

Putting it into Practice

Boots on the Ground

Understanding Risk Boulder

October 24, 2015

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NATIONAL WEATHER SERVICE

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Provide weather, water, and climate data, **forecasts and warnings for the protection of life and property** and enhancement of the national economy.



September 9, 2014

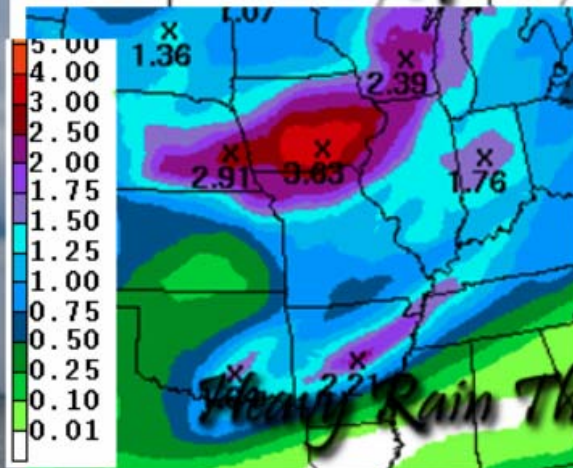
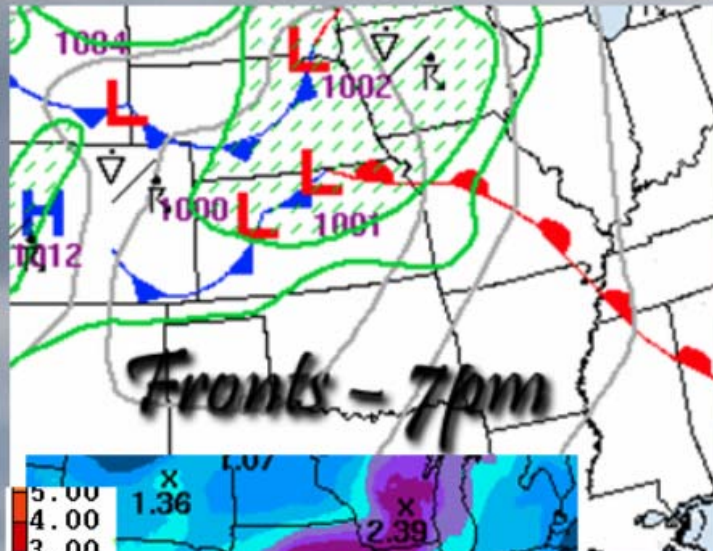
Omaha, Nebraska

ZONE FORECASTS FOR EASTERN NEBRASKA AND SOUTHWEST IOWA
NATIONAL WEATHER SERVICE OMAHA/VALLEY NE
341 AM CDT TUE SEP 9 2014

INCLUDING THE CITY OF...OMAHA
341 AM CDT TUE SEP 9 2014

.TODAY...MOSTLY SUNNY THROUGH MID MORNING...THEN MOSTLY CLOUDY WITH A CHANCE OF SHOWERS AND THUNDERSTORMS BEFORE NOON. ***CLOUDY WITH SHOWERS AND THUNDERSTORMS IN THE AFTERNOON.*** HIGHS AROUND 80. SOUTH WINDS 5 TO 15 MPH. ***CHANCE OF PRECIPITATION 90 PERCENT. {0.61 inches}***

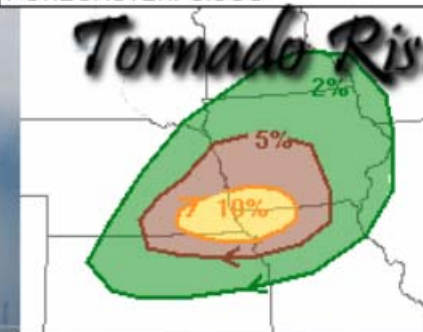
Severe Storms Possible



Severe Weather Threats



Tornado Risk



NWS Omaha/Valley, NE
www.weather.gov/Omaha

9/9/2014 10:04 AM



/US.NationalWeatherService.Omaha.gov



@NWSOmaha



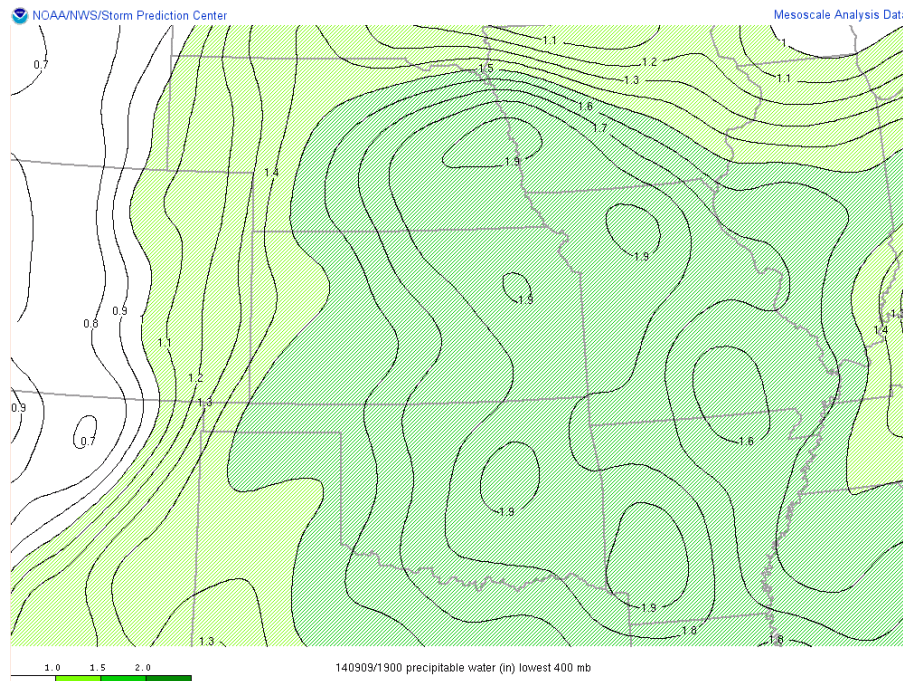
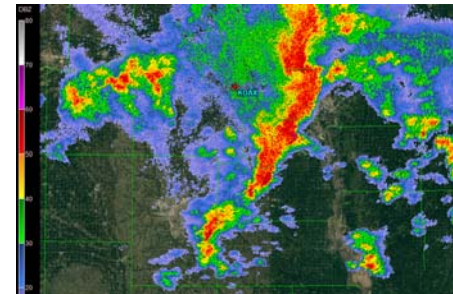
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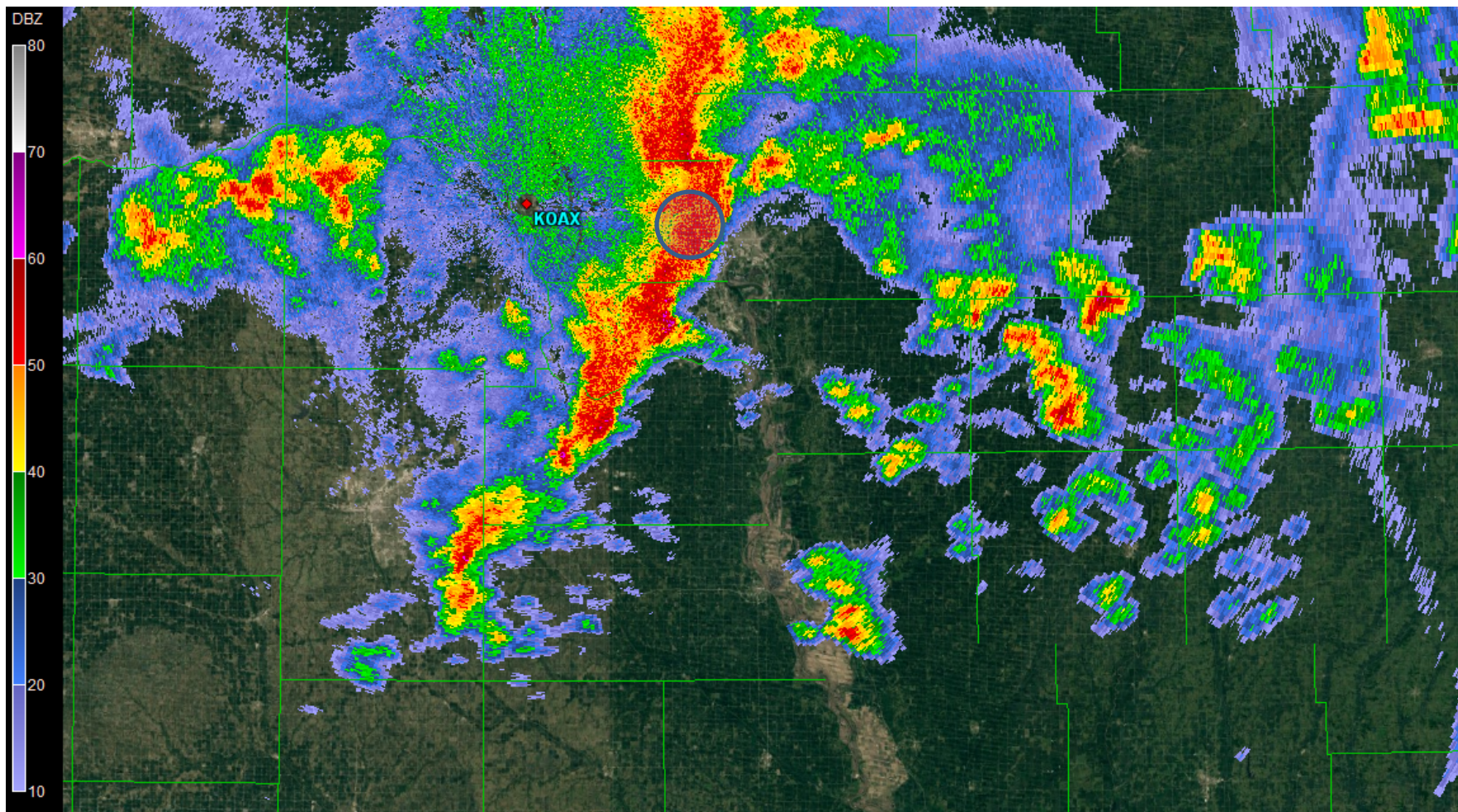
~ 3 PM September 9, 2014



Here's What I (we) Know at 3 pm

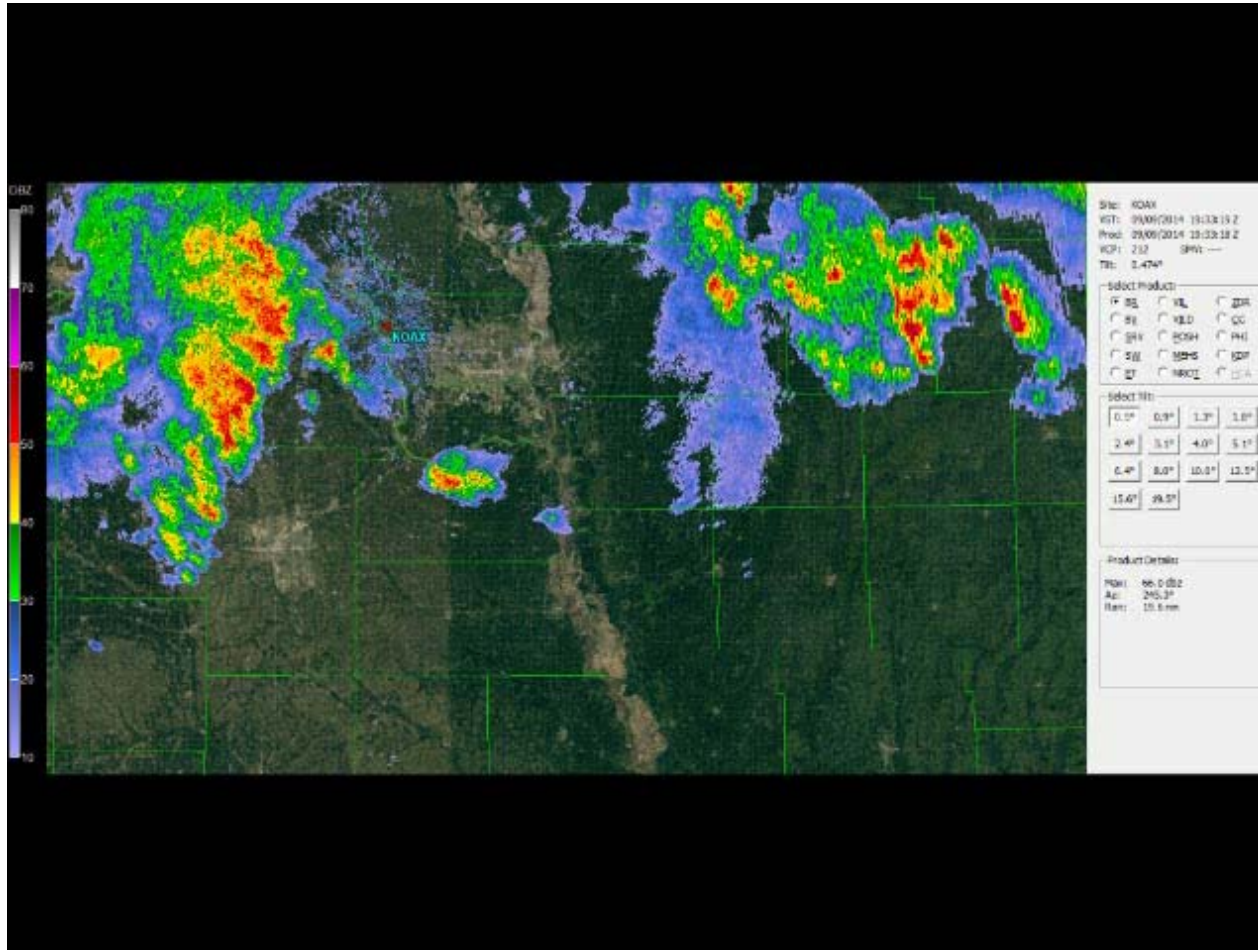
- A line of storms has developed & moving east ~35 mph
- Forecast is on track...some ingredients in place
 - Plenty of moisture
 - Storms expected to continue (nothing especially strong yet...)





September 9, 2014

Radar Loop



~ 3 PM September 9, 2014





Nick Marani

@NickMarani



Saddle Creed Road is now a class 2 rapid going under [#Dodge](#) Pretty sure those cars are stuck [@MeanStreetsOMA](#)

3:53 PM - 9 Sep 2014 · Omaha, NE, United States



From the Omaha World Herald

High water late Tuesday afternoon **trapped vehicles** in some Omaha areas, including under the bridge near Westroads Mall at West Dodge Road and Regency Parkway. When Omaha firefighters arrived, they spotted a minivan in nearly 3 feet of water. Firefighters helped a mother and three children from their blue Toyota Sienna. A man in a nearby truck was helped, too.

Other vehicles had to deal with flooding at 96th and Q Streets, 84th and Cass Streets and 90th and Burt Streets. Saddle Creek Road was flooded under the Dodge Street bridge.

1.43" in 20 minutes... ALERT gauge



24 Hour Precipitation through 7 AM 9/10/2014

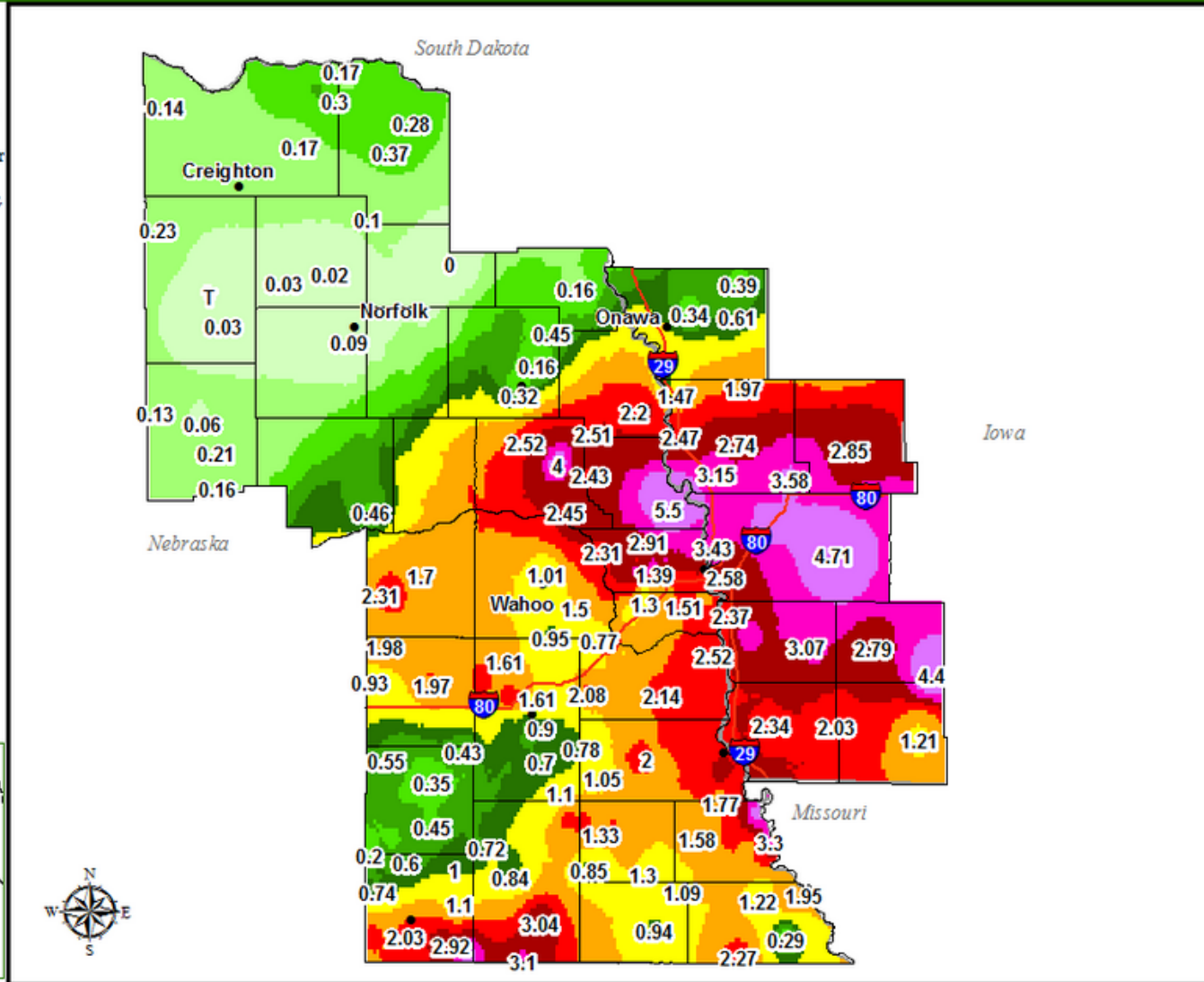


This map is an interpolation of actual reported values, but should be considered an estimation only. Not all reports used in the analysis will be displayed due to space constraints. Reports are 24 hour precipitation from yesterday morning through this morning.

Precipitation Contours

In Inches

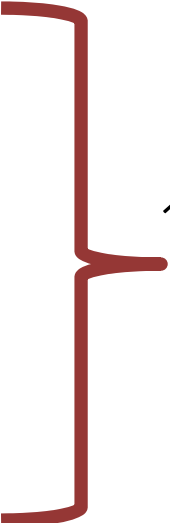
- < 0.01"
- 0.01" - 0.10"
- 0.10" - 0.25"
- 0.25" - 0.50"
- 0.50" - 0.75"
- 0.75" - 1.00"
- 1.00" - 1.50"
- 1.50" - 2.00"
- 2.00" - 2.50"
- 2.50" - 3.00"
- 3.00" - 3.50"
- > 4.00"



- Rainfall Rate, not necessarily the amount!
- Can the basin drain the amount of water that just went into it?
- What is the volume of water (flow) your bathtub drain can take?

- High to moderate rates over several hours or days can lead to over a foot of rain... this can often be the difference between 2" and 12"
- Most of the devastating rainfall events with over 12" of rain were not predicted well

- For a small area (point, or small drainage basin), the science of forecasting of gradual, natural, expected changes in the atmosphere provides good predictability
- Sudden changes in the atmosphere, especially volatile, are largely beyond the current science of predictability (not entirely though!)
- Rainfall, at your house:
 - Start time
 - End time
 - Intensification changes
 - Rate
 - amount



These are mostly sudden changes... we can generalize, but we have MUCH to learn