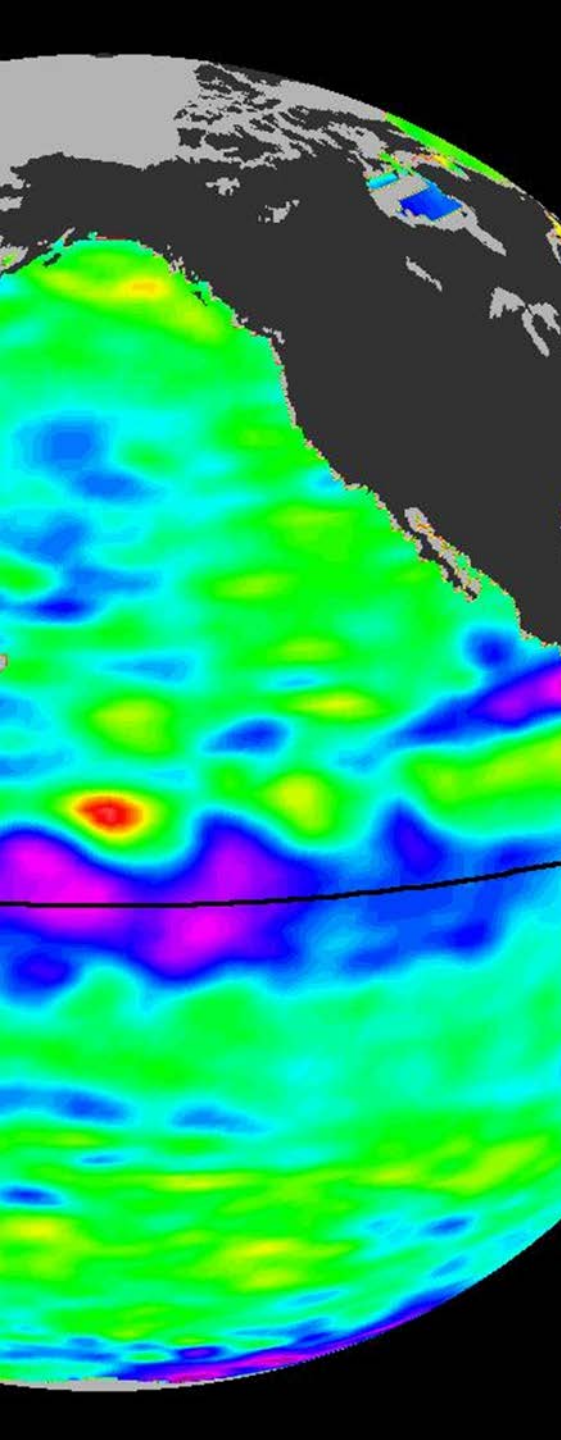


2011-12 Final Winter Outlook

FEMA Region IX RISC Meeting
Feb. 1, 2012

Prepared by Todd Morris
Regional Coordinator for Decision Support Services
National Weather Service Western Region Headquarters –
Salt Lake City, UT



Outline

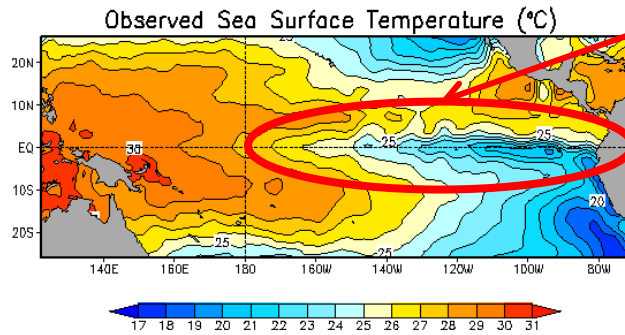


- Status of La Niña
- La Niña Effects
- What Occurred
- What to Expect
- Pacific
- Takeaways

La Niña Continues

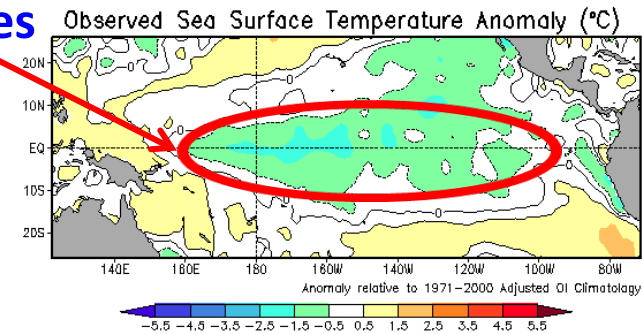
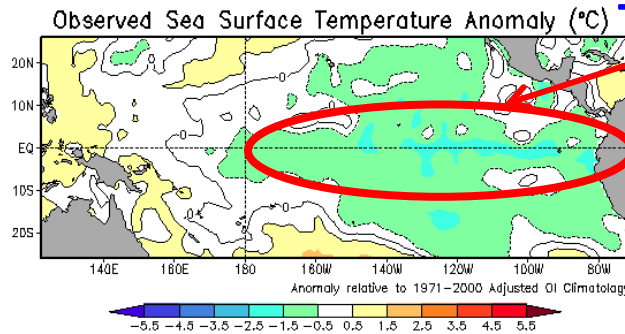
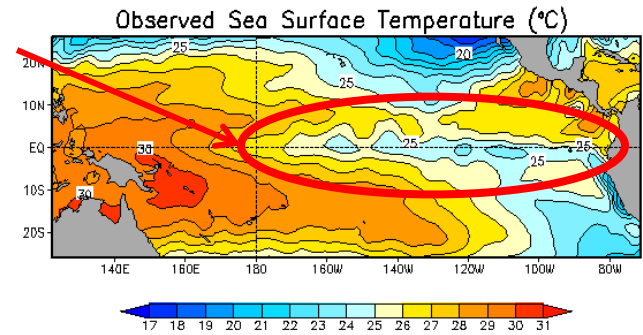
November 30 2011

**Cooler
Temperatures
Continue
Along the
Equator**



January 25 2012

**Below
Average
Temperatures
Continue
Along the
Equator**

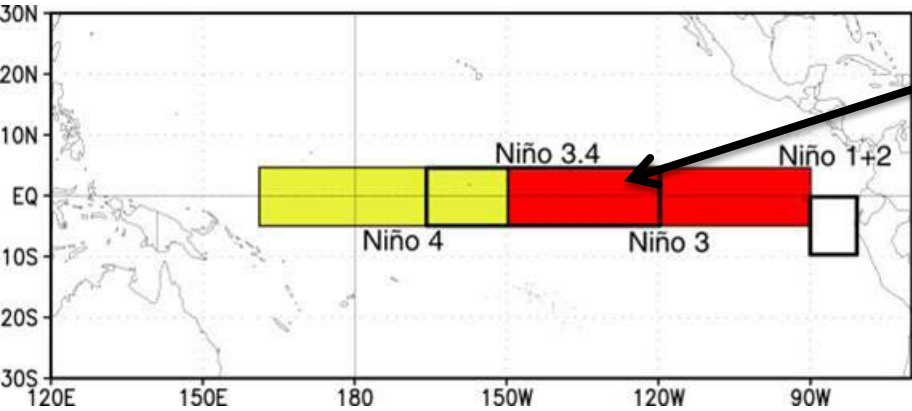


7-day Average Centered on 30 November 2011

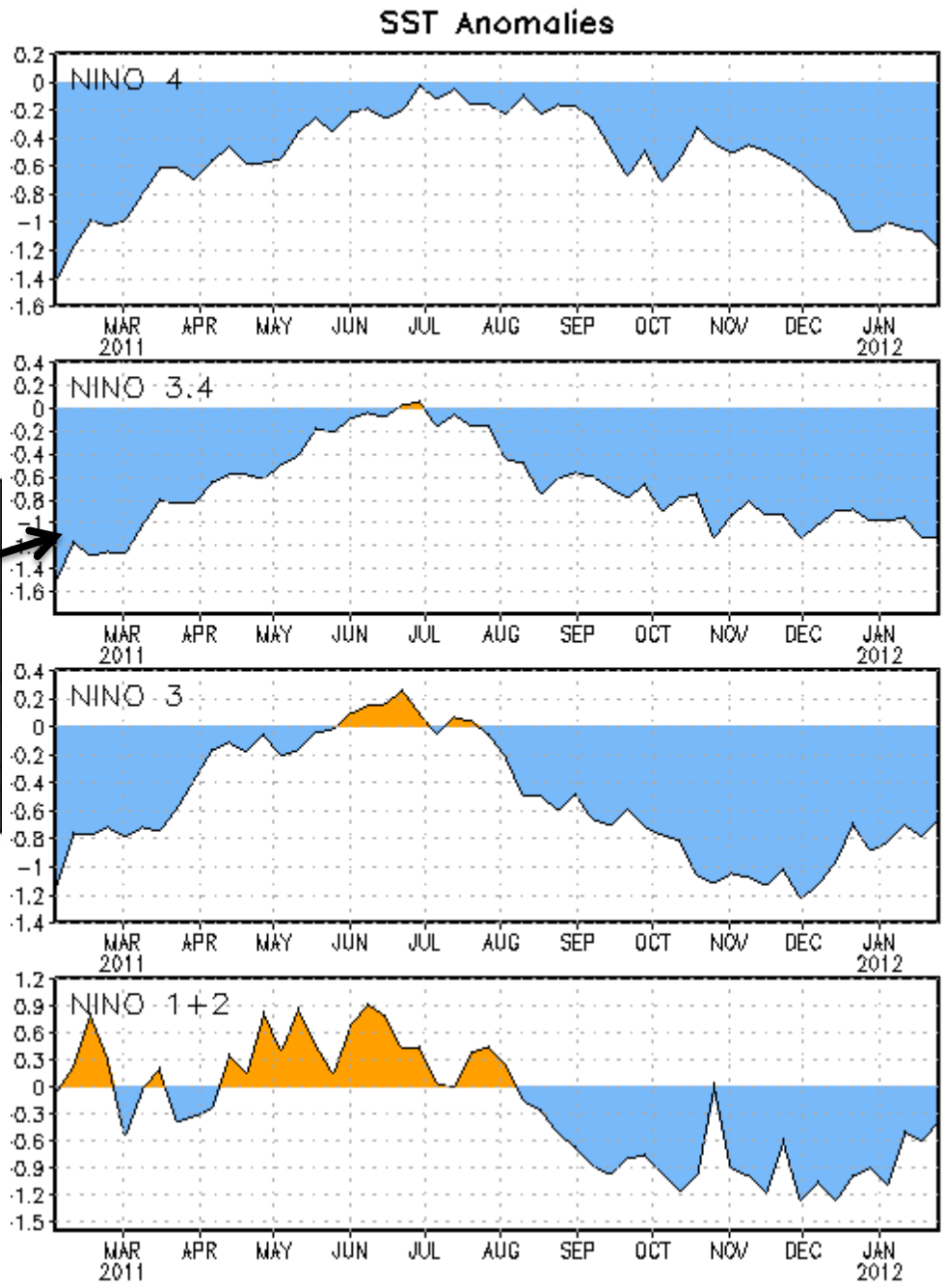
7-day Average Centered on 25 January 2012



Sea Surface Temperatures (SST) Equatorial Pacific Ocean

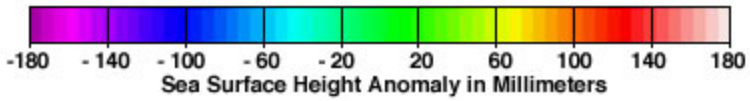
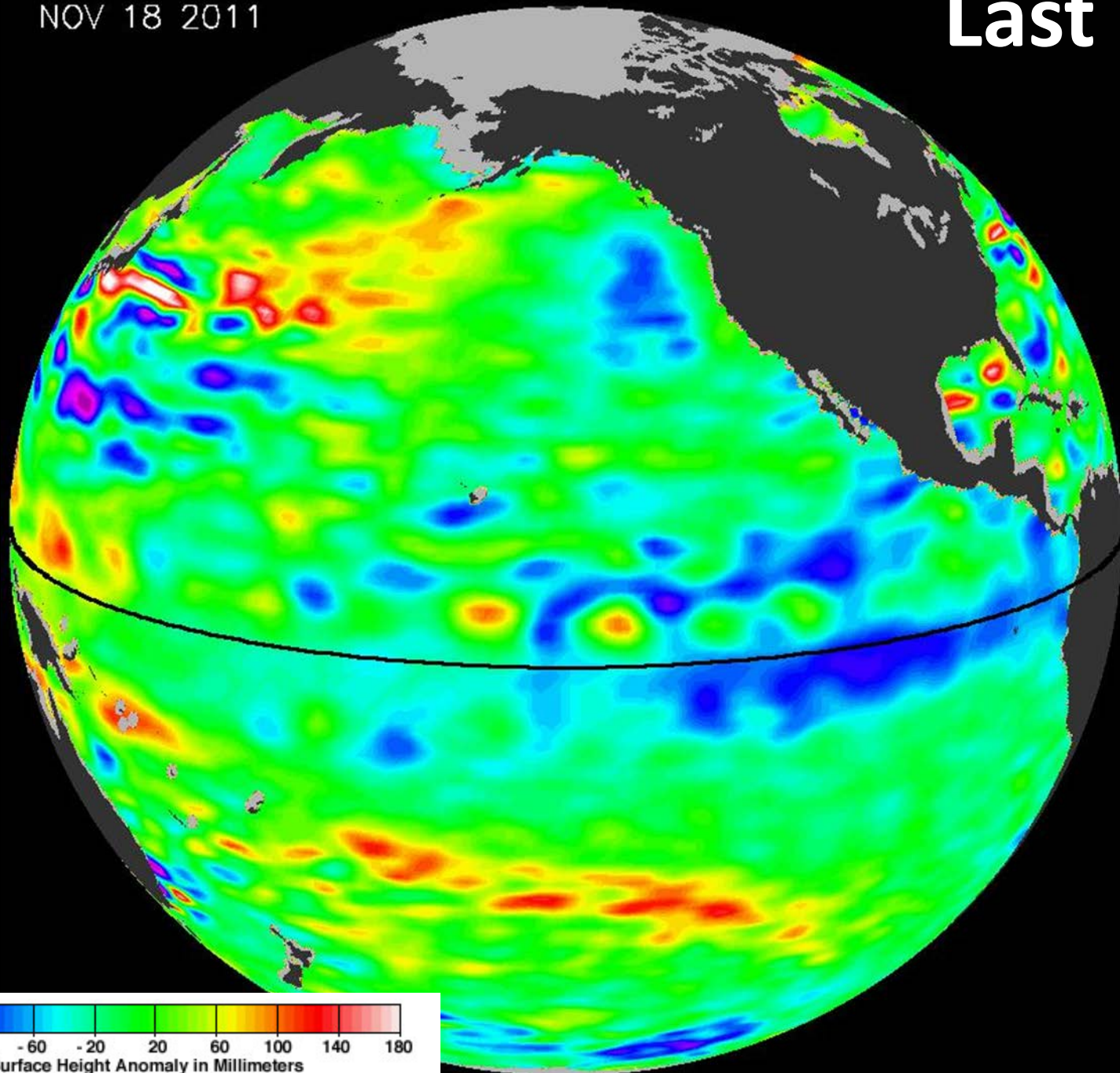


**Jan. 30, 2012 - Niño 3.4
at -1.1°C**



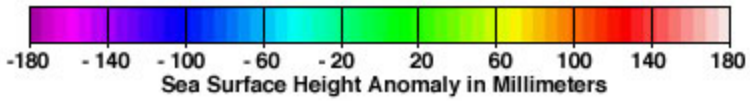
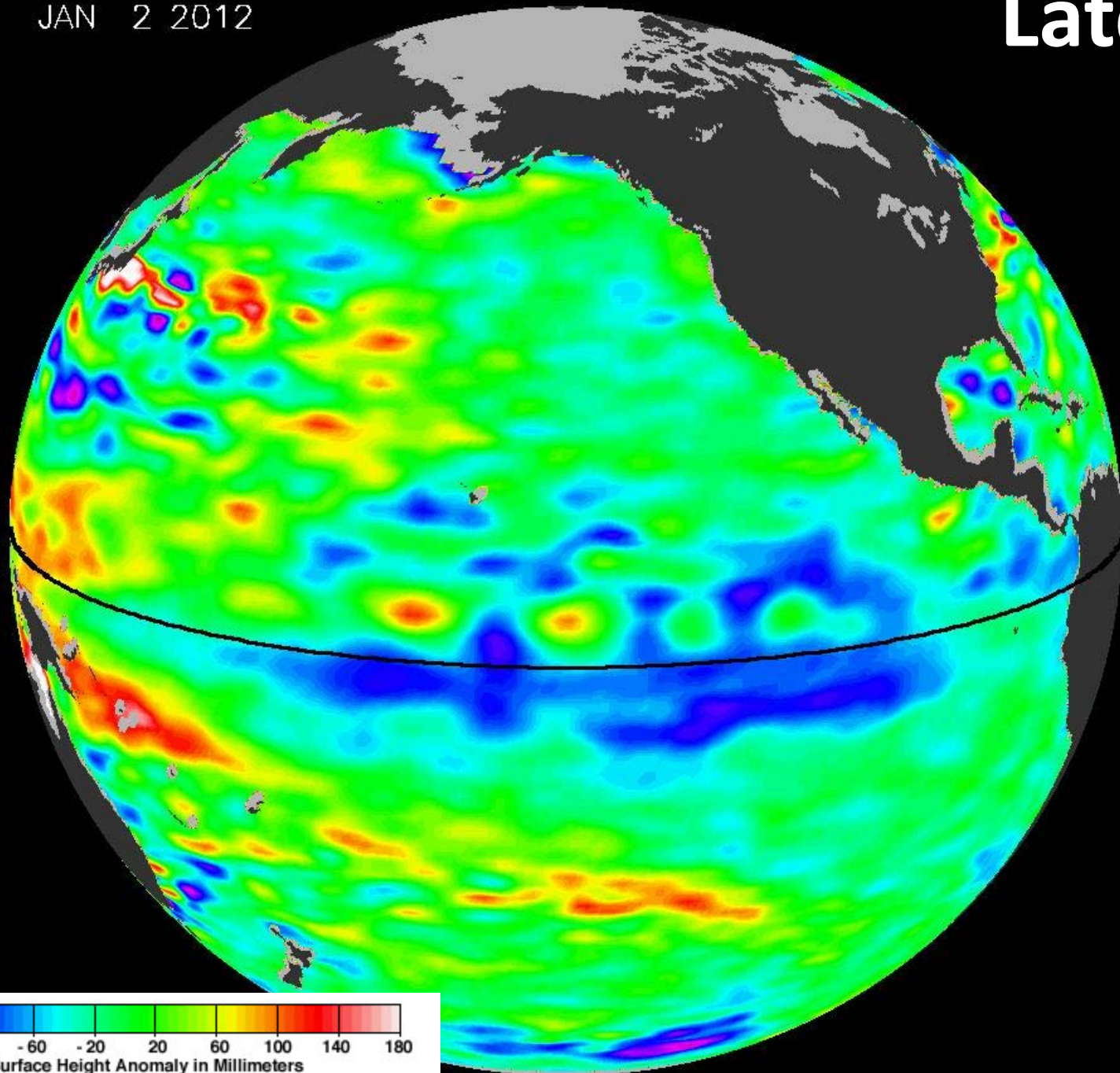
NOV 18 2011

Last Visit



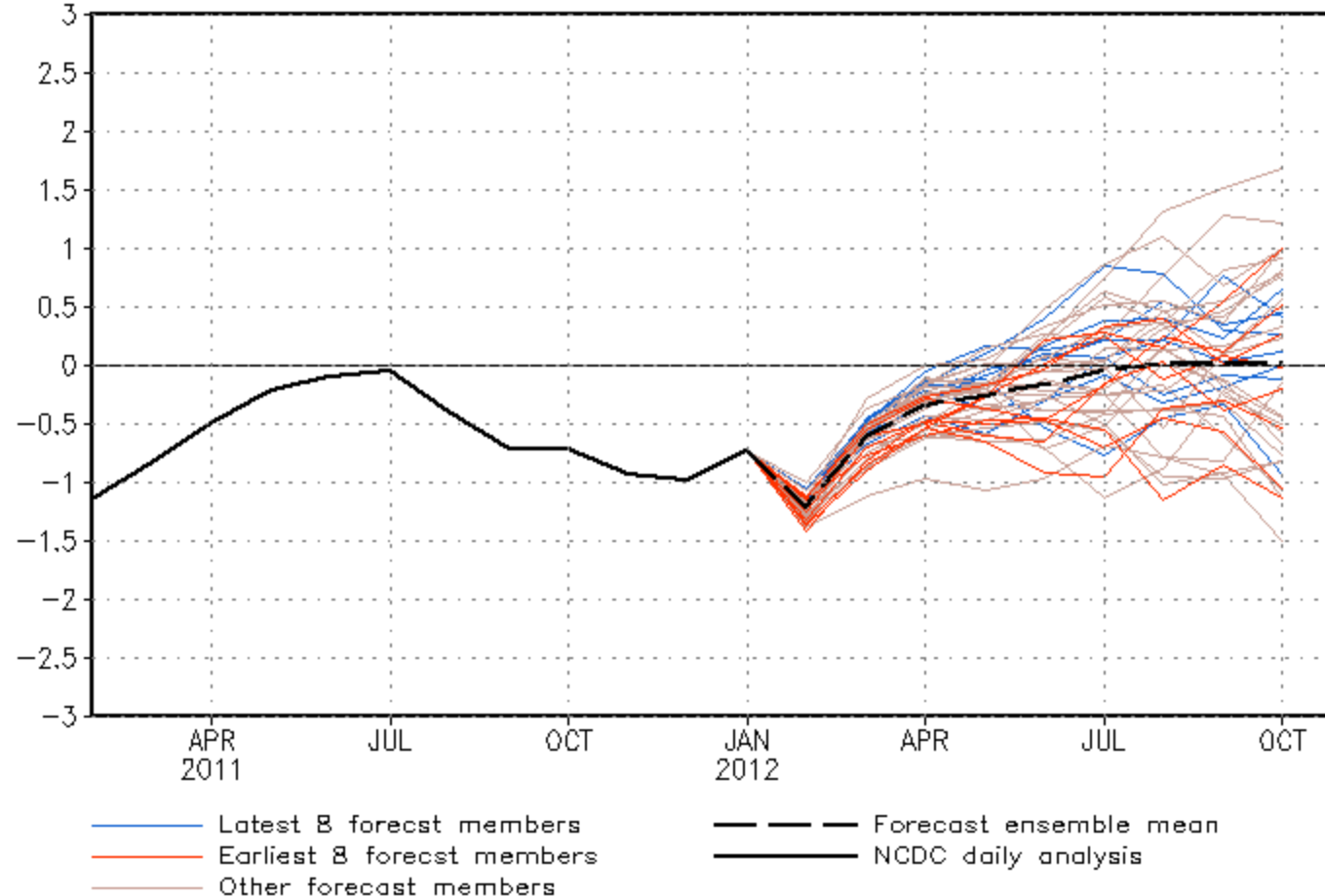
JAN 2 2012

Latest





PDF corrected CFS forecast Nino3.4 SST anomalies (K)

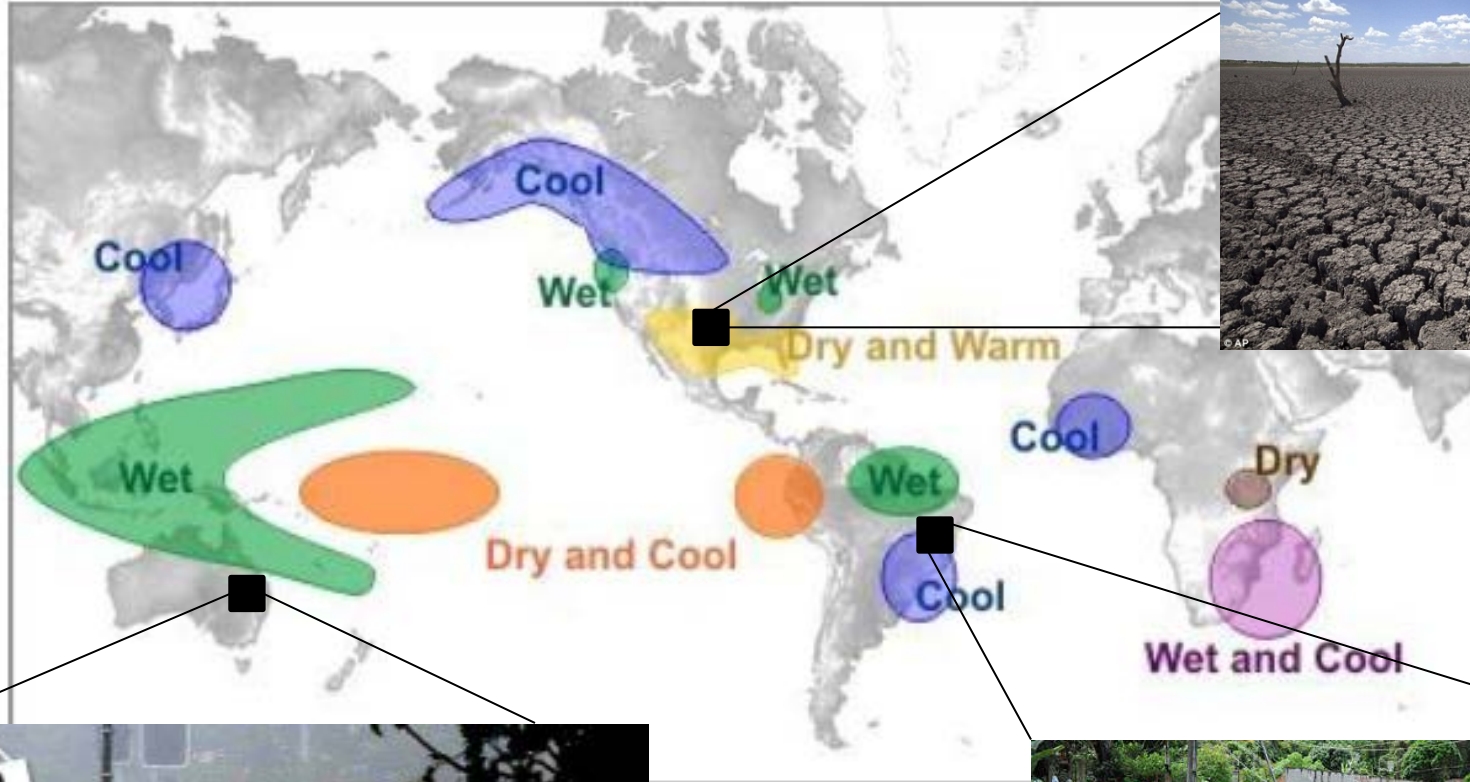


NCEP Climate Forecast System (CFS) Niño 3.4 SST prediction indicates La Niña conditions continuing through the remainder of the Northern Hemisphere winter but weakening to neutral conditions in the Spring

What Are the La Niña Effects

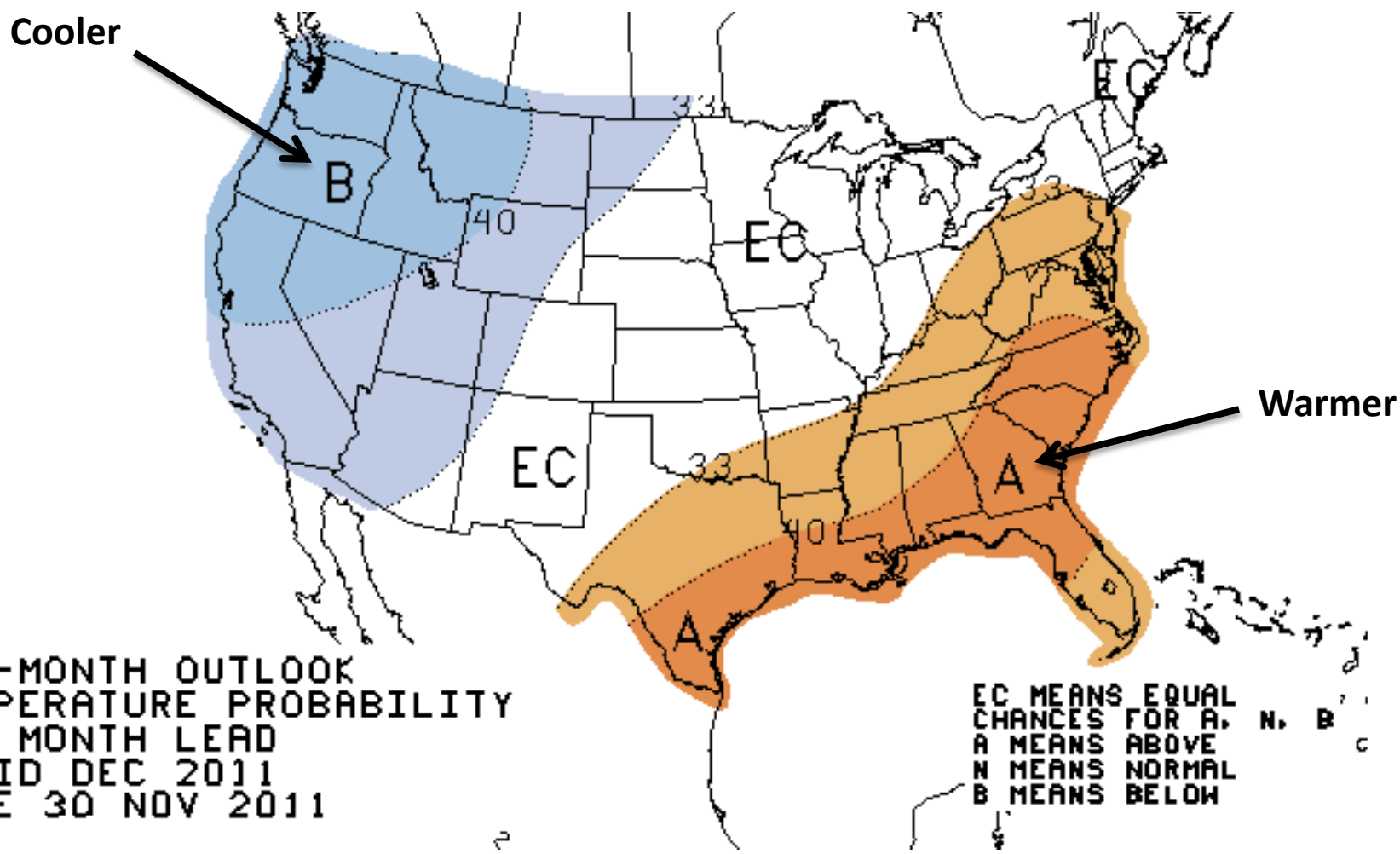
Global Effects

La Niña effect during December through February



What Did We Experience?

Temperature Prediction December 2011

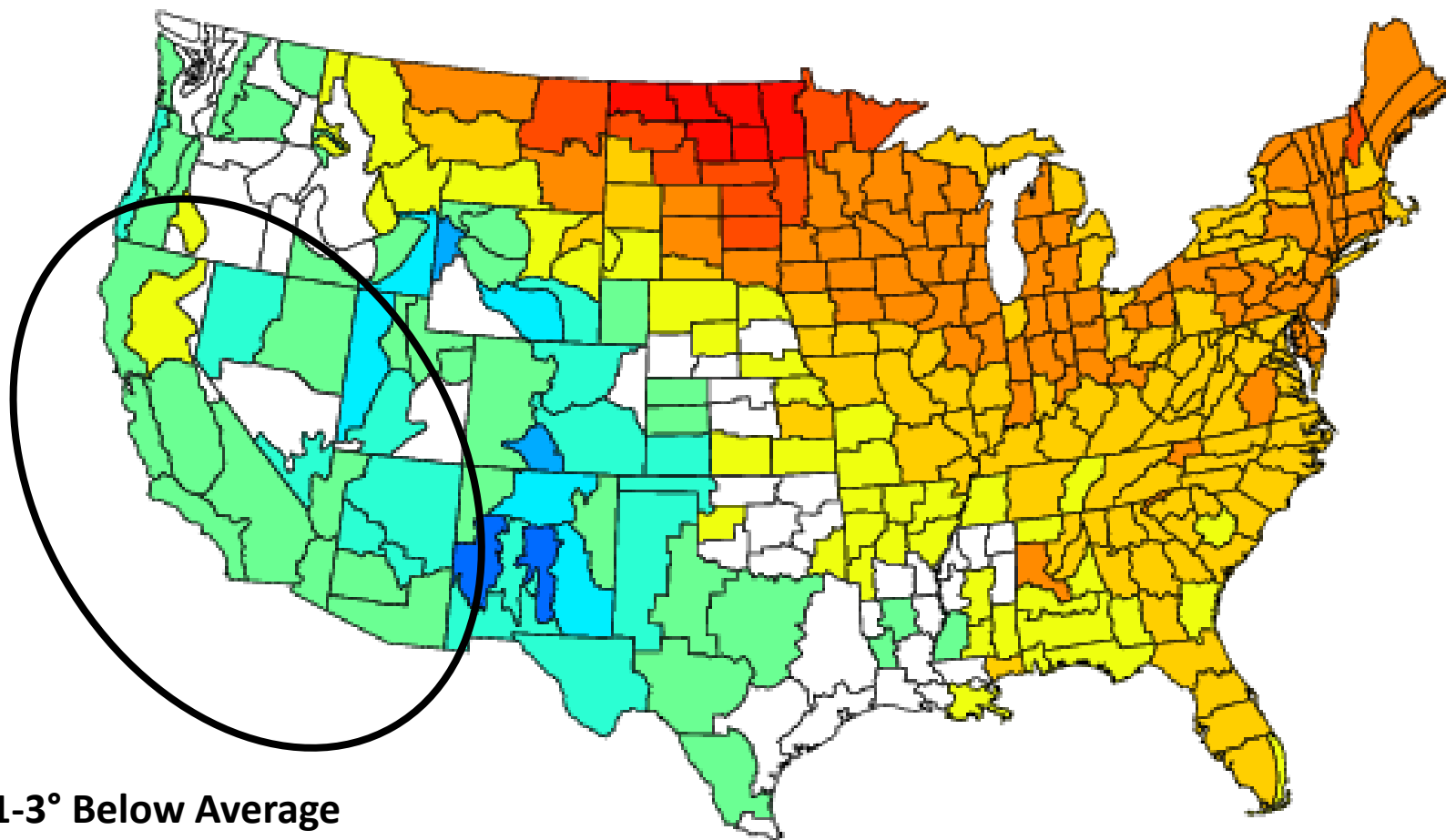


ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.0 MONTH LEAD
VALID DEC 2011
MADE 30 NOV 2011



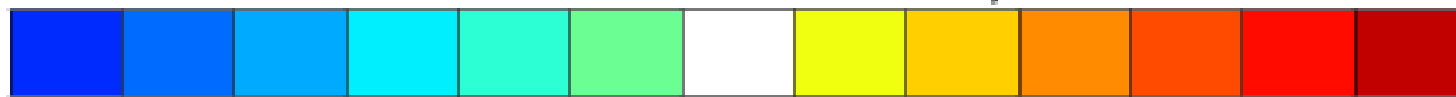


Temperature Anomalies (F)
Dec 2011
Versus 1981–2010 Longterm Average



1-3° Below Average

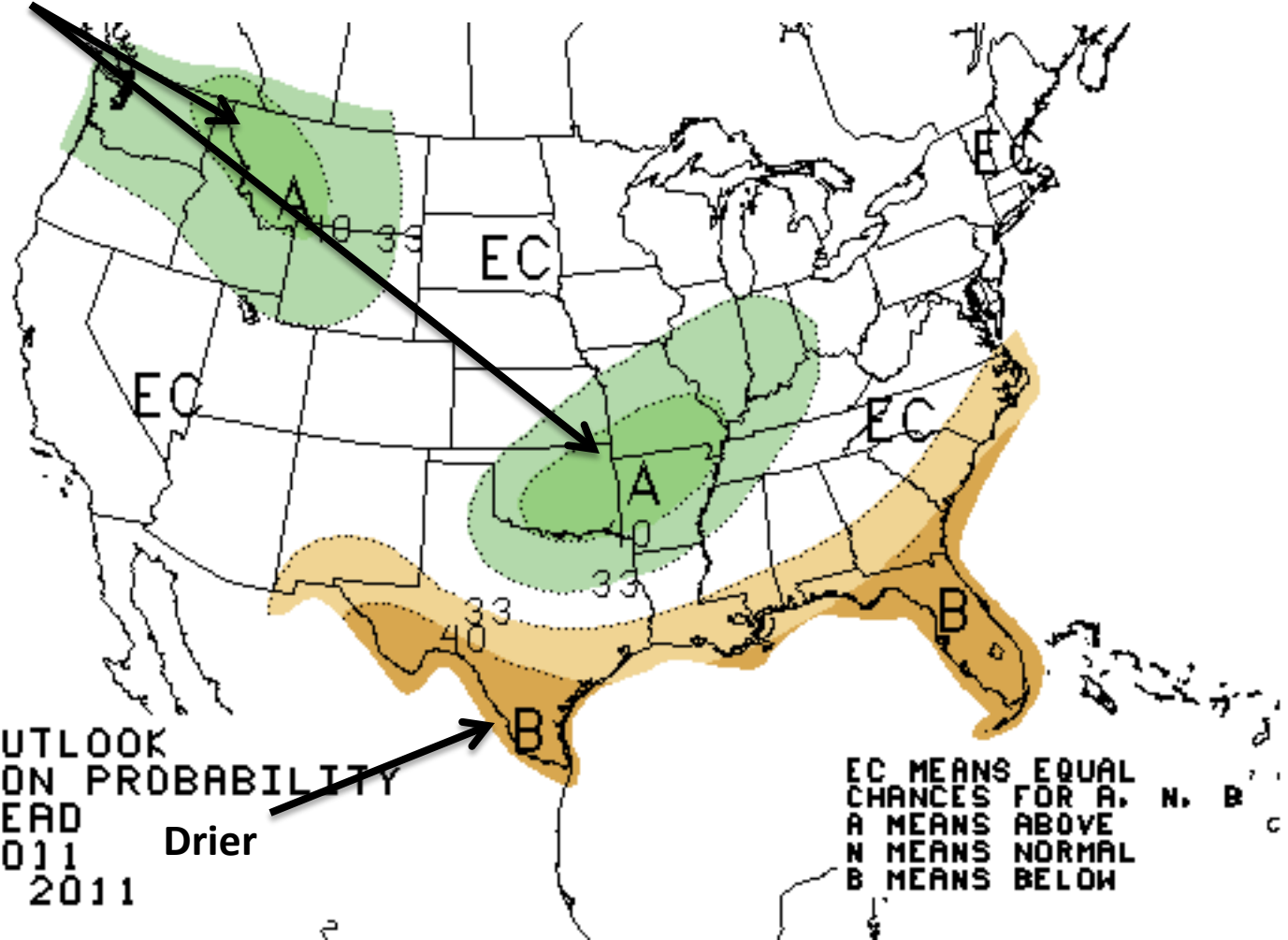
NOAA/ESRL PSD and CIRES-CDC



-11.0 -7.0 -3.0 1.0 5.0 9.0

Precipitation Prediction December 2011

Wetter

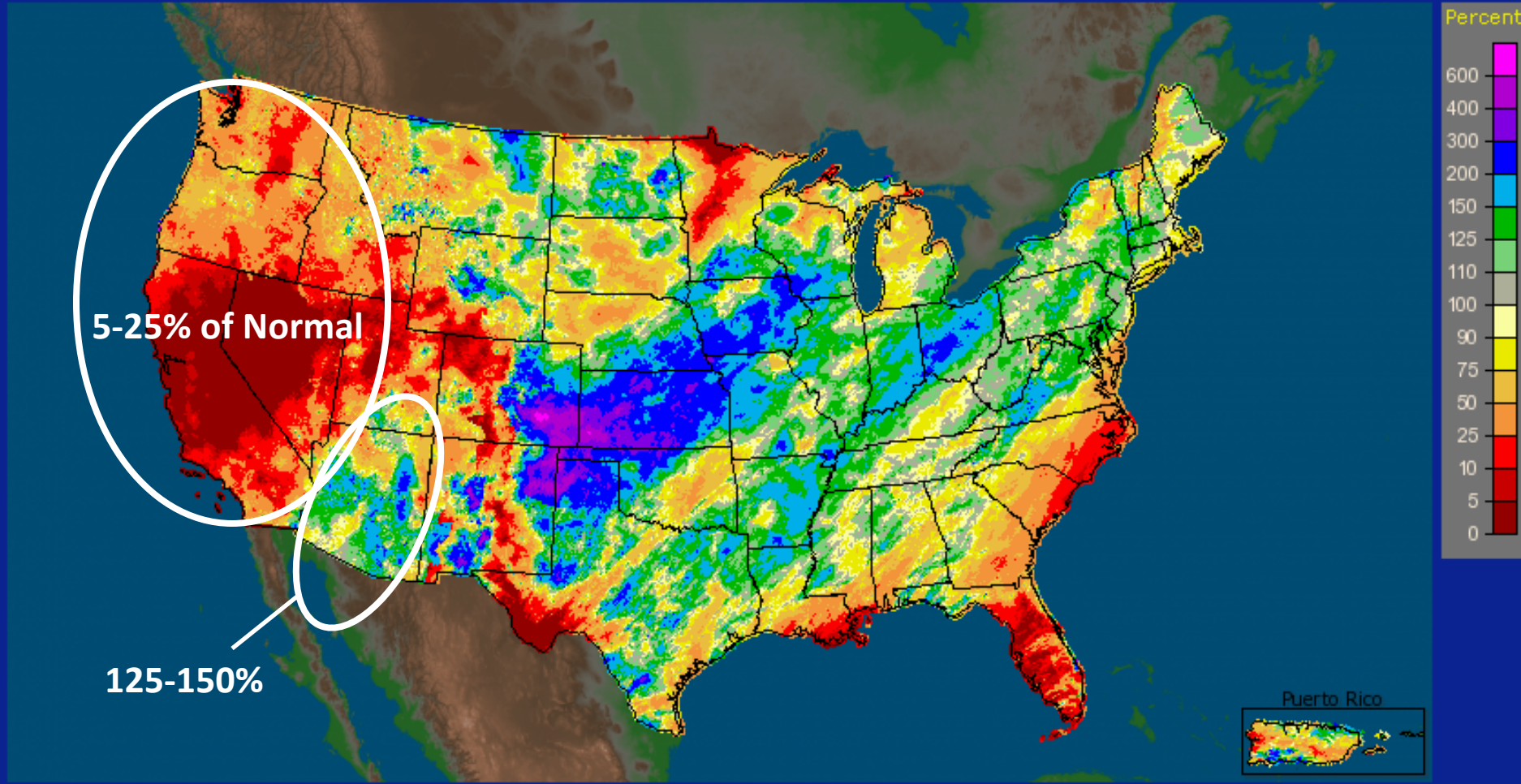


ONE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.0 MONTH LEAD
VALID DEC 2011
MADE 30 NOV 2011

Drier

EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

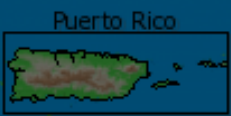
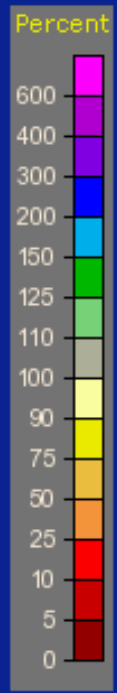
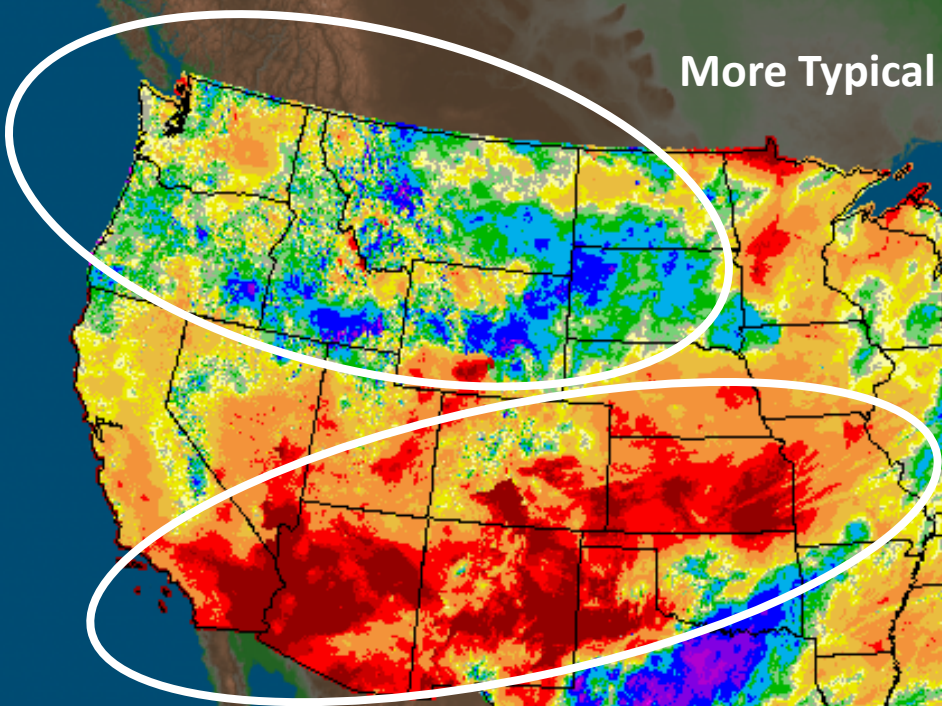
CONUS + Puerto Rico: December, 2011 Monthly Percent of Normal Precipitation
Valid at 01/01/2012 1200 UTC - Created 1/3/12 21:33 UTC



- Topo
- Pcpn Amount
- Counties
- Rivers
- States
- Highway/City
- RFC Boundary

CONUS + Puerto Rico: Current 30-Day Percent of Normal Precipitation
Valid at 1/30/2012 1200 UTC - Created 1/30/12 19:38 UTC

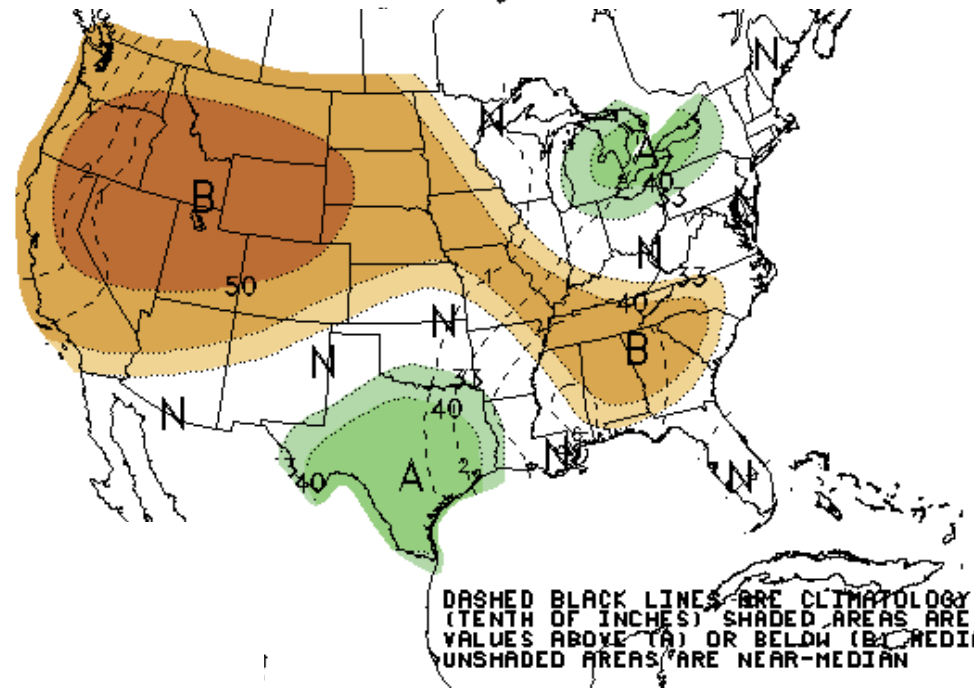
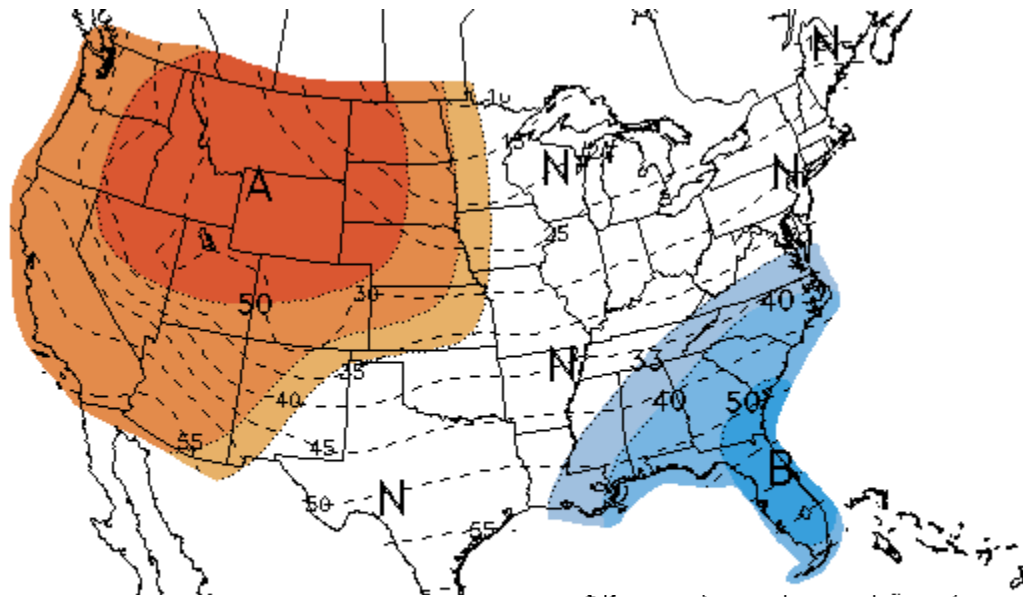
More Typical La Niña Signature



- Topo
- Pcpn Amount
- Counties
- Rivers
- States
- Highway/City
- RFC Boundary

What Can We Expect?

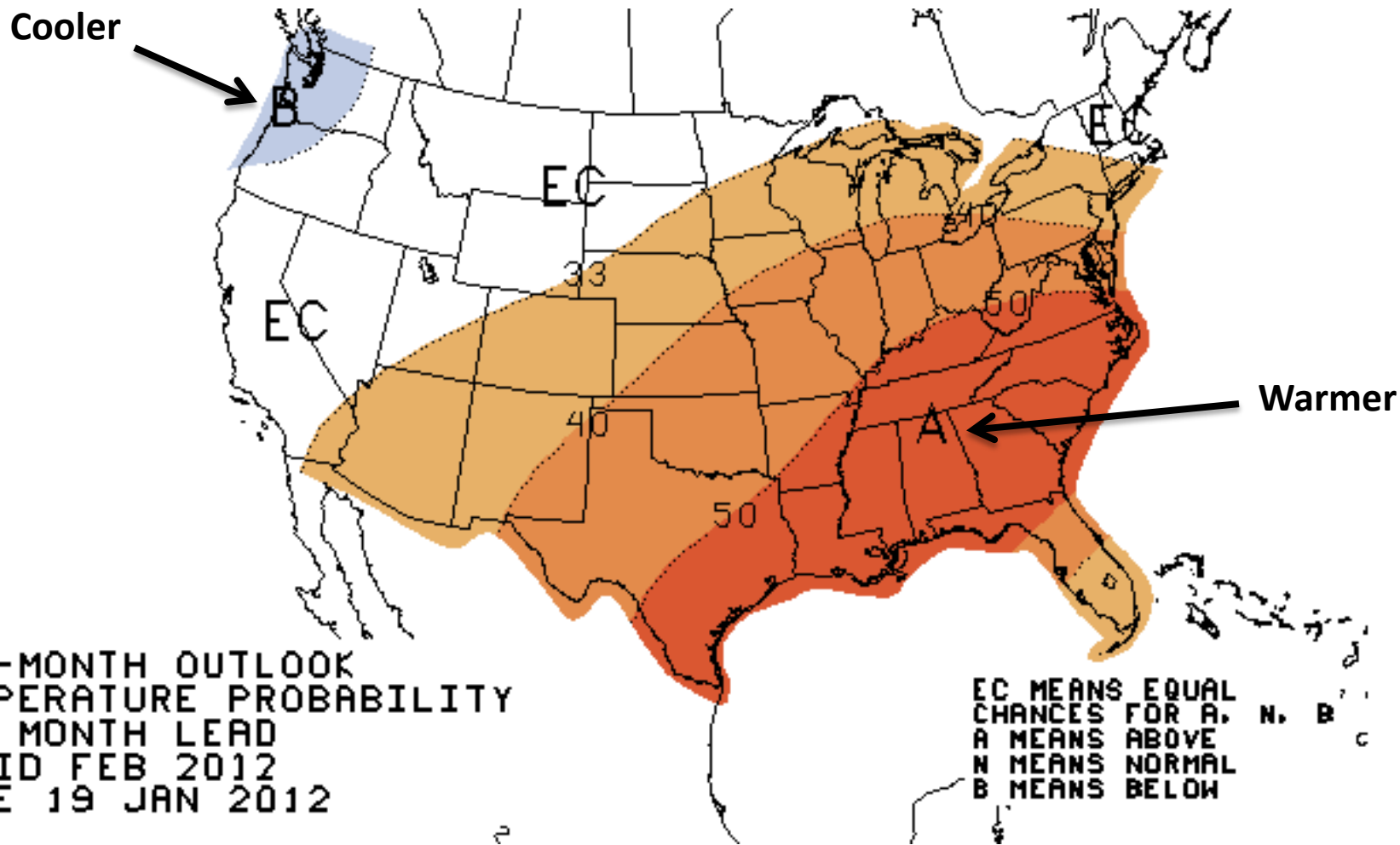
6-10 Day Outlook – (Sun - Thu) February 5-9, 2012



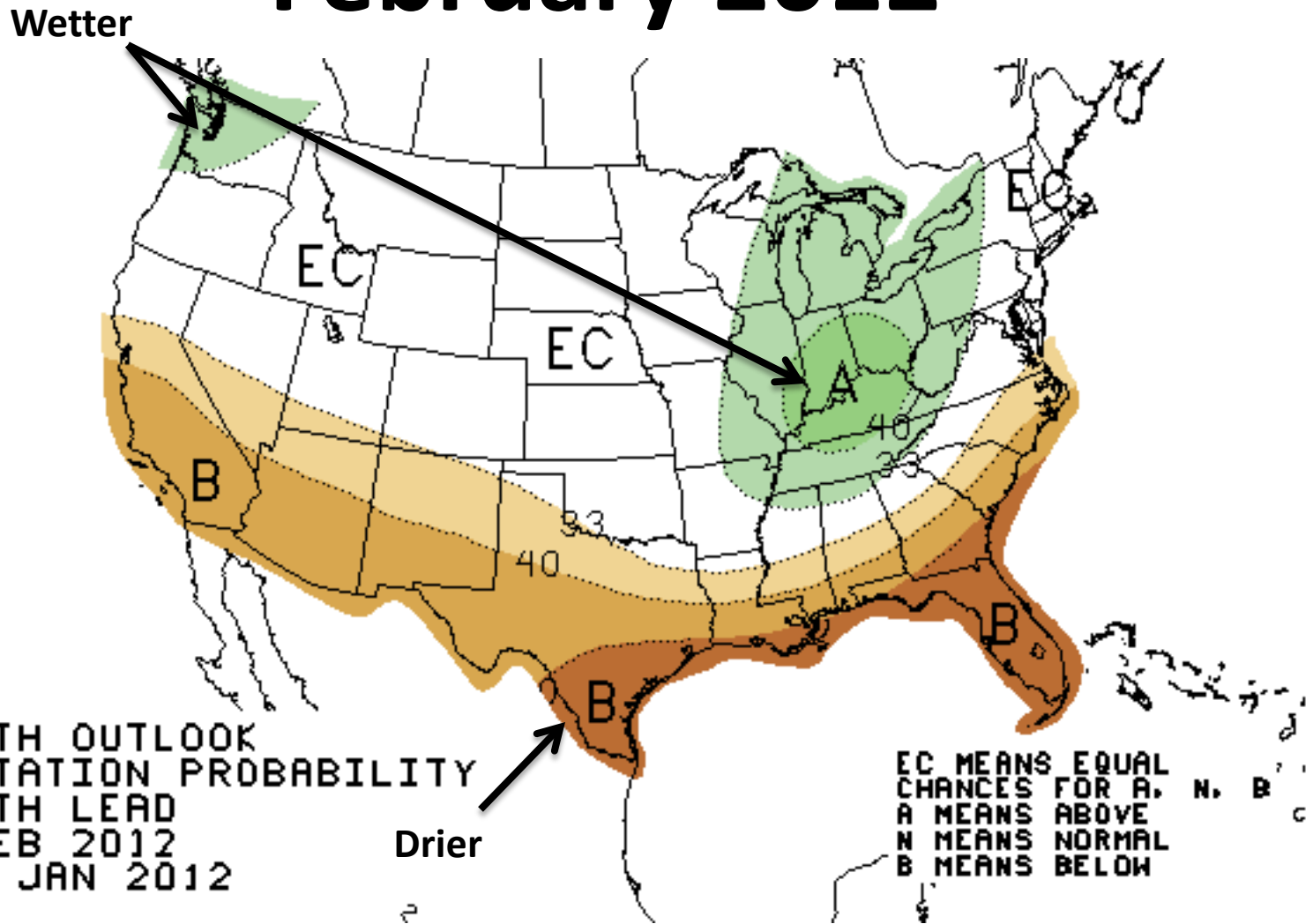
Ridge of High Pressure to Dominate the Weather During this Period

DASHED BLACK LINES ARE CLIMATOLOGY (TENTH OF INCHES) SHADED AREAS ARE FCS' VALUES ABOVE (A) OR BELOW (B) MEDIAN UNSHADED AREAS ARE NEAR-MEDIAN

Temperature Prediction February 2012



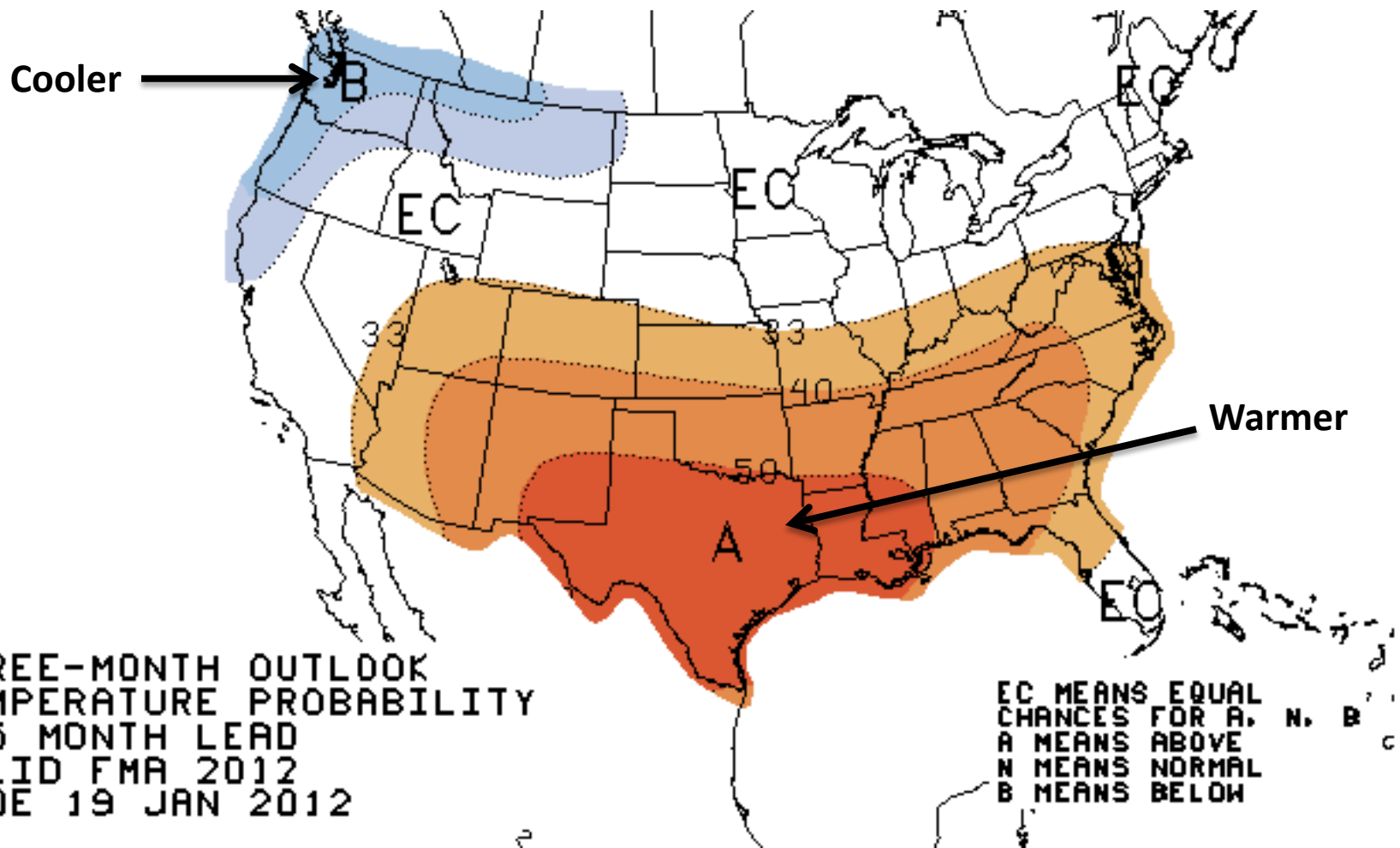
Precipitation Prediction February 2012





Temperature Prediction

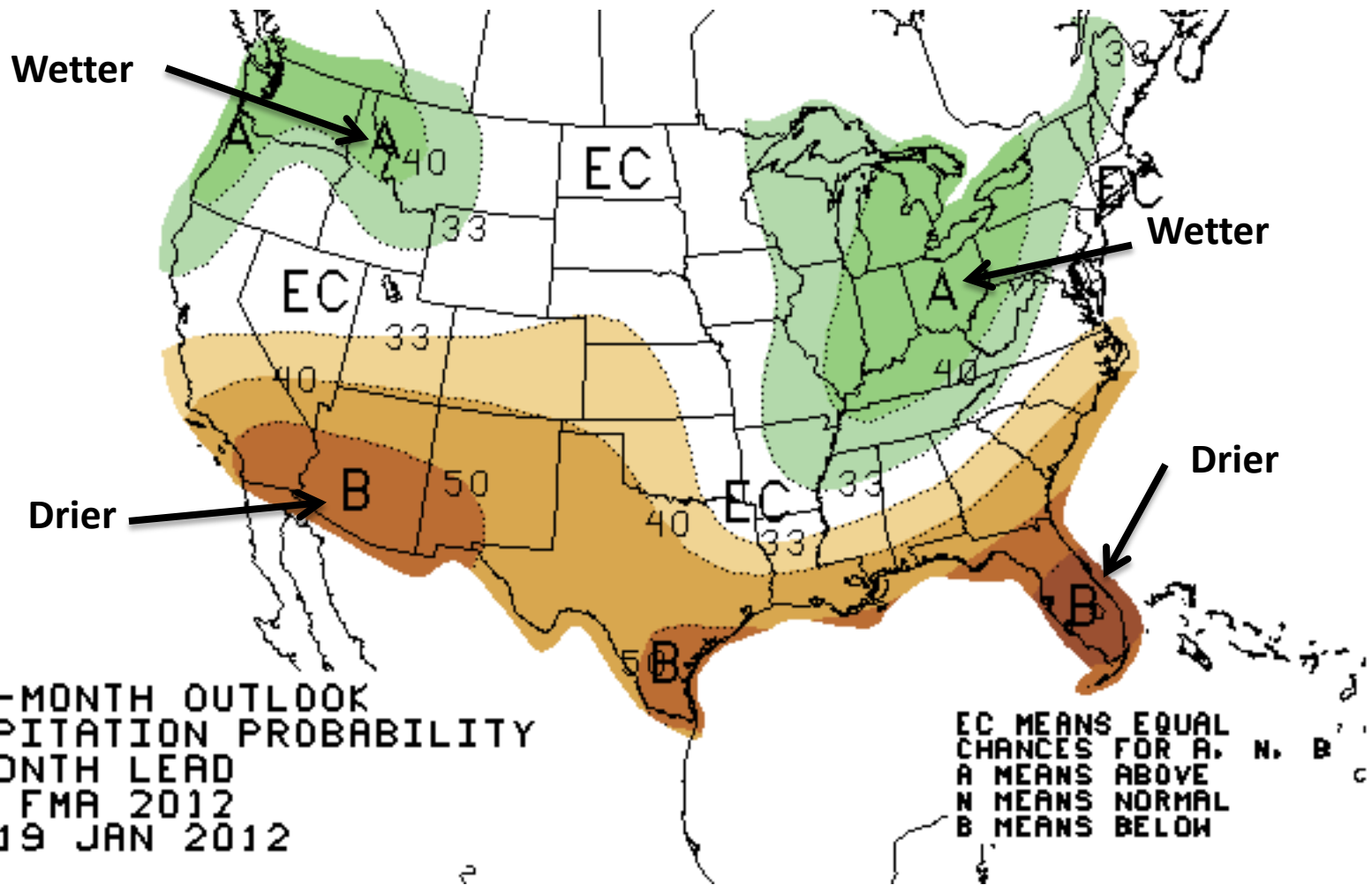
February-March-April 2012



THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID FMA 2012
MADE 19 JAN 2012

Precipitation Prediction

February-March-April 2012

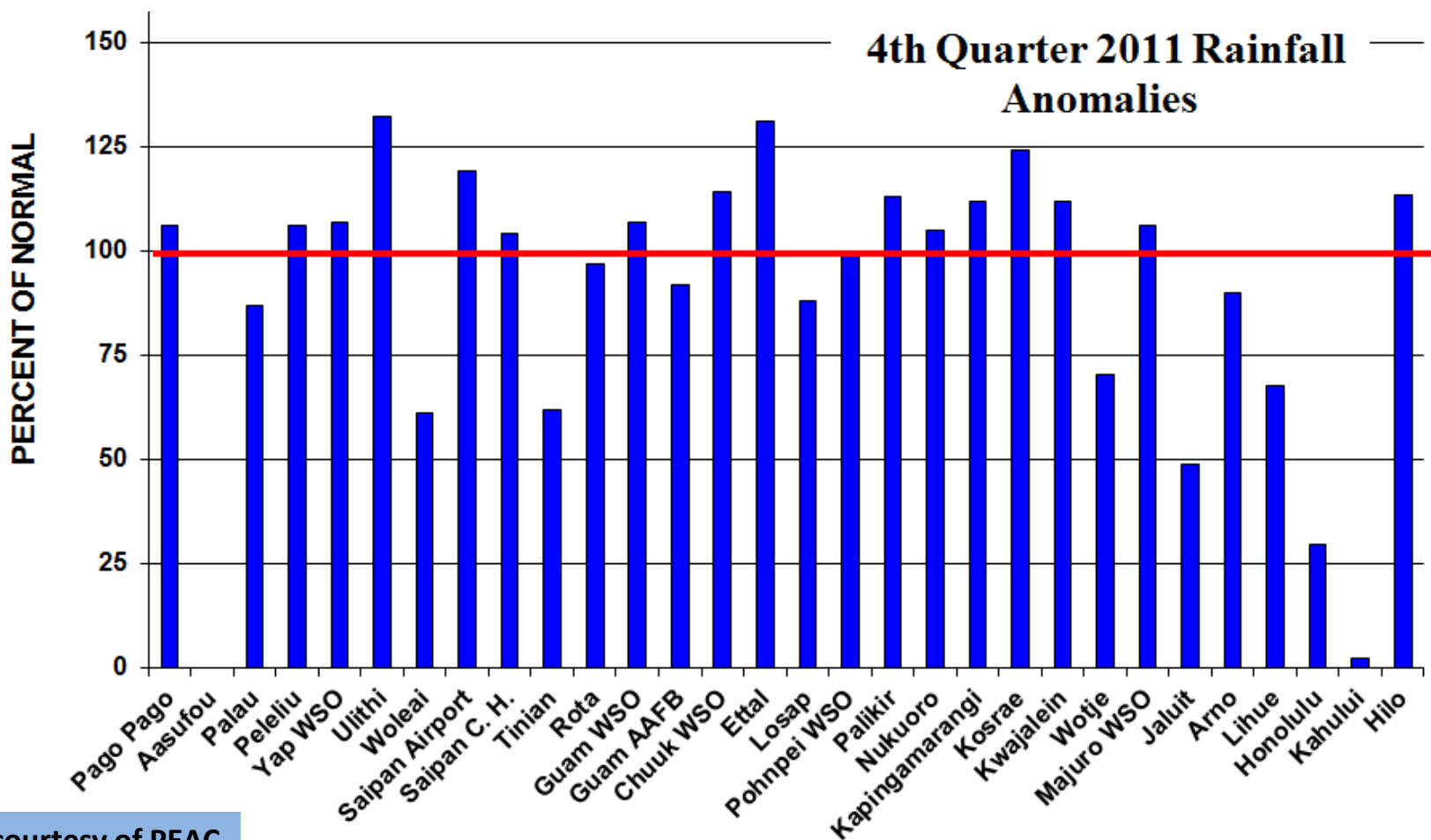


What About the Pacific?

Pacific Island Observed Precipitation

October-November-December 2011

Near to below normal across the central Pacific and generally at or above normal across the western Pacific.



Pacific Island Precipitation Prediction

PEAC Seasonal Rainfall Outlook

January - February - March (JFM) 2012

Model:	UKMO	ECMWF	NCEP CA	NASA NSIPP	NCEP Coupled	IRI	PRIDE	Final Outlook	Final Probabilities	
Republic of Palau										
Koror	L 7° 22' N, λ 134° 32' E	Above	Avg.	Avg.	Avg.	Avg-above	Climatology	Above	Average	30:40:30
Federated States of Micronesia										
Yap	L 9° 29' N, λ 138° 05' E	Above	Avg-above	Avg.	Avg-above	Avg-above	Above	Above	Avg-above	30:35:35
Chuuk	L 7° 28' N, λ 151° 51' E	Above	Avg-above	Avg-below	Avg-above	Above	Avg.	Above	Avg-above	30:35:35
Pohnpei	L 6° 59' N, λ 158° 12' E	Avg-above	Avg.	Below	Avg-below	Avg-above	Avg.	Below	Avg-above	30:35:35
Kosrae	L 5° 21' N, λ 162° 57' E	Avg.	Below	Below	Below	Avg.	Avg.	Below	Avg-above	30:35:35
Republic of the Marshall Islands										
Kwajalein	L 8° 43' N, λ 167° 44' E	Above	Avg.	Below	Above	Avg.	Below	Climatology	Avg-below	35:35:30
Majuro	L 7° 04' N, λ 171° 17' E	Above	Avg.	Below	Avg-below	Avg.	Below	Avg-below	Avg-below	35:35:30
Guam and CNMI										
Guam	L 13° 29' N, λ 144° 48' E	Above	Avg-above	Above	Avg-above	Avg.	Climatology	Avg-above	Average	30:40:30
Saipan	L 15° 06' N, λ 145° 48' E	Climatology	Above	Avg-above	Avg.	Avg.	Climatology	Climatology	Average	30:40:30
American Samoa										
Pago Pago	L 14° 20' S, λ 170° 43' E	Below	Below	Avg-below	Avg.	Avg-below	Above	Above	Average	30:40:30
State of Hawaii										
Lihue	L 21° 59' N, λ 159° 20' E	Above	Above	Avg.	Avg.	Avg-above	Climatology	Above	Above	25:35:40
Honolulu	L 21° 19' N, λ 157° 56' W	Above	Above	Avg.	Avg.	Avg.	Climatology	Above	Above	25:35:40
Kahului	L 20° 54' N, λ 156° 26' E	Above	Above	Avg.	Avg.	Avg-above	Climatology	Above	Avg-above	30:35:35
Hilo	L 19° 43' N, λ 155° 03' E	Above	Above	Avg.	Avg.	Avg-above	Climatology	Above	Avg-above	30:35:35

- PEAC – Pacific ENSO Applications Climate Center
- The PEAC Seasonal Rainfall Outlook is an experimental consensus forecast, produced monthly for 14 stations within Hawaii and the USAPI.
- The PEAC Outlook uses data from 7 models

Pacific Island T/P Prediction

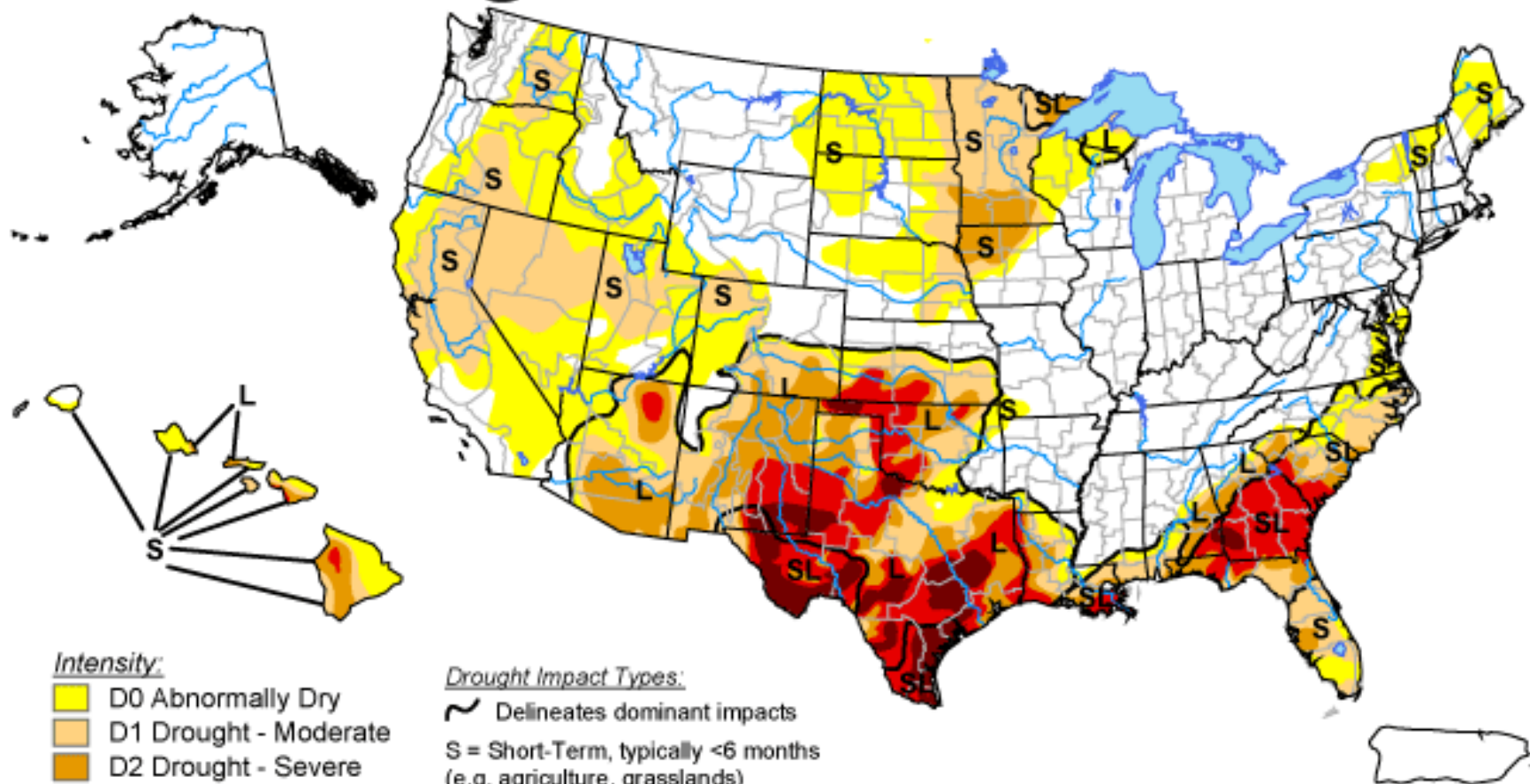
February-March-April 2012

BASED ON CURRENT CONDITIONS IN THE TROPICAL PACIFIC AND ON RESULTS FROM HISTORICAL STUDIES ON THE EFFECTS OF COLD EPISODES - **WETTER** THAN NORMAL CONDITIONS ARE FAVORED OVER HAWAII AND SOME U.S.-AFFILIATED ISLANDS DURING THE REMAINDER OF WINTER AND EARLY SPRING (FMA).






HILO								HONOLULU							LIHUE									
TEMPERATURE				↓	PRECIPITATION				TEMPERATURE				↓	PRECIPITATION			TEMPERATURE				↓	PRECIPITATION		
	FCST	AVE	LIM	FCST	BLW	MEDIAN	ABV		FCST	AVE	LIM	FCST	BLW	MEDIAN	ABV		FCST	AVE	LIM	FCST	BLW	MEDIAN	ABV	
FMA 2012	EC	71.7	0.4	A40	24.6	34.1	45.5	FMA 2012	A40	73.8	0.4	A40	1.9	3.2	4.7	FMA 2012	A40	72.1	0.5	A40	5.8	8.4	9.9	
MAM 2012	EC	72.0	0.5	A40	22.5	28.4	34.0	MAM 2012	A40	74.8	0.4	A40	1.8	2.6	3.0	MAM 2012	A40	72.8	0.5	A40	5.3	6.6	8.0	
AMJ 2012	EC	72.9	0.5	EC	21.4	23.7	29.0	AMJ 2012	EC	76.3	0.4	EC	1.2	1.6	1.8	AMJ 2012	A40	74.2	0.5	EC	4.7	5.5	6.0	
MJJ 2012	EC	74.0	0.4	EC	20.2	27.5	29.1	MJJ 2012	EC	78.2	0.4	EC	0.8	1.4	1.6	MJJ 2012	EC	76.0	0.5	EC	4.9	5.4	5.9	
JJA 2012	EC	75.2	0.4	EC	19.4	27.2	31.4	JJA 2012	EC	79.9	0.4	EC	0.7	0.8	1.3	JJA 2012	EC	77.7	0.4	EC	4.4	5.3	6.9	
JAS 2012	EC	76.1	0.4	EC	25.2	28.6	33.4	JAS 2012	EC	81.3	0.4	EC	1.0	1.4	1.7	JAS 2012	EC	79.0	0.3	EC	5.3	6.1	7.8	
ASO 2012	EC	76.4	0.4	EC	26.1	28.8	33.3	ASO 2012	EC	81.7	0.4	EC	1.6	2.4	3.1	ASO 2012	EC	79.4	0.3	EC	6.2	7.9	8.4	
SON 2012	EC	76.2	0.4	EC	24.3	30.2	40.8	SON 2012	EC	81.4	0.4	EC	2.5	4.0	5.6	SON 2012	EC	79.1	0.3	EC	9.2	10.0	11.2	
OND 2012	EC	75.5	0.4	EC	28.3	34.5	42.0	OND 2012	EC	80.0	0.4	EC	4.4	6.4	8.5	OND 2012	EC	77.8	0.3	EC	9.2	11.7	15.6	
NDJ 2012	EC	74.2	0.4	EC	26.4	36.6	43.0	NDJ 2012	EC	77.7	0.5	EC	3.9	5.6	8.8	NDJ 2012	EC	75.7	0.3	EC	8.6	12.1	16.9	
DJF 2013	EC	72.8	0.4	EC	19.6	30.2	33.3	DJF 2013	EC	75.3	0.5	EC	3.7	5.6	8.6	DJF 2013	EC	73.6	0.4	EC	7.5	8.4	14.0	
JFM 2013	EC	71.8	0.4	EC	22.0	32.0	44.5	JFM 2013	EC	73.9	0.4	EC	2.1	4.6	7.8	JFM 2013	EC	72.3	0.4	EC	6.5	8.8	13.8	
FMA 2013	EC	71.7	0.4	EC	24.6	34.1	45.5	FMA 2013	EC	73.8	0.4	EC	1.9	3.2	4.7	FMA 2013	EC	72.1	0.5	EC	5.8	8.4	9.9	

U.S. Drought Monitor


January 24, 2012
Valid 7 a.m. EST



Intensity:

-  D0 Abnormally Dry
-  D1 Drought - Moderate
-  D2 Drought - Severe
-  D3 Drought - Extreme
-  D4 Drought - Exceptional

Drought Impact Types:

-  Delineates dominant impacts
- S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months (e.g. hydrology, ecology)

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, January 26, 2012

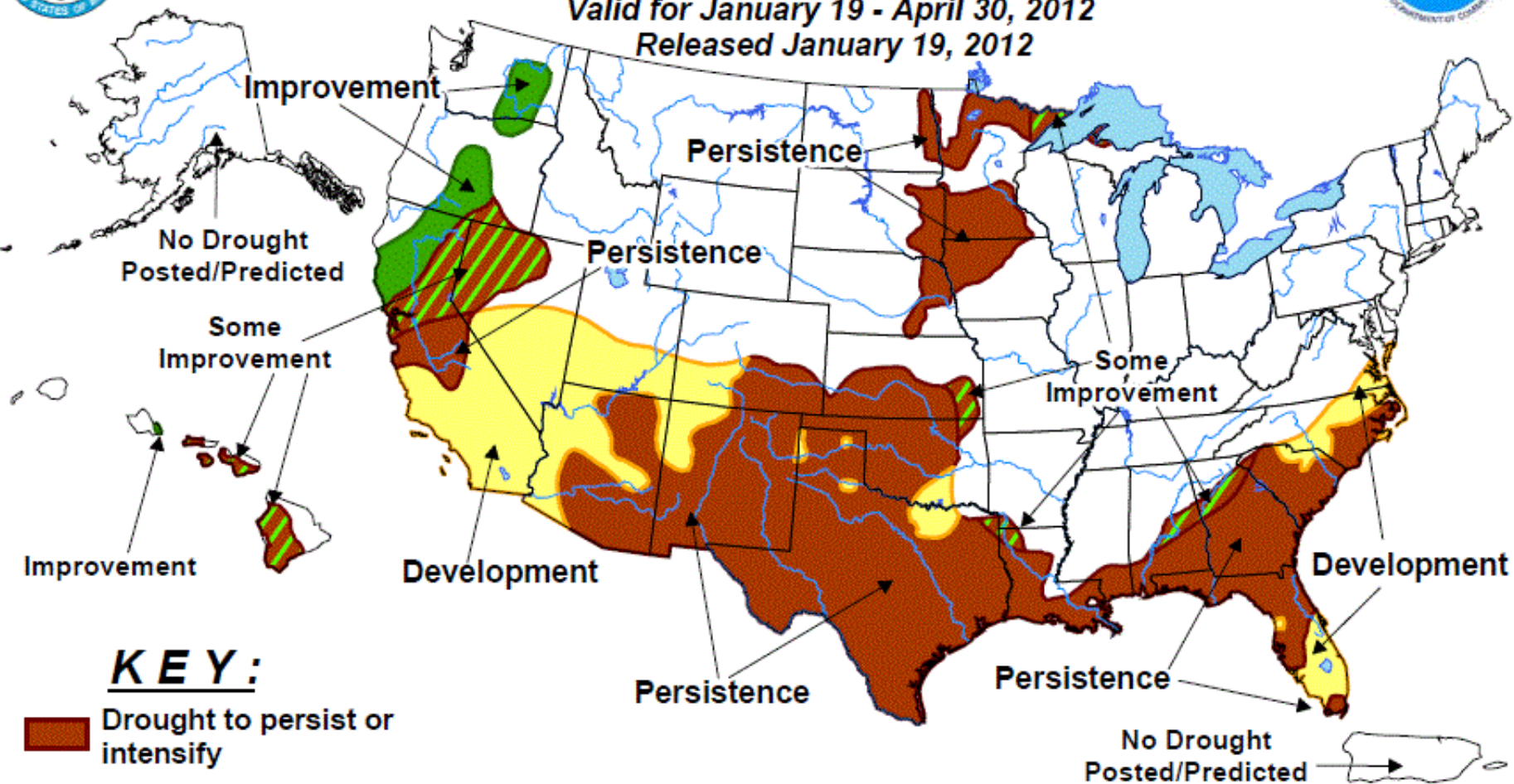
Author: Eric Luebehusen, U.S. Department of Agriculture

U.S. Seasonal Drought Outlook





Drought Tendency During the Valid Period

Valid for January 19 - April 30, 2012

Released January 19, 2012



KEY:

-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

Takeaways

- La Niña will continue for the remainder of the Winter but weaken through the Spring with ENSO neutral conditions by the beginning of Summer
- Dominate ridge of high pressure over the eastern Pacific has skewed precipitation patterns for the CONUS for much of the Winter thus far
- Cooler and wetter than normal conditions are favored for the far Pac NW for the remainder of the winter
- Above normal temperatures and below normal precipitation are favored for the desert SW and much of extreme southern CA for the remainder of the winter
- Wetter than normal conditions are favored over Hawaii and some U.S.-Affiliated islands during the remainder of Winter and early Spring (FMA)
- Further drought development and/or persistence is likely across the desert SW through April
- Some drought improvement is expected over northern CA, northern NV and Hawaii



References

- ENSO Cycle: Recent Evolution, Current Status and Predictions
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf
- Latest El Niño/La Niña Watch Data
<http://sealevel.jpl.nasa.gov/science/elninopdo/latestdata/>
- CPC Temperature/Precipitation Outlooks
<http://www.cpc.ncep.noaa.gov/products/predictions/>
<http://www.cpc.ncep.noaa.gov/products/predictions/90day/fxhw40.html>
- Pacific Island Observed Precipitation and Prediction from PEAC
<http://www.prh.noaa.gov/peac/forecast.php>
- To subscribe to the PEAC Center Newsletter:
<http://www.prh.noaa.gov/peac/subscribe.php>
- Drought Monitor
<http://droughtmonitor.unl.edu/>
- Drought Outlook
http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif



Questions and Contact

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todd.morris@noaa.gov

www.weather.gov

