



\* 2011-2012  
Winter Summary

Lindsay Tardif-Huber

Meteorologist

NWS Bismarck, ND

- \* Above normal temperatures and below normal snowfall and precipitation were seen statewide this winter.
- \* A warm and dry pattern was seen for the majority of the winter, with a fairly active pattern developing in late February.

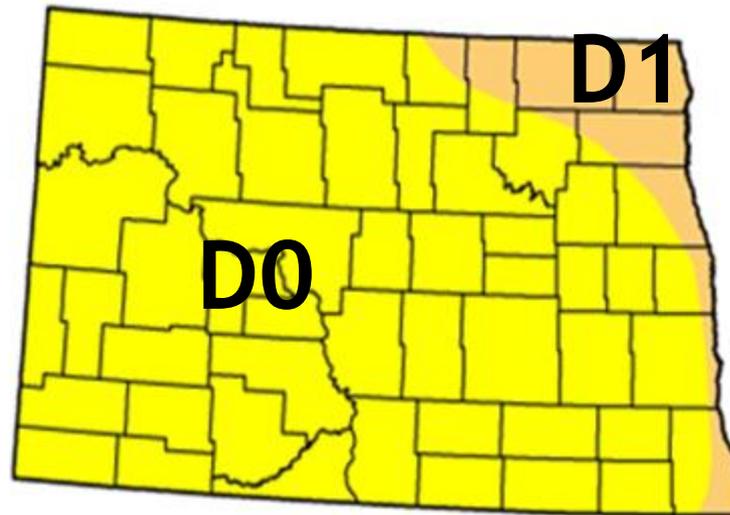
## \* Winter Highlights

# U.S. Drought Monitor

February 28, 2012

Valid 7 a.m. EST

## North Dakota



Intensity:

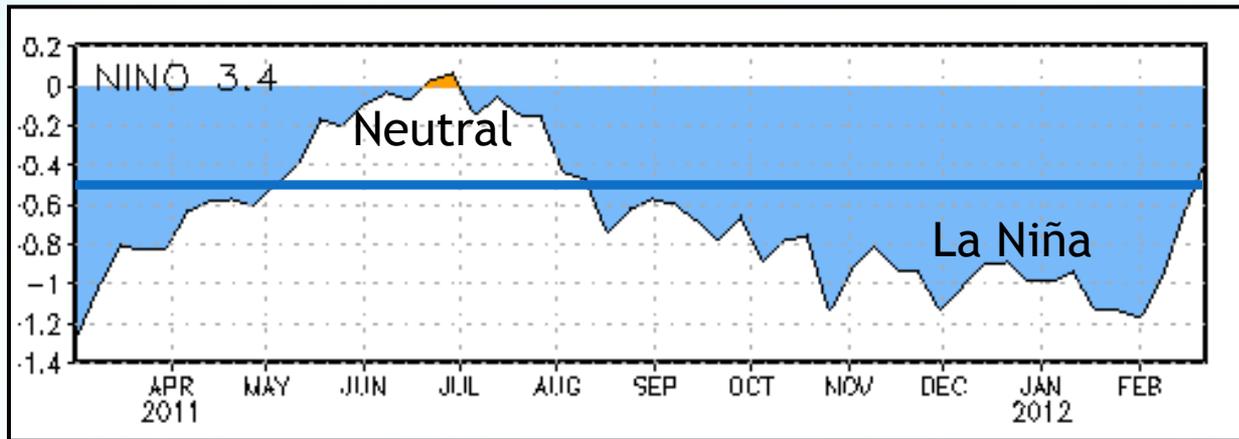


*The Drought Monitor focuses on broad-scale conditions.  
Local conditions may vary. See accompanying text summary  
for forecast statements.*

<http://droughtmonitor.unl.edu>



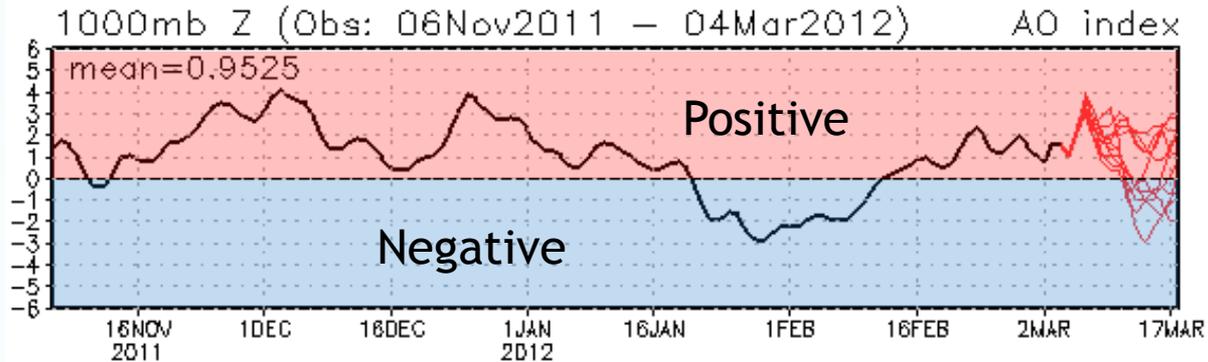
Released Thursday, March 1, 2012  
Mark Svoboda, National Drought Mitigation Center



- \* Weak to moderate La Niña persisted through the winter.
- \* Wetter/cooler than normal conditions are favored for the Northern Plains during winter La Niña episodes.

## \* The La Niña Effect

## AO: Observed & ENSM forecasts



- \* AO in positive phase during the majority of the winter.
- \* Greatly opposed La Niña → Helped cause warm/dry conditions.
- \* Associated with a stronger jet stream and fewer midlatitude storms.
- \* Warmer and drier conditions across the Northern Plains.

\* Arctic Oscillation

# \*2011-2012 Winter Stats

1875-2012	December	January	February	Winter (Dec. - Feb.)	
Avg. High (°F)	35.1 (+8.9)	34.5 (+11.1)	34.9 (+6.6)	34.9 (+9.0)	2 <sup>nd</sup> warmest
Avg. Low (°F)	15.1 (+9.0)	10.9 (+8.7)	9.5 (+1.6)	11.9 (+6.6)	Tied for 8 <sup>th</sup> warmest
Mean Temp. (°F)	25.1 (+8.9)	22.7 (+9.9)	22.2 (+4.1)	23.4 (+7.8)	7 <sup>th</sup> warmest
Precipitation	0.47" (-0.02")	0.43" (-0.13")	0.48" (-0.03")	1.38" (-0.05")	
Snowfall	3.4" (-5.9")	1.9" (-7.0")	7.2" (-0.9")	12.5" (-13.8")	27 <sup>th</sup> least snowiest 48% of normal

Numbers in parentheses above are departures from normal.

Red is warmer; brown is drier.



1894-2012	December	January	February	Winter (Dec. - Feb.)	
Avg. High (°F)	33.8 (+9.4)	32.0 (+10.1)	34.9 (+6.6)	32.6 (+8.1)	4 <sup>th</sup> warmest
Avg. Low (°F)	16.2 (+12.9)	9.7 (+9.6)	9.5 (+1.6)	11.6 (+7.8)	7 <sup>th</sup> warmest
Mean Temp. (°F)	25.0 (+11.1)	20.9 (+11.0)	22.2 (+4.1)	22.1 (+8.3)	4 <sup>th</sup> warmest
Precipitation	0.18" (-0.44")	0.10" (-0.49")	0.30" (-0.09")	0.58" (-1.02")	5 <sup>th</sup> driest
Snowfall*	3.0" (-6.5")	2.7" (-7.3")	3.5" (-2.2")	9.2" (-16.0")	Tied for 6 <sup>th</sup> least snowiest 35% of normal

*\*Williston Exp. Station snowfall data was used for this analysis.*

Numbers in parentheses above are departures from normal.

Red is warmer; brown is drier.



1905-2012	December	January	February	Winter (Dec. - Feb.)	
Avg. High (°F)	33.6 (+10.0)	32.4 (+11.5)	33.1 (+7.7)	33.1 (+9.9)	1 <sup>st</sup> warmest
Avg. Low (°F)	17.3 (+10.1)	12.9 (+9.4)	11.9 (+3.3)	14.9 (+8.5)	Tied 4 <sup>th</sup> warmest
Mean Temp. (°F)	25.5 (+10.1)	22.6 (+10.4)	22.5 (+5.5)	23.6 (+8.8)	Tied 2 <sup>nd</sup> warmest
Precipitation	0.26" (-0.12")	0.09" (-0.42")	0.14" (-0.26")	0.49" (-0.80")	Tied 4 <sup>th</sup> driest
Snowfall	5.1" (-2.5")	1.5" (-9.3")	8.2" (+3.2")	14.8" (-8.6")	<b>63% of normal</b>

Numbers in parentheses above are departures from normal.

**Red** is warmer; **brown** is drier; **purple** is wetter.



1891-2012	December	January	February	Winter (Dec. - Feb.)	
Avg. High (°F)	33.6 (+10.5)	32.0 (+10.1)	32.4 (+10.1)	32.0 (+9.5)	1 <sup>st</sup> warmest
Avg. Low (°F)	14.1 (+8.9)	9.8 (+9.5)	10.7 (+5.3)	11.4 (+7.8)	6 <sup>th</sup> warmest
Mean Temp. (°F)	23.8 (+9.7)	19.9 (+9.8)	21.5 (+6.4)	21.8 (+8.7)	Tied 3 <sup>rd</sup> warmest
Precipitation	0.26" (-0.14")	0.10" (-0.35")	0.34" (-0.06")	0.70" (-0.55")	9 <sup>th</sup> driest
Snowfall	2.5" (-5.0")	3.9" (-7.8")	3.9" (-2.2")	10.3" (-15.0")	<b>41% of normal</b>

Numbers in parentheses above are departures from normal.

**Red** is warmer; **brown** is drier.



1903-2012	December	January	February	Winter (Dec. - Feb.)	
Avg. High (°F)	34.1 (+6.6)	36.0 (+9.6)	33.7 (+2.9)	34.9 (+6.5)	6 <sup>th</sup> warmest
Avg. Low (°F)	7.7 (+7.8)	11.6 (+5.4)	9.9 (0)	12.3 (+4.4)	Tied 10 <sup>th</sup> warmest
Mean Temp. (°F)	25.1 (+7.2)	23.8 (+7.5)	21.8 (+1.3)	23.6 (+5.4)	7 <sup>th</sup> warmest
Precipitation	0.12" (-0.12")	0.12" (-0.18")	0.31" (-0.02")	0.55" (-0.32")	14 <sup>th</sup> driest

\*Snowfall was not reported for Dickinson during the 2011-2012 winter.

Numbers in parentheses above are departures from normal.

Red is warmer; brown is drier.

 Dickinson

- \* Most locations across west and central North Dakota experienced:
  - \* A top 10 warmest winter
  - \* Drier than normal conditions
  - \* Snowfall deficits greater than 10 inches.
  - \* Snowfall totals at Bismarck and Minot nearly doubled during the last week of February.
- \* La Niña effects were minimal, at least partially due to persistently positive Arctic Oscillation.

\* Summary