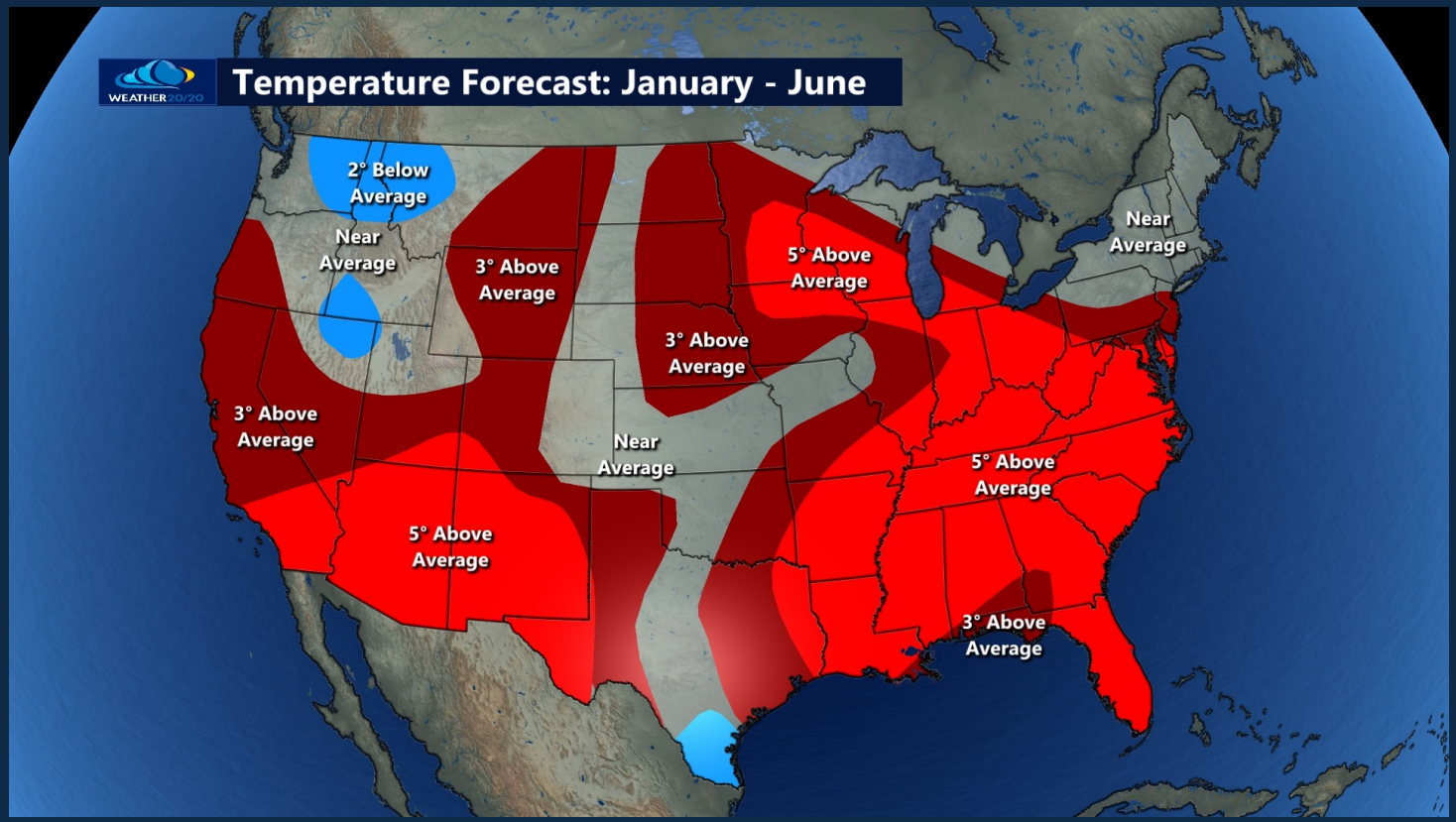
The 2023-2024 Weather 20/20 Winter Forecast

December 5, 2023

Unlocking Winter's Secrets With The LRC & More

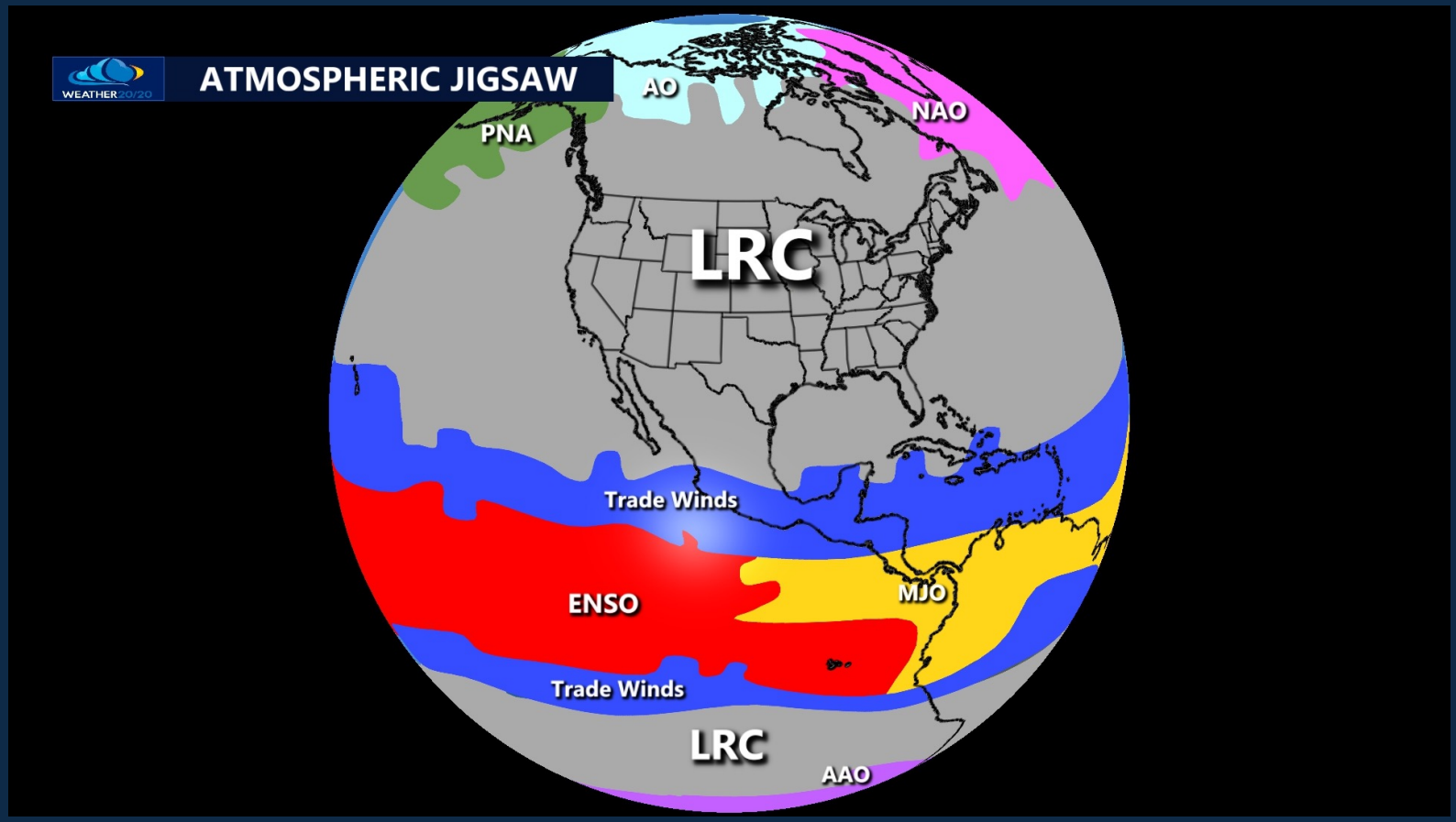
A Journey Into The World Of Long-Range Weather Forecasting



The Winter Forecast Formula – The Ingredients

LRC + El Niño (ENSO) + AO + NAO = Accuracy

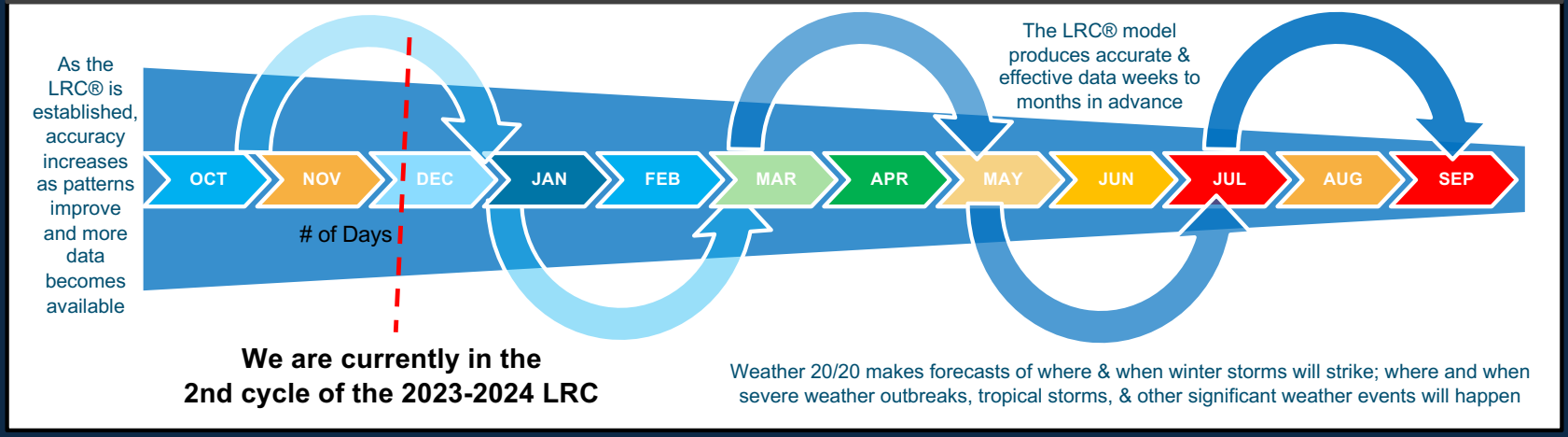
The LRC Is the Centerpiece of the Big Atmospheric Puzzle



There are a lot of pieces to the big atmospheric jigsaw puzzle with the largest piece being the LRC

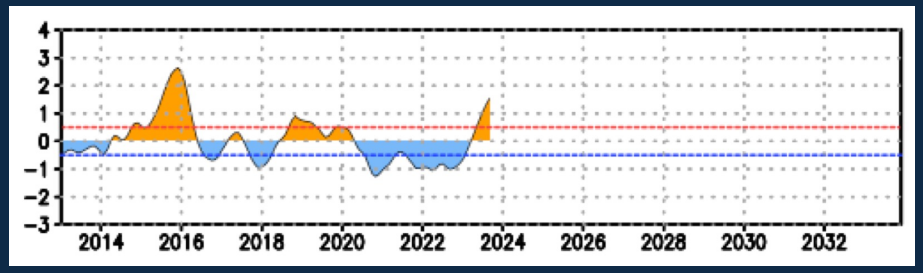
The Four Principles of the Lezak Recurring Cycle

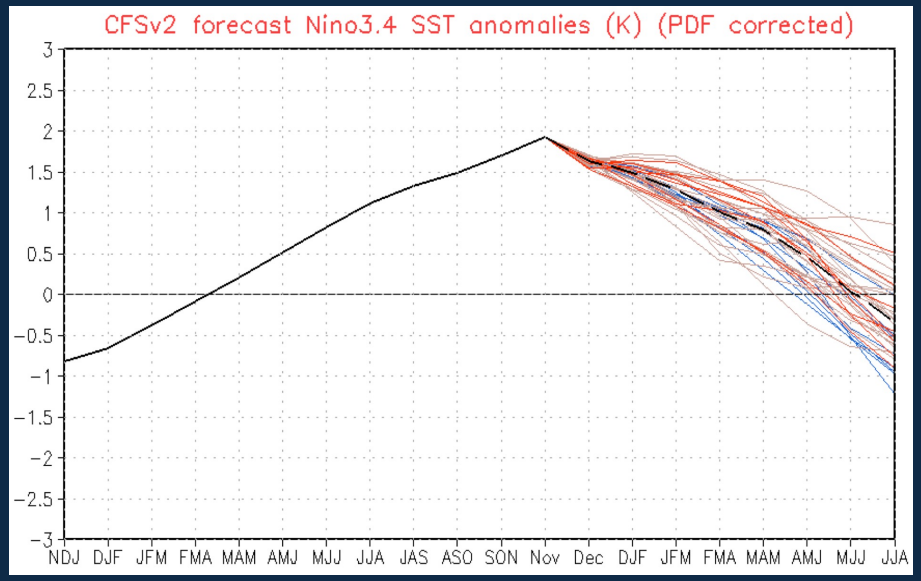
The LRC® describes the order in what many think is just chaos, in the river of air above us.
The ”sweet spot of accuracy is from January –September!



1. A unique weather pattern sets up every fall
2. Anchor Troughs & Anchor Ridges become established (where storms reach their strongest and weakest strengths)
3. The weather pattern is always cycling and regularly. This cycle also become established before the first day of winter
4. The cycling pattern repeats repeatedly through the rest of fall, winter, spring and summer

The El Niño Southern Oscillation (El Niño & La Niña)





Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2011	-1.4	-1.2	-0.9	-0.7	-0.6	-0.4	-0.5	-0.6	-0.8	-1.0	-1.1	-1.0
2012	-0.9	-0.7	-0.6	-0.5	-0.3	0.0	0.2	0.4	0.4	0.3	0.1	-0.2
2013	-0.4	-0.4	-0.3	-0.3	-0.4	-0.4	-0.4	-0.3	-0.3	-0.2	-0.2	-0.3
2014	-0.4	-0.5	-0.3	0.0	0.2	0.2	0.0	0.1	0.2	0.5	0.6	0.7
2015	0.5	0.5	0.5	0.7	0.9	1.2	1.5	1.9	2.2	2.4	2.6	2.6
2016	2.5	2.1	1.6	0.9	0.4	-0.1	-0.4	-0.5	-0.6	-0.7	-0.7	-0.6
2017	-0.3	-0.2	0.1	0.2	0.3	0.3	0.1	-0.1	-0.4	-0.7	-0.8	-1.0
2018	-0.9	-0.9	-0.7	-0.5	-0.2	0.0	0.1	0.2	0.5	0.8	0.9	0.8
2019	0.7	0.7	0.7	0.7	0.5	0.5	0.3	0.1	0.2	0.3	0.5	0.5
2020	0.5	0.5	0.4	0.2	-0.1	-0.3	-0.4	-0.6	-0.9	-1.2	-1.3	-1.2
2021	-1.0	-0.9	-0.8	-0.7	-0.5	-0.4	-0.4	-0.5	-0.7	-0.8	-1.0	-1.0
2022	-1.0	-0.9	-1.0	-1.1	-1.0	-0.9	-0.8	-0.9	-1.0	-1.0	-0.9	-0.8
2023	-0.7	-0.4	-0.1	0.2	0.5	0.8	1.1	1.3	1.6	1.8		

- A moderate to strong El Niño developed in the past nine months; in fact, the latest 3-month average just came in at 1.8°C above average in the important Niño 3.4 zone.
- The warmer than average tropical Pacific Ocean water is going to have some impacts on the weather patterns.
- This is still just an influence on the LRC. Even if we go from one phase of Enso into another phase within the same year, the LRC has been shown to continue to cycle in the same range regardless.

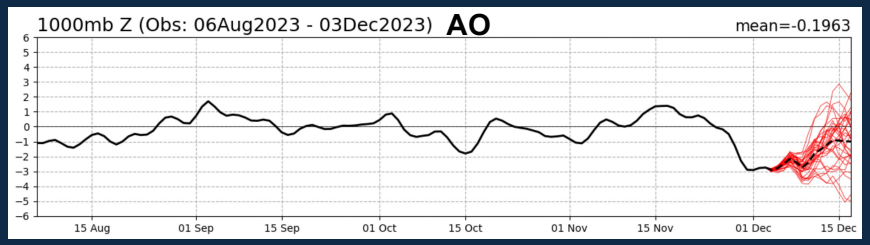
El Niño Warning For Next Winter

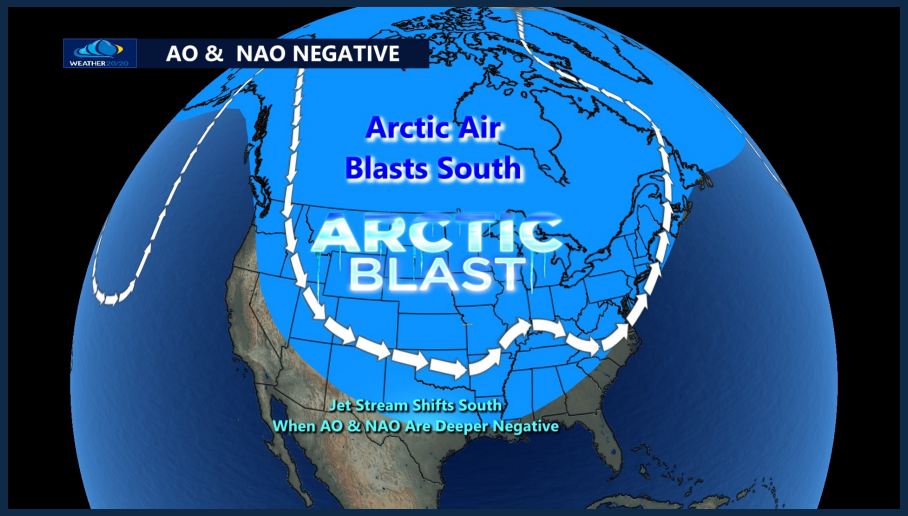
A Strong El NIño Is Developing

- The water has been steadily warming in the tropical Pacific Ocean this year
- A moderate to strong El Niño has started
- There will be impacts and these impacts will depend on how the LRC sets up next winter

- When there are 5 consecutive 3-month averages of +.5°C warmer than average or higher, then we call it an El Niño
- The jet stream will strengthen in response to the higher temperature contrast between the Poles and the Equator
- The southern, or subtropical jet stream may be stronger as a result of this strengthening El Niño

The Arctic Oscillation (AO) & The North Atlantic Oscillation (NAO)





- When the AO & NAO are higher in positive territory, usually above +3 to +4, Arctic air is more likely to stay way up north
- When these indexes drop to -3 to -4 or lower, then Arctic air may blast south, and storm systems will get energized

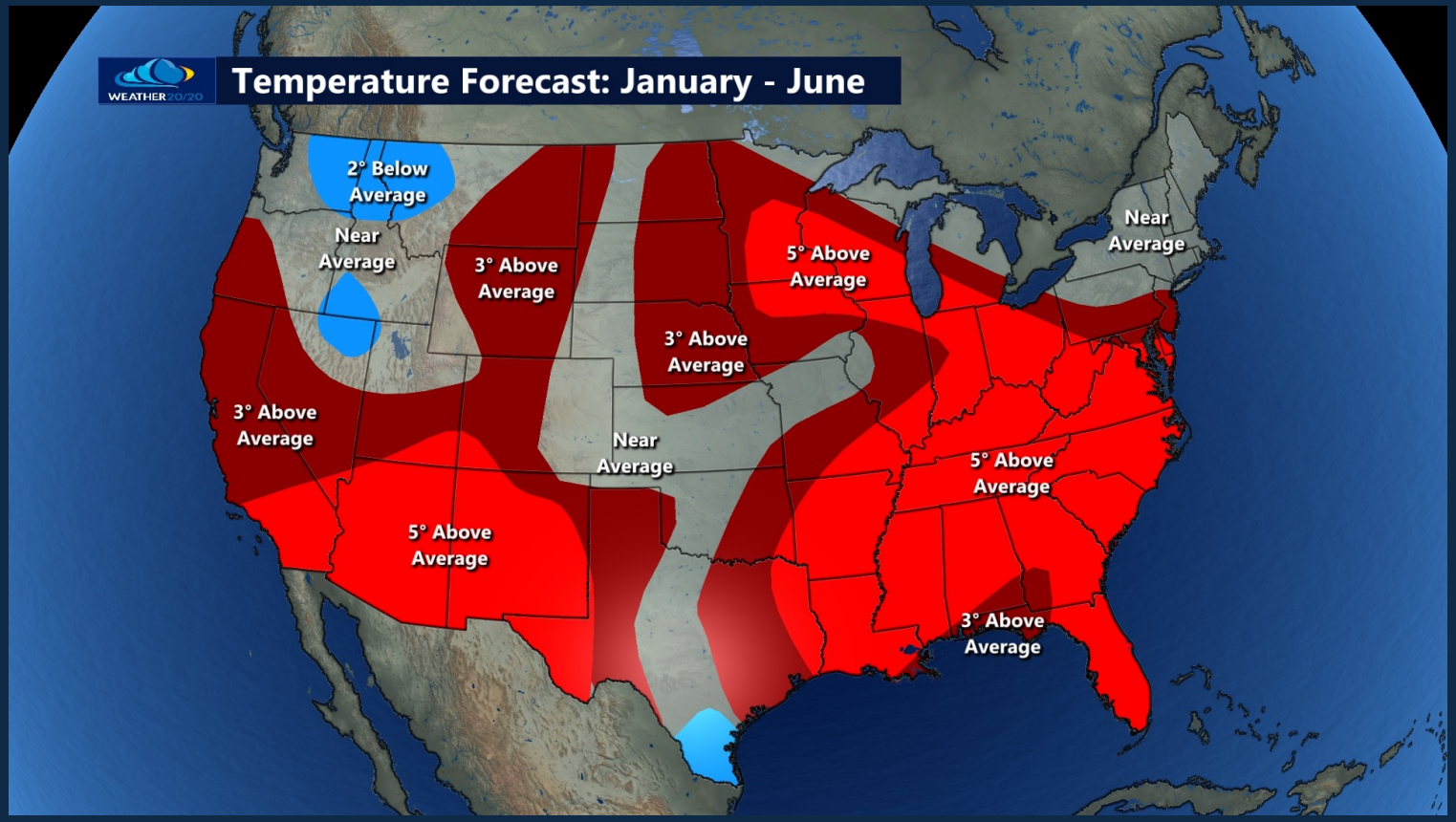
The 2023-2024 Anchor Troughs & Anchor Ridges

- Storm systems are more frequent near the anchor troughs
- Storm systems are less frequent near anchor ridges
- There has been an anchor ridge developing over the southwestern United States and this may be a big player this winter in blocking most storm systems from Southern California
- The stormy areas are more likely across the Pacific Northwest and near or off the Northeast coast

Split May Allow Storm Systems To Break Through

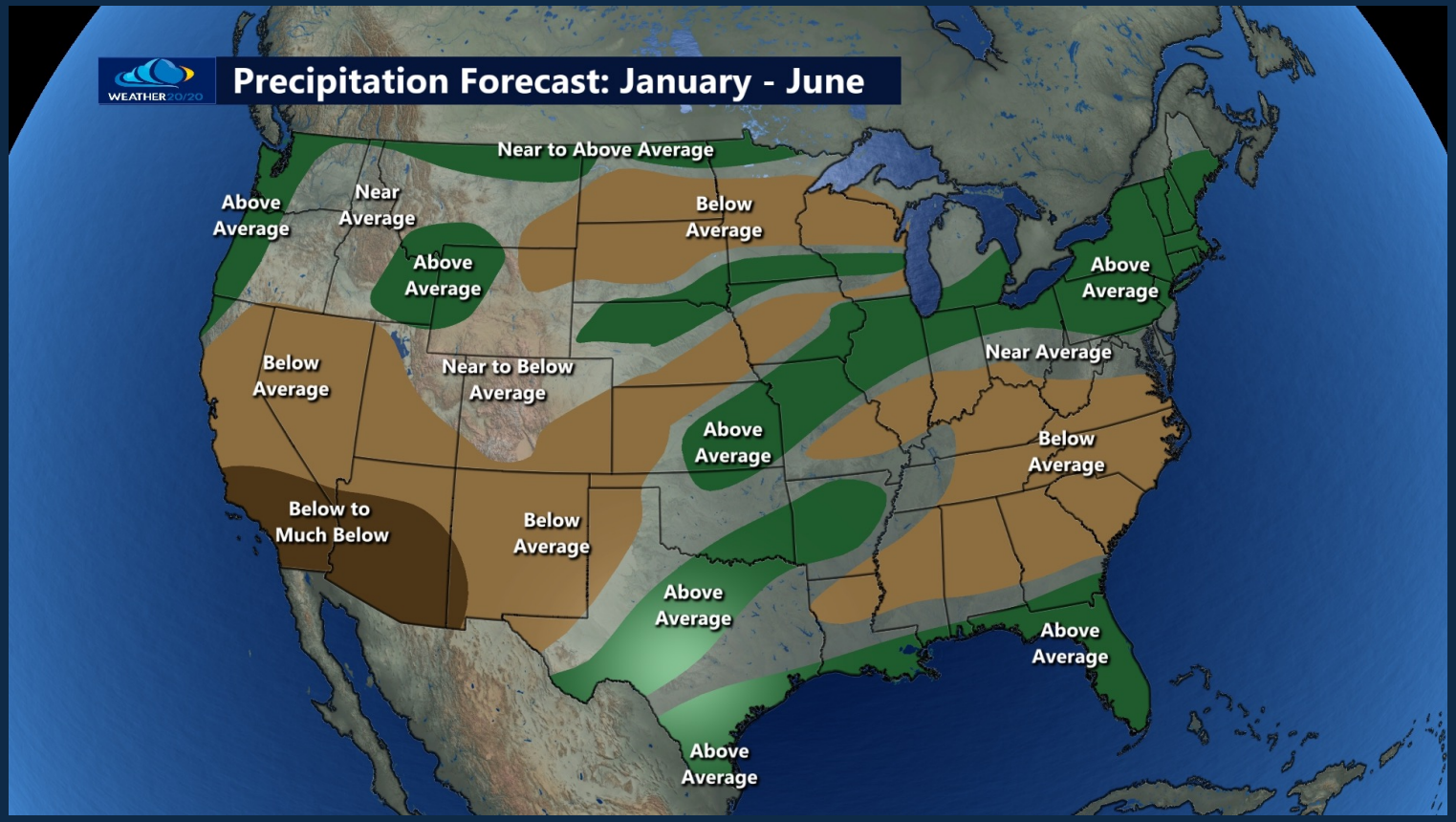
- There is an increasing chance of splitting as the jet stream gets stronger
- When a split forms, the southern branch of the jet stream will intensify, and this may lead to a series of storm systems breaking into California
- With splitting, there is also an increasing chance of blocking at high latitudes which would lead to one or two Arctic blasts

6 Month Temperature Outlook – A Warmer Winter Ahead



- Most of the United States is forecast to have above average temperatures, or a warmer winter
- That anchor ridge is going to influence the southwestern United States the most with warmer and drier weather

6 Month Precipitation Outlook – The Forecast Is Dry In Many Spots



- Much of the nation will have near to below average precipitation over the next six months
- There are a few regions that have an increased probability of wetter weather
- Southern California has a 60% chance of a drier than average winter, a 20% chance of average precipitation this winter, and a 20% chance of a wetter than average winter. So, this means there is an 80% chance it is near to below average this winter.

Seasonal Snow Predictions

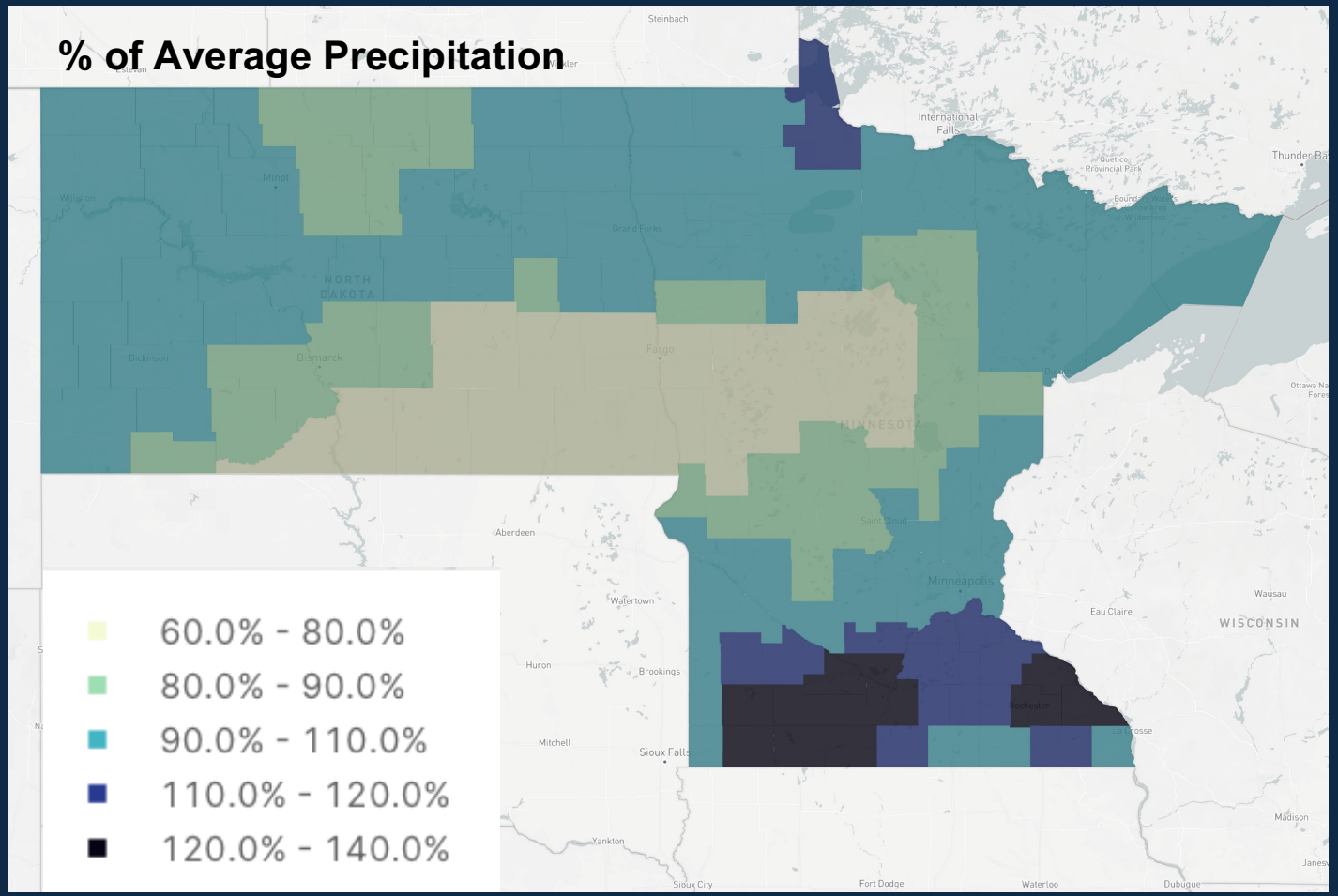
	Season Average	Weather 20/20 Forecast
Bismarck, ND:	50”	40”
Fargo, ND:	52”	32”
Grand Forks, ND:	48”	44”
Chicago, IL:	37”	52”
Kansas City, MO:	18.6”	18.0”

A Very Quiet Severe Weather Beginning To This Year's LRC

October 6th to December 5th Totals

	Severe Reports	Tornadoes
2023	139	38
2022	786	163

North Dakota & Minnesota LRC Model – Forecast 12/20/23 to 6/30/24



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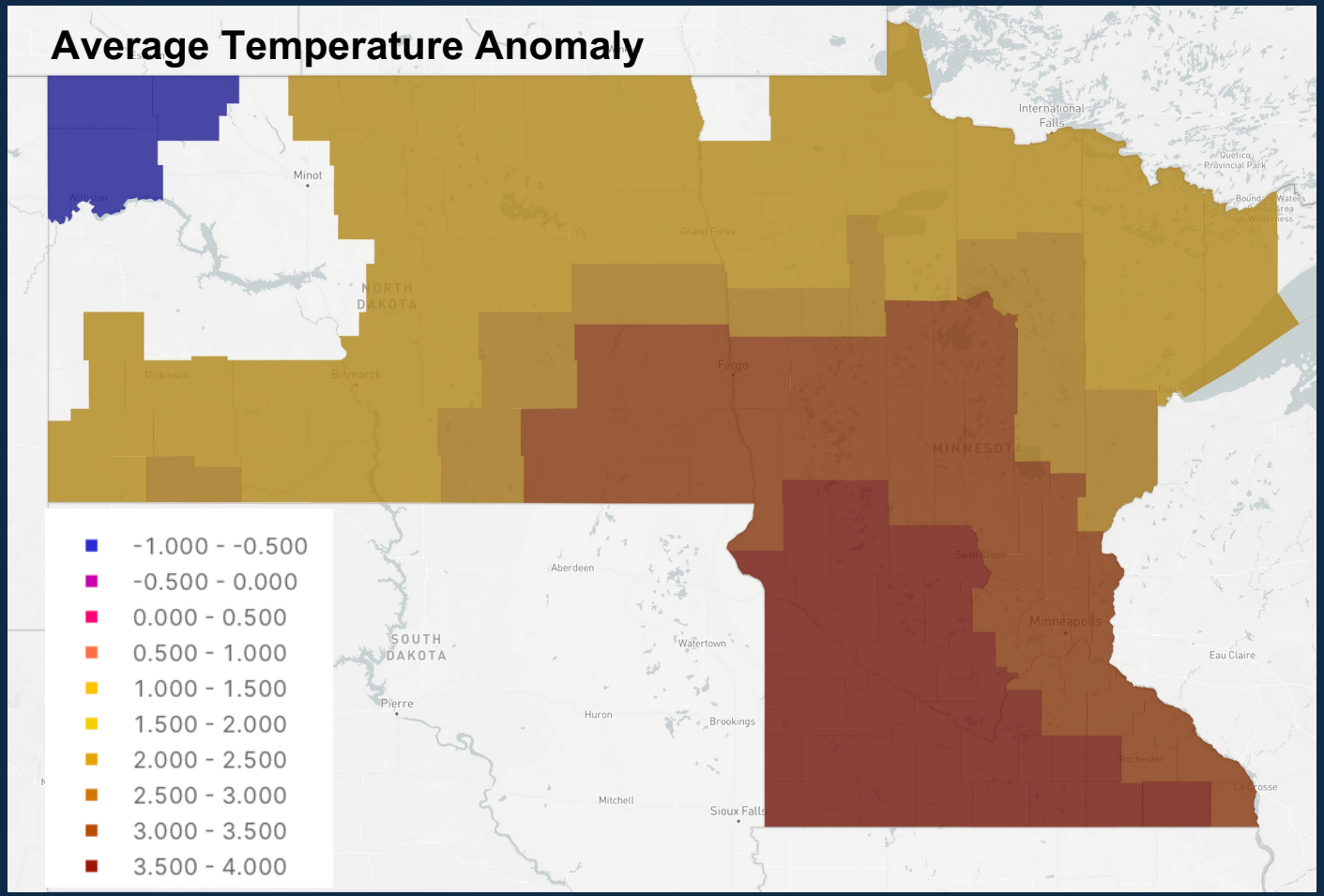

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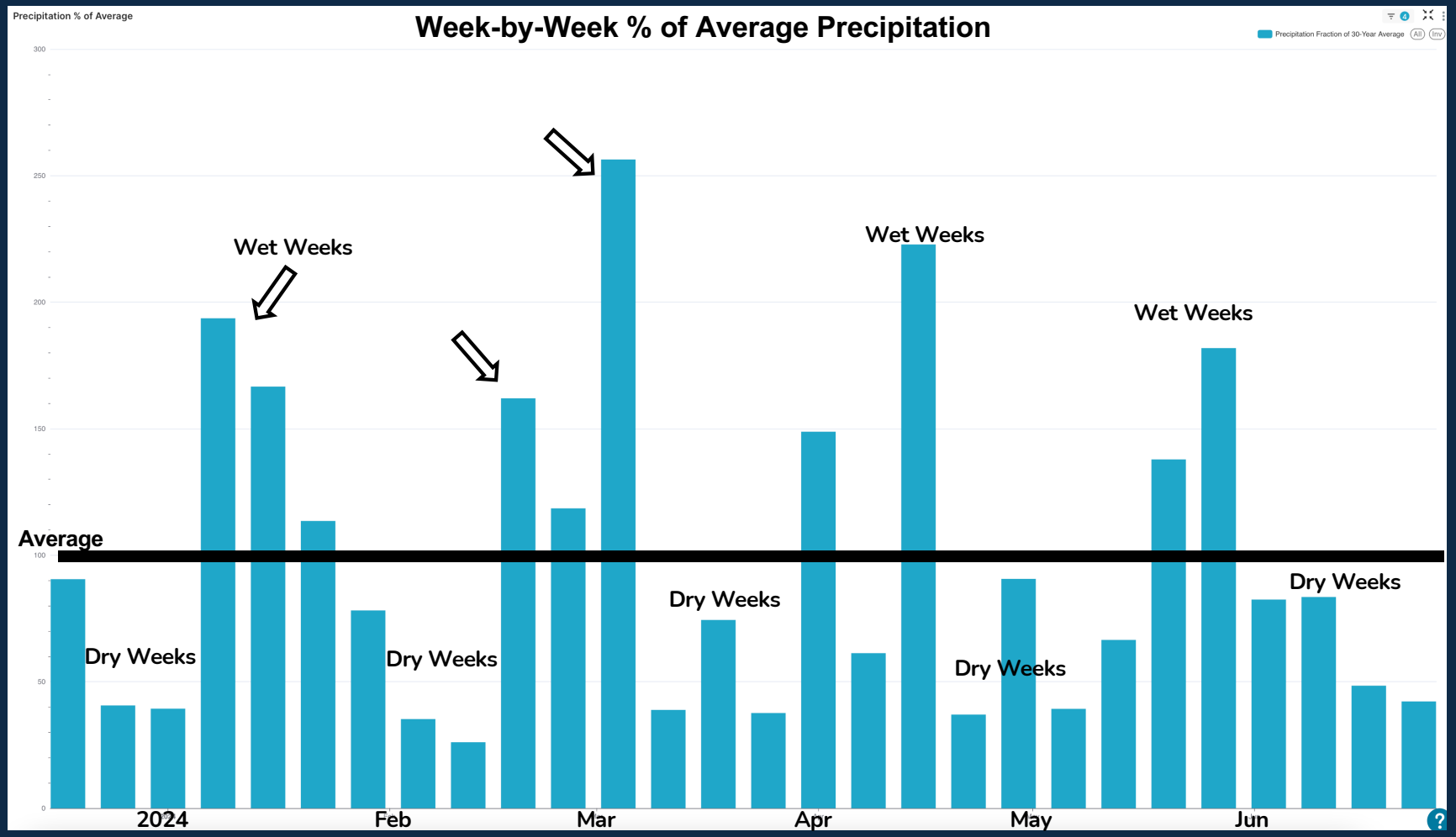

LRC Benefits

- **Accurate Predictions Bring Value:** The high reliability of our forecasts is particularly beneficial for weather sensitive sectors like insurance, agriculture, energy, shipping, and transportation.
- **Enhanced Reliability:** Our consistent success rate in predicting events like Hurricanes Hilary and Idalia strengthens the credibility of our forecasting methods
- **Improved Decision Making:** The increased confidence in our forecasts will enable better decision-making across these weather-sensitive industries
- **Monetization Opportunities:** The precision of our forecasts opens up avenues for monetization, as industries can leverage this data to mitigate risks and optimize operations, thereby increasing profitability