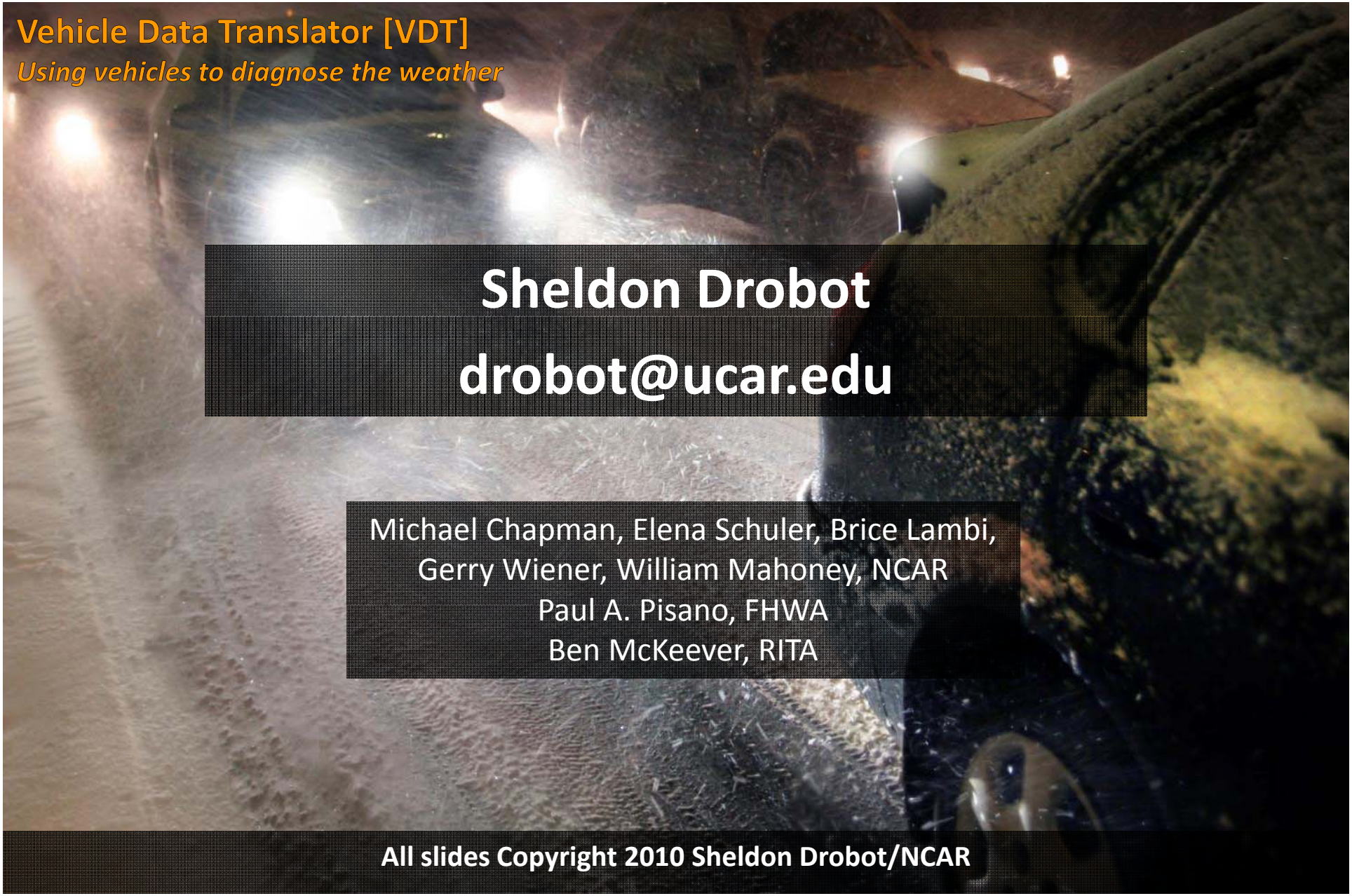
AWARE Today. ALIVE Tomorrow.



Vehicle Data Translator [VDT]

Using vehicles to diagnose the weather

Sheldon Drobot

drobot@ucar.edu

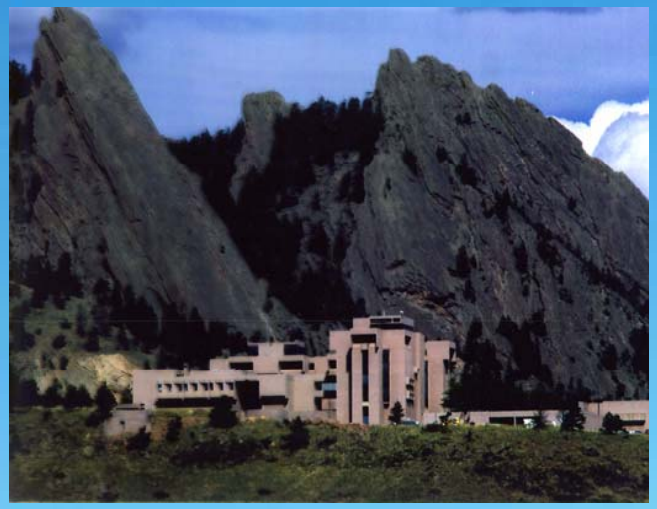
Michael Chapman, Elena Schuler, Brice Lambi,
Gerry Wiener, William Mahoney, NCAR
Paul A. Pisano, FHWA
Ben McKeever, RITA

All slides Copyright 2010 Sheldon Drobot/NCAR

Objective

- **Outline NCAR research through the lens of a potential I-80 Coalition project**

NCAR



Mesa Lab

Foothills Lab Campus

Aviation Facility

Center Green Campus

Research Applications Laboratory

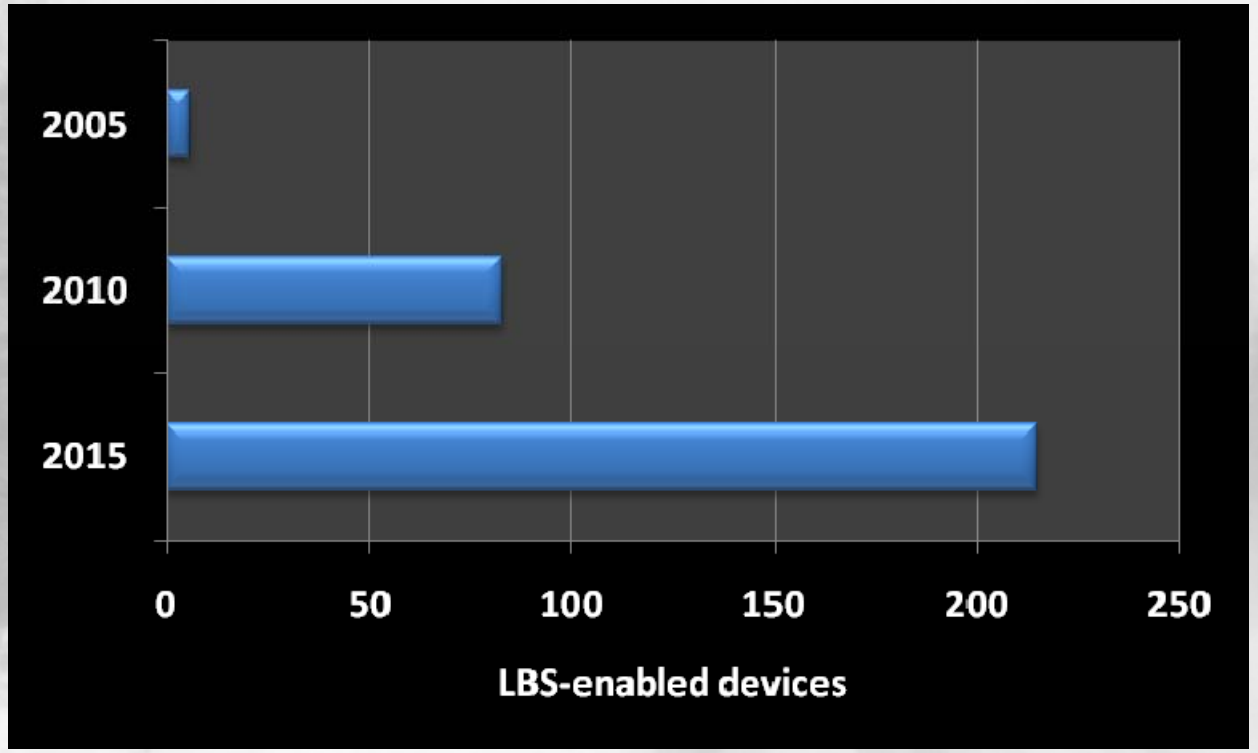
- **RAL**
  - One of five laboratories of NCAR
  - About 200 people, approximately half are atmospheric scientists, and half are software engineers
- **Mission**
  - Transfer knowledge and technology to US government agencies, the private sector, and foreign governments

NCAR

The promise of mobile observations

NCAR

Transportation market trends



- 2016, connectivity will be a “critical buying consideration” on par with fuel efficiency, safety, etc.
- 2020, 30-90 million connected vehicles.

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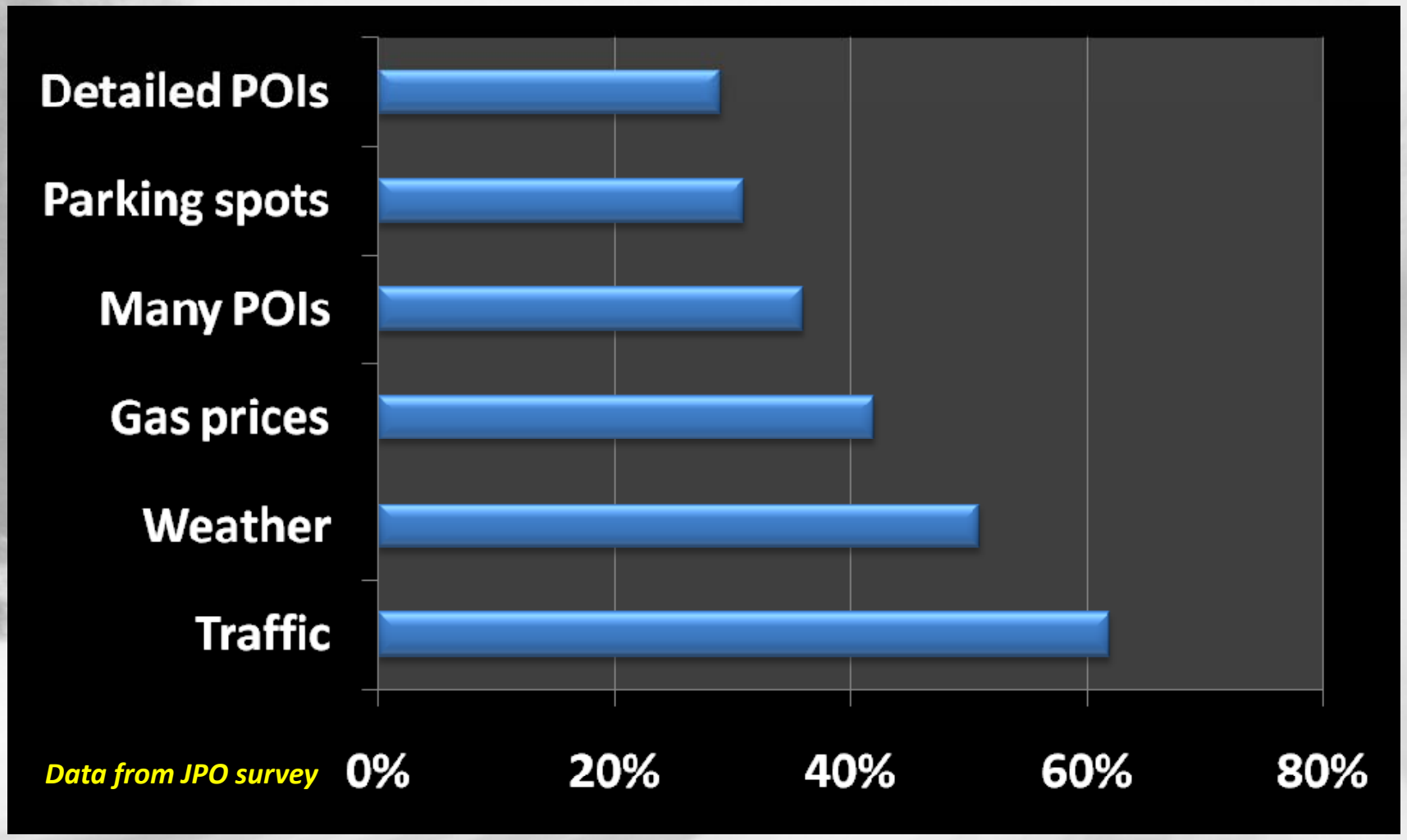
Consumer interest in transportation information



NCAR

The IntelliDrive℠ initiative

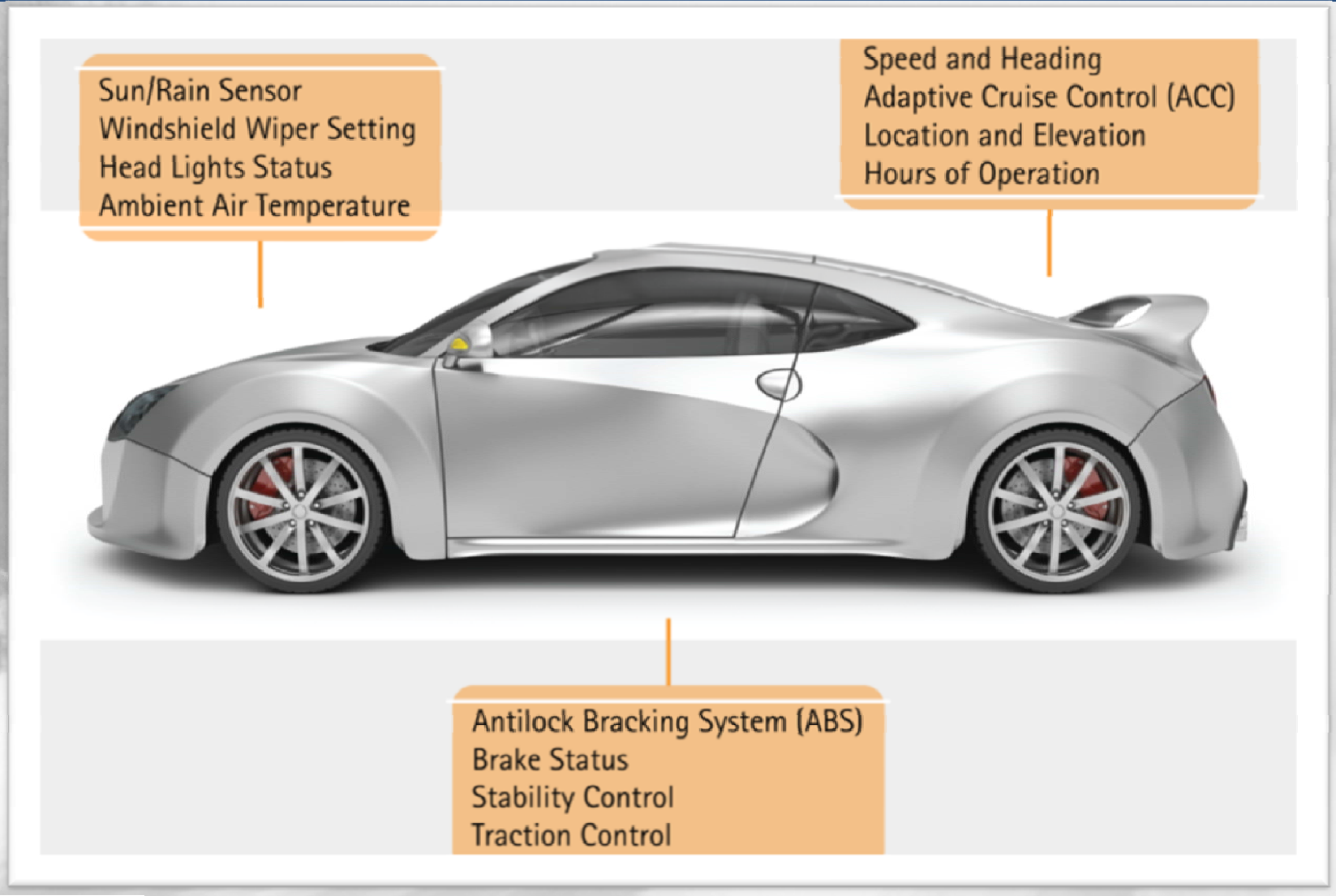
- IntelliDrive℠ is a suite of technologies and applications that use wireless communications
- IntelliDrive℠ applications provide connectivity:
  - with and among vehicles
  - between vehicles and the roadway infrastructure
  - among vehicles, infrastructure, and wireless devices (consumer electronics, such as cell phones and PDAs) that are carried by drivers, pedestrians, and bicyclists

IntelliDrive℠ Safer. Smarter. Greener.

http://www.intellidriveusa.org

NCAR

Vehicle data in IntelliDrive[SM]



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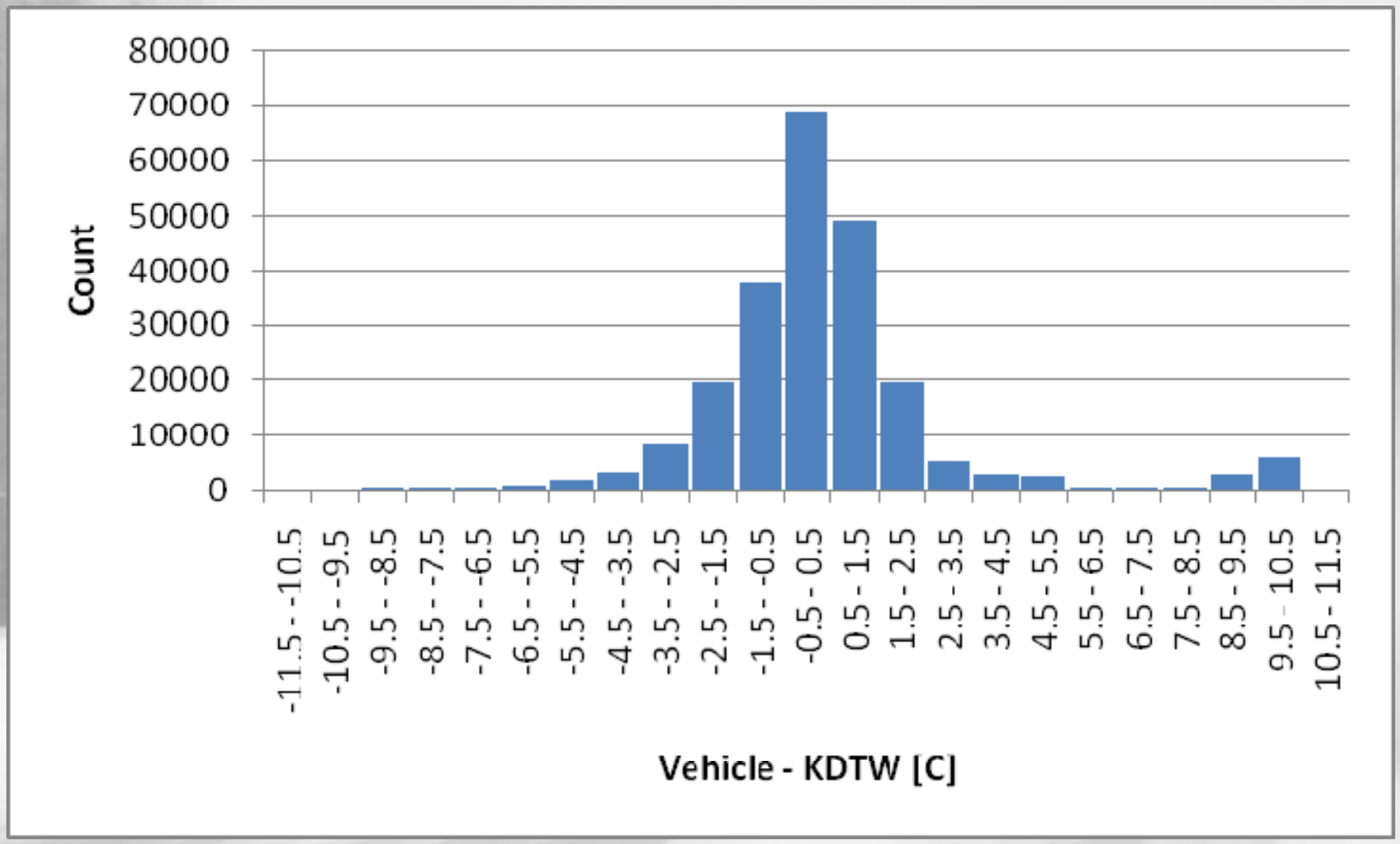
Temperature accuracy (DTE09)



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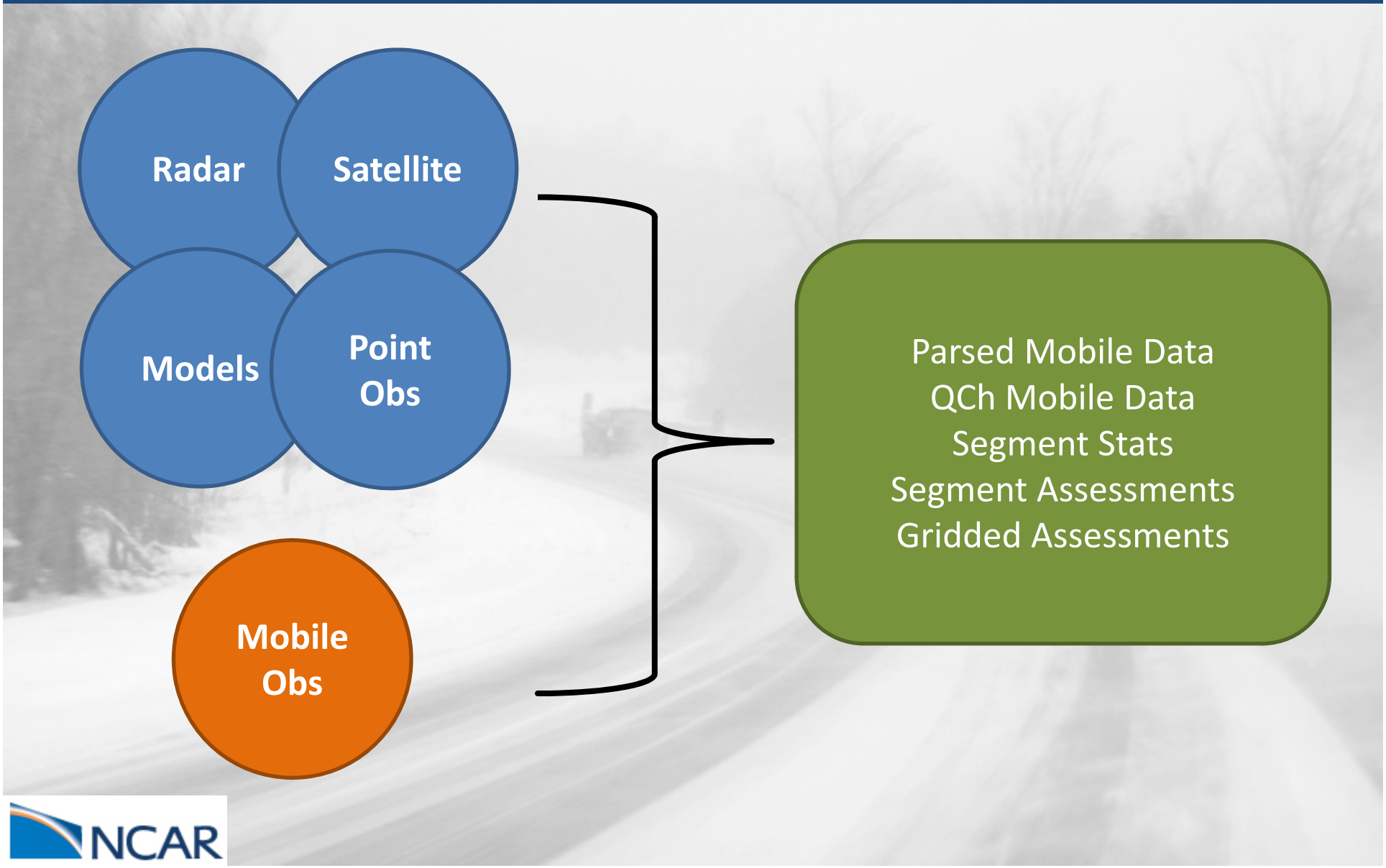
Vehicle Data Translator (VDT) Concept



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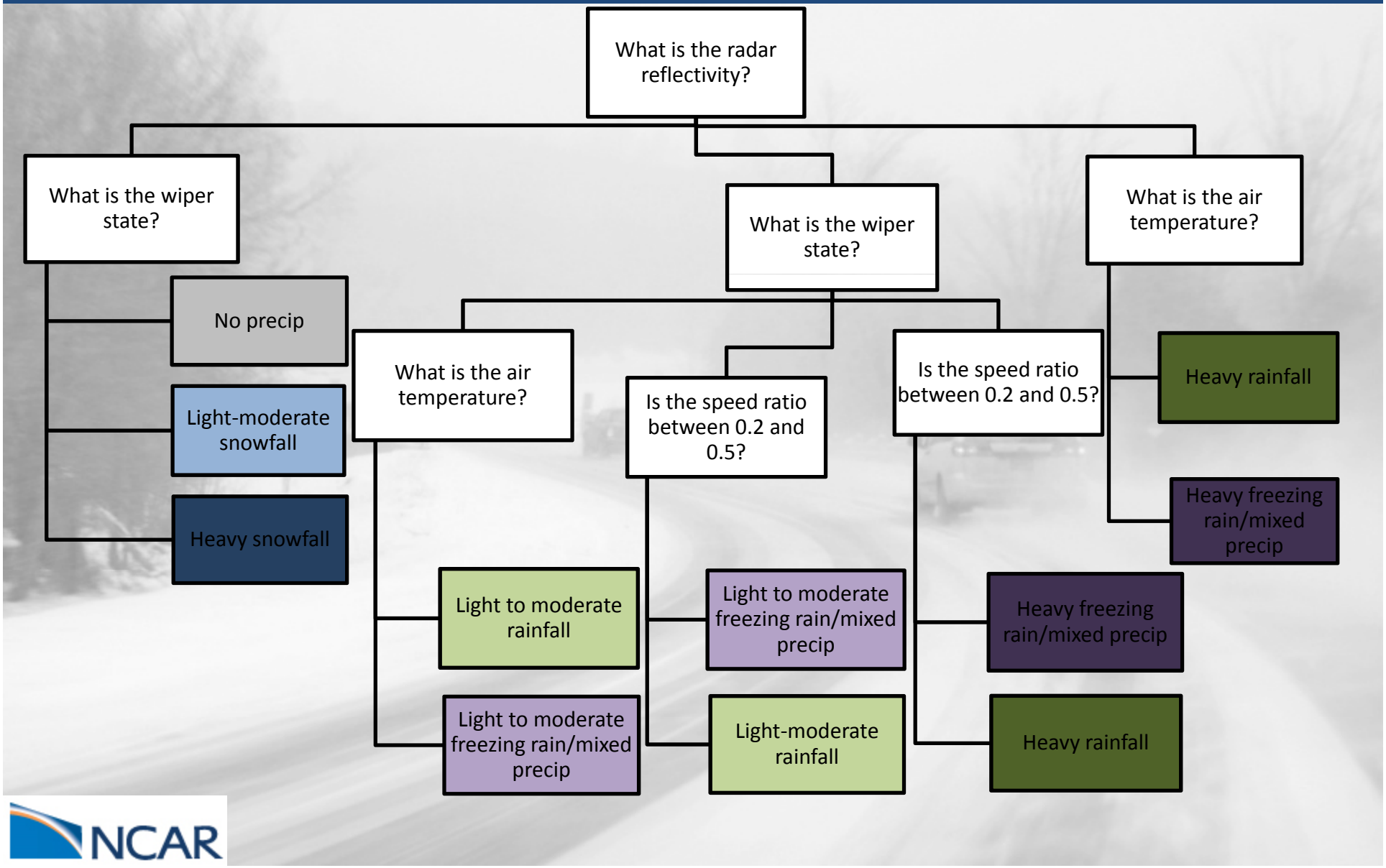
Mixed


What is the radar reflectivity?
What is the wiper state?
No precip
Light-moderate snowfall
Heavy snowfall
What is the air temperature?
Light to moderate rainfall
Light to moderate freezing rain/mixed precip
What is the wiper state?
Is the speed ratio between 0.2 and 0.5?
Light to moderate freezing rain/mixed precip
Light-moderate rainfall
What is the air temperature?
Is the speed ratio between 0.2 and 0.5?
Heavy freezing rain/mixed precip
Heavy rainfall
Heavy rainfall
Heavy freezing rain/mixed precip

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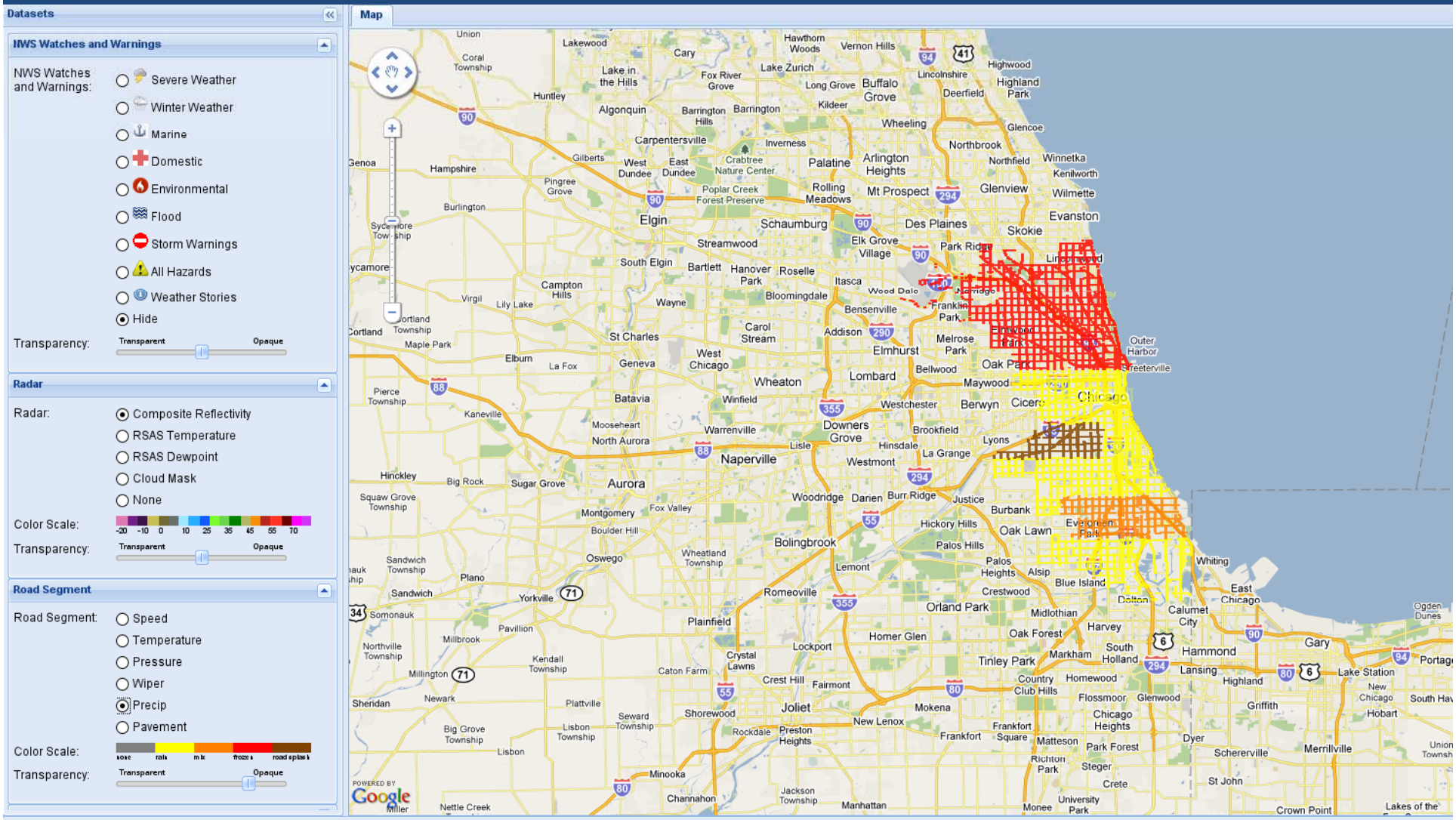
Display



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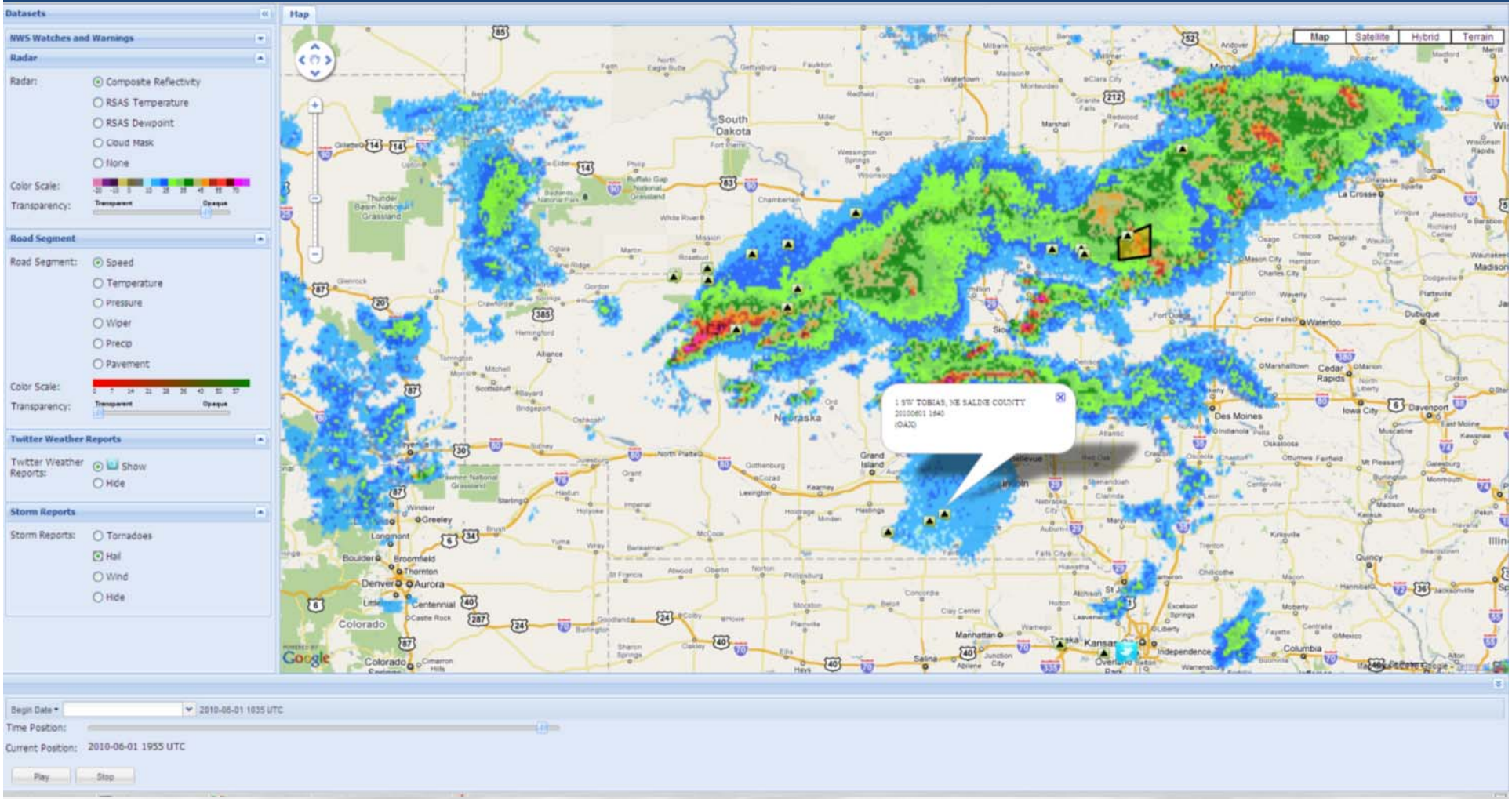
VDT display



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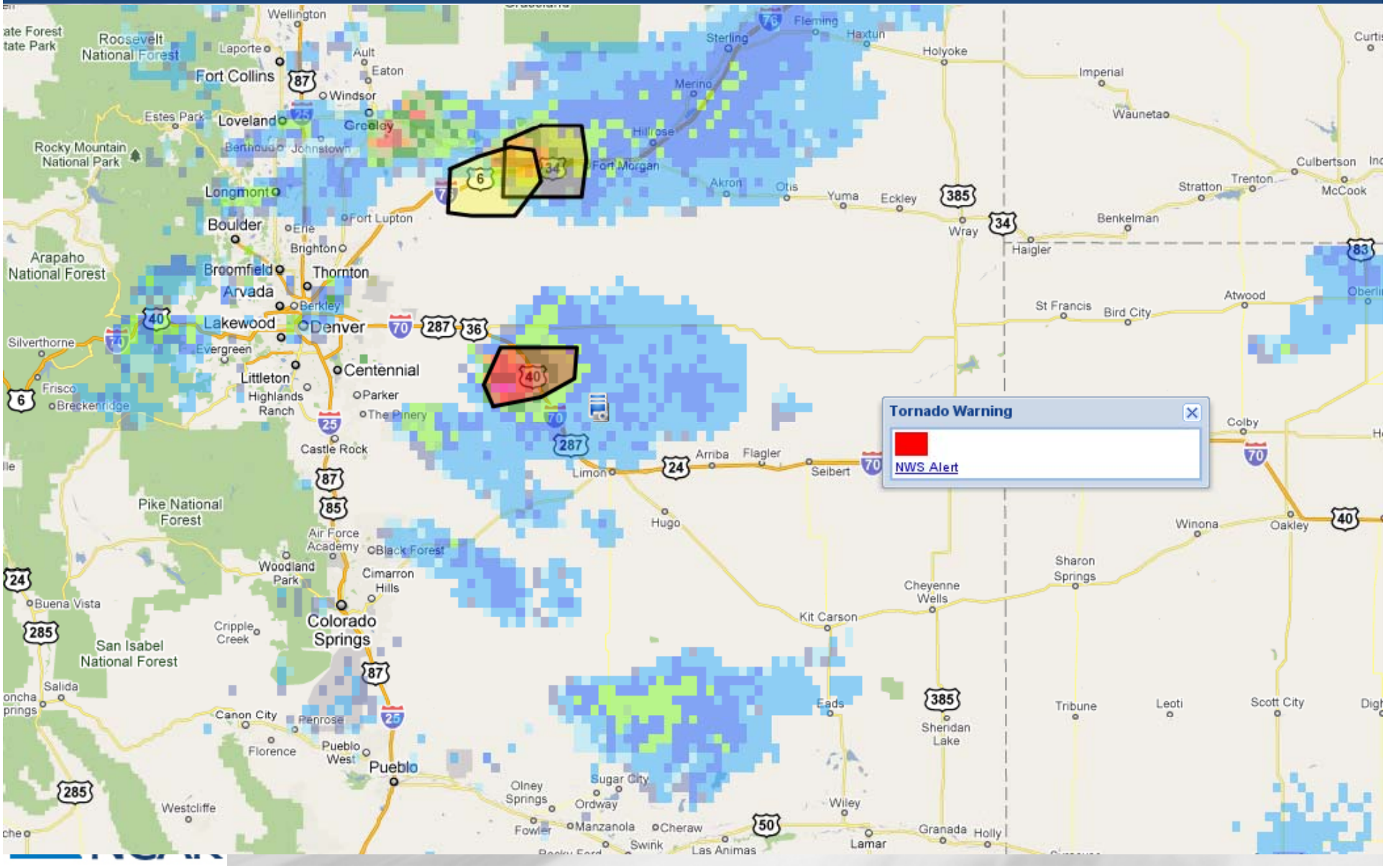
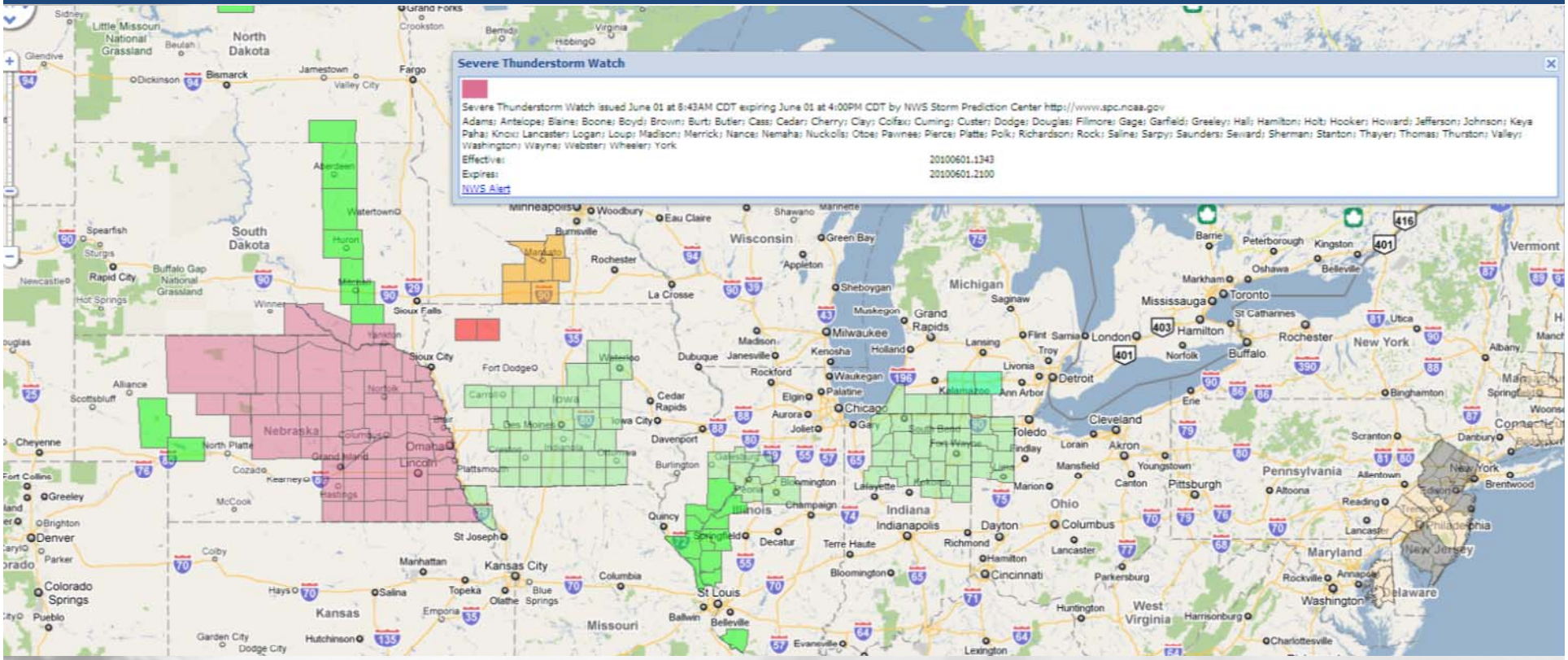
NWS Polygon Warnings



NWS watch / warning information



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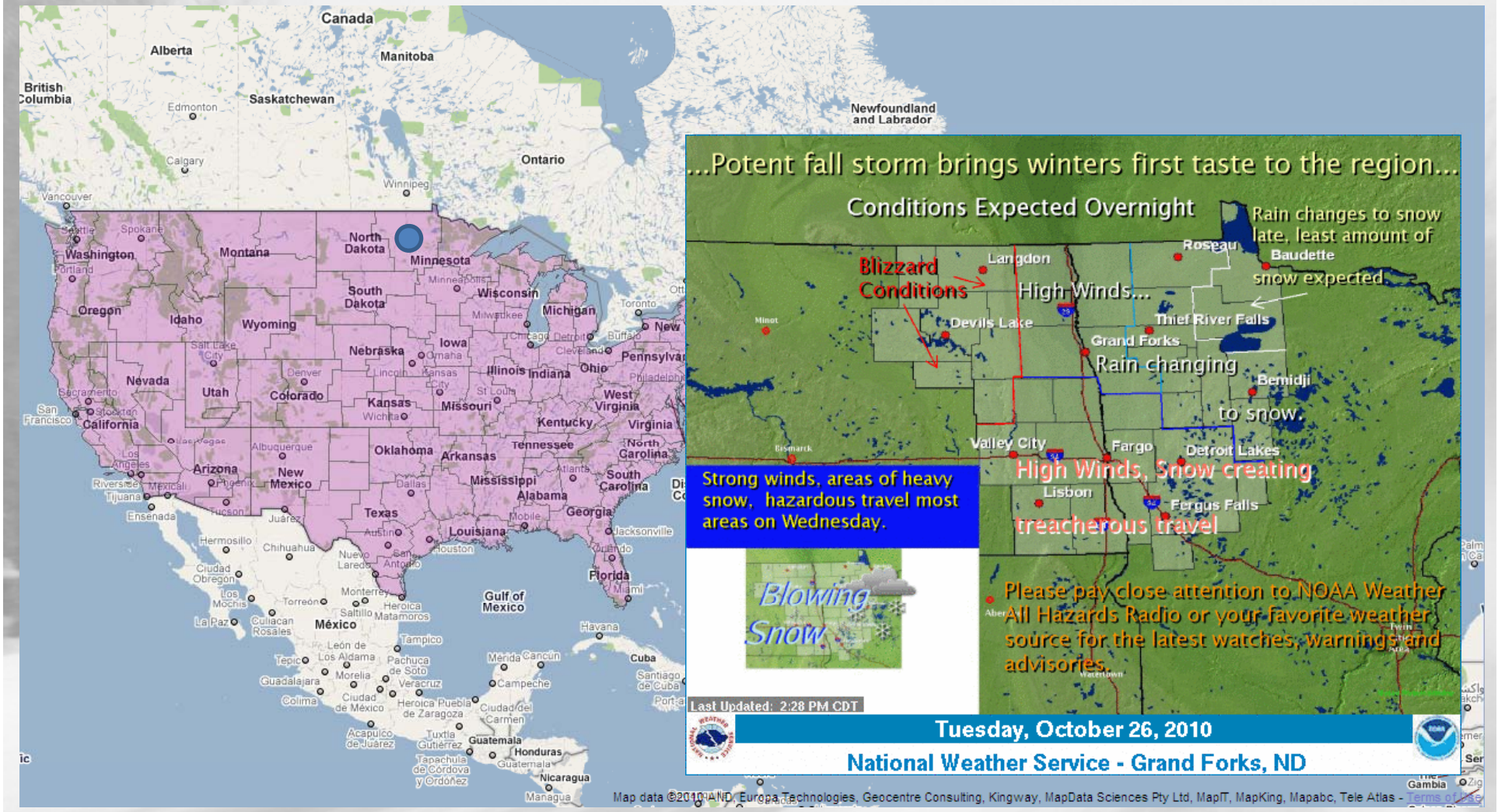
NWS Story of the Day



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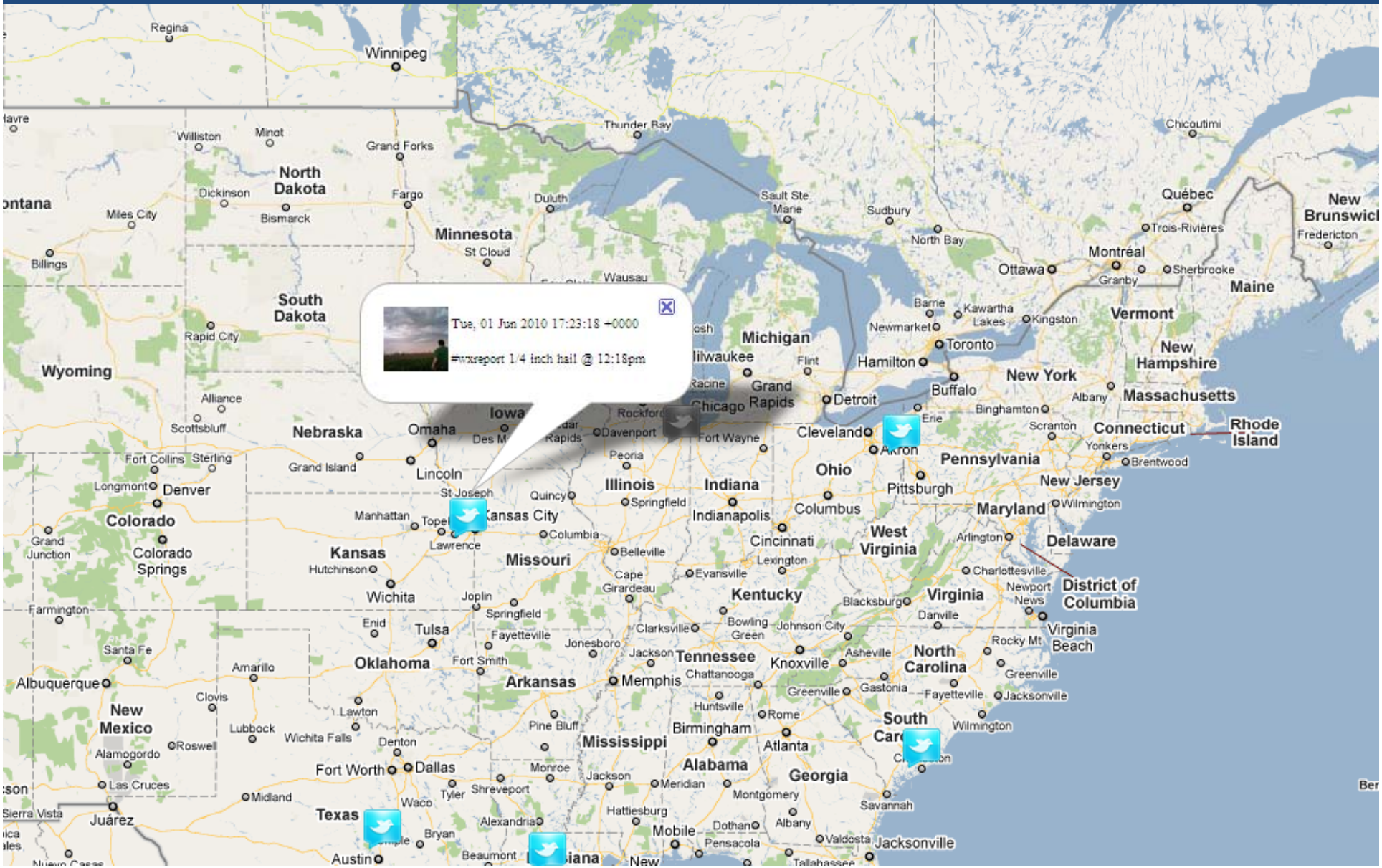
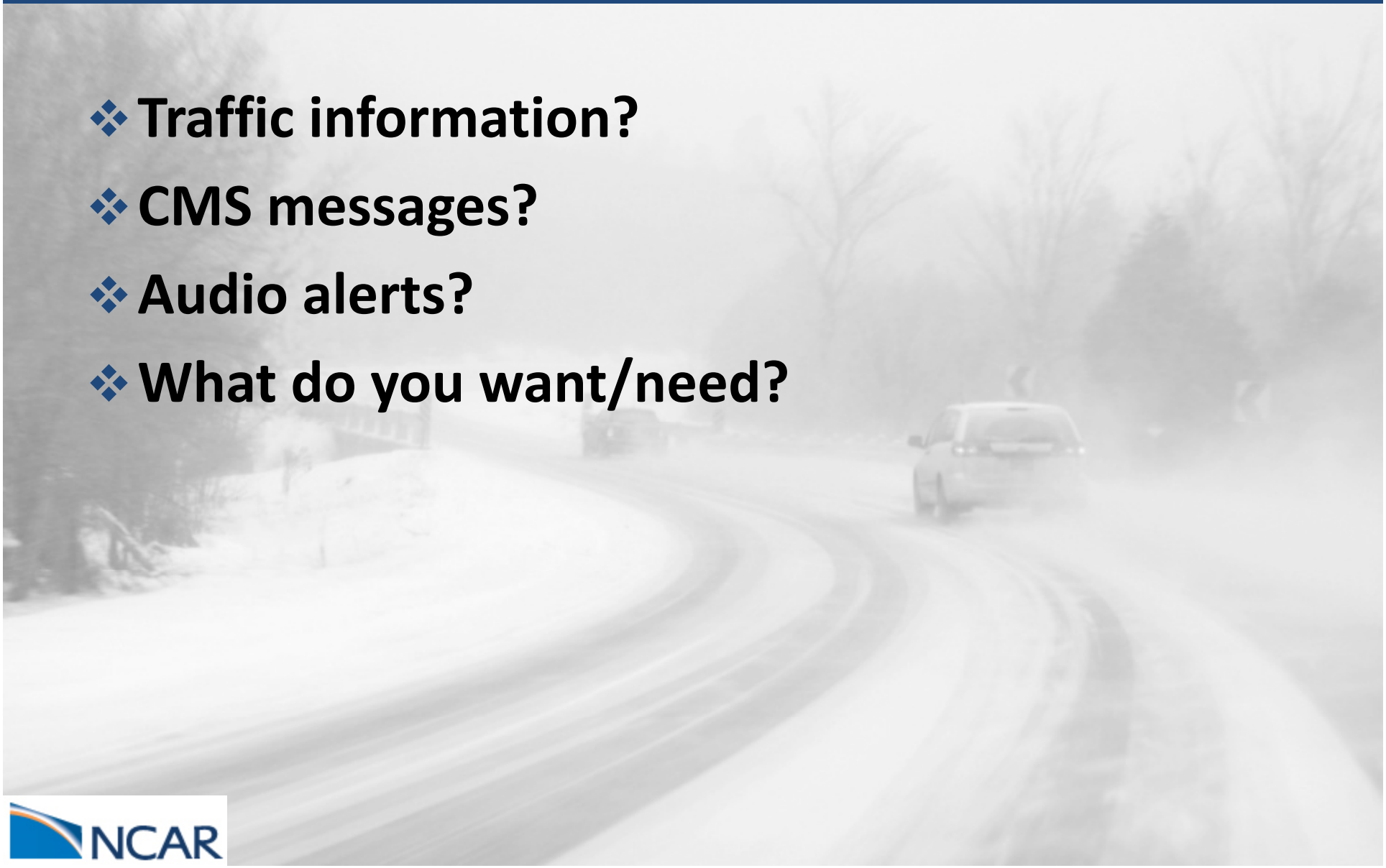
Twitter Feeds

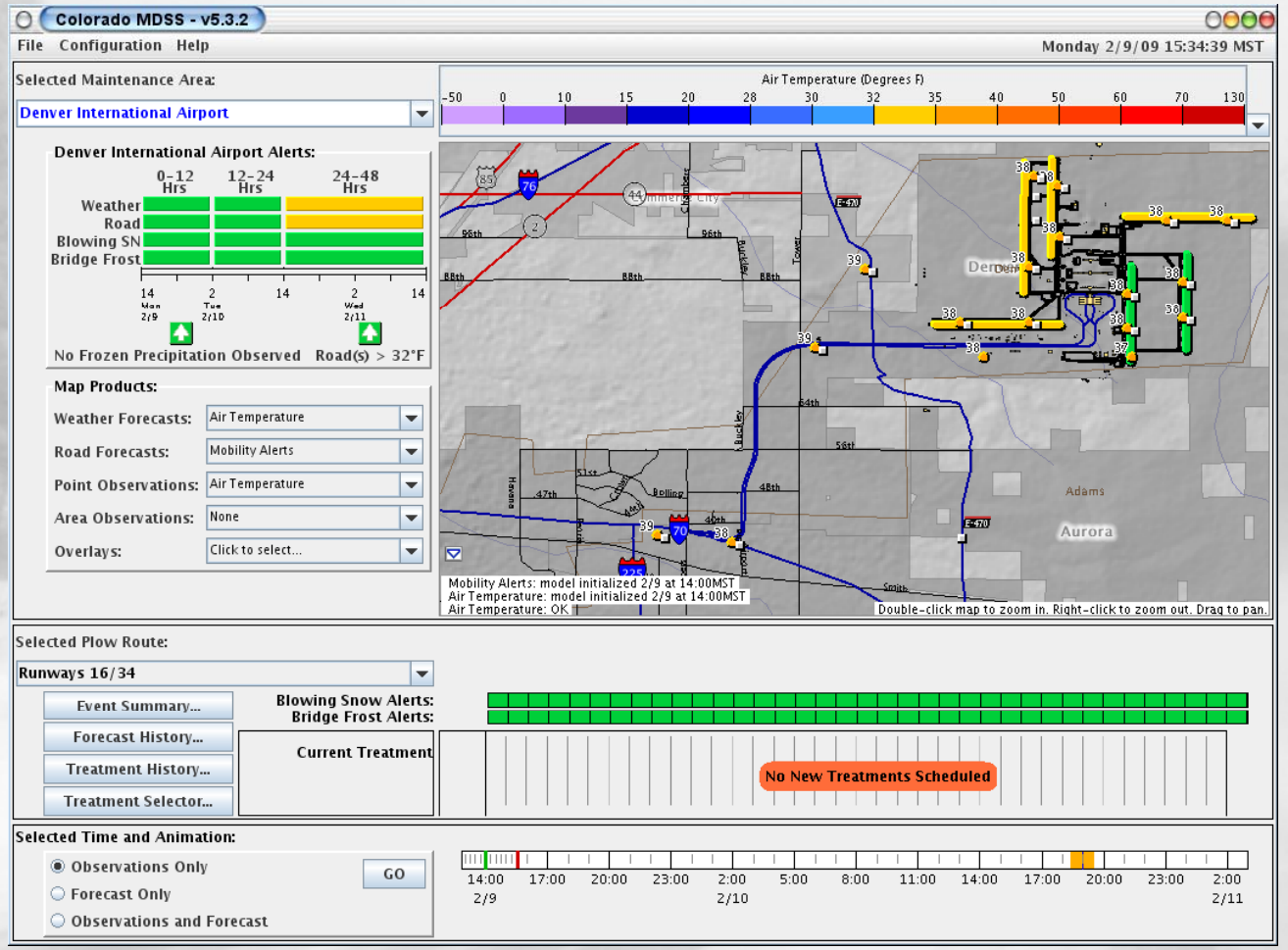


What else could we add?

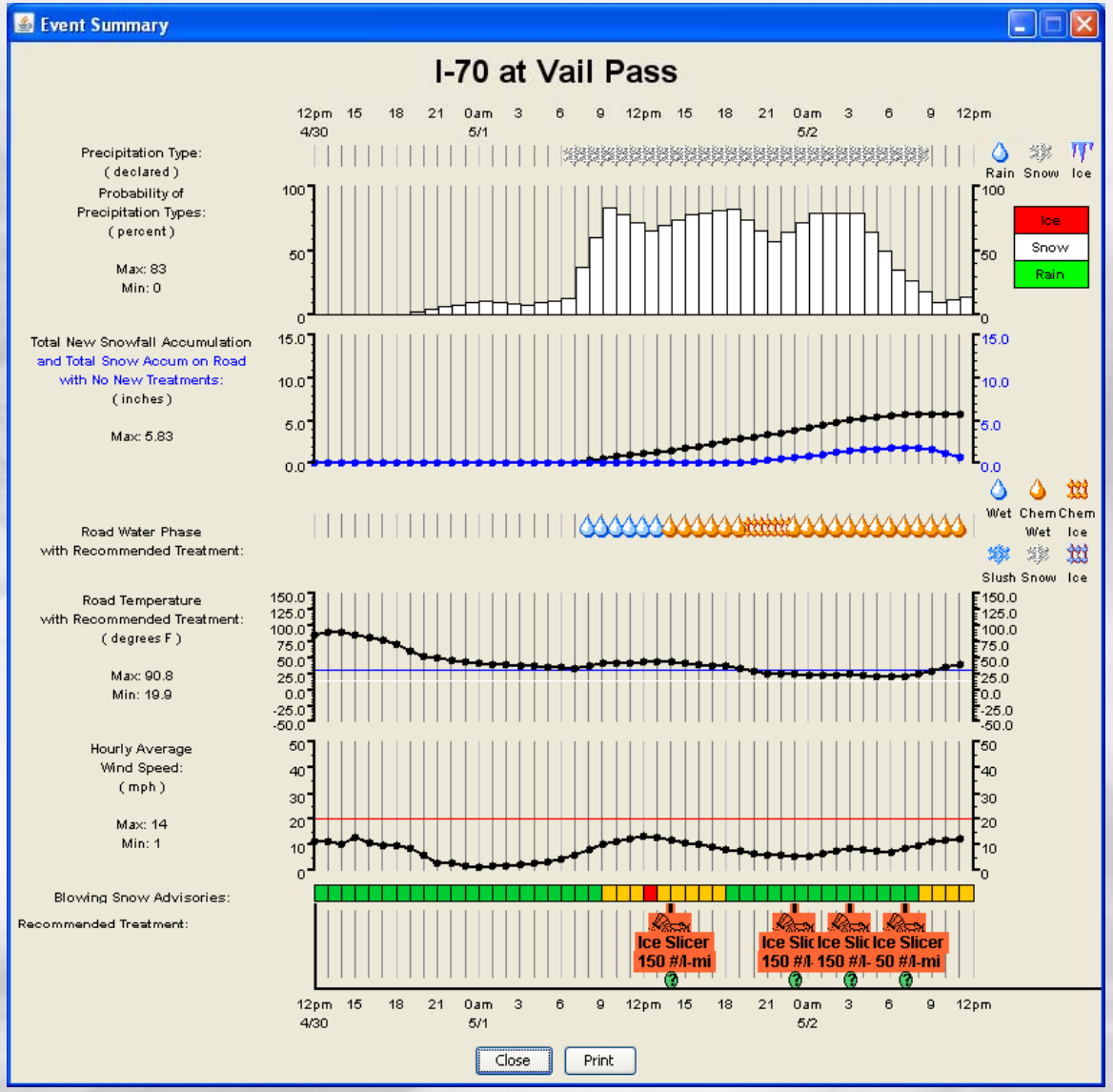


- Traffic information?
- CMS messages?
- Audio alerts?
- What do you want/need?

What about forecasts?



Event Summaries



it's not the end, it's merely the beginning