



**COLORADO
WATER CENTER**

Exploring the Northern Great Plains' Changing Climate

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NPCH AgroClimate Outreach Exchange March 25 - 26, 2019
CSU Lory Student Center



COLORADO STATE UNIVERSITY

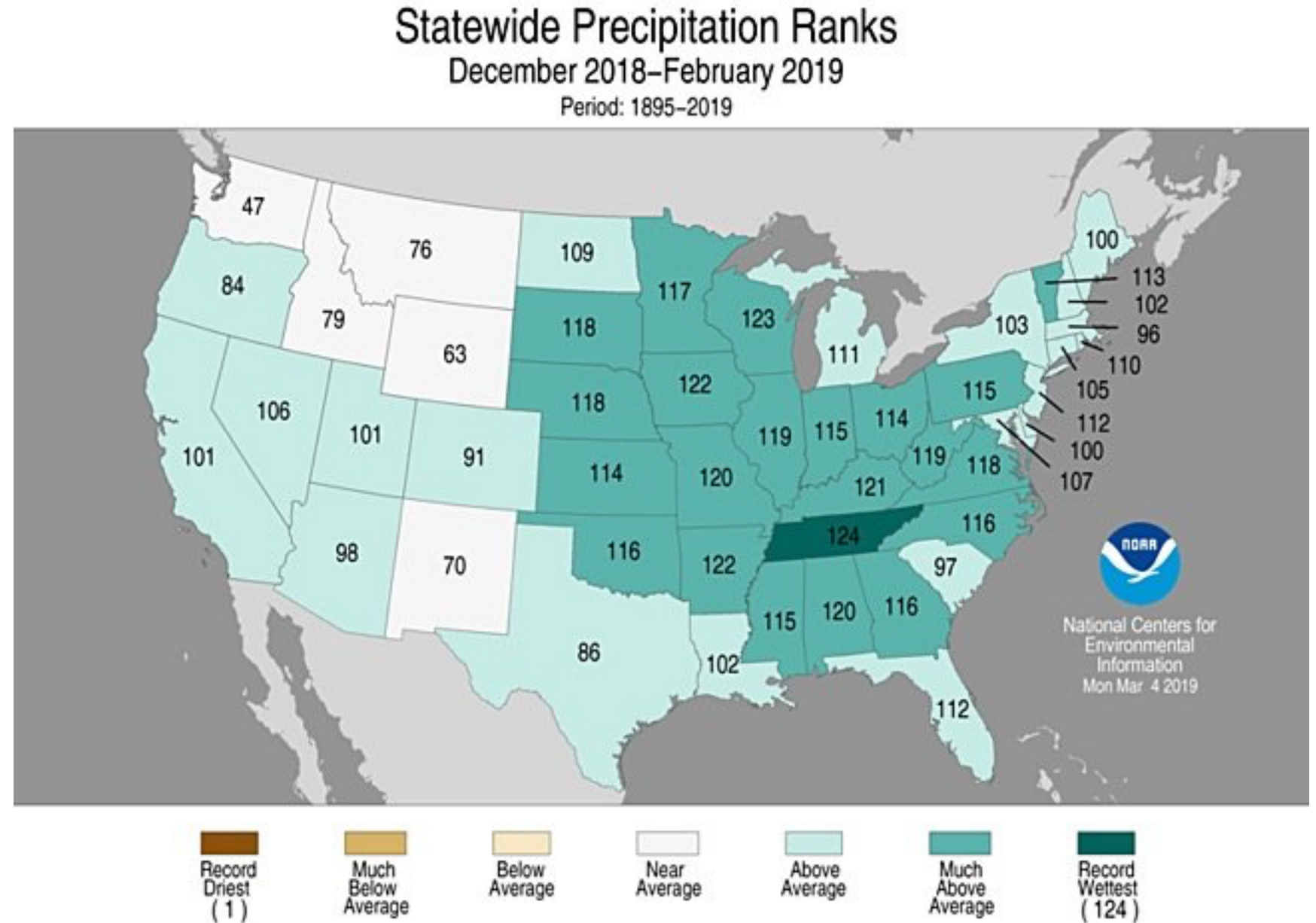
Why do we care about the Northern Plains?

- **25% of US irrigated land**
- **Largest remaining tract of native rangeland in North America**
 - 1/3 of US Pasture/Rangeland (140m acres)
 - Large percentage of conservation program land
- **11m People in 6 states**
 - Friends, Neighbors, Fellow Citizens
 - All contribute to our well-being
- **Some of the Most Rural and Ag-focused Parts of the U.S.**
 - Historical and Cultural Ties to U.S. Western Expansion
 - Iconic Great Plains Landscapes
- **Ag a critical component of all the states**
 - Provide critical food to US and World
 - Corn, Soybeans, Sorghum, Barley, Wheat, Oats, Oilseeds
 - Beef, Pork, Lambs, Dairy
 - Many others



Why do we care? the human impact of evolving 2019 Floods

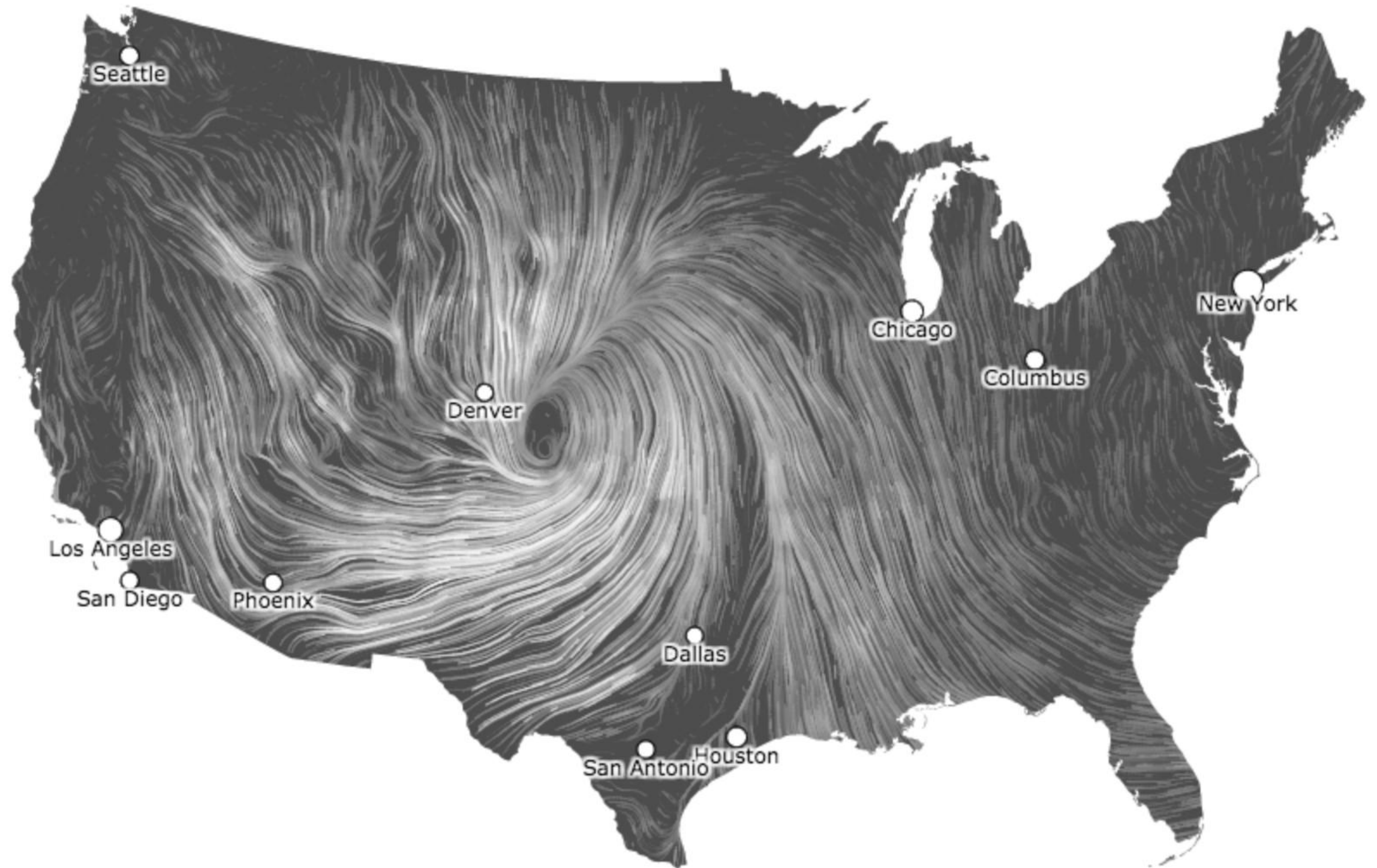
- Wettest Winter in US History plus + Rain + Snow + Wind led to..
 - Frozen Ground with little capacity to absorb moisture
 - Ice Dams on rivers
 - Levee Breaches along the Missouri River
- Tremendous loss of
 - Stored Grain
 - Animals
 - Plus structures
- And to make matters worse...
 - Prevented Planting
- Nebraska Alone
 - \$1B total damages
 - 2000 Homes
 - 340 Business
- On top of recent 2011 Floods
- \$3B Total in the Flooded Zone



Wettest Winter in US History

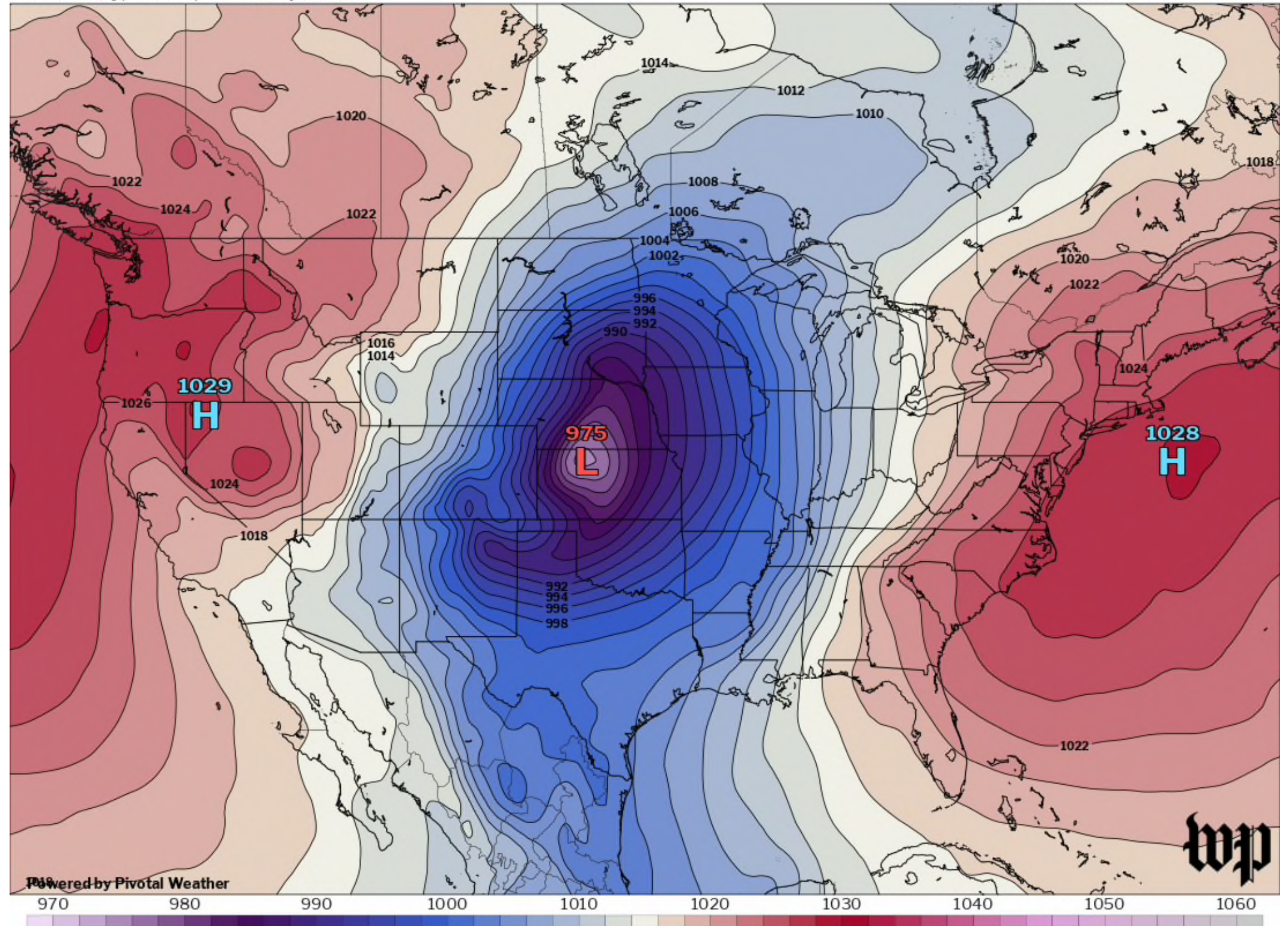
'Bomb' Cyclone Wind Pattern

March
17th,
2019



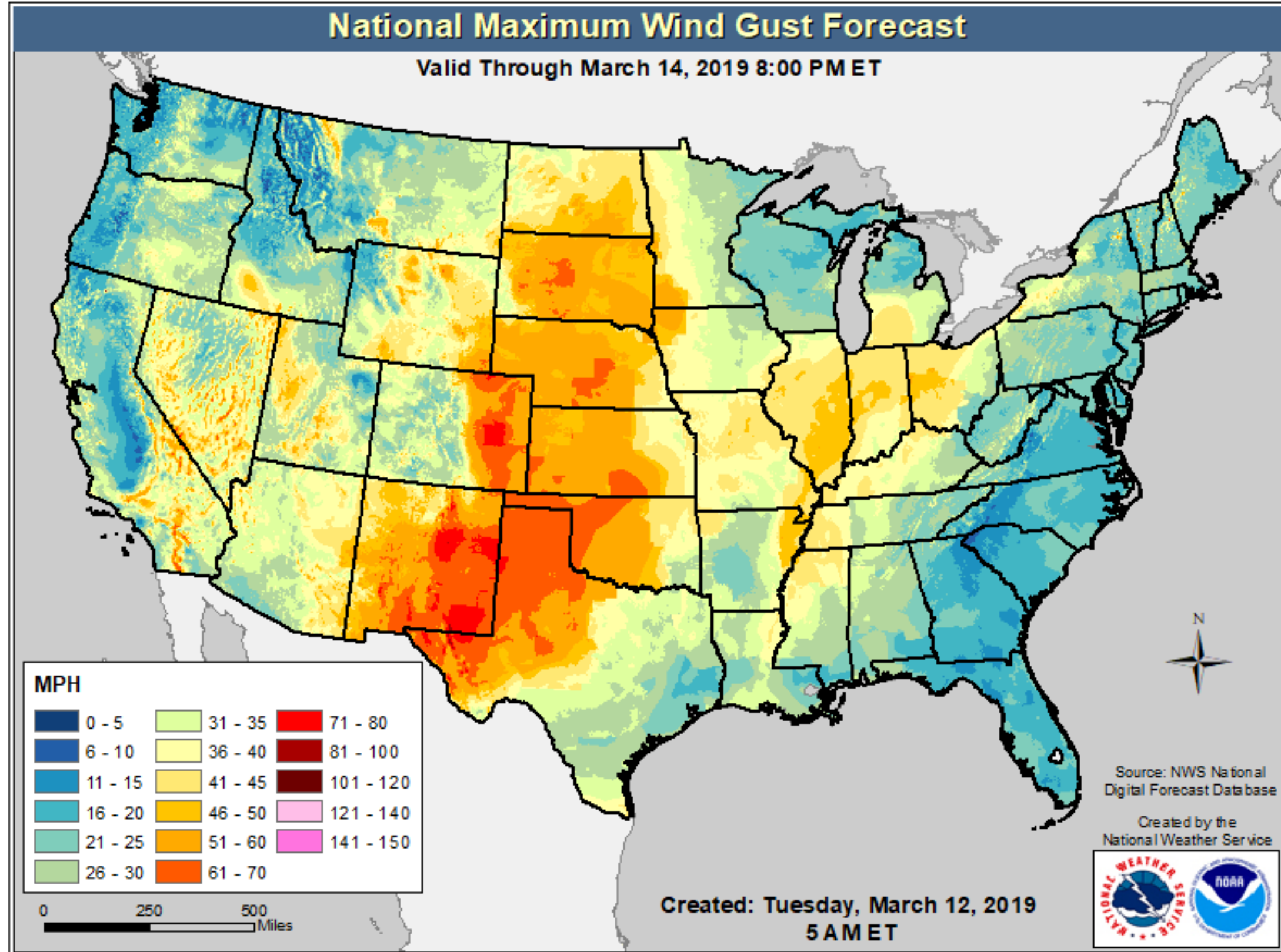
Record
Setting
Surface Low
Pressure in
many
locations

~ Category 2
Hurricane
Pressures with
similar winds



Actual Winds

Dallas 78
Denver 80
Colorado Springs 97



Flooding in Eastern Nebraska on the Missouri River near Omaha



NOAA Statement on 2019 Flood Risk –

‘Potentially Unprecedented’

“The extensive flooding we’ve seen in the past two weeks will continue through May and become more dire and may be exacerbated in the coming weeks as the water flows downstream.”

“This is shaping up to be a potentially unprecedented flood season, with more than 200 million people at risk for flooding in their communities.”

