



Supply Risks on the Horizon as El Niño Fades

Thomson Reuters Lanworth

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February 9, 2016

Rancho Mirage, California



THOMSON REUTERS

Agenda

A quick look back at last year



South America, 2015/16



Current supply bulges



Shift in global weather & Supply risks



What's new with Lanworth?

South America: How did we do in 2014/15?

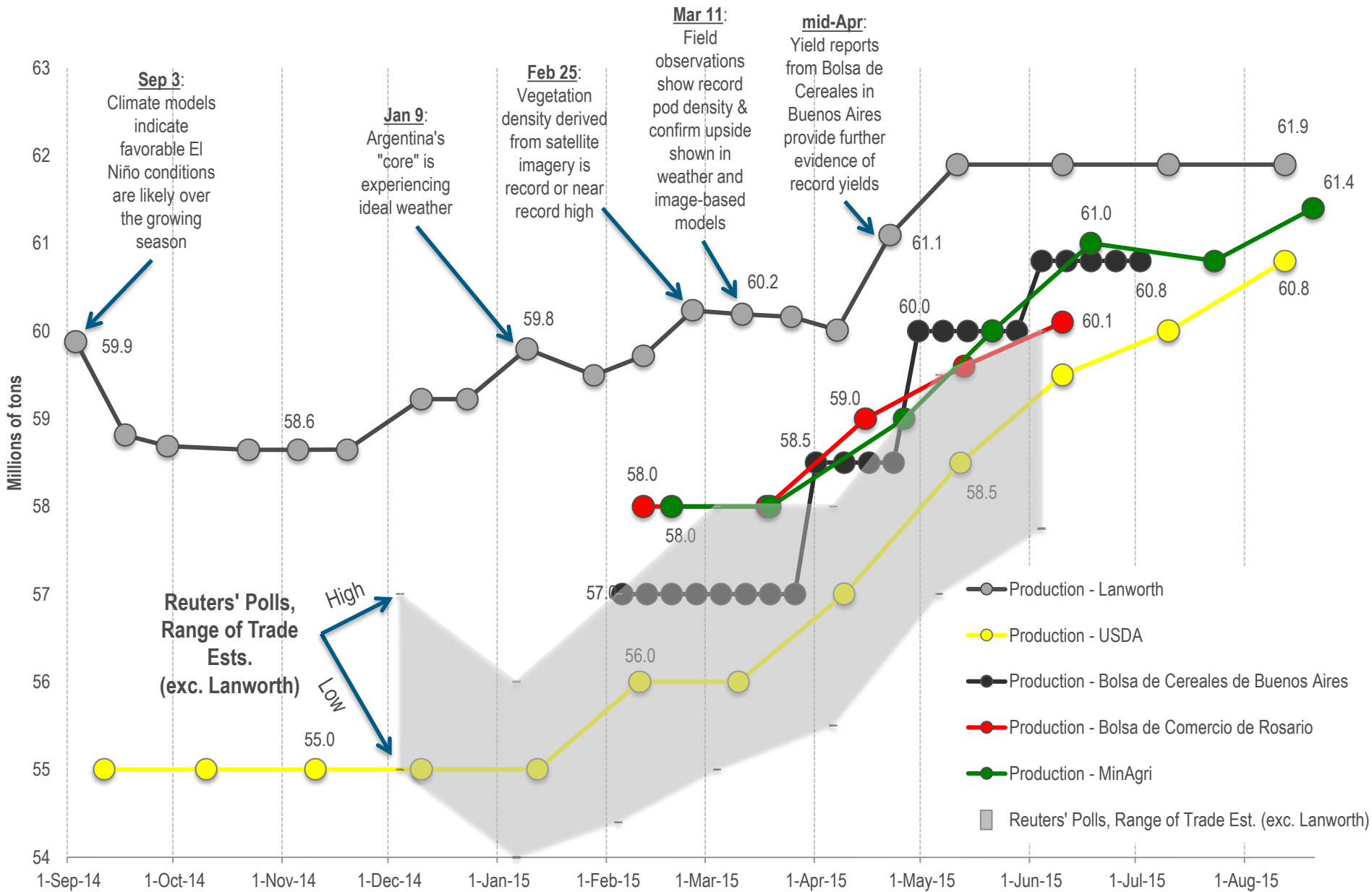
Brazil forecast: February 18, 2015

Agency	Area (mha)	Productivity (tons/ha)	Production (mmt)
Lanworth	31.4	3.01	94.5
USDA	31.5	3.00	94.5
GAIN	31.5	2.94	93.0
CONAB	31.6	3.00	94.6
Reuters' Poll			94.5 (avg)
USDA (Jan '16)	32.1	3.00	96.2

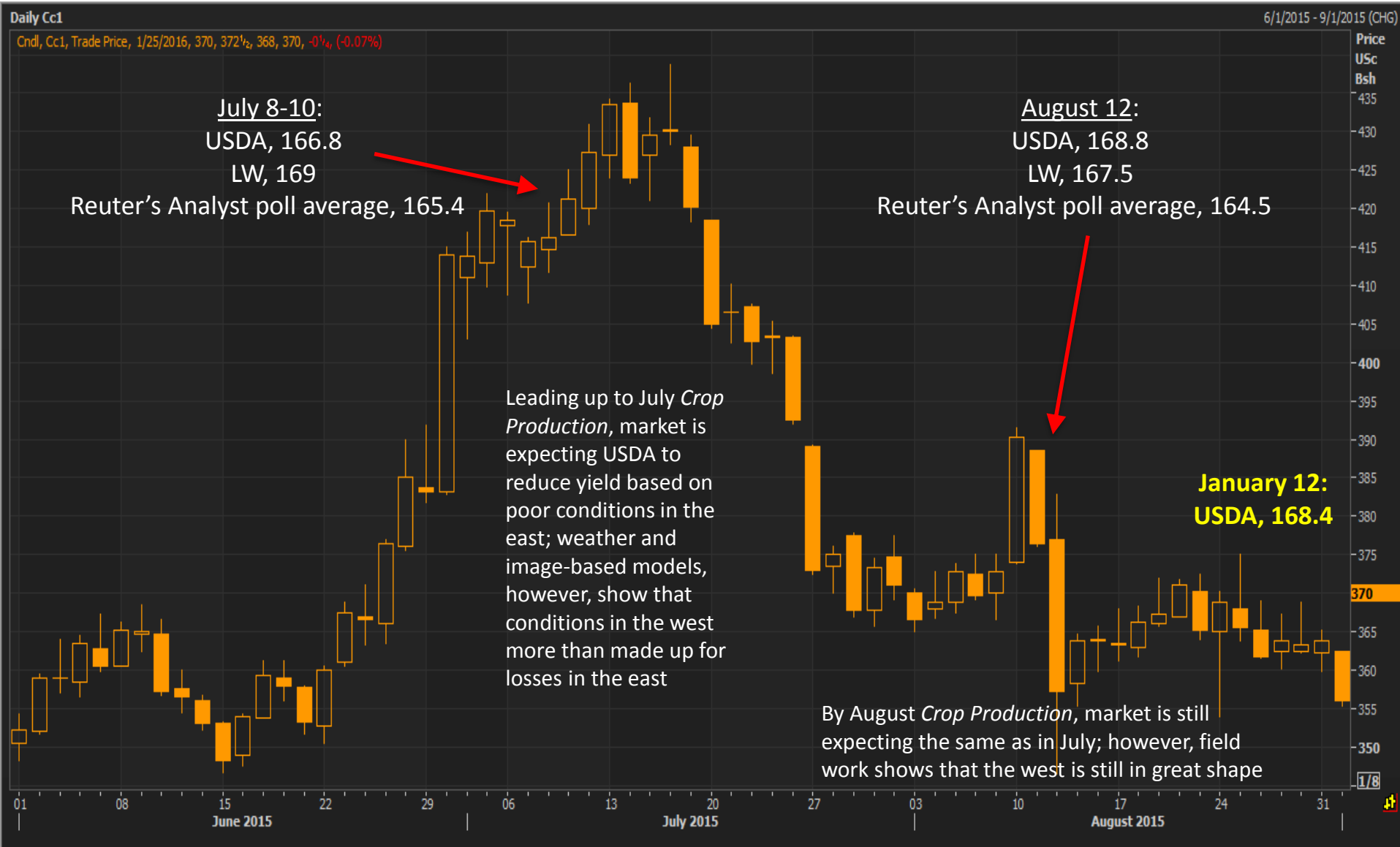
Argentina forecast: February 18, 2015

Agency	Area (mha)	Yield (tons/ha)	Production (mmt)
Lanworth	20.5	2.95	59.7
USDA	20.0	2.80	56.0
GAIN	20.8	2.74	57.0
MinAgri	20.1		
Bolsa BA	20.4	2.83	57.0
Bolsa Rosario	20.4	2.90	58.0
Reuters' Poll			55.4 (avg)
USDA (Jan '16)	19.8	3.10	61.4

Note: Reuters' Poll average excludes Lanworth



United States: How did we do in 2014/15?



South America: How is 2015/16 looking?

Brazil forecast: February 9, 2016

Agency	Area (mha)	Productivity (tons/ha)	Production (mmt)
Lanworth	33.5	3.08	103.0
USDA	33.3	3.00	100.0
GAIN	33.3	2.94	98.0
CONAB	33.2	3.04	100.9
Reuters' Poll			99.3 (avg)

Argentina forecast: February 9, 2016

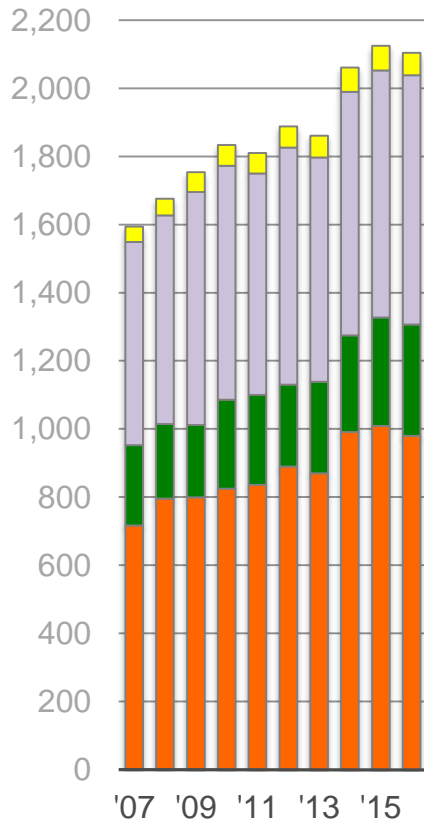
Agency	Area (mha)	Yield (tons/ha)	Production (mmt)
Lanworth	20.3	2.99	60.7
USDA	20.0	2.85	57.0
GAIN	20.0	2.93	58.5
MinAgri	20.7		
Bolsa BA	20.1	2.88	58.0
Bolsa Rosario	20.5		
Reuters' Poll			57.3 (avg)

Note: Reuters' Poll average excludes Lanworth

When will we see a pattern shift?

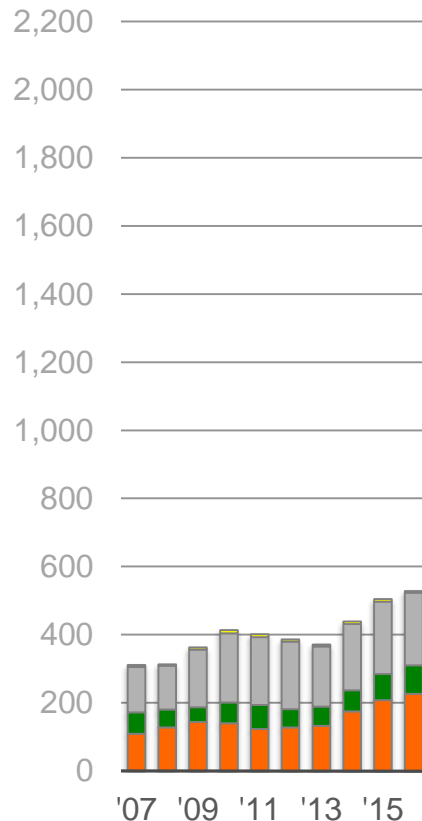
PRODUCTION

Million tonnes



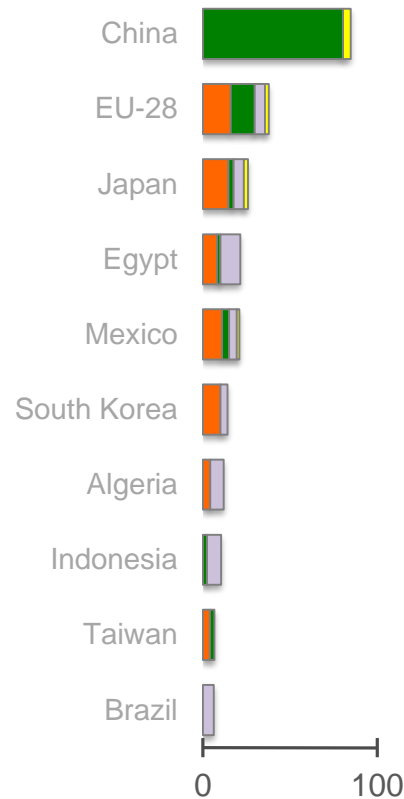
ENDING STOCKS

Million tonnes



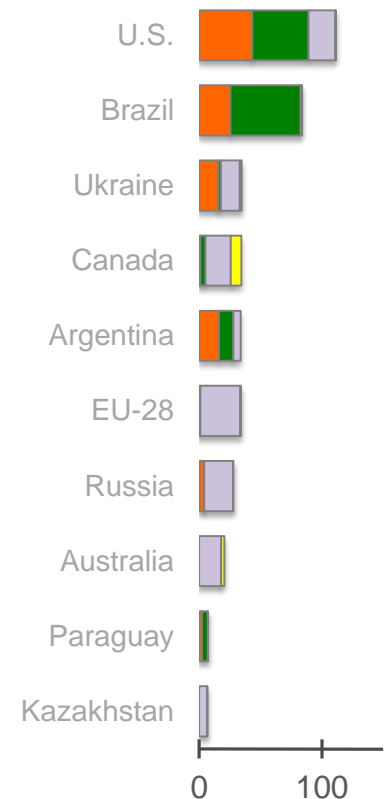
TOP IMPORTERS

Million tonnes



TOP EXPORTERS

Million tonnes



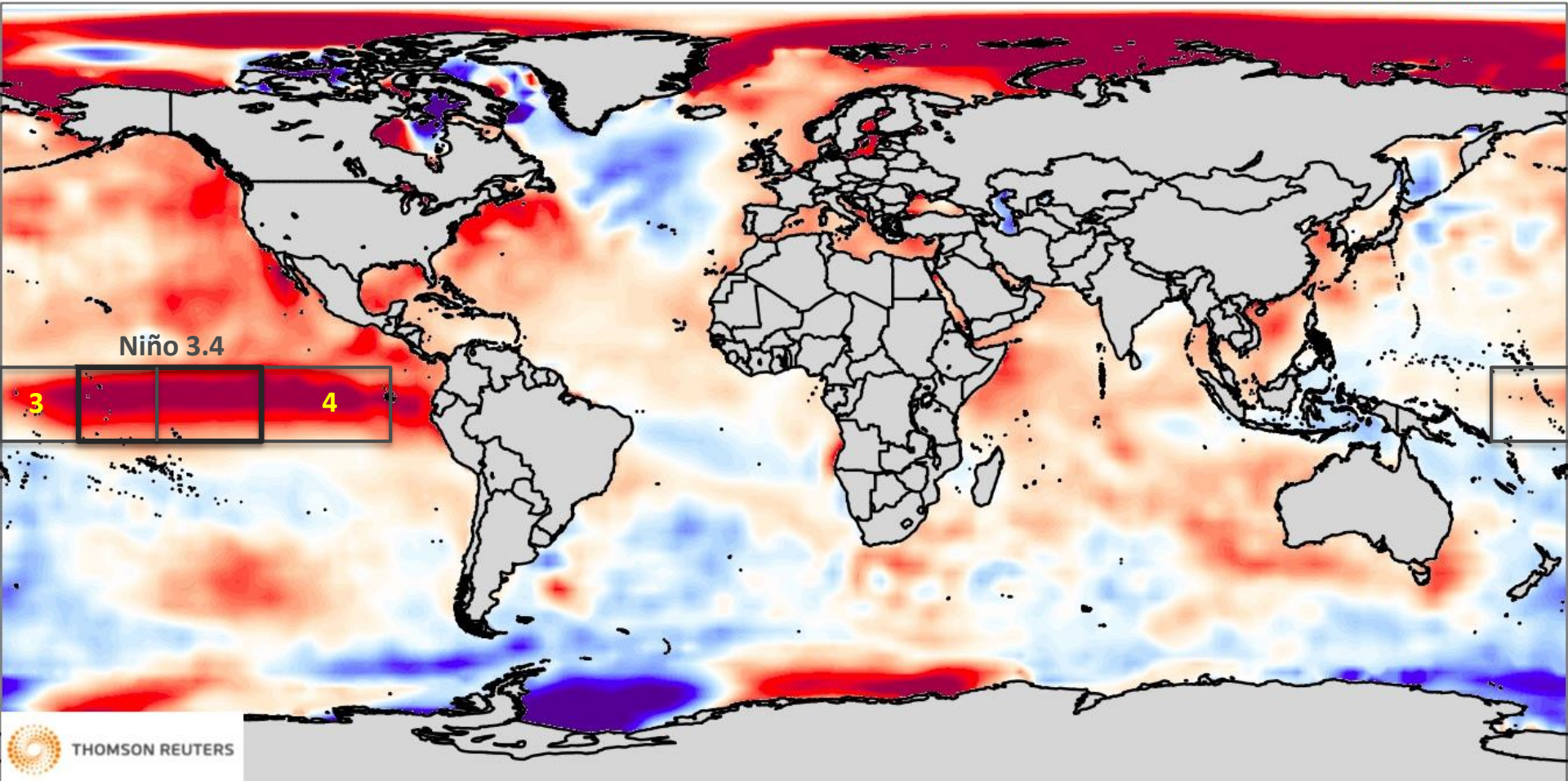
Sources: Lanworth ('16 production & ending stocks); U.S. Department of Agriculture (USDA) & USDA Foreign Agriculture Service (FAS) (Import & export data & historical production & ending stocks)

Notes: '07 refers to 2006/07 market year and so on.

The 2015/16 El Niño

SST Anomalies

November 2015



SST Anomalies (C)

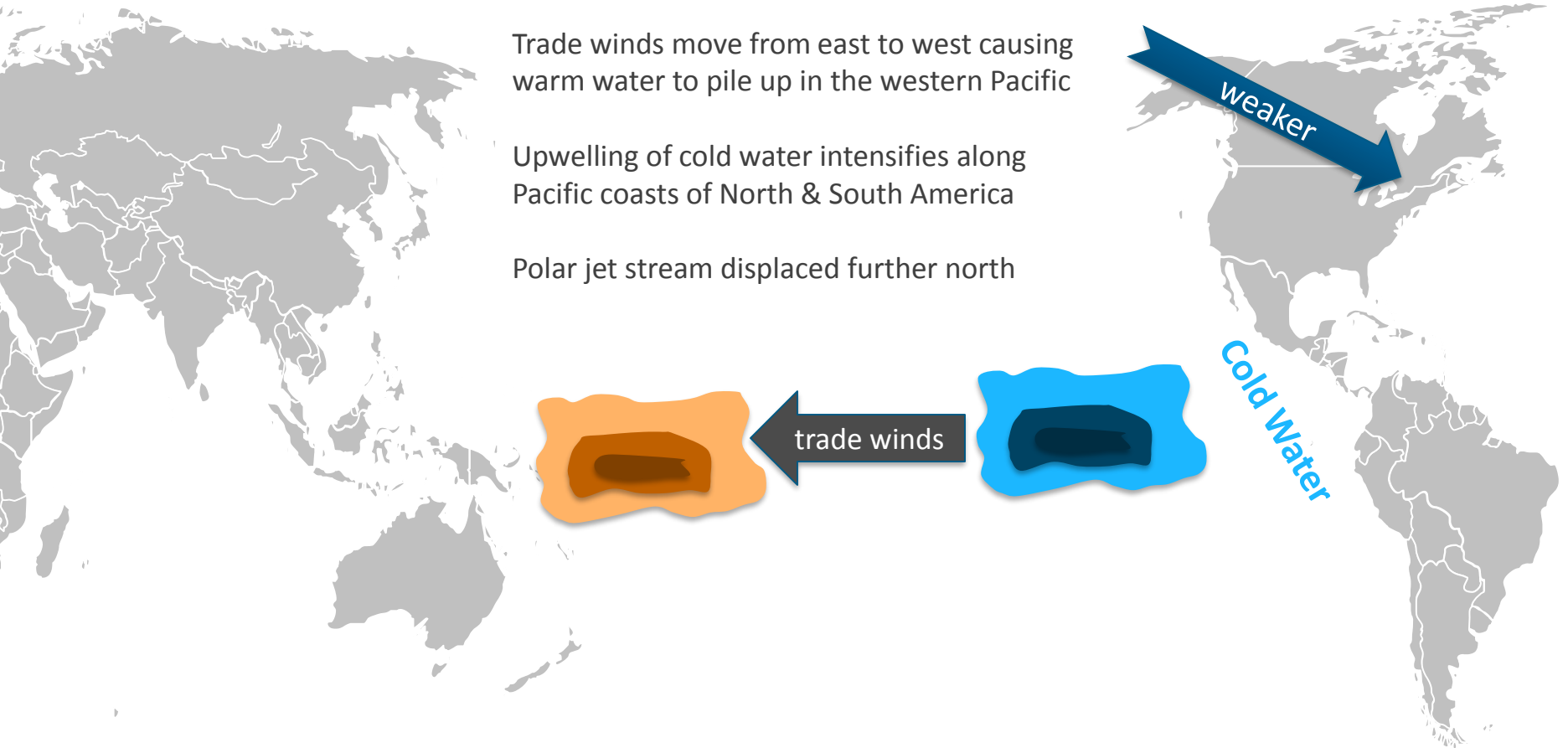
-3 -2.8 -2.6 -2.4 -2.2 -2 -1.8 -1.6 -1.4 -1.2 -1 -0.8 -0.6 -0.4 -0.2 0 0.2 0.4 0.6 0.8 1 1.2 1.4 1.6 1.8 2 2.2 2.4 2.6 2.8 3

La Niña formation

Trade winds move from east to west causing warm water to pile up in the western Pacific

Upwelling of cold water intensifies along Pacific coasts of North & South America

Polar jet stream displaced further north

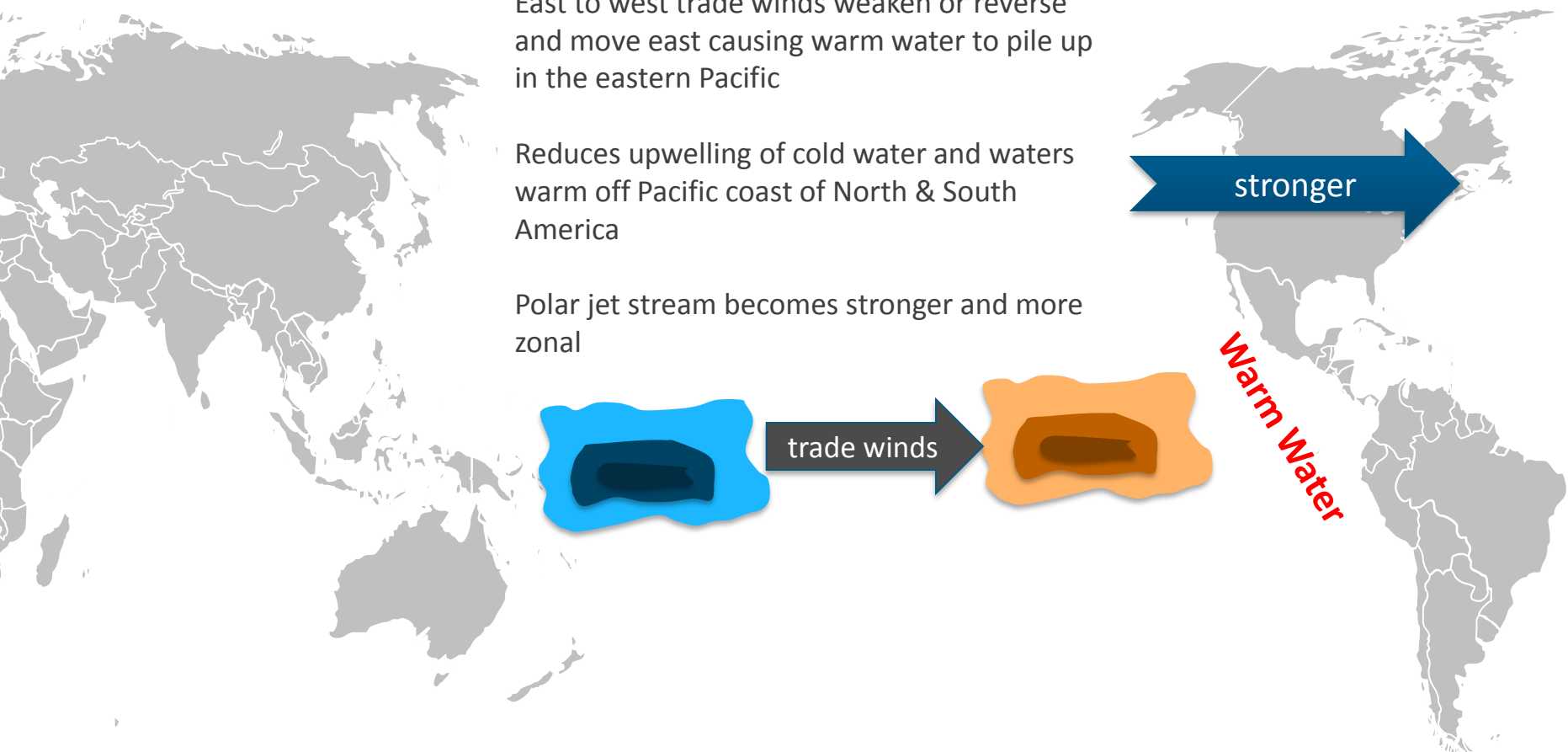


EL Niño formation

East to west trade winds weaken or reverse and move east causing warm water to pile up in the eastern Pacific

Reduces upwelling of cold water and waters warm off Pacific coast of North & South America

Polar jet stream becomes stronger and more zonal



Change is on the horizon...

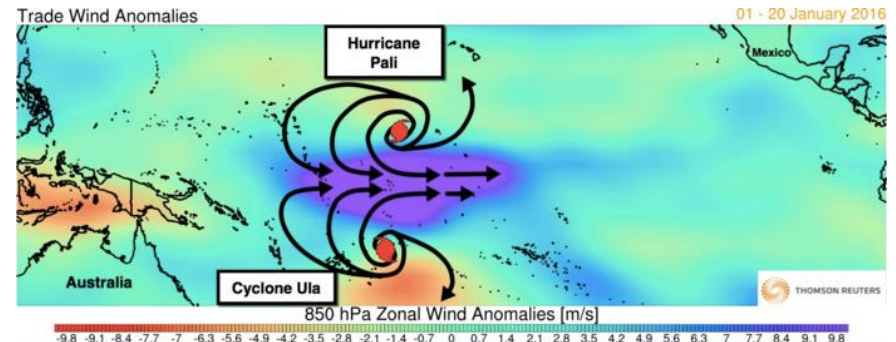
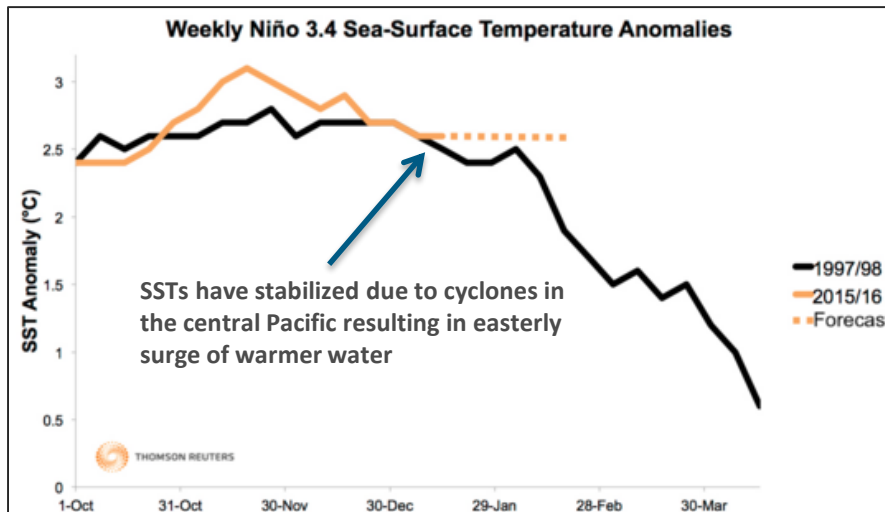
- Will we see another El Niño?
 - Highly unlikely
- Will we see La Niña or neutral ENSO (El Niño Southern Oscillation)?
 - About equal chances of either
 - 9 of last 10 strong El Niño events → La Niña or neutral ENSO
 - 1987 was the only exception

Year	ENSO	Year	ENSO
2009/10	EN	2010/11	LN
2002/03	EN	2003/04	=
1997/98	EN+	1998/99	LN+
1991/92	EN	1992/93	=
1987/88	EN	1988/89	LN+
1986/87	EN	1987/88	EN
1982/83	EN+	1983/84	=
1972/73	EN+	1973/74	LN+
1965/66	EN+	1966/67	=
1963/64	EN	1964/65	LN-

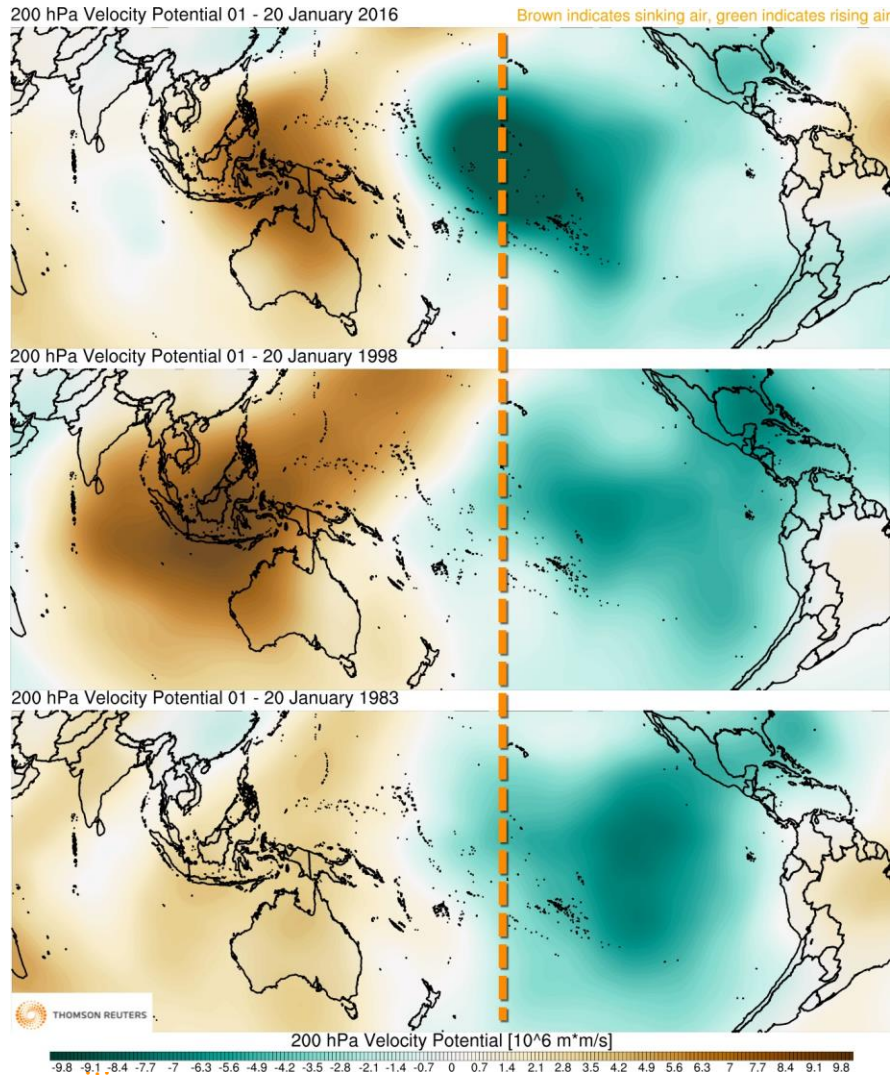
Source: NOAA

Why won't we see a repeat of 1987?

- SSTs in the equatorial Pacific are declining
- Trade winds are shifting
- Below normal sub-surface water temperatures in the western and central Pacific, which signals the ultimate demise of El Niño



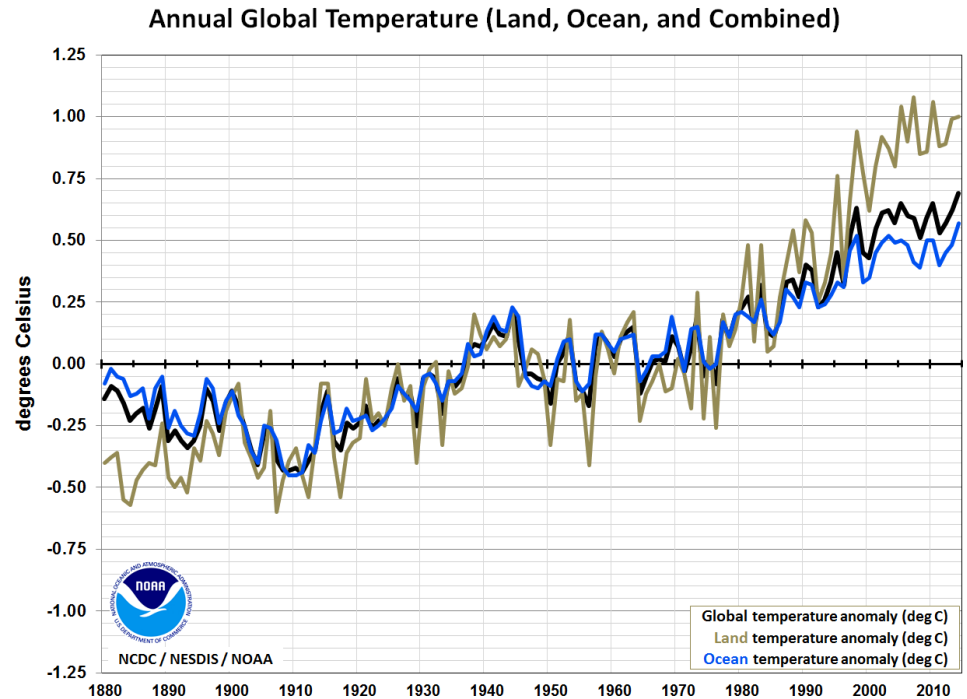
Why won't we see a repeat of 1987?



- Upper atmosphere is trending towards La Niña
 - El Niño events that transitioned to La Niña saw t-storm activity shift west sooner than those that transitioned into ENSO-neutral
- Thunderstorm activity will increase strength of trade winds
 - As t-storm activity continues to shift further west over the next several weeks, it will produce stronger trade winds across the central Pacific beginning sometime in February

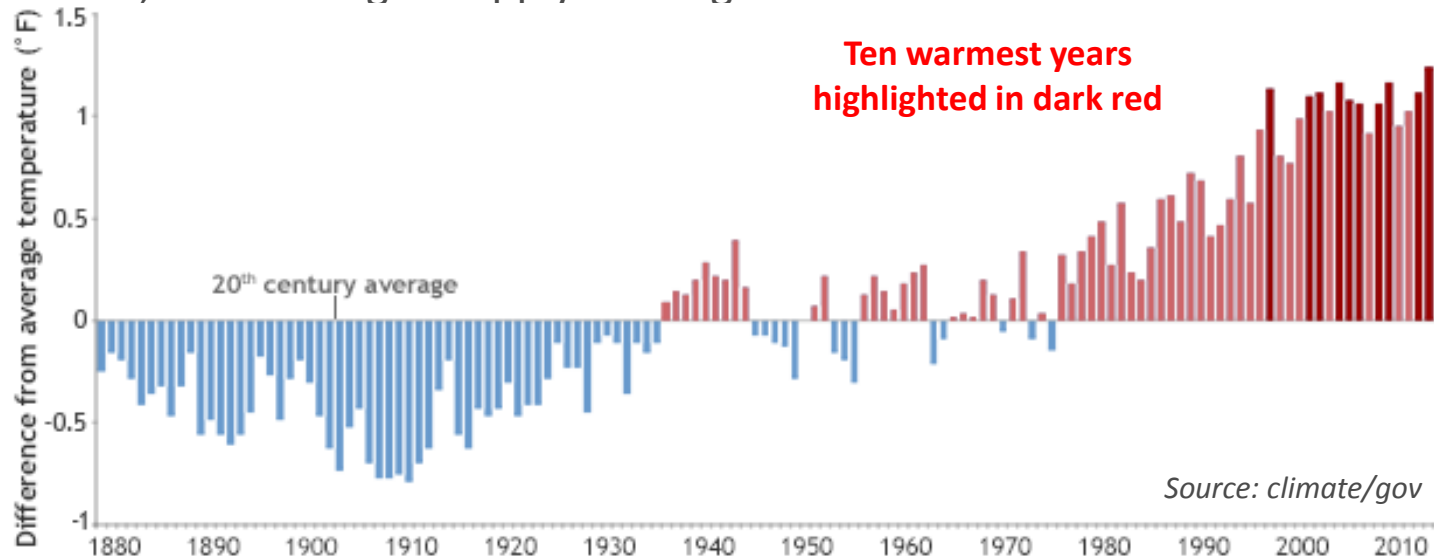
El Niño is on its way out, so what?...

- Temperatures are hotter
- As world surface temperatures have risen since 1980, summertime land surface temperature anomalies have remained above—and risen faster than—those of oceans
- In the N. Hemisphere, land surface temperature anomalies have been higher than those of oceans during summers coinciding with developing La Niña conditions, and sometimes ENSO-neutral conditions

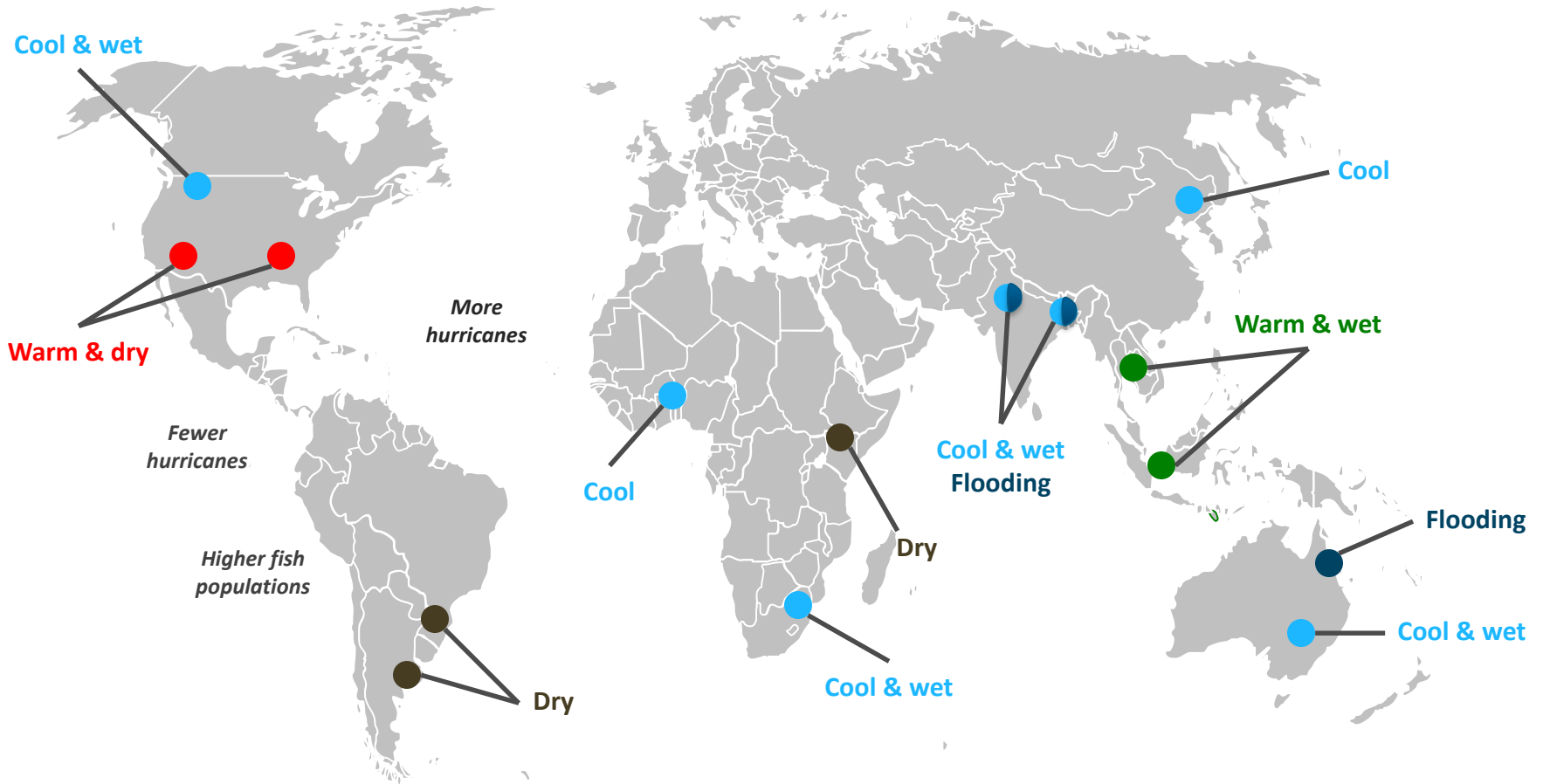


So what?...

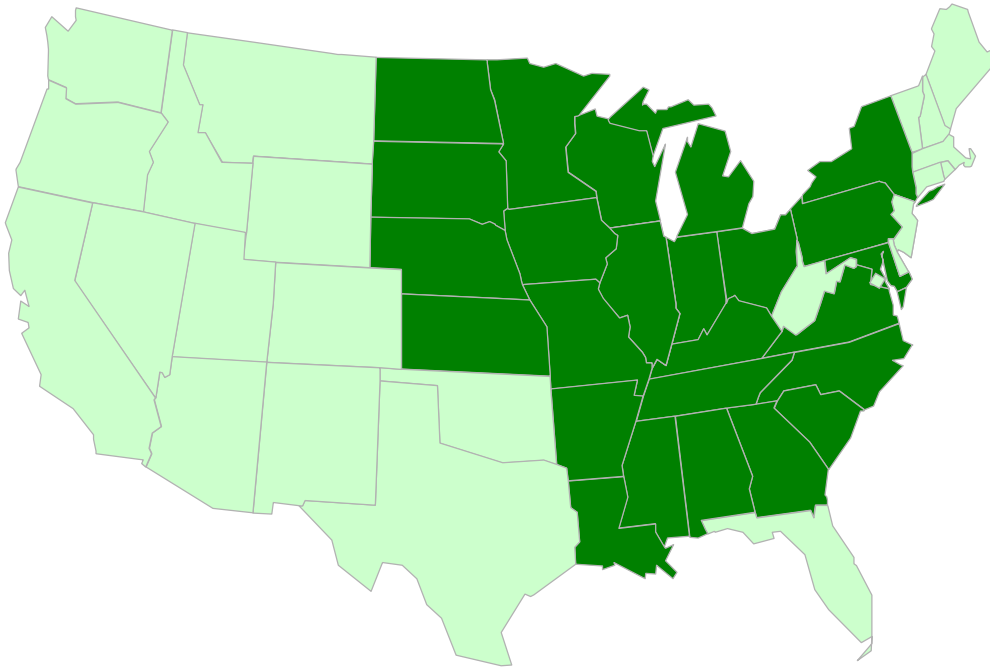
- Record high temperature anomalies occurred across the N. Hemisphere in:
 - 1988 (developing La Niña)
 - 1998 (developing La Niña)
 - 2010 (developing La Niña)
 - 2012 (developing ENSO-neutral)
- Excepting 1998, extreme heat and/or drought devastated crop yields in N. America and Eurasia during these summers, and South America shortly after, all resulting in supply shortages



Potential conditions during La Niña

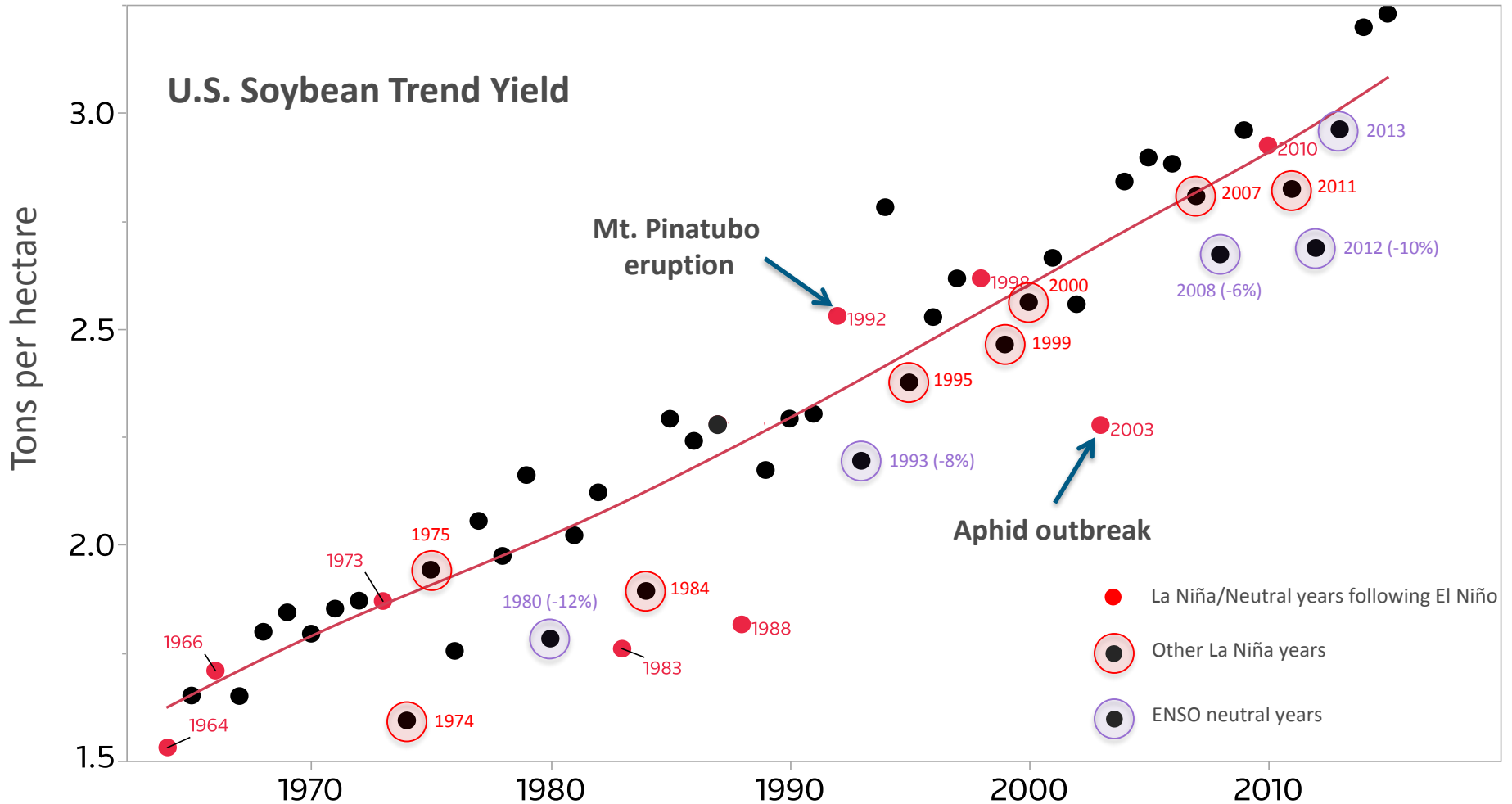


What does that mean for the US?



Year	ENSO	Yield (t/ha)	Deviation
2010/11	LN	2.92	+1%
2003/04	=	2.28	-16%
1998/99	LN+	2.62	+3%
1992/93	=	2.53	+8%
1988/89	LN+	1.82	-19%
1987/88	EN	2.28	+3%
1983/84	=	1.76	-16%
1973/74	LN+	1.87	0%
1966/67	=	1.71	2%
1964/65	LN-	1.53	-6%

What does that mean for the US?

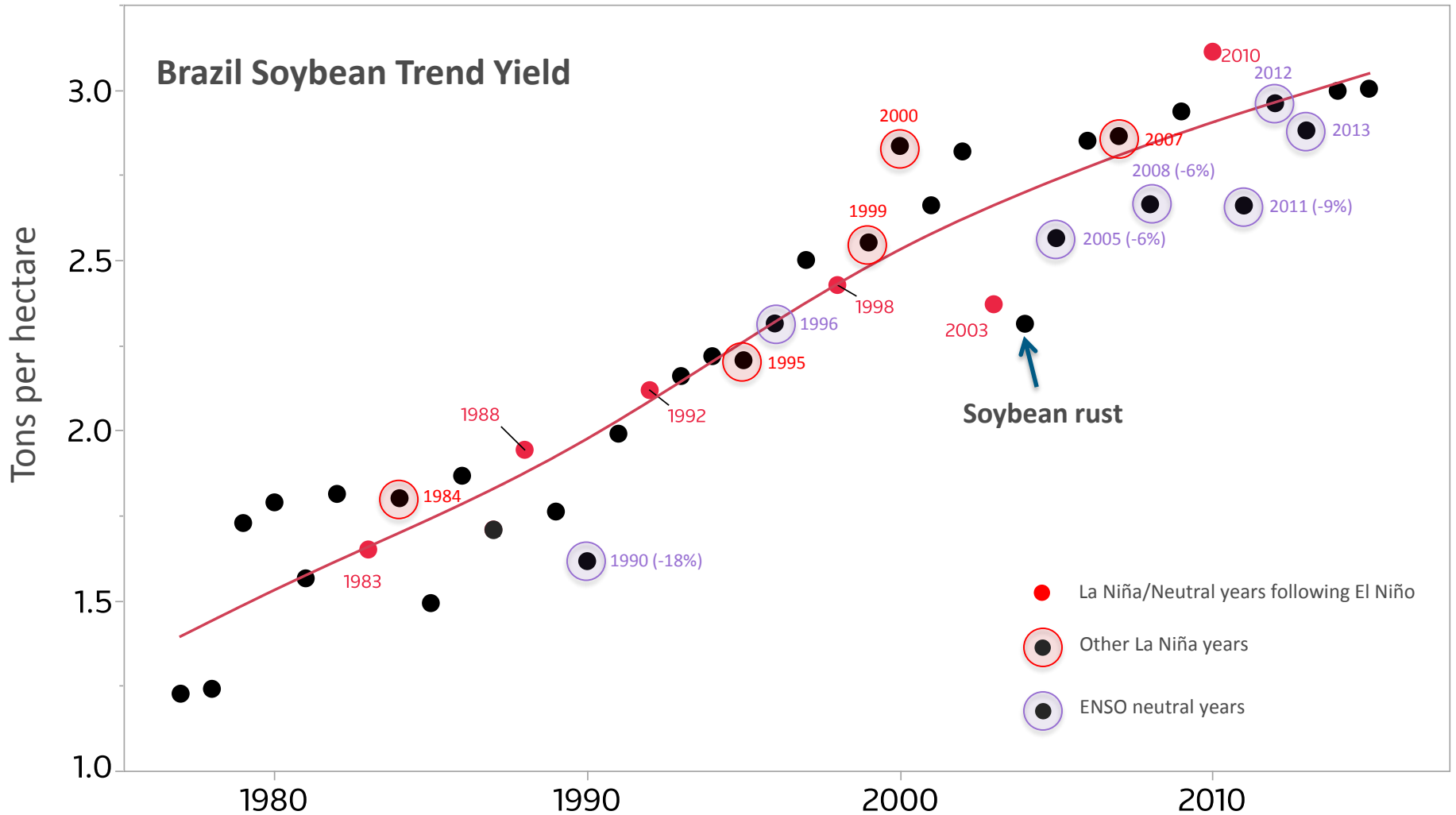


What does that mean for South America?

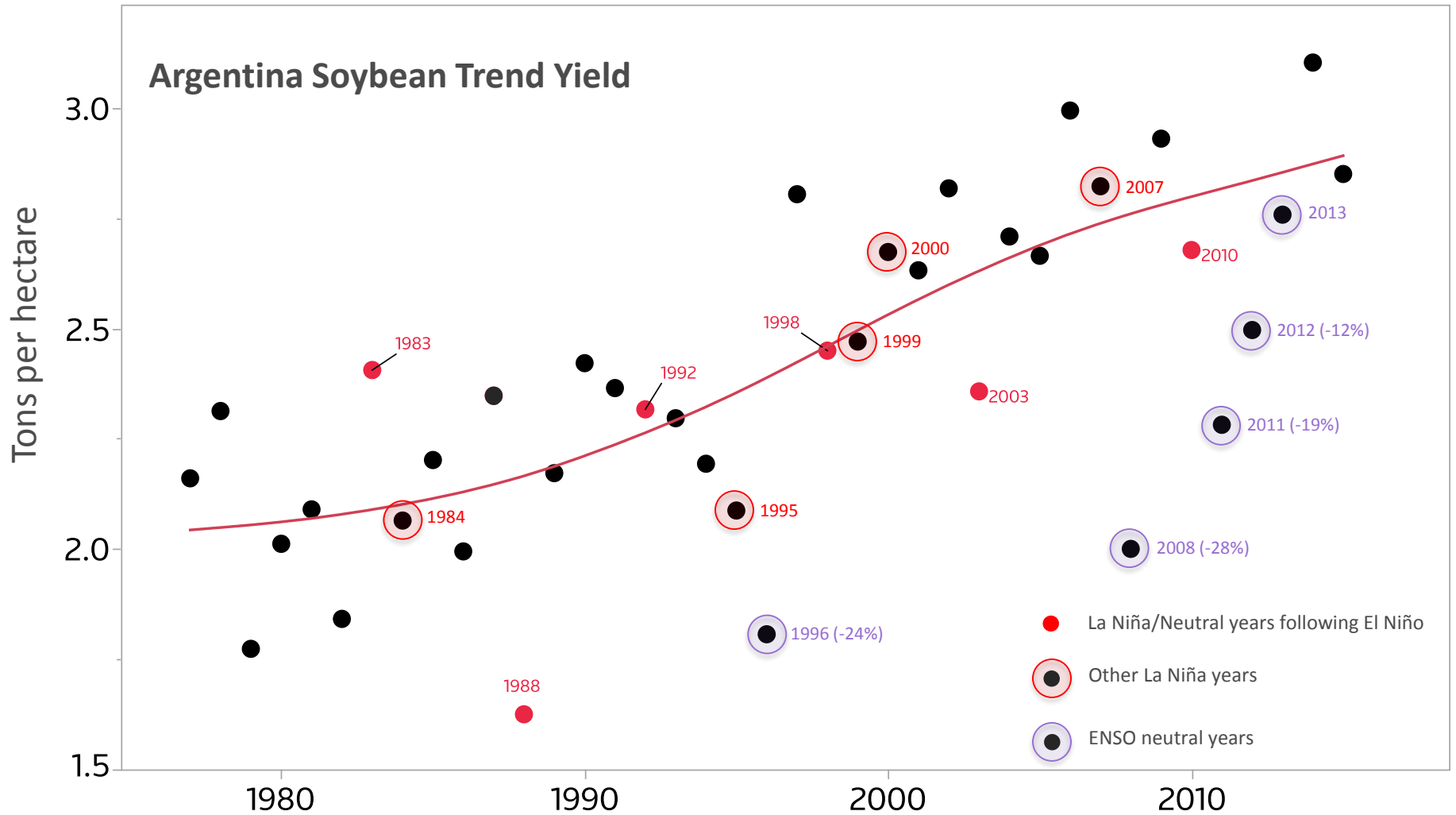


Year	ENSO	Yield (t/ha)		Deviation	
		BRA	ARG	BRA	ARG
2010/11	LN	3.11	2.68	+7%	-4%
2003/04	=	2.37	2.36	-11%	-10%
1998/99	LN+	2.43	2.45	0%	0%
1992/93	=	2.12	2.32	+2%	2%
1988/89	LN+	1.94	1.63	+4%	-25%
1987/88	EN	1.71	2.35	-7%	+9%
1983/84	=	1.65	2.41	0%	+15%
1973/74	LN+				
1966/67	=				
1964/65	LN-				

What does that mean for South America?



What does that mean for South America?



Conclusions:

- ENSO neutral or La Niña conditions are coming
 - Timing and location will be critical
 - Can stocks handle losses in both the US and South America?
- La Niña or ENSO neutral years can experience above trend, near trend, or below trend yields
- Negative yield deviations occur invariably in La Niña or ENSO neutral years and are often **severe**
 - Positive yield deviations are generally small
- Other teleconnections such as MJO and AO will need to be monitored



AGRICULTURE WEATHER DASHBOARD

WEATHER HOME

MORNING HEADLINES

REGIONS

- Australia
- Eurasia
- Europe
- East Asia
- North America
- South America
- South Asia
- Southeast Asia

TELECONNECTIONS

- El Niño-Southern Oscillation
 - Data
 - Insight
- Arctic Oscillation
- Antarctic Oscillation
- North Atlantic Oscillation
- Pacific/North American Pattern

OTHER INSIGHT

- Tropical

DATA

GLOSSARY

ENSO-RELATED WEATHER INSIGHT

LATEST ENSO OUTLOOK/INSIGHT

TROPICAL CYCLONES TO PROLONG EL NIÑO, BUT THE END IS STILL NEAR

Thursday, January 21st 2016, 12:00:00 pm, Edward Whalen

by Adam Turchioe, Research Analyst, Weather

WHAT TO WATCH:

- When do Niño 3.4 sea-surface temperatures finally begin to cool?
- The return of increased trade winds across the central Pacific for the first time in two years
- Does the later decay of El Niño have any impact on ENSO for this summer?

TWIN TROPICAL CYCLONES TEAM UP IN THE CENTRAL PACIFIC TO CREATE MASSIVE WESTERLY-WIND BURST.

In a typical year, the warm pool of water in the Pacific Ocean is located in the western Pacific, held in place by trade winds, which blow from east to west. When these trade winds relax, or even reverse and blow from west to east (known as a westerly-wind burst), the warm water shifts east, resulting in El Niño. As El Niño begins to weaken, it is in turn a strengthening of trade winds, especially across the western Pacific, that either leads to La Niña or ENSO-neutral conditions. Through the first two-thirds of January, there has been a near-record intense westerly-wind burst across the central Pacific, driven by the counter-clockwise flow around Hurricane Pali in the Northern Hemisphere and clockwise flow around Cyclone Ula in the Southern Hemisphere. While the westerly-wind burst is relatively short lived, the impact on the oceans can be felt for a much longer period of time. What impacts will this westerly-wind burst have on the near-term evolution of this decaying El Niño?

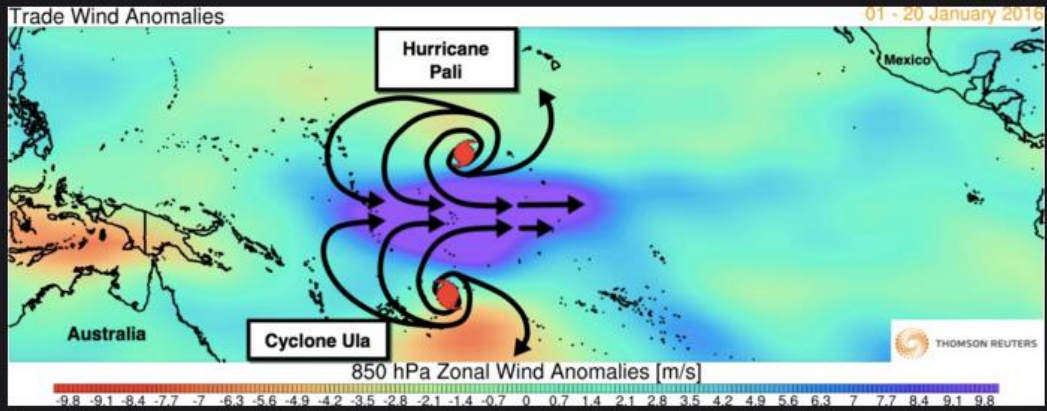


Figure 1: Zonal wind anomalies at 850 hPa (about 1 mile above the surface) indicate a significant westerly wind burst took place in early January, aided by two tropical cyclones, positions of which are shown at maximum intensity. SOURCE: NCEP/NCAR/NOAA

What's new with Lanworth?

- Agriculture forecasts/content fully available on Eikon
 - Updated more frequently
 - Deeper, expanded analysis of the how, what, when, where, why
 - Data tables downloadable to Excel
 - Eikon alerts
 - Option to leave feedback and contact analysts
 - Quick access to useful information such as Agriculture Weather Dashboard, Reuters News & Polls, Fundamentals, Flow, Pricing, and the Global Agriculture Forum
 - Access to satellite imagery charts of vegetation density
 - Seasonal Weather Index

Seasonal Weather Index

- Which year is most like this one weather-wise?
 - Based on a 60 to 90-day period ending on the selected reference day
 - Calculates the statistical similarity of 90-day precipitation and 60-day temperature between the current season and all past seasons since 1981
 - Resulting index values close to 1 indicate greater similarity to this season while those close to 0 indicate lack of similarity
 - **Let's go to Eikon...**



A close-up photograph of a person's hand, wearing a blue and white striped long-sleeved shirt, planting a small green seedling into dark, rich soil. The background is a blurred field of many similar seedlings, suggesting a large-scale agricultural or reforestation project. The lighting is soft and natural, highlighting the textures of the soil and the vibrant green of the plants.

Questions?