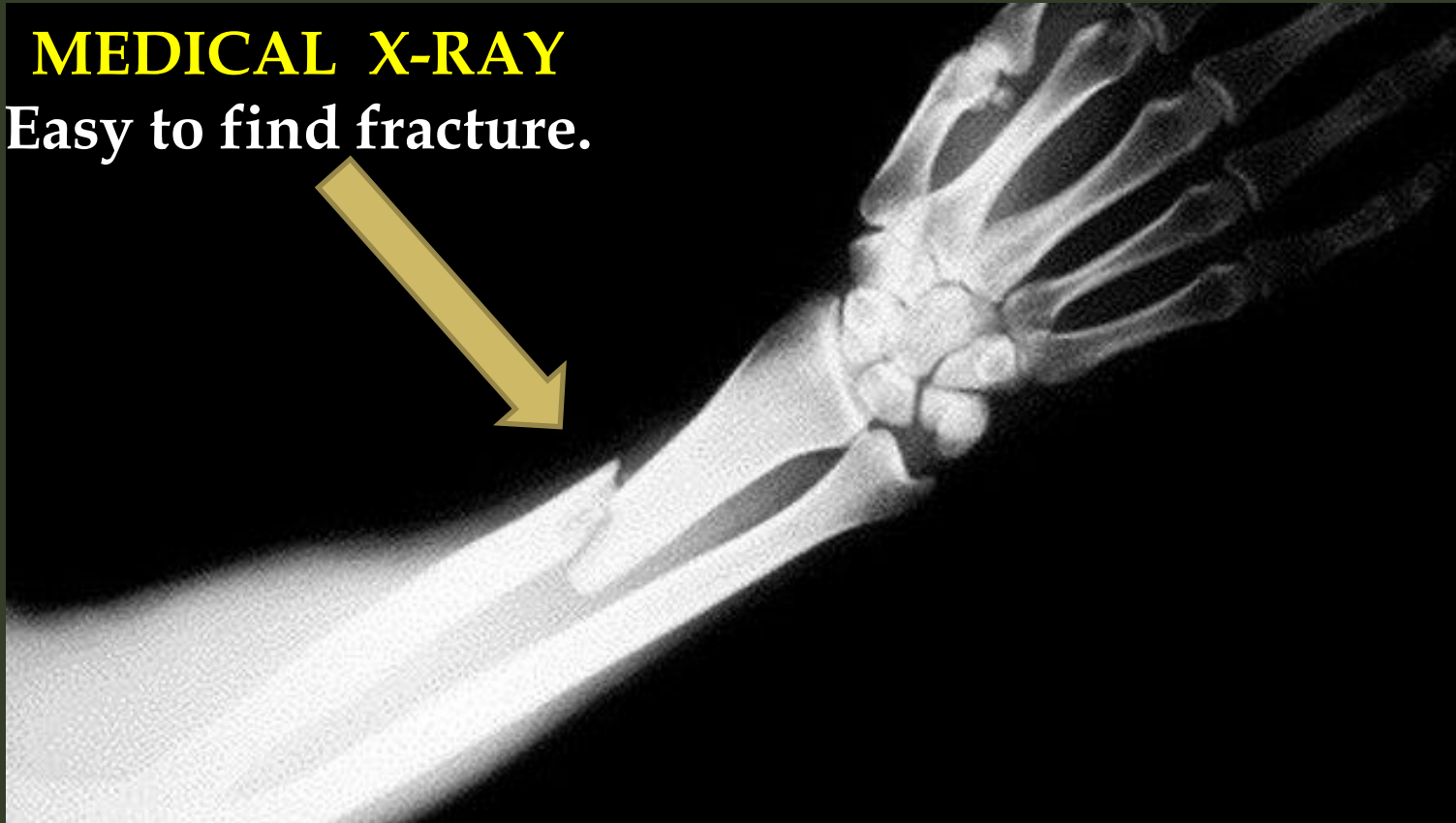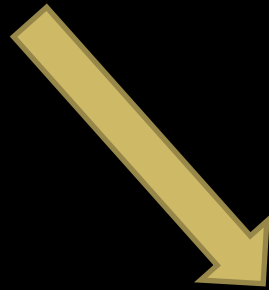
SATELLITE IMAGES

MEDICAL X-RAY

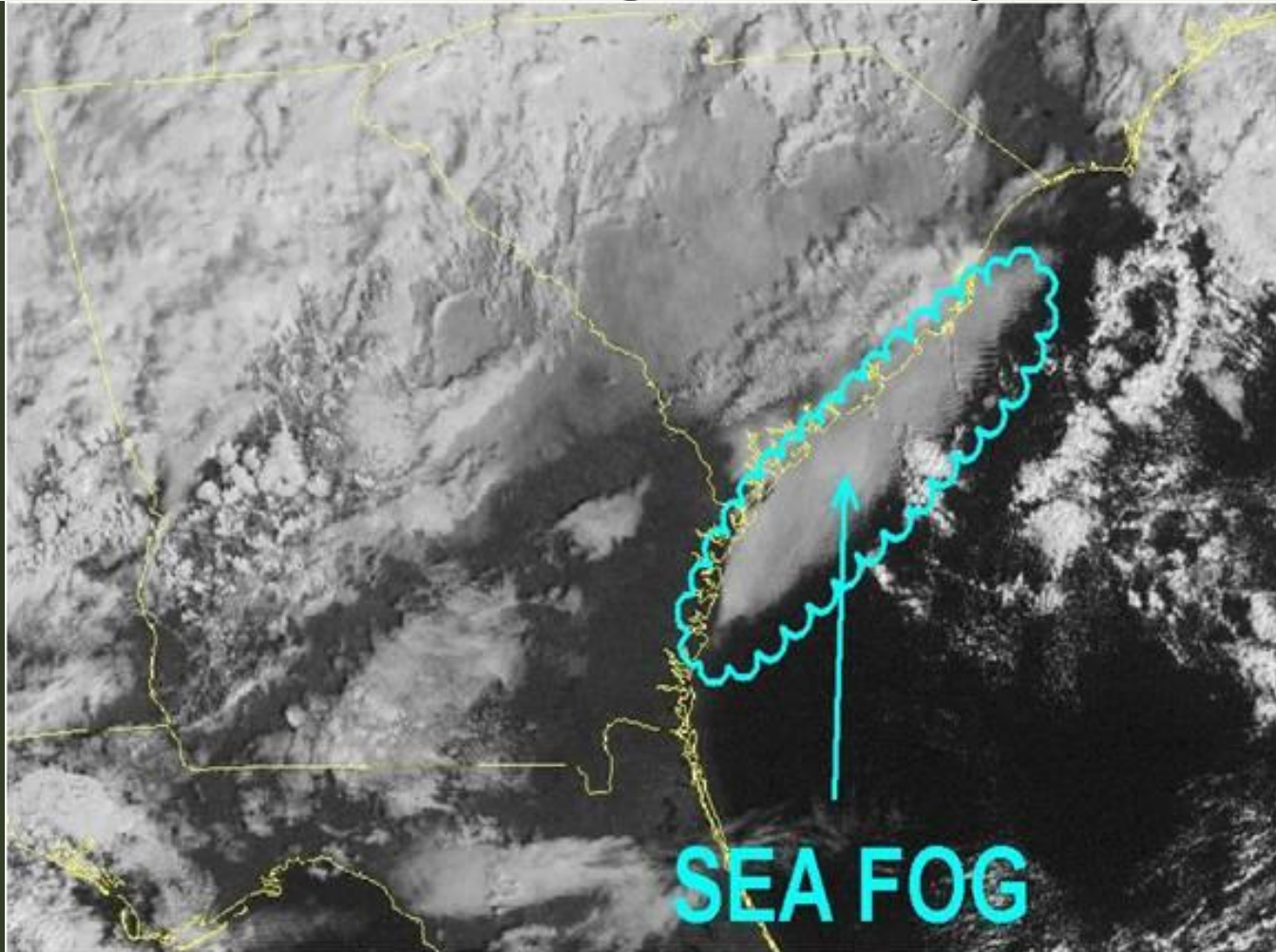**MEDICAL X-RAY**
Easy to find fracture.

X-RAY
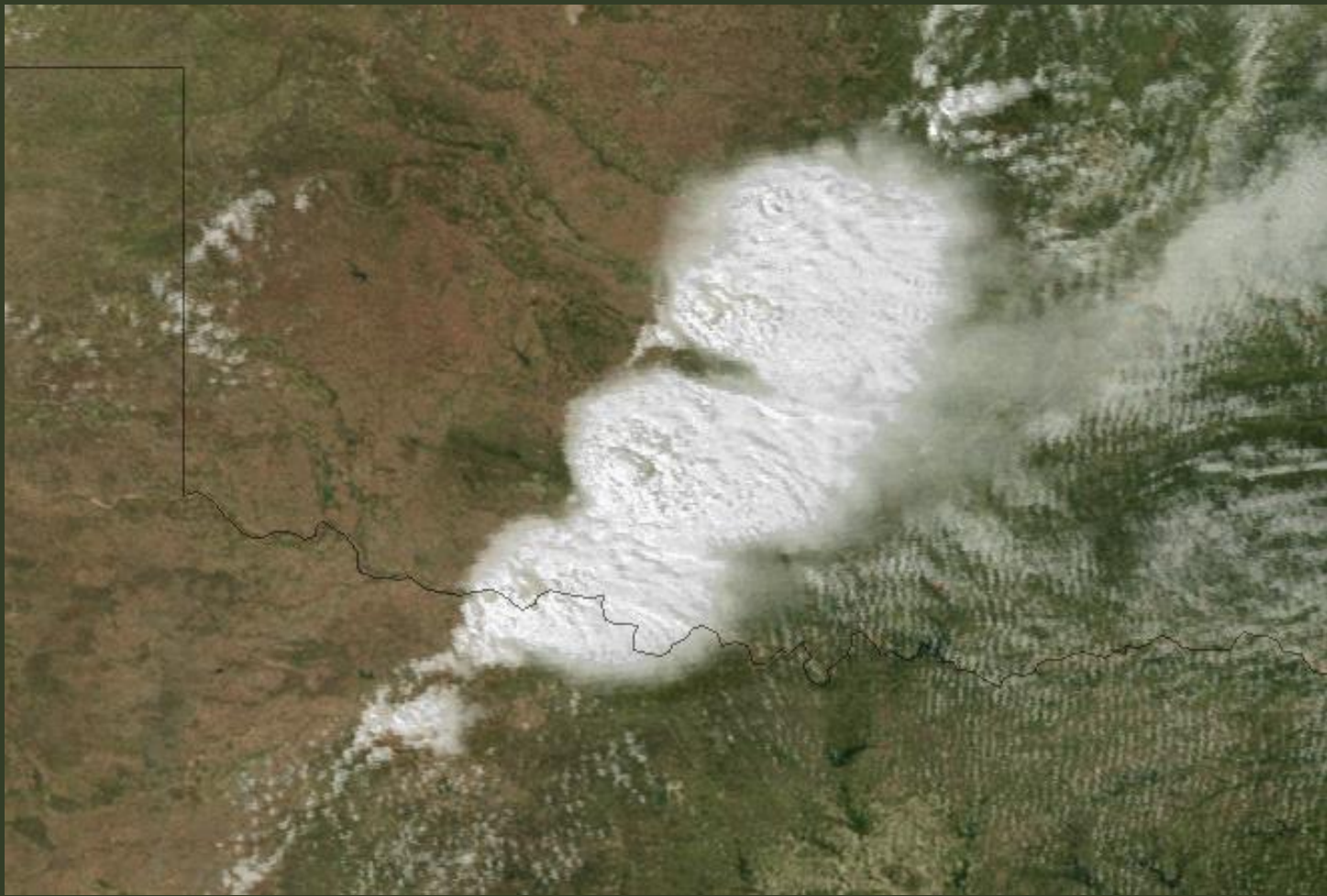## Harder to find hair-line fracture
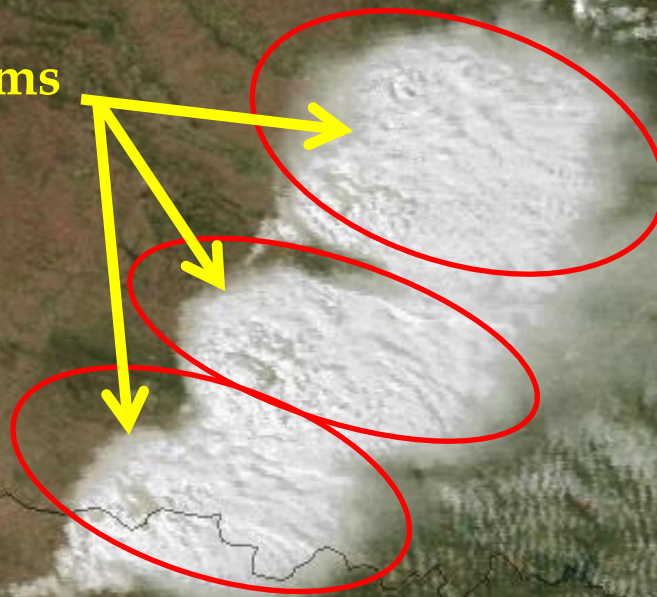
SATELLITE IMAGES
Meteorologists X-rays

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Three Separate
Supercell
Thunderstorms

LIGHTNING

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LIGHTNING MYTHS

1.) Lightning never strikes the same place twice.

2.) Rubber tires on the car or golf cart protect you from lightning.

3.) Safe from lightning if it is not raining or no clouds overhead.

4.) Lightning never strikes the ocean.

5.) Lightning always strikes the tallest object.

6.) Lightning can't strike me if I'm indoors.

LIGHTNING MYTHS

Lightning strikes
The Burj in
Dubai dozens of
Times a year.

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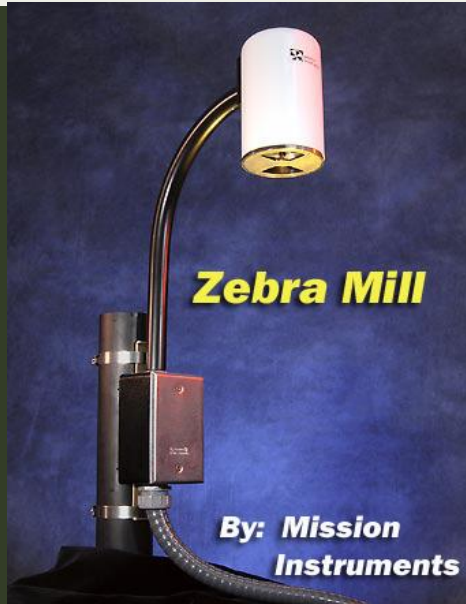**BOLT OUT OF THE BLUE**
Up to 60 miles from the cloud!

LIGHTNING DETECTORS

LIGHTNING DETECTORS

SUMMARY

Weather apps and weather websites are ok for personal use

BUT

When Club Managers and Superintendents are faced with making those critical decisions that impact their customers and staff, let a trained professional meteorologist help to ensure your decision is the right one.

"We Track the Storm and Give You Time to Prepare."

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QUESTIONS ???