

Are We Ready for El Niño?



49 Bridge 97 Flood – John Lohse



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Objectives

- Situational Awareness
- Operational awareness
- Networking



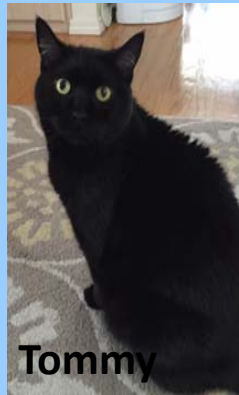
Agenda

- Update from National Weather Service
- Response mechanism in California
- Anatomy of floodwater operations
- Medical considerations for floodwater operations
- Decontamination issues
- Next steps



97 Flood – John Lohse

Overview of El Niño & the Winter Outlook for Northern California



Tommy



Maddie



Ryan Sandler

Ryan Sandler
Warning Coordination Meteorologist
National Weather Service
Medford, OR
December 15, 2015



National Weather Service
Building a Weather-Ready Nation

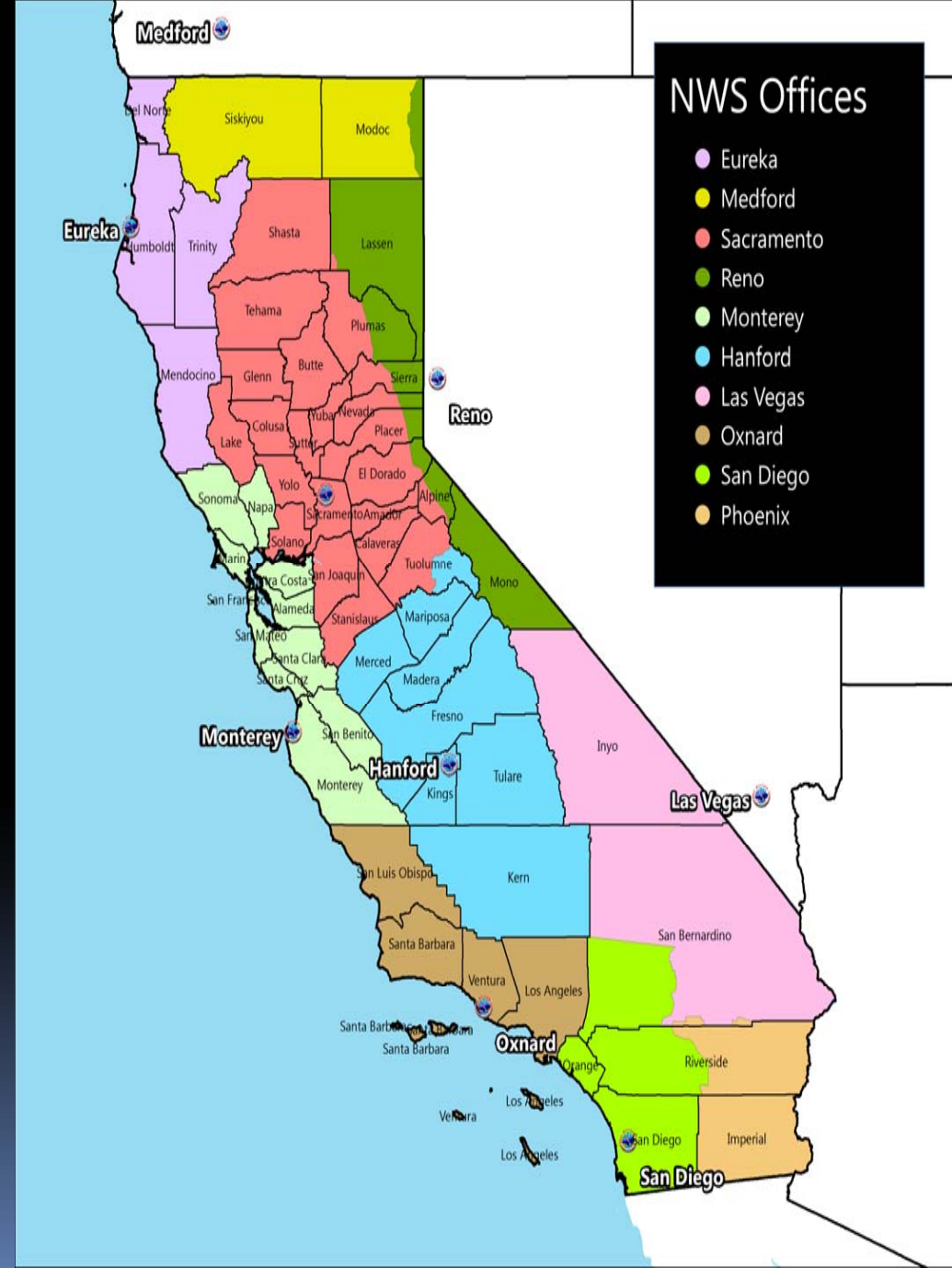


Topics

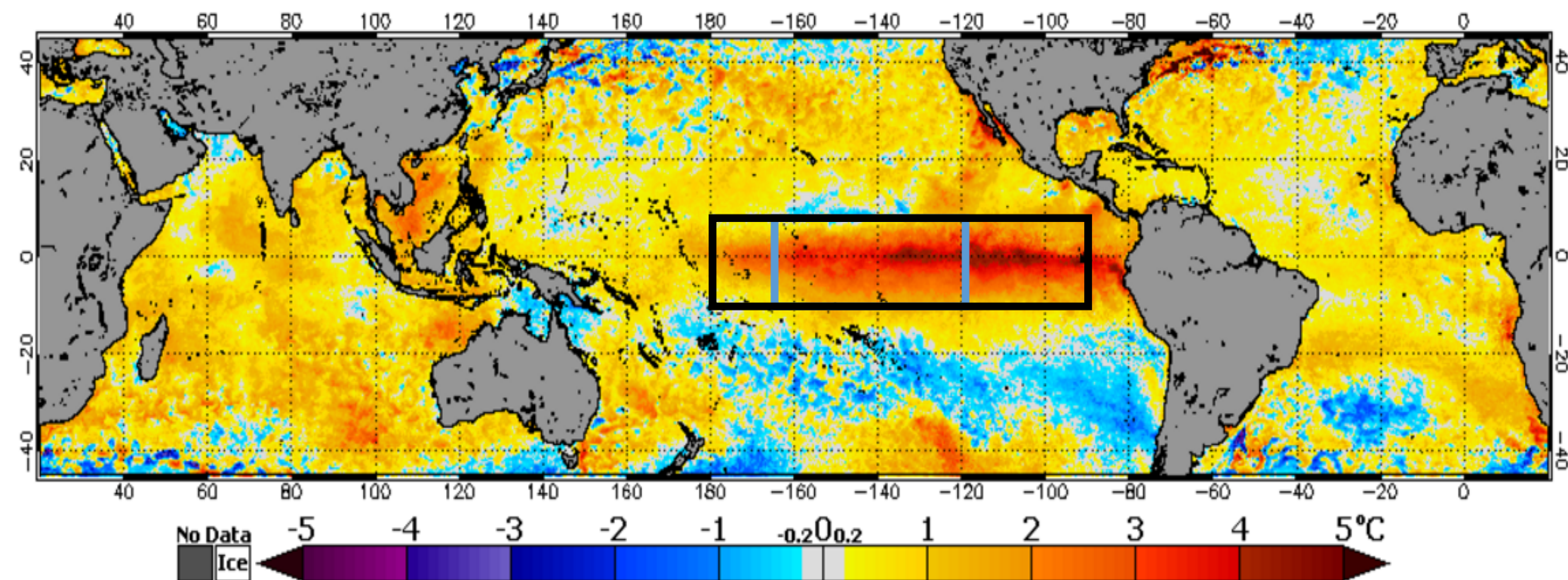


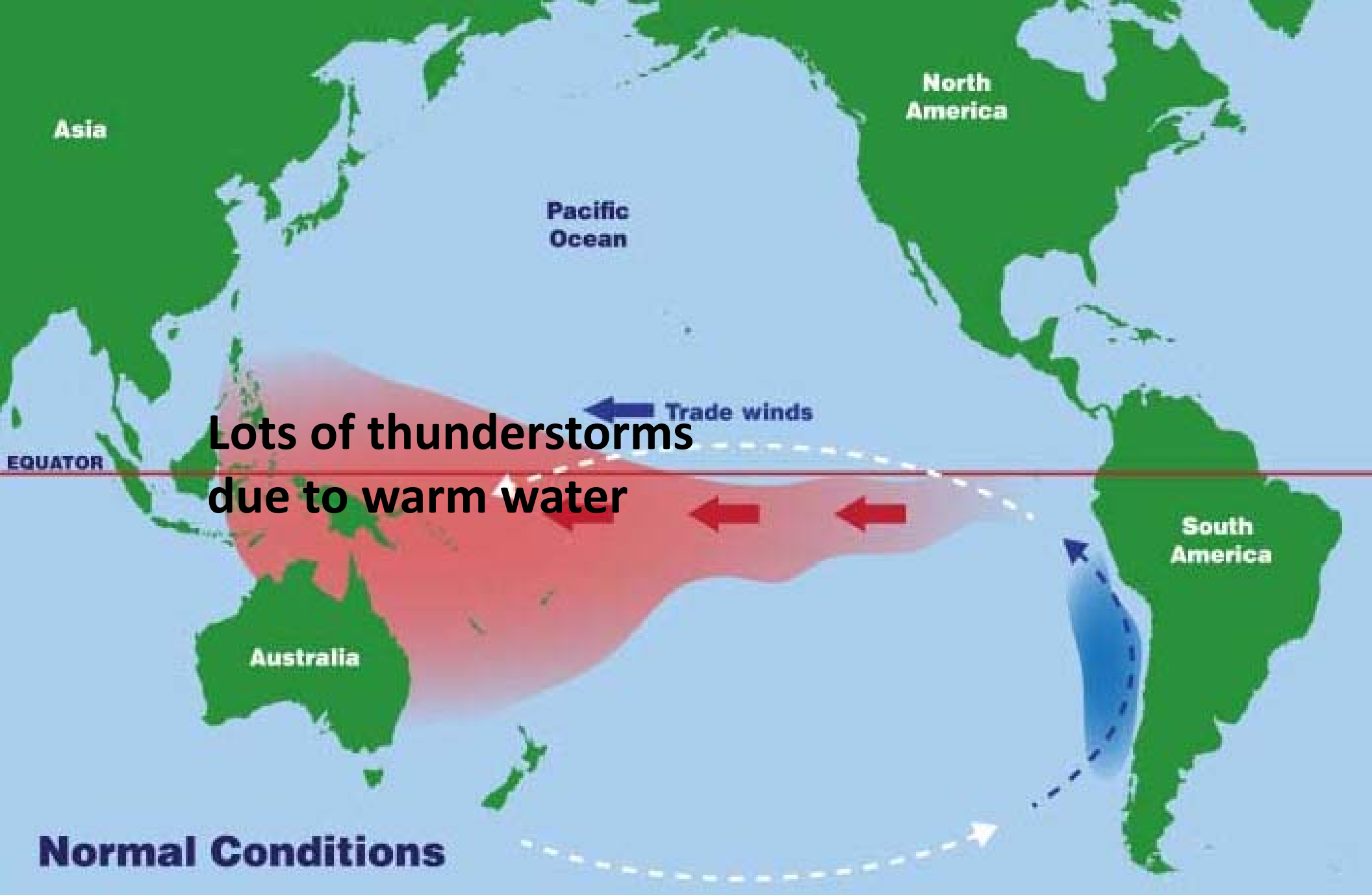
- **Brief NWS Introduction**
- **El Niño 101 in five easy slides**
- **A quick look back since the Water Year began**
- **El Niño's influence on the Winter and Spring Outlook**

10 National Weather Service Offices Cover California



NOAA Coral Reef Watch Daily 5-km Geo-Polar Blended Night-Only SST Anomalies 12 Dec 2015





Asia

North
America

Pacific
Ocean

Lots of thunderstorms
due to warm water

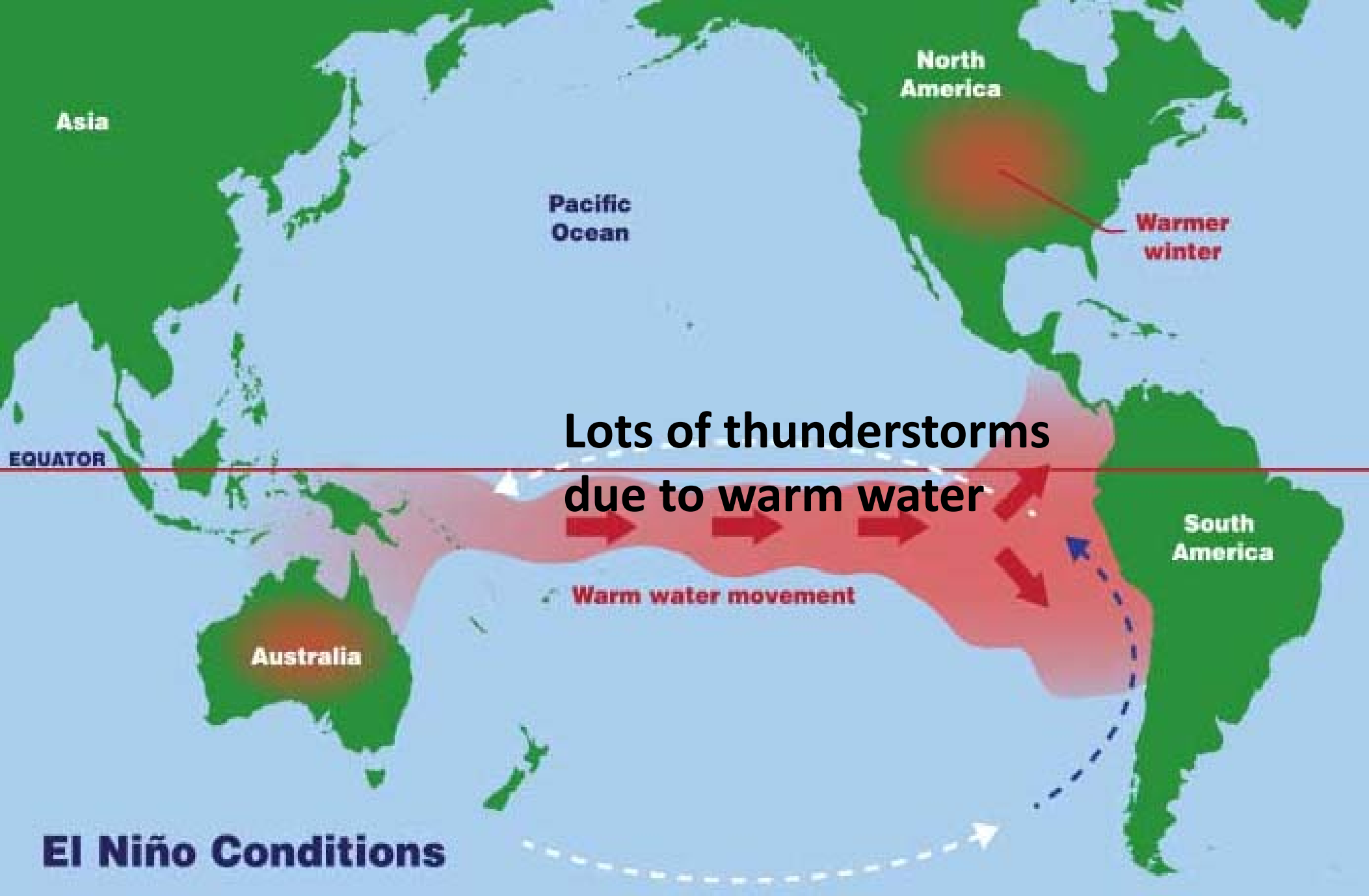
Trade winds

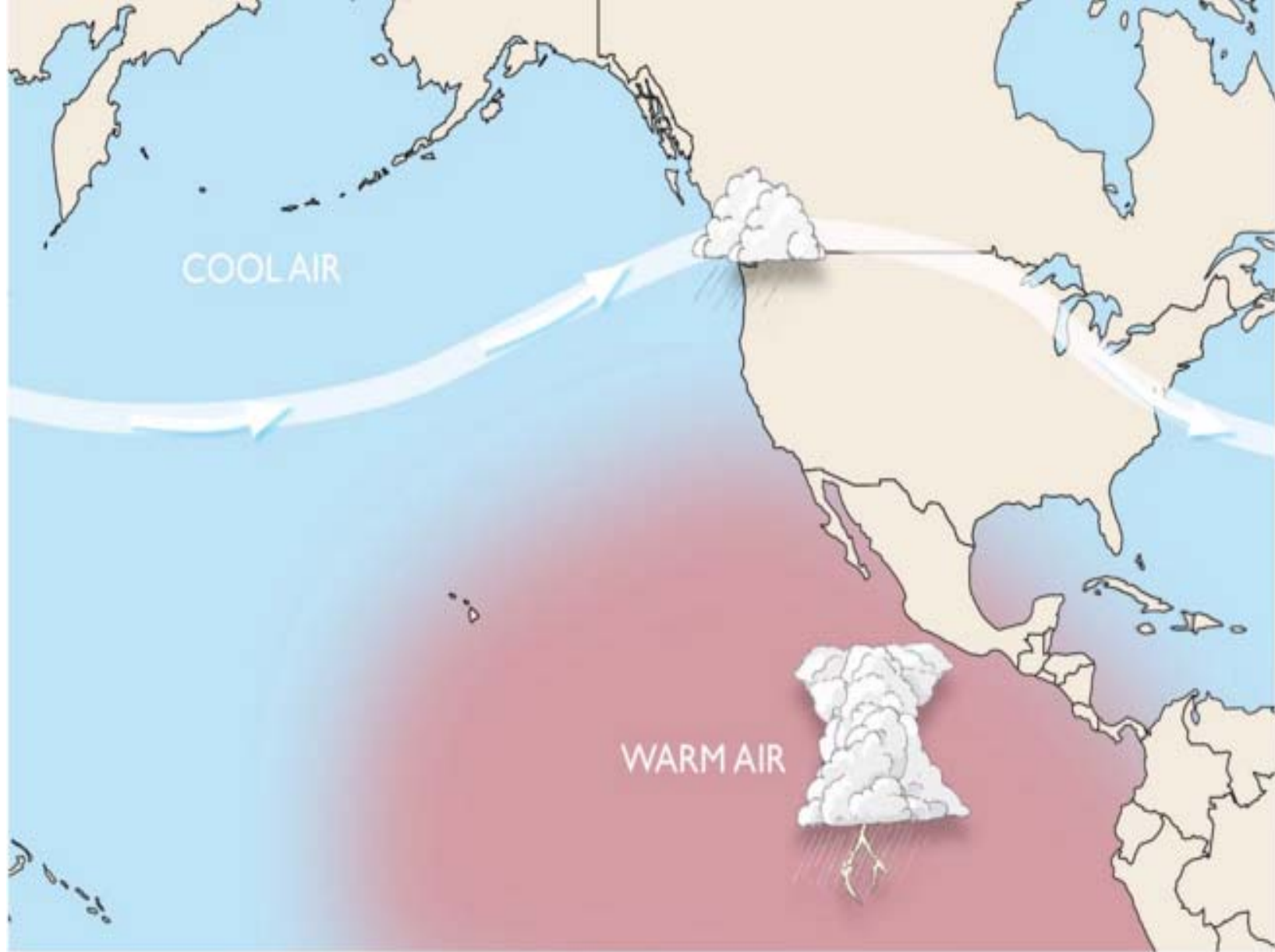
EQUATOR

South
America

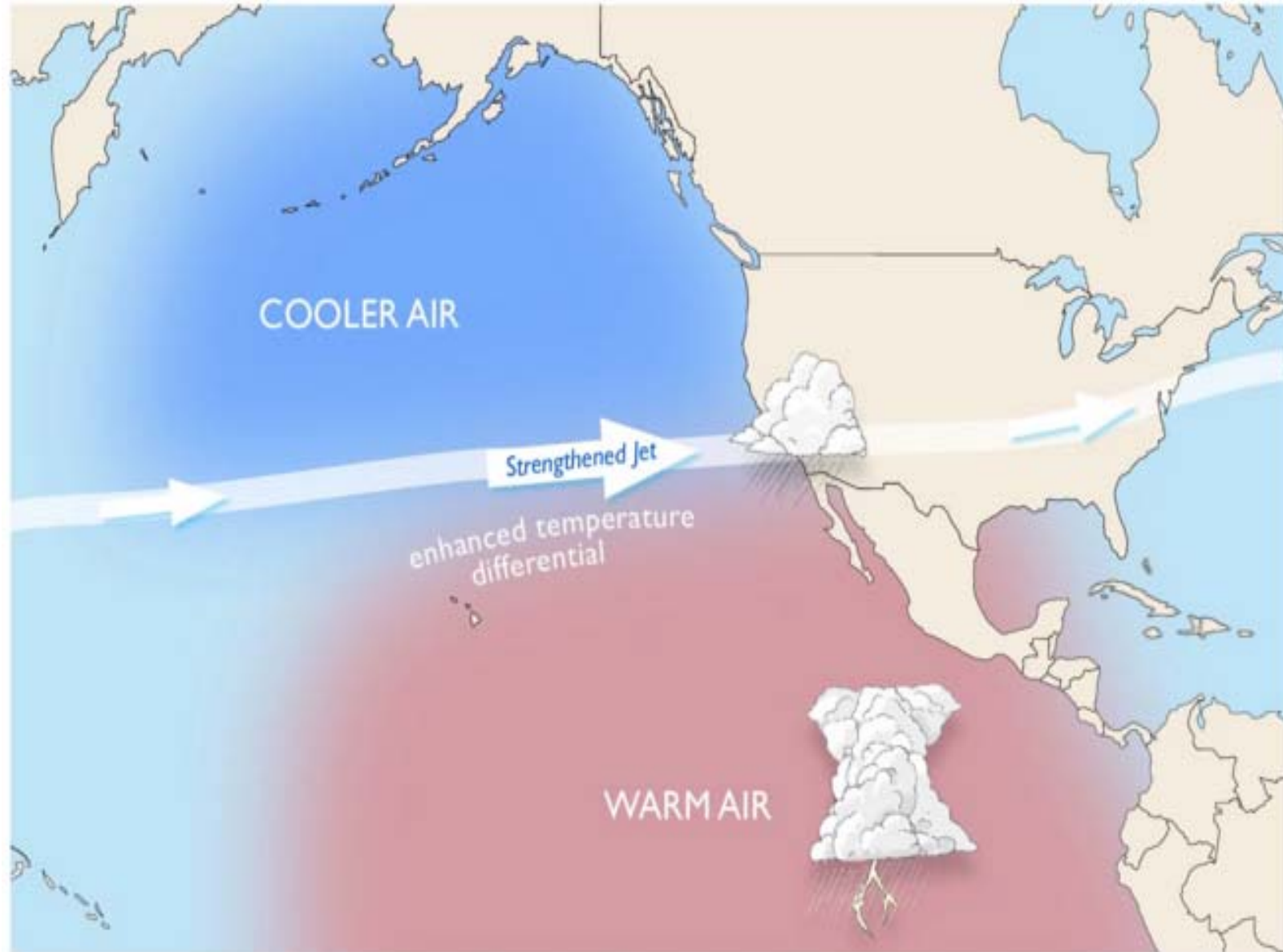
Australia

Normal Conditions





AUTUMN POSITION. The Pacific jet is too far north to be strongly affected by El Niño-related tropical warming.

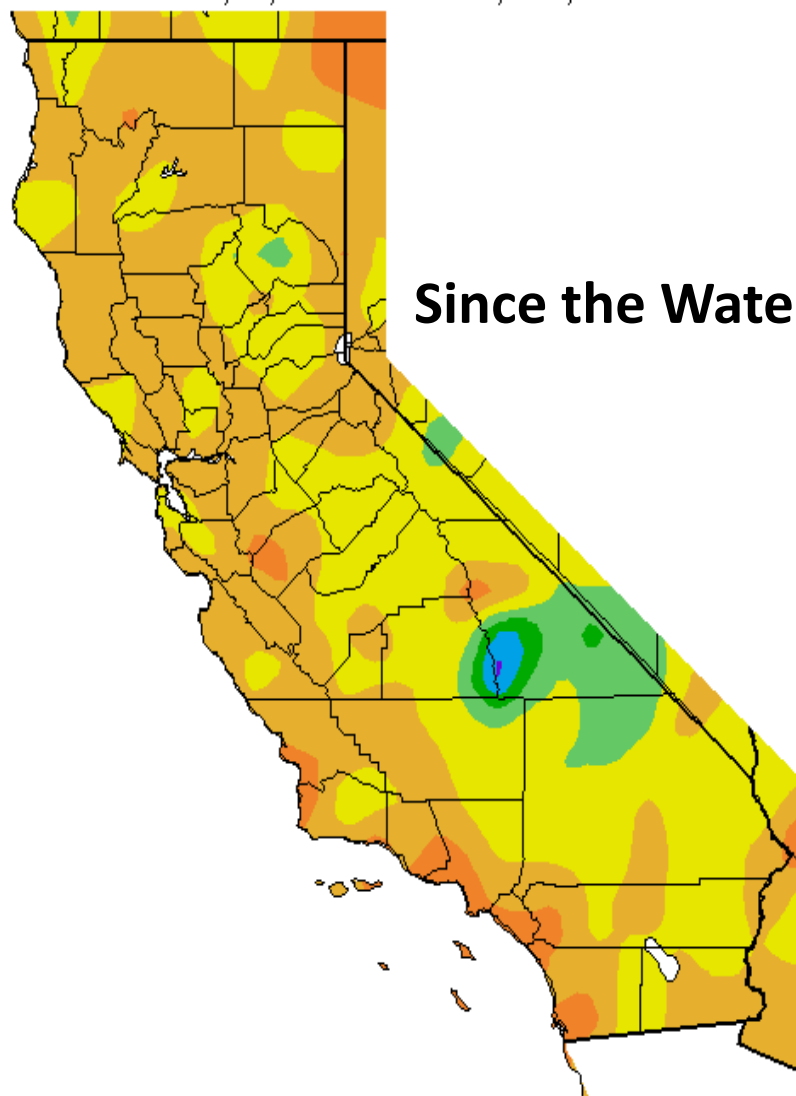


WINTER POSITION. The jet stream, which typically shifts toward the equator during the cooler months, is now far enough south to be strengthened by the enhanced temperature differential caused by tropical warming.

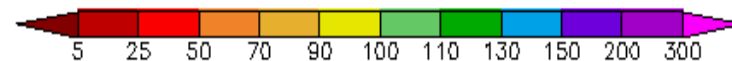
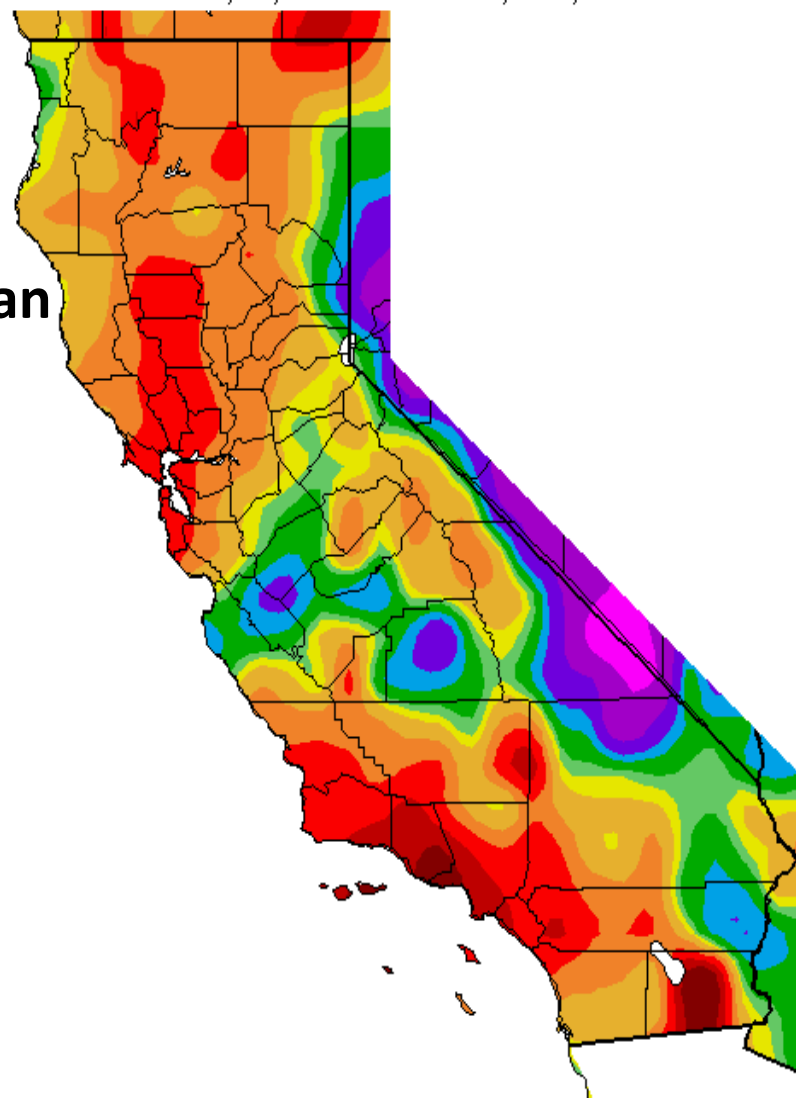
Ave. Temperature dep from Ave (deg F)
10/1/2015 – 12/12/2015

Percent of Average Precipitation (%)
10/1/2015 – 12/12/2015

Since the Water Year Began

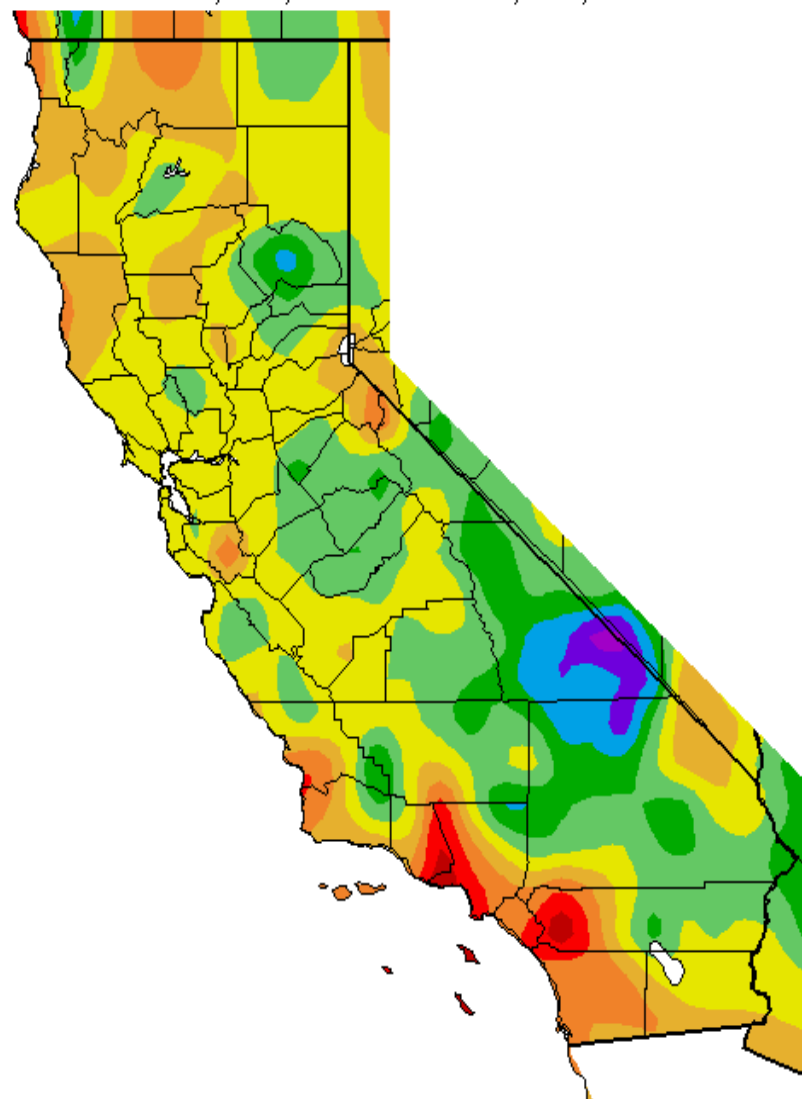


Generated 12/13/2015 at WRCC using provisional data.
NOAA Regional Climate Centers



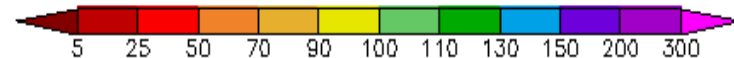
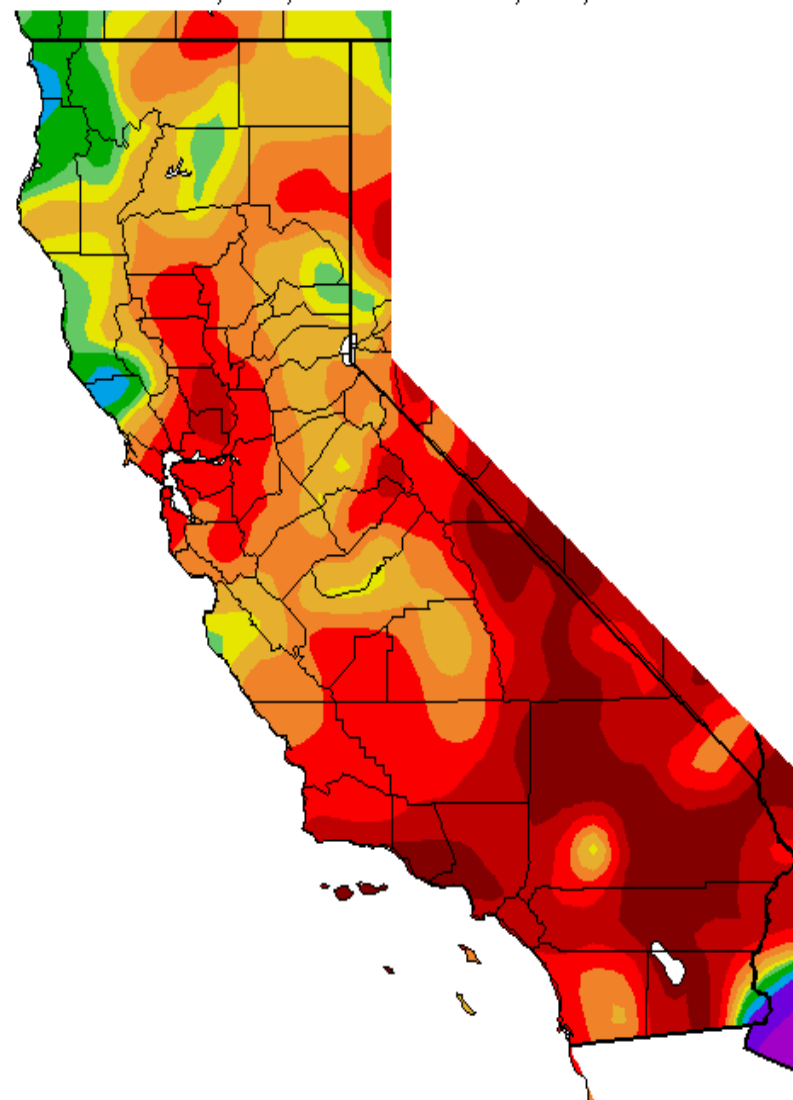
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NOAA Regional Climate Centers

Ave. Temperature dep from Ave (deg F)
11/13/2015 - 12/12/2015



Generated 12/13/2015 at WRCC using provisional data.
NOAA Regional Climate Centers

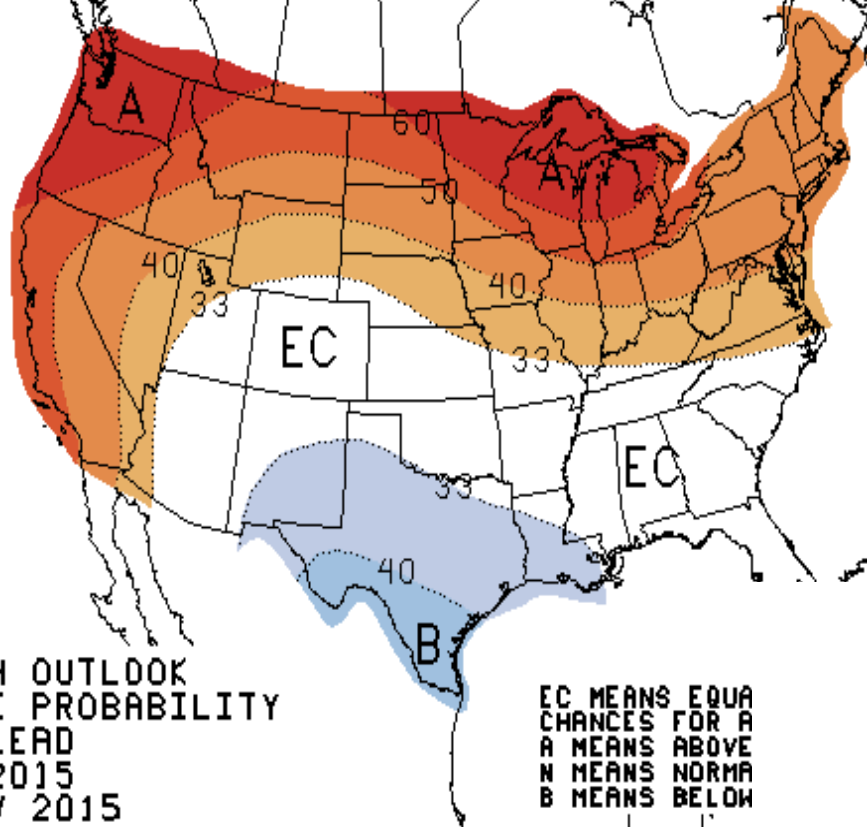
Percent of Average Precipitation (%)
11/13/2015 - 12/12/2015



Generated 12/13/2015 at WRCC using provisional data.
NOAA Regional Climate Centers



THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID DJF 2015
MADE 19 NOV 2015

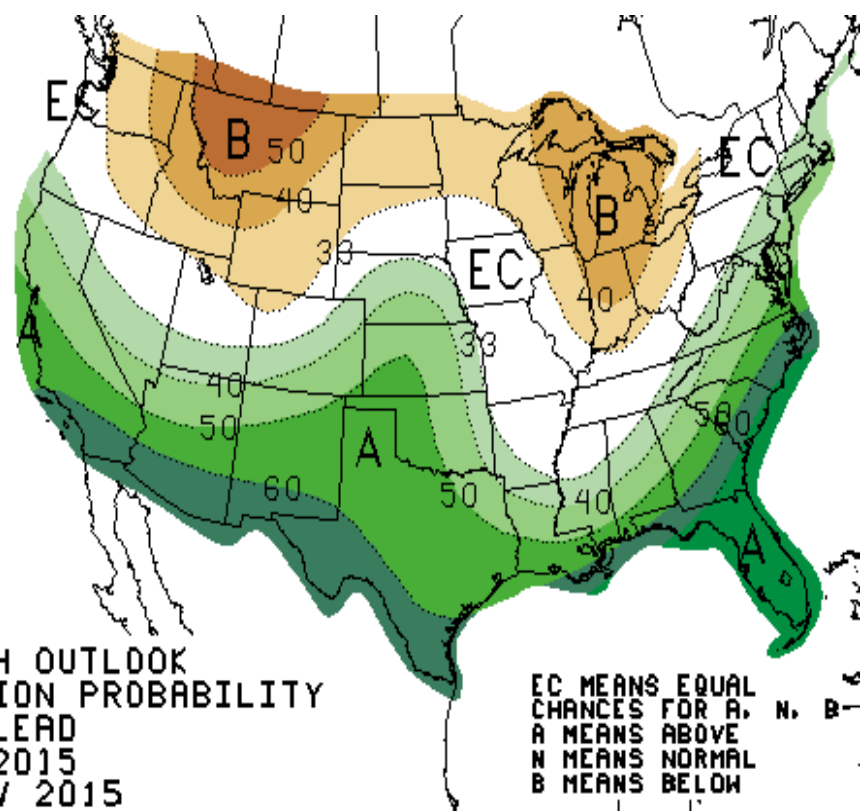


EC MEANS EQUAL
CHANCES FOR A
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

December – January - February



THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID DJF 2015
MADE 19 NOV 2015

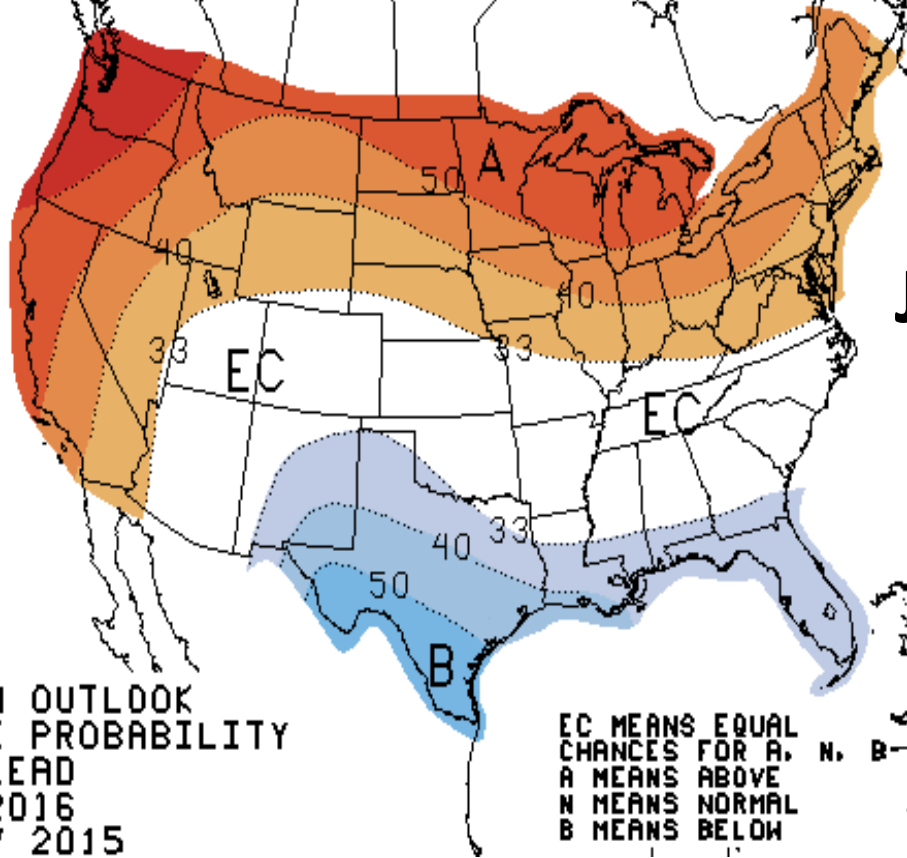


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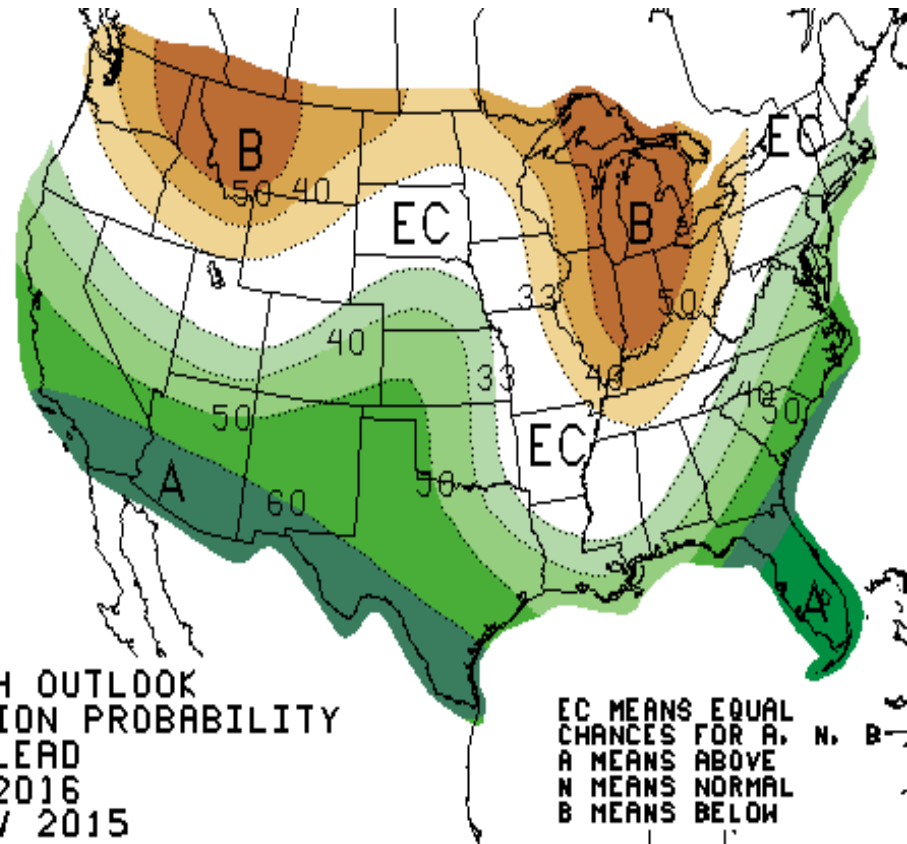
January – February - March



THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
1.5 MONTH LEAD
VALID JFM 2016
MADE 19 NOV 2015



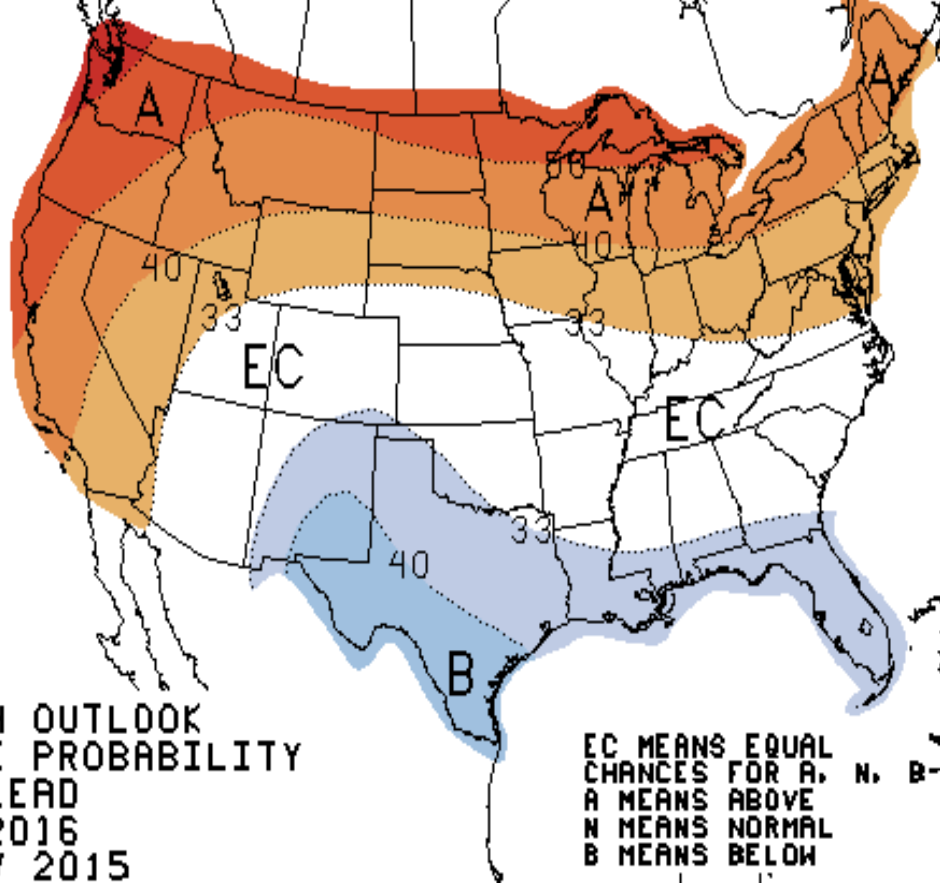
THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
1.5 MONTH LEAD
VALID JFM 2016
MADE 19 NOV 2015



February – March - April



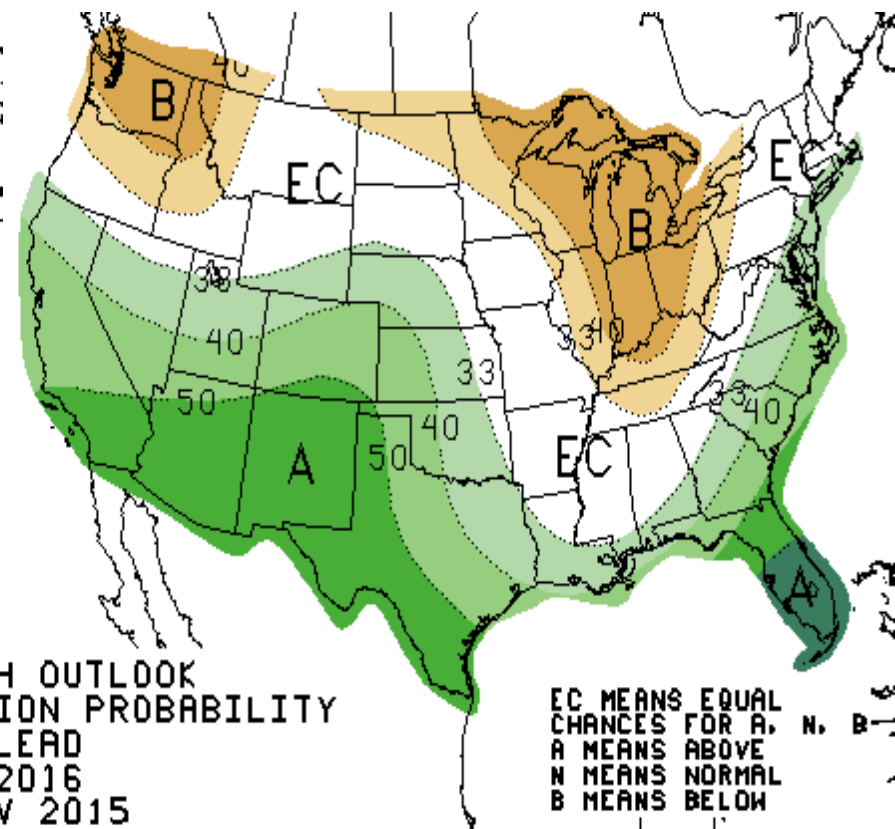
THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
2.5 MONTH LEAD
VALID FMA 2016
MADE 19 NOV 2015



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



THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
2.5 MONTH LEAD
VALID FMA 2016
MADE 19 NOV 2015

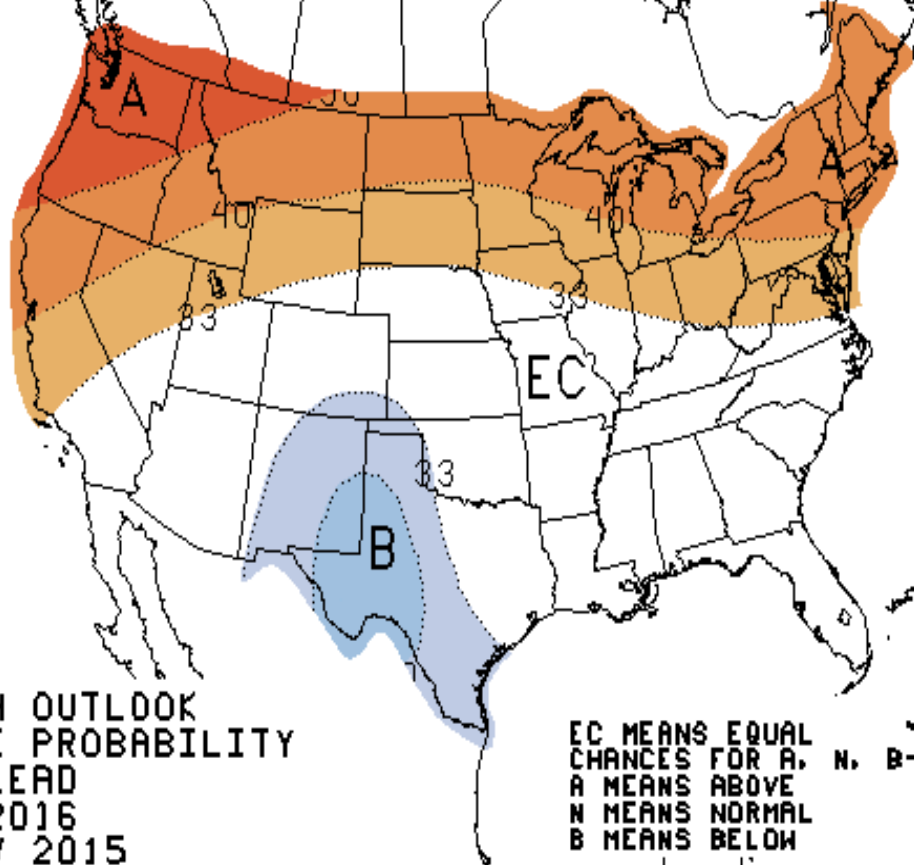


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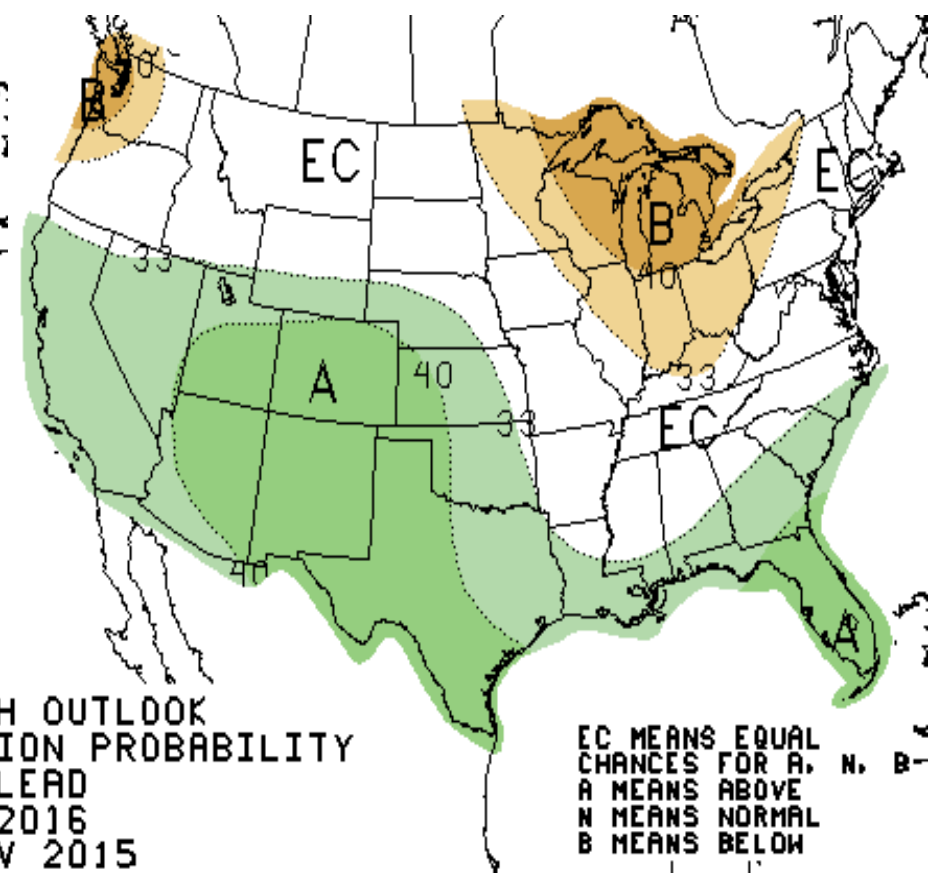
March – April - May



THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
3.5 MONTH LEAD
VALID MAM 2016
MADE 19 NOV 2015



THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
3.5 MONTH LEAD
VALID MAM 2016
MADE 19 NOV 2015



Summary

- El Niño is “strong” and peaking now. It’s expected to remain strong through the winter. El Niño will weaken to neutral conditions by late spring or early summer.
- This El Niño will likely be the 3rd strongest since 1950 based on ocean temperatures and the atmospheric response.
- Odds favor a warmer than normal winter and spring (higher snow levels?)
- Odds favor a wetter than normal winter and spring.

***Let's Hope El Niño Puts a Dent in the
Drought
But...Without Flooding***



National Weather Service
Building a Weather-Ready Nation

California Animal Response Emergency System (CARES)

- Signed into law in Sep 2006
- MOU between Cal OES and CDFA to develop California Animal Response Emergency System (CARES).
- CARES is an operational guidance to assist with all aspects of animal care and control in the event of a disaster.
- CARES provides resources for the public, animal businesses, shelters, and emergency planners.
- Animal Emergency Planning Guide for Operational Areas www.cal-cares.com

CA Veterinary Medical Reserve Corps

- Part of the California Veterinary Medical Association (CVMA) and a Unit of the Medical Reserve Corps
- Guided by Disaster Preparedness Committee of the CVMA
- Mission: to protect public health and welfare by providing emergency veterinary medical care and expertise in all phases of disaster preparedness and response



CARES Program Assessment Report

May 2013

Recommendations:

- Provide templates, guidance and best practices for plans, procedures, key resource acquisition guides, MAA/MOUs
- Address integration, coordination and communication among:
 - Government and nongovernmental organizations
 - Evacuation and animal sheltering responders
 - Proponents of co-located shelters and co-sheltering

★ NARSC member agreements

58 counties of CA



National Animal Rescue and Sheltering Coalition



NATIONAL ANIMAL
CARE & CONTROL ASSOCIATION



Best Friends
ANIMAL SOCIETY



American Humane Association™
The nation's voice for the protection of children & animals™



Agreements Discourage SUVs

- Spontaneous Unsolicited Volunteers – aka well-intentioned folks/groups that self-deploy
- Pre-identify who you will be working with, roles, responsibilities, capabilities, and financial commitments
- In the interim, letterhead from AHJ and pre-scripted mission assignment





Incident



Local
response
(AHJ)



Agreements

County
Emergency
(EOC)



State
Declaration



Federal
Declaration



- Request for Assistance
- Activation
- Assessment
- SAR
- Extrication or SIP
- Request for Rescue
- Field intake
- Staging/Pre-transport
- Transport
- Intake
- Emergency sheltering
- Medical issues
- Decontamination

Animal Search and Rescue



Request for Assistance

- Exceeded or anticipate exceeding capabilities
 - Response partners (EOP)
 - Interlocal and mutual aid
 - National partners
-
- County EOC request to State





Activation

Assessment



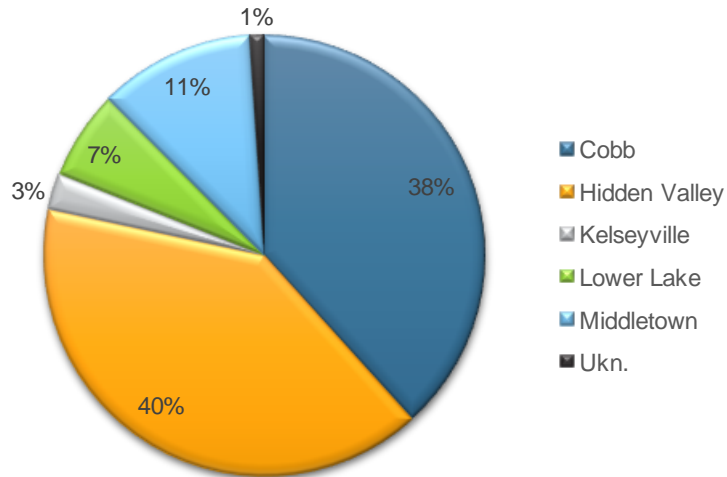
Search and Rescue





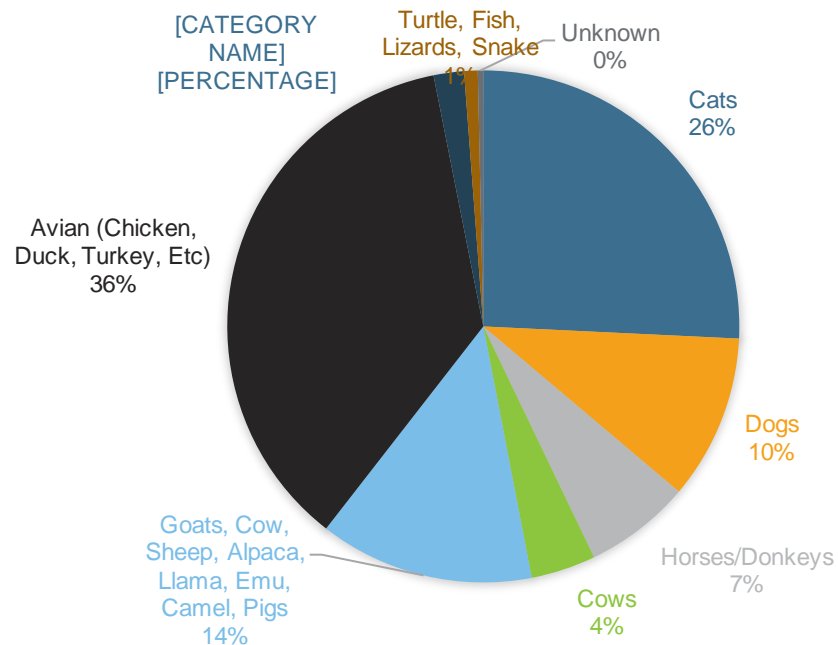
Shelter-In-Place??

Request for Rescue



Address	Total Requests
Cobb	258
Hidden Valley	270
Kelseyville	18
Lower Lake	44
Middletown	77
Unknown	7
	674

Animal	Total Rescued
Cats	901
Dogs	364
Horses/Donkeys	235
Cows	143
Goats, Cow, Sheep, Alpaca, Llama, Emu, Camel, Pigs	474
Avian (Chicken, Duck, Turkey, Etc)	1272
Rabbit, Chinchilla, Hamsters, Rat, Mice, Ferret	67
Turtle, Fish, Lizards, Snake	30
Unknown	12
	3396



Field Intake



Lilypad/Pre-transport



Transport



Intake



Sheltering





CAUTION
FIRE HAZARD
IN THIS AREA

Color: Black

605-2
1 UNIT

CRATE
FOLD AND CARRY
DOG CRATE

CRATE
FOLD AND CARRY DOG CRATE

CRATE
FOLD AND CARRY DOG CRATE

CRATE
FOLD AND CARRY DOG CRATE

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Medical Concerns

Drs. Kelley Evans and Lisa Murphy



Medical Conditions-Floods

- Drowning/Near-drowning
 - Pulmonary edema
 - Pneumonia
- Injury from debris and mud
 - Lacerations and strangulations
 - Including neck injuries from tethers
 - Fractures and crushing injuries
- Hypothermia
- Electrocution



Medical Conditions-Floods

- Starvation/dehydration
 - No surviving or accessible plants
 - Trapped in flooded homes, on rooftops, etc.
 - Spoiled food
 - Contaminated water
- Fight wounds
 - Free-roaming animals as a result of damaged fences
- Fly strike/maggots

Medical Conditions-Infectious

- Bacterial
 - *Dermatophilus*
 - “Rain Rot”
 - Leptospirosis
 - Anthrax
 - *Escherichia coli*
 - *Salmonella*
 - Tetanus
- Viral
 - Rabies
- Protozoal
 - *Giardia*
- Fungal
 - *Pythium*
 - “Swamp Cancer”
- Vector-borne
 - Equine Encephalitis
 - Equine Infectious Anemia
 - Potomac Horse Fever
 - Heartworm disease

Medical Conditions-Treatment

- Stabilize as needed
- Decontaminate as needed
- Support normal body temperature
- Hydrate
- Provide nutrition
- Treat medical conditions as needed





Decontamination Considerations

Lisa A. Murphy, VMD, DABT
Kelley L. Evans, DVM

Flood Water: Hazards to Consider

Chemical Hazards

- Vehicles
 - Leaked gas, diesel, oil, antifreeze
- Households
 - Household cleaners and solvents, herbicides, pesticides, fertilizer, asbestos, lead paint, paint products
- Walmart
 - Everything you can think of from your bathroom, kitchen, garage, and outdoor shed combined
- Agricultural Operations (both Animal & Crop)
 - Need to know what is in your area as the chemical hazards will vary greatly both in chemical agents and quantities depending on site
- Chemical Plants or Manufacturing Companies
 - Need to know what is in your area as the chemical hazards will vary greatly both in chemical agents and quantities depending on site



Wal-Mart Canada Supercube Tractor Trailer

Flood Water: Hazards to Consider

Biological Hazards

- Sewage
 - Human, animals (dogs, cats, cows, goats, chickens, wildlife,), farms, port-a-potty, sewage treatment plants
- Biological Hazardous Material
 - Human and veterinary hospitals and clinics, assisted living homes, rehabilitation centers
- Zoonotic Diseases
 - *Salmonella*, Leptospirosis, *E.coli*, *Giardia*, *Cryptosporidium*

Radiological Hazards

- Nuclear Power Plants
- Cancer Treatment Facilities
- Hospitals, Universities



AP Photo/Bob Jordon

Personal Protective Equipment (PPE)

- **Why use PPE?**

- Flood water: Think heavily used porta-potty (chemical and biological hazards floating around)
- You don't know what is in the water – also consider physical hazards
- For YOUR Protection

- **Considerations**

- Water and chemical resistant protective suit
 - NOT all Tyvek offer the same protection
- Eye protection – goggles or face shield
- Gloves – exam and chemical resistant gloves
- Rubber boots – chemical resistant
- +/- Respiratory protection – N95 Mask



*A flotilla of trash drifts by the top of a light pole in Houston, Texas, on Tuesday [May 26, 2015].
Larry W. Smith, EPA/Corbis*

Why is Decontamination Important?

- For human health and safety (responder, owner, shelter worker)
- For animal health and safety
 - Prevent further contamination from inhalation and oral exposure
 - Grooming or licking and drinking contaminated water can lead to more internal contamination.
 - Remember an animal's eyes, ears, nose (inhalation), mouth (leads to gastrointestinal contamination), paws/hooves/feet, and skin may be contaminated.
- To prevent contamination from spreading to other humans and animals or equipment
- To be able to re-use equipment

Animal Decontamination

- Decontamination of animals should be accomplished as soon as possible after being removed from the flood water
- Ideal is to have a trained team that handles the animals through the decontamination process
- Equipment will depend on what is available locally
 - Human decontamination line, car wash, pool
 - Additional Equipment: cages/carriers (one for decontamination process and one for transportation after decontamination), leashes, brushes, towels

What to Use

- LOTS of soap and water
- If thick oil, use vegetable oil or lighter colored oil to decrease the viscosity



Animal Decontamination

General Procedure for Dog (1 of 2)

Assumes dog has been triaged and is healthy

1. Rinse the dog thoroughly with plain water beginning at the head along the back and to the tail; then rinse down the dog's sides, chest, stomach, legs, and paws.
2. Work the soap into the hair starting the head, along the back and to the tip of the tail, then work down the animal's sides, chest, and abdomen, legs, and paws. Ensure the soap reaches the dog's skin. If the dog has erect ears, flush the ears with otic solution or water.

NOTE: Special attention should be paid to the dog's stomach, face, ears, eyes, under tail, paws and in between legs to ensure all contamination is removed.

Animal Decontamination

General Procedure for Dog (2 of 2)

3. Flush the eyes with copious amounts of water, ophthalmic solution, or saline.
4. Rinse with plain water using the same pattern as the initial rinse (head to back to tail, then down sides, chest, stomach, legs, and paws).
5. Allow the dog to shake off excess water. A tarp or other impervious material may be placed around the dog while it shakes off excess water to prevent contaminating of other people, dogs, or equipment.

NOTE: Steps 1-5 may need to be repeated until all contaminants are removed.

6. Dry the dog with clean towels or other absorbent cloth.

Post-Decontamination

- May need to be monitored/surveyed at the end of the decontamination process, especially with radiation and certain chemical hazards
- Animals should be triaged at the end of decontamination process
- May need a holding area after the decontamination process before either reuniting the animals with the owner or being transported to the shelter

Are We Ready?

1. Are you ready to handle large-scale flooding in your area?
 - a. Agreements in place?
 - b. Equipment
 - c. Training
 - d. Staff

2. Are you in a position to help other counties if you are not experiencing problems?
 - a. Equipment
 - b. Training
 - c. Staff



Thank you

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