



# 2017 Storm Water Monitoring Year and Results for the Individual Permit

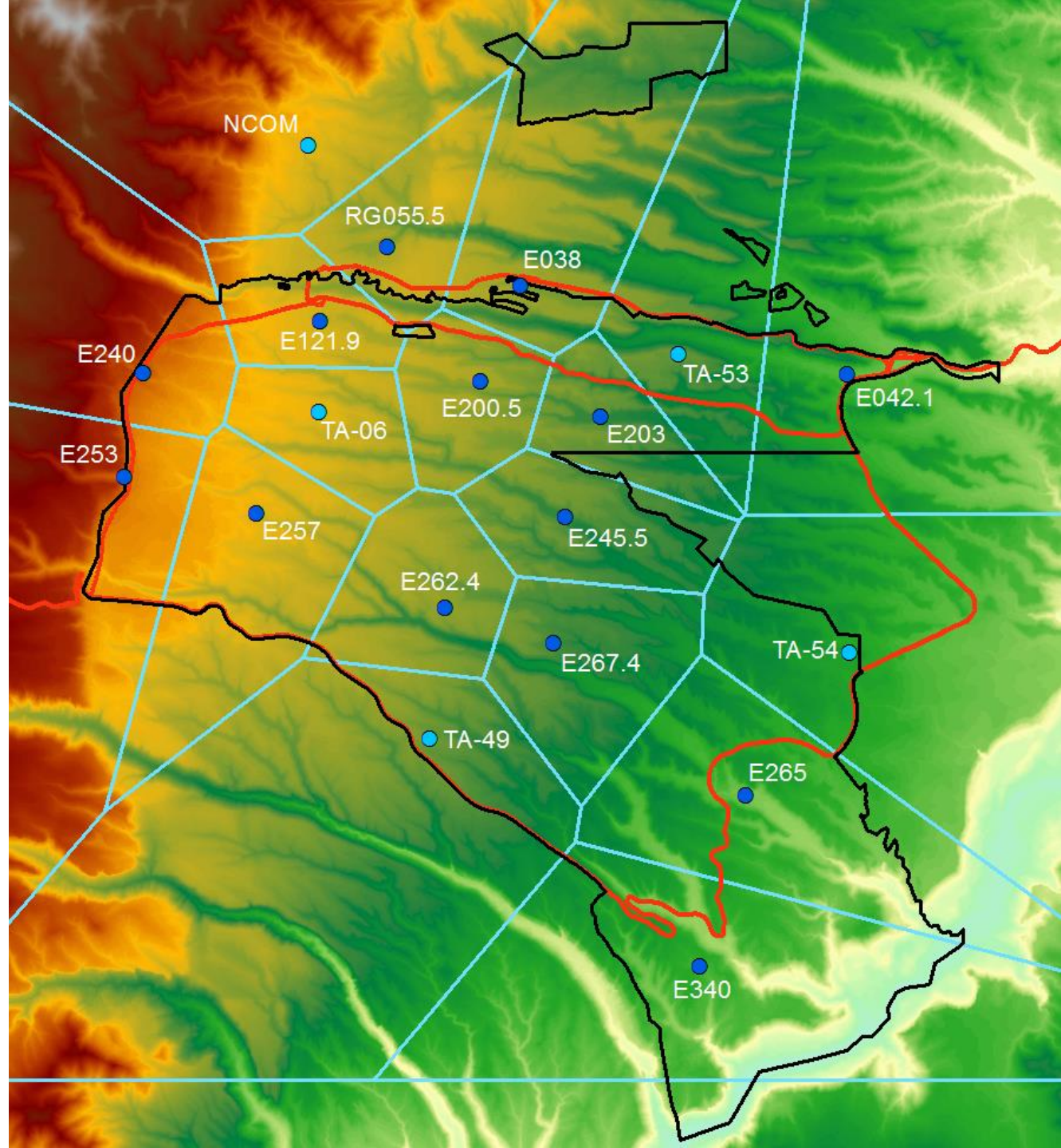
August 29, 2018

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Surface Water Monitoring Supervisor

# Summer Precipitation Network

## Legend

-  Met Towers
-  Extended Network
-  LANL Boundary
-  Major Roads
-  Summer Theissen Polygons
-  Elevation



# Summer Precipitation Network

## Legend

● Met Towers

● Extended  
Network

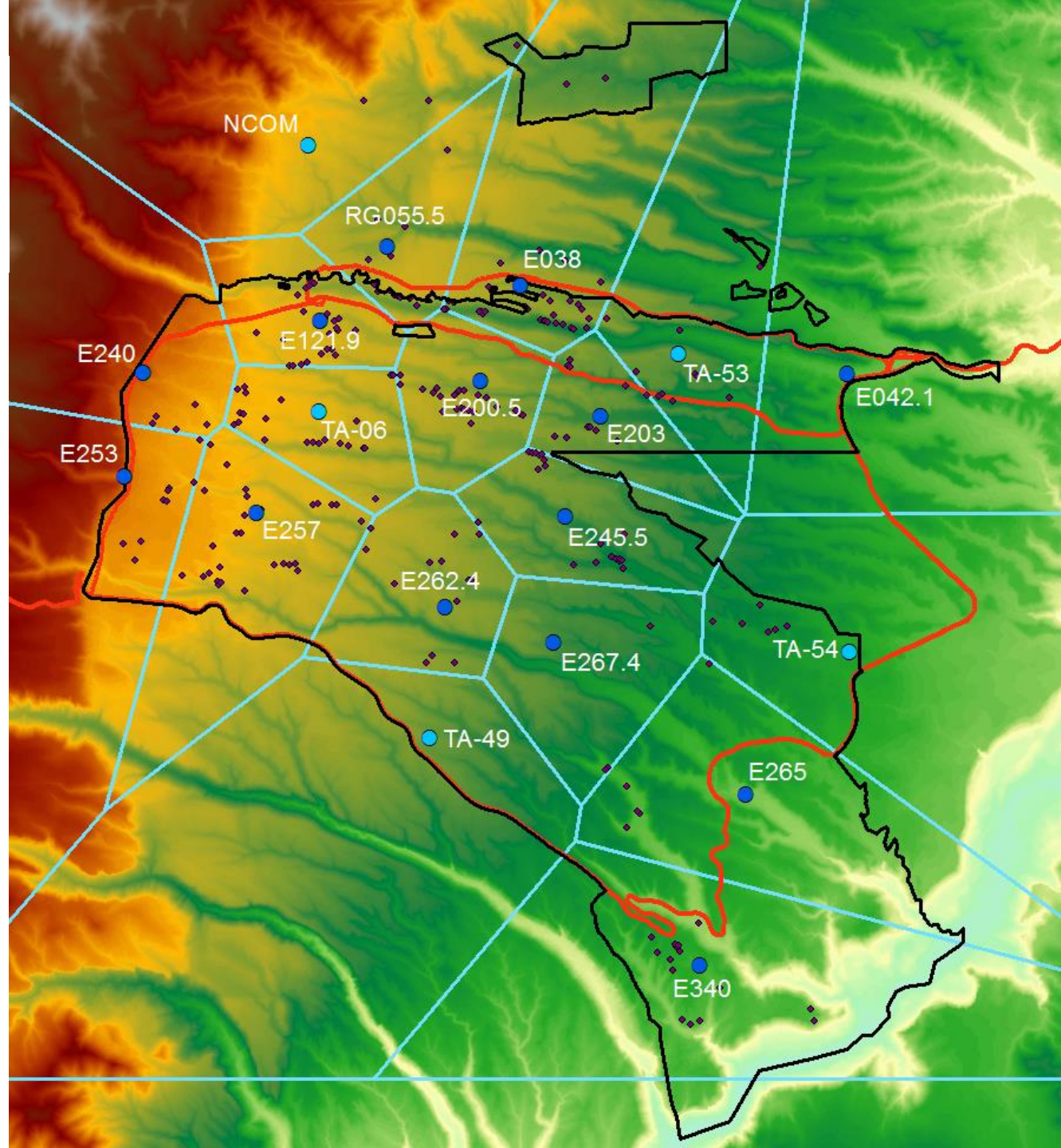
□ LANL  
Boundary

□ Major Roads

□ Summer  
Theissen  
Polygons

■ Elevation

● SMA  
Samplers



# Winter Precipitation Network

## Legend

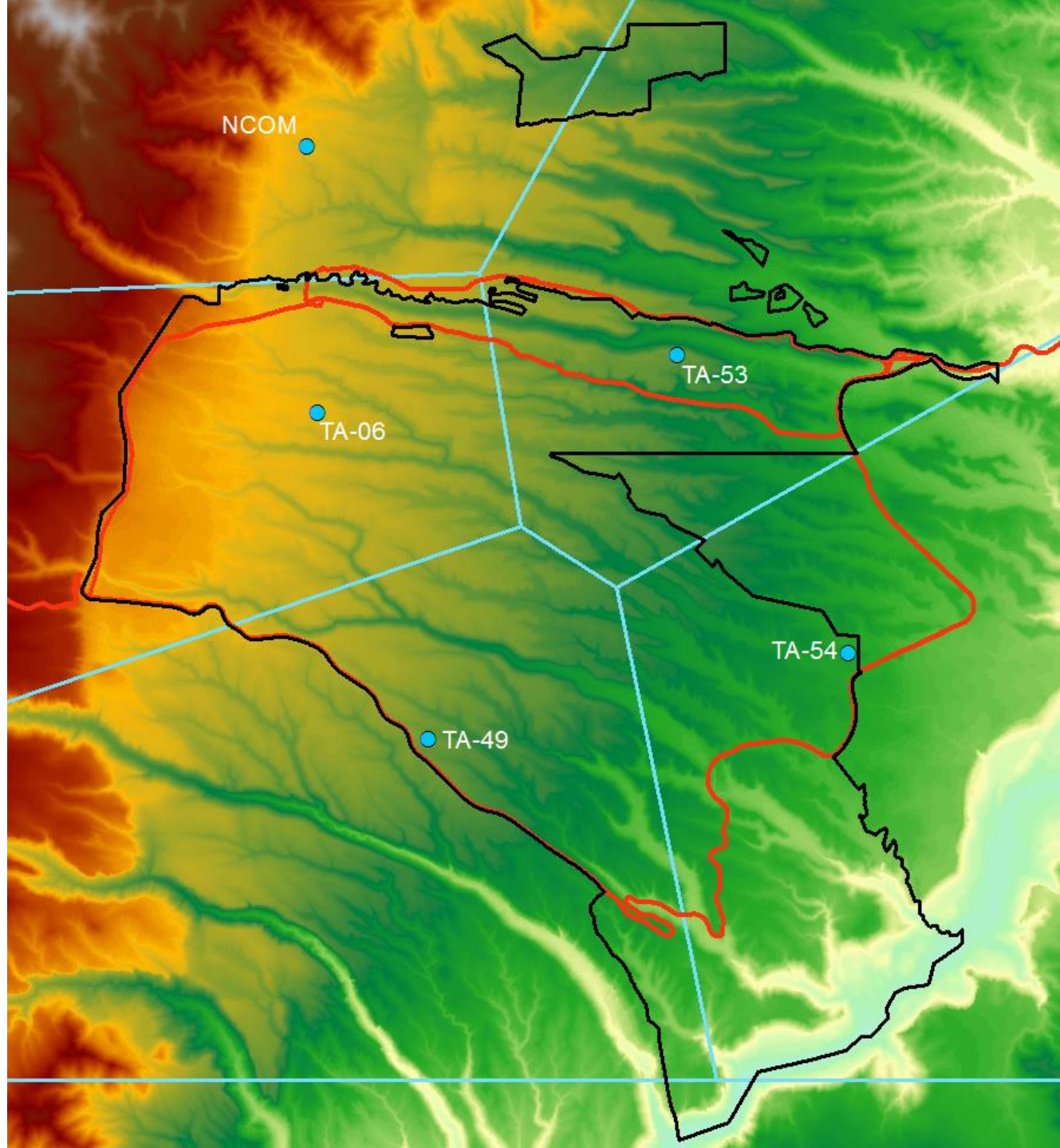
 Met Towers

 LANL  
Boundary

 Major Roads

 Winter  
Theissen  
Polygons

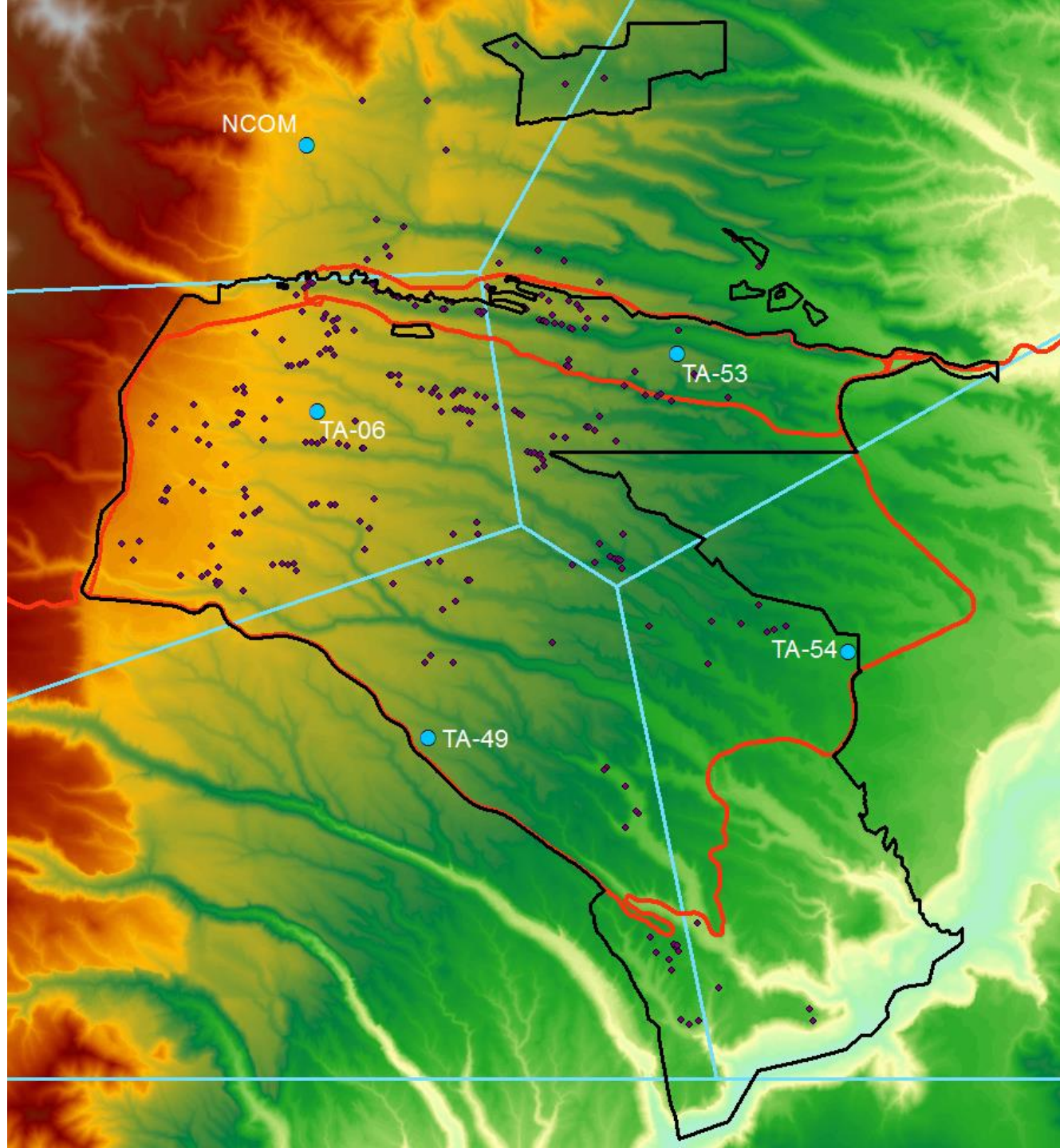
 Elevation



# Winter Precipitation Network

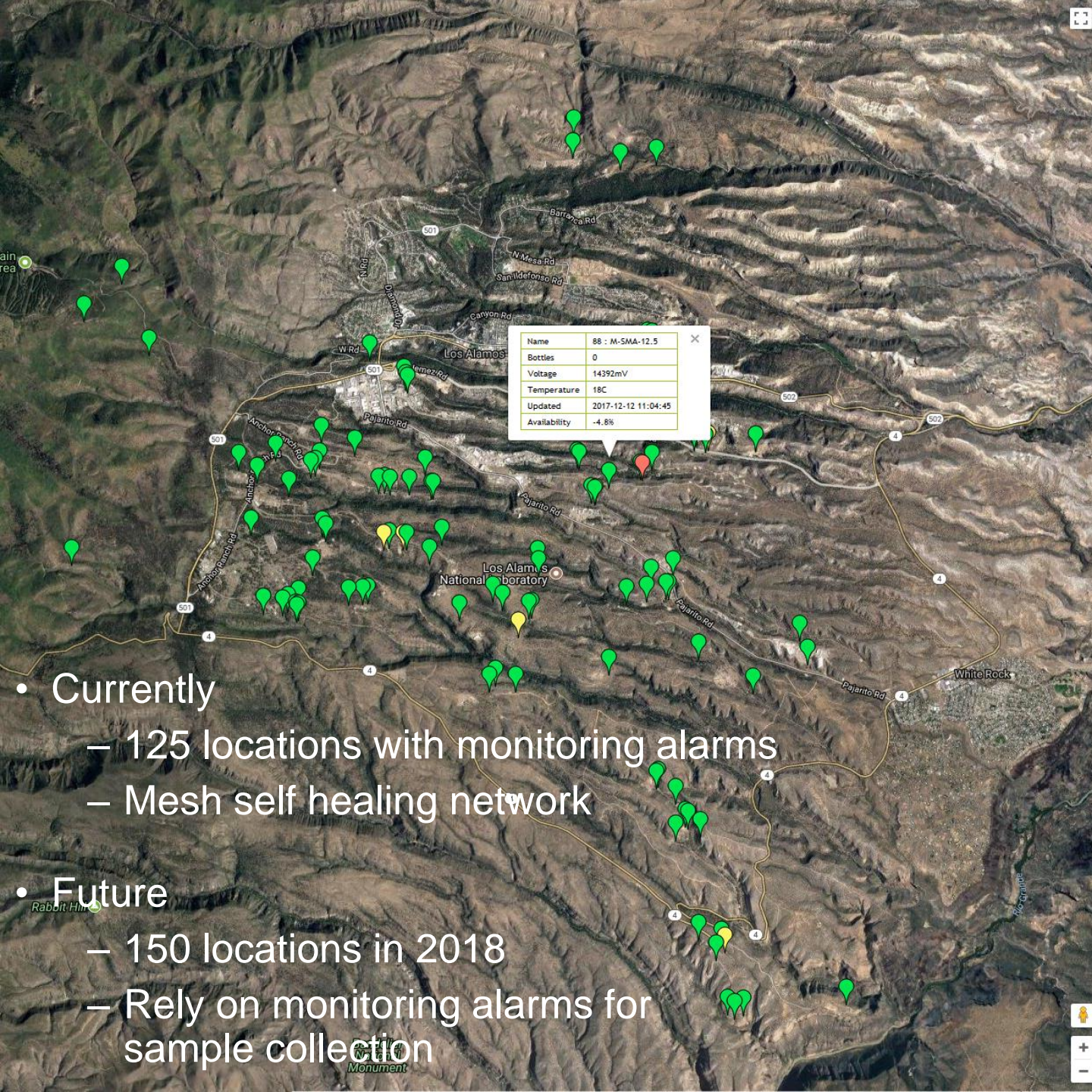
## Legend

- Met Towers
- LANL Boundary
- ▭ Major Roads
- Winter Theissen Polygons
- Elevation
- SMA Samplers





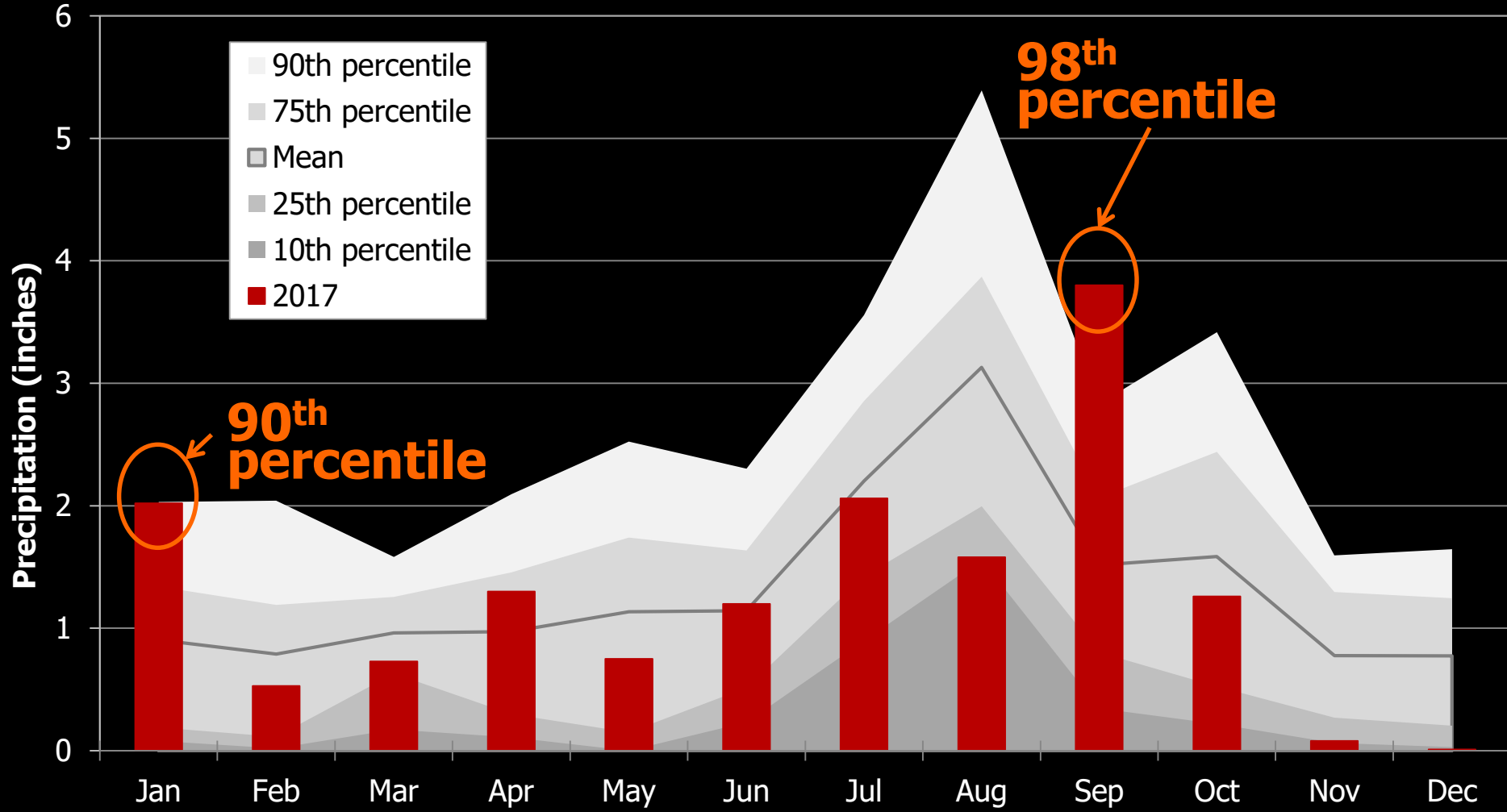




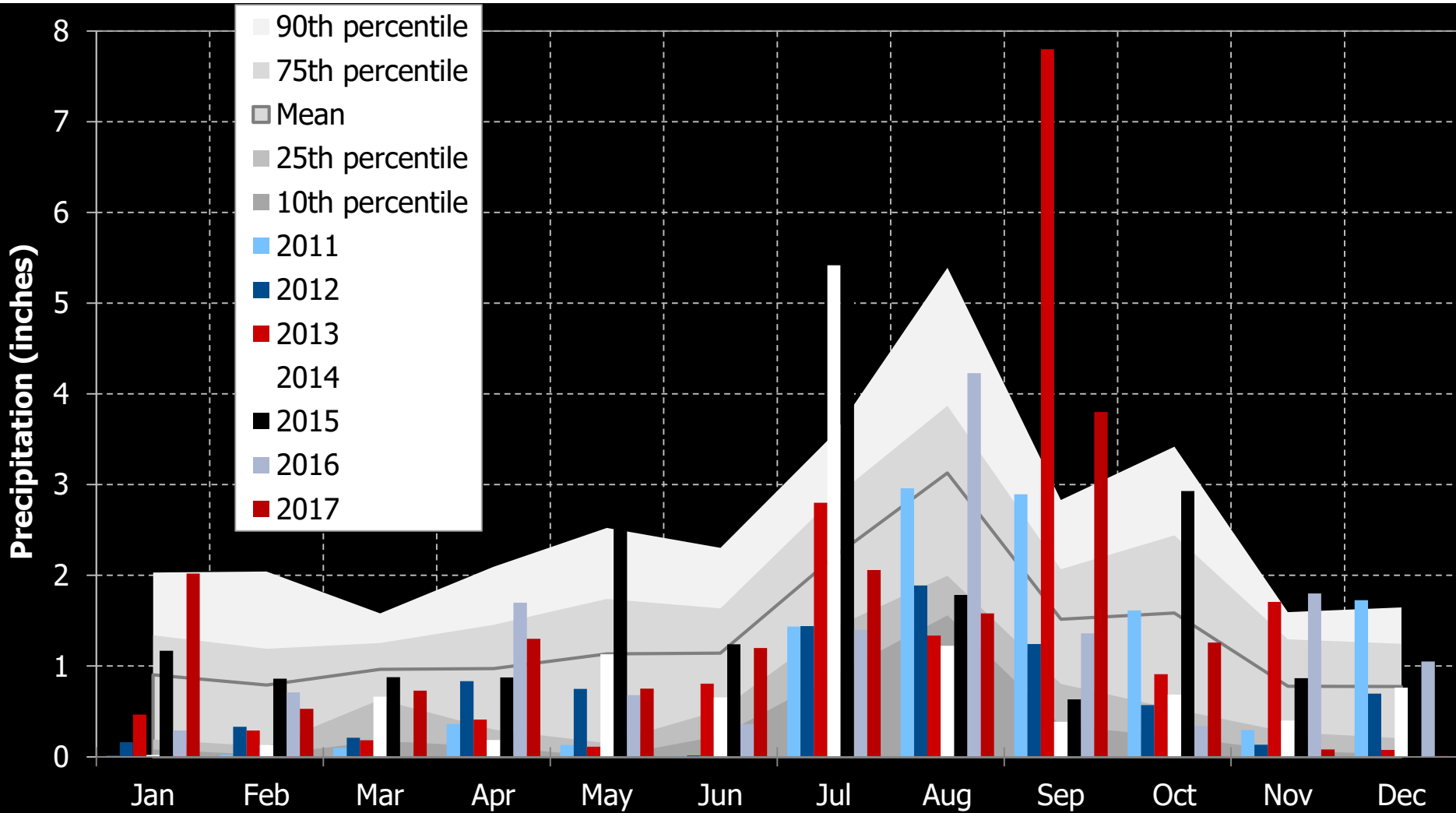
		State of Health	Cumulative Events
ID	Name	Bottles	Location
4		0	Latitude 0 Longitude 0
6		0	Latitude 0 Longitude 0
12		0	Latitude 0 Longitude 0
30		0	Latitude 0 Longitude 0
31		0	Latitude 0 Longitude 0
32	CDV-SMA-3	0	Latitude 35.847766 Longitude -106.320665
33	PJ-SMA-14.4	0	Latitude 35.83970826 Longitude -106.2650134
34	CDV-SMA-4	0	Latitude 35.847971 Longitude -106.319726
35		0	Latitude 0 Longitude 0
36	LA-SMA-6.31	0	Latitude 35.874771 Longitude -106.277958
37		0	Latitude 0 Longitude 0
38		0	Latitude 0 Longitude 0
39		0	Latitude 0 Longitude 0
40		0	Latitude 0 Longitude 0
41		0	Latitude 0 Longitude 0
42	PJ-SMA-14	0	Latitude 35.843467 Longitude -106.264164
43		0	Latitude 0 Longitude 0
44		0	Latitude 0 Longitude 0

- Currently
  - 125 locations with monitoring alarms
  - Mesh self healing network
- Future
  - 150 locations in 2018
  - Rely on monitoring alarms for sample collection

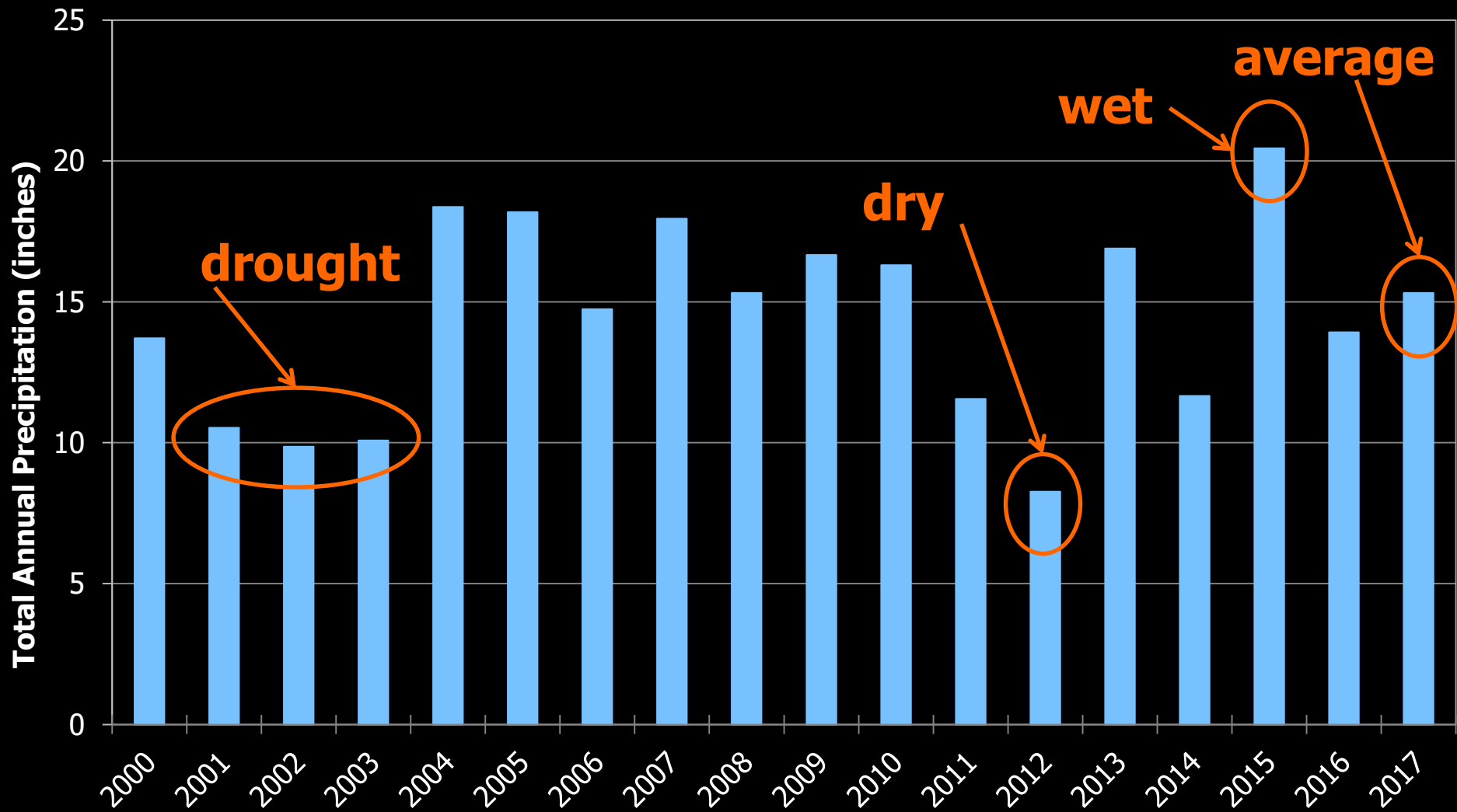




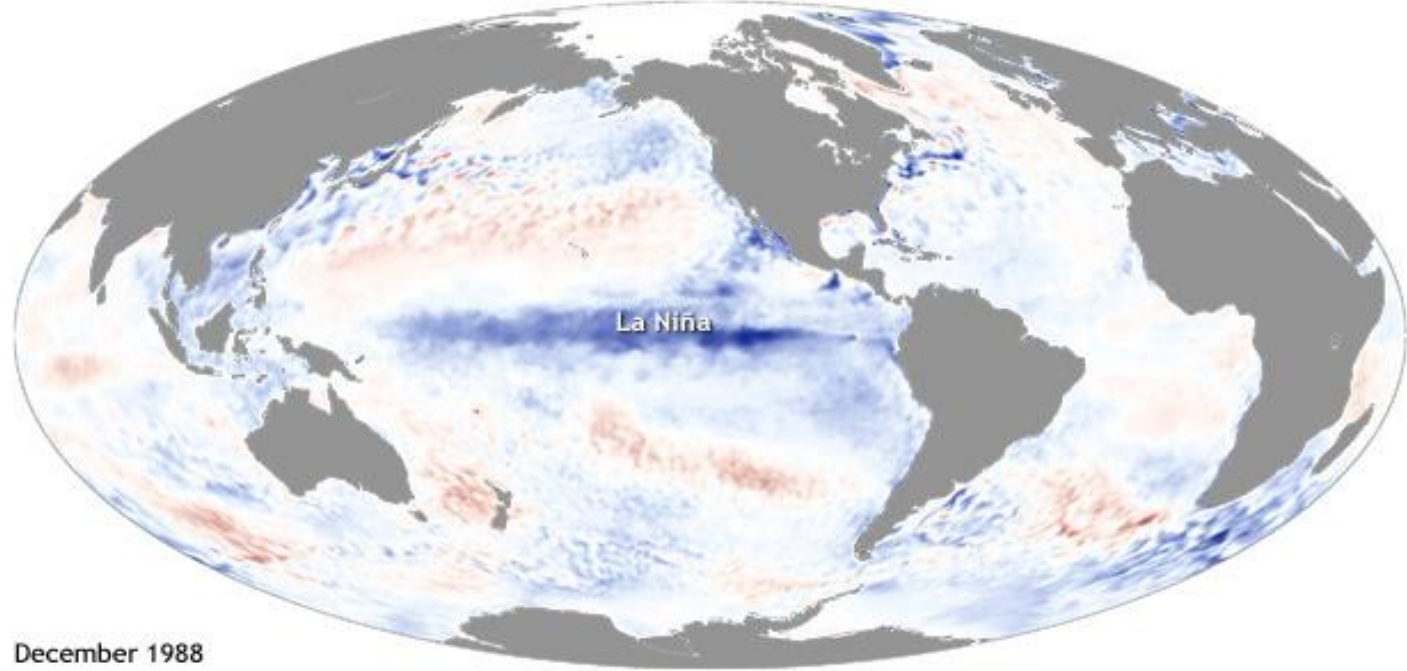
# 2017 Compared to Past Years



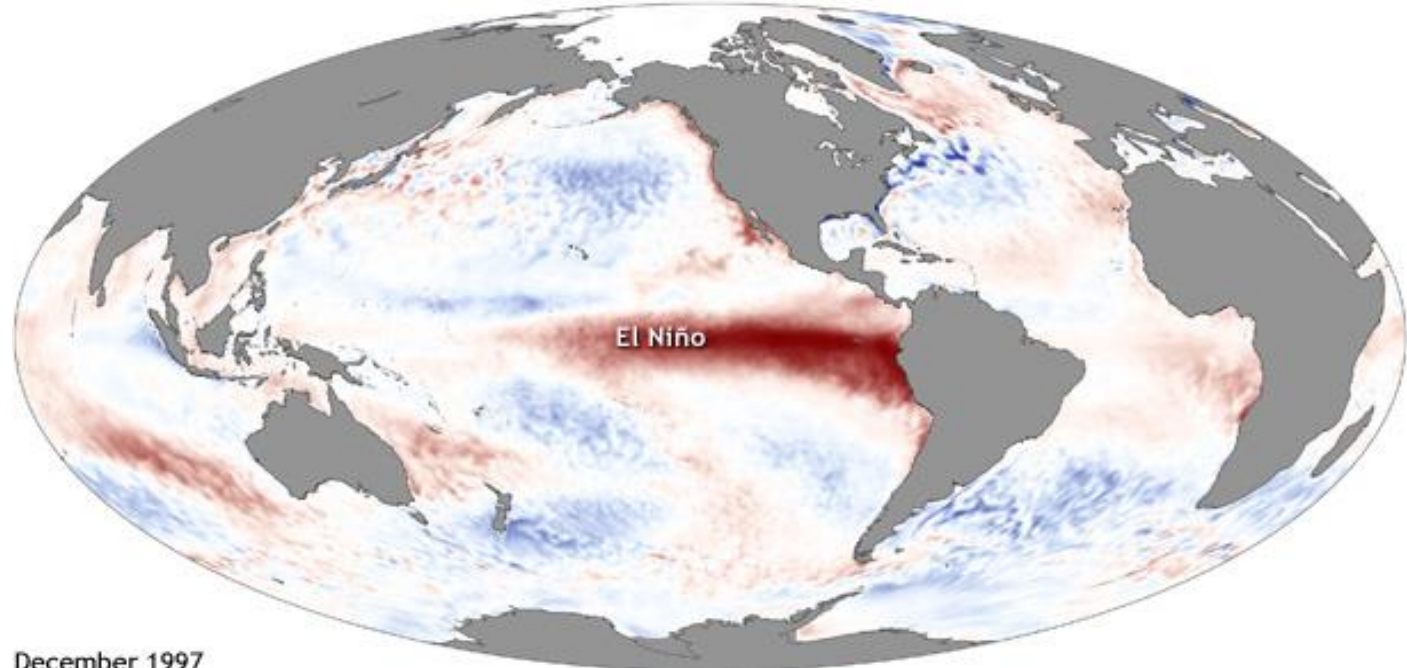
# 2017 Compared to Past Years



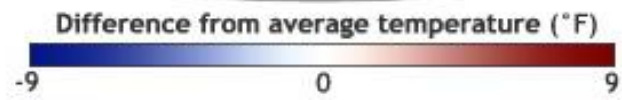
# ENSO (El Niño Southern Oscillation)



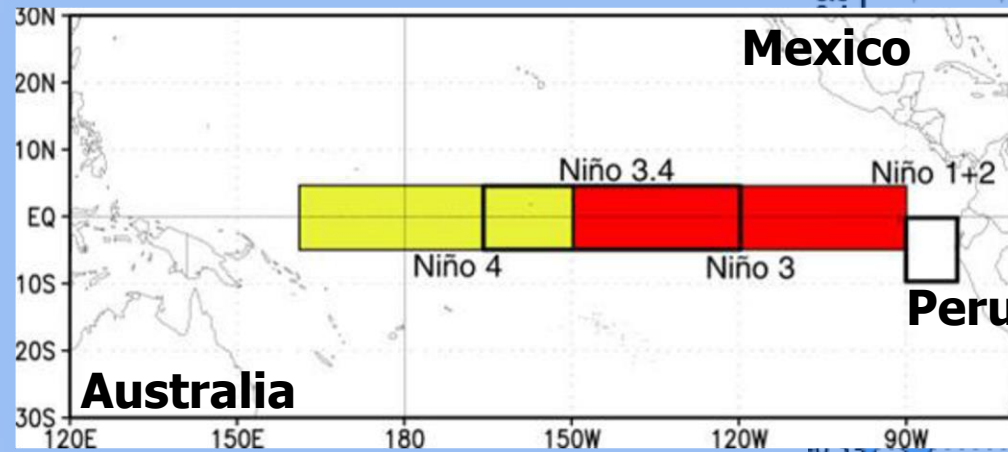
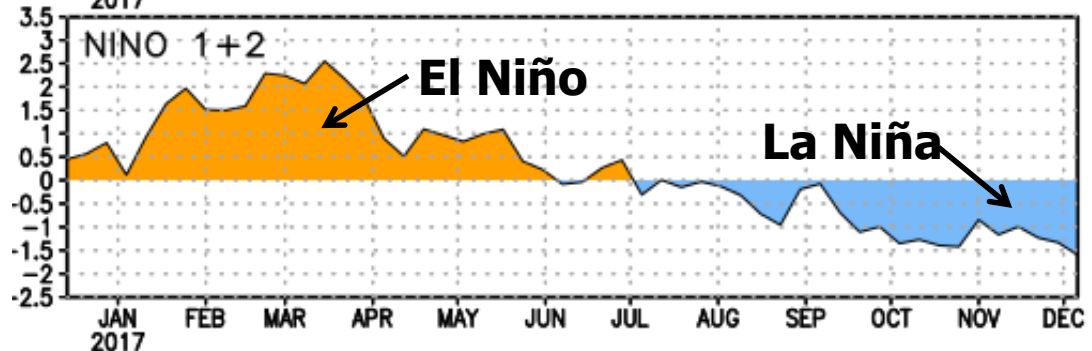
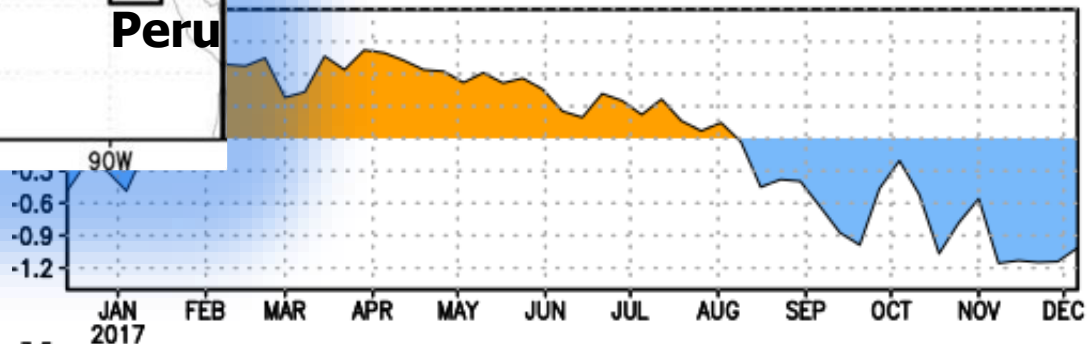
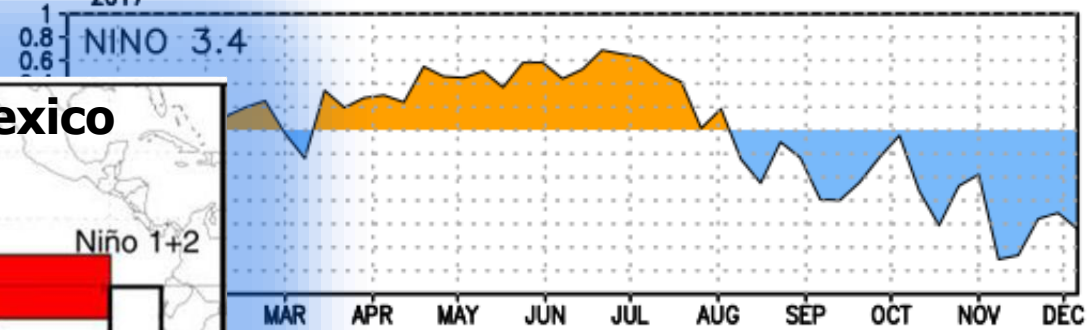
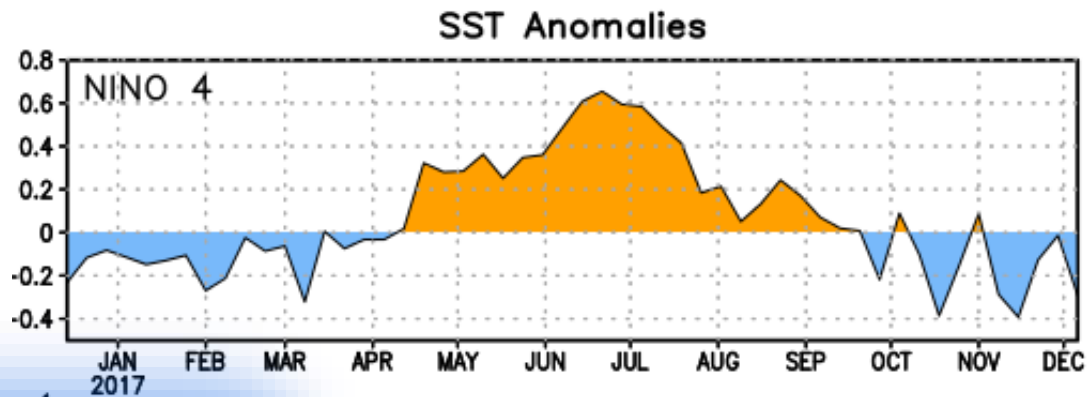
December 1988



December 1997



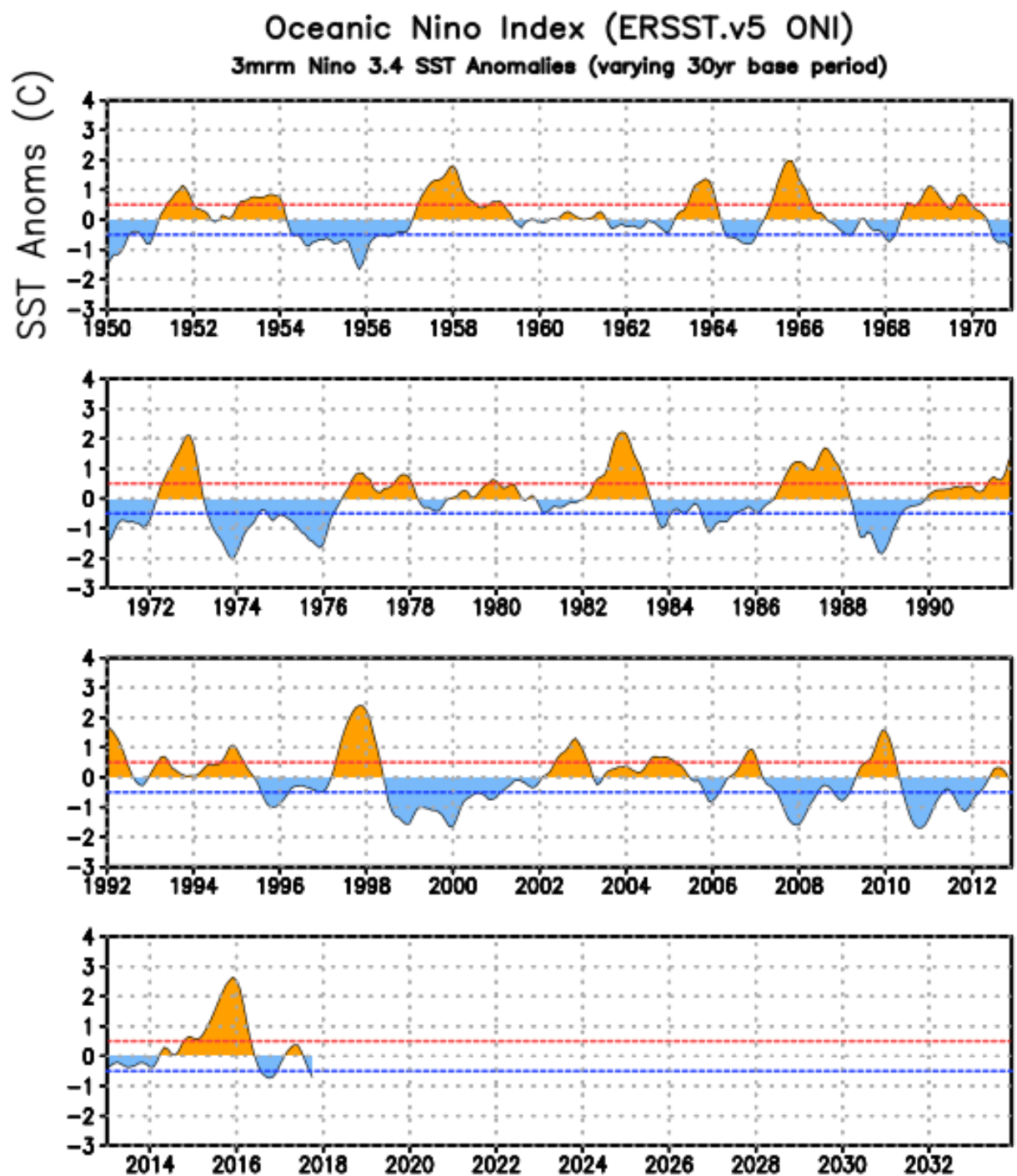
# 2017 & 2018 ENSO Conditions



\*Anomalies are computed with respect to the 1981-2010 averages by NOAA Climate Prediction Center

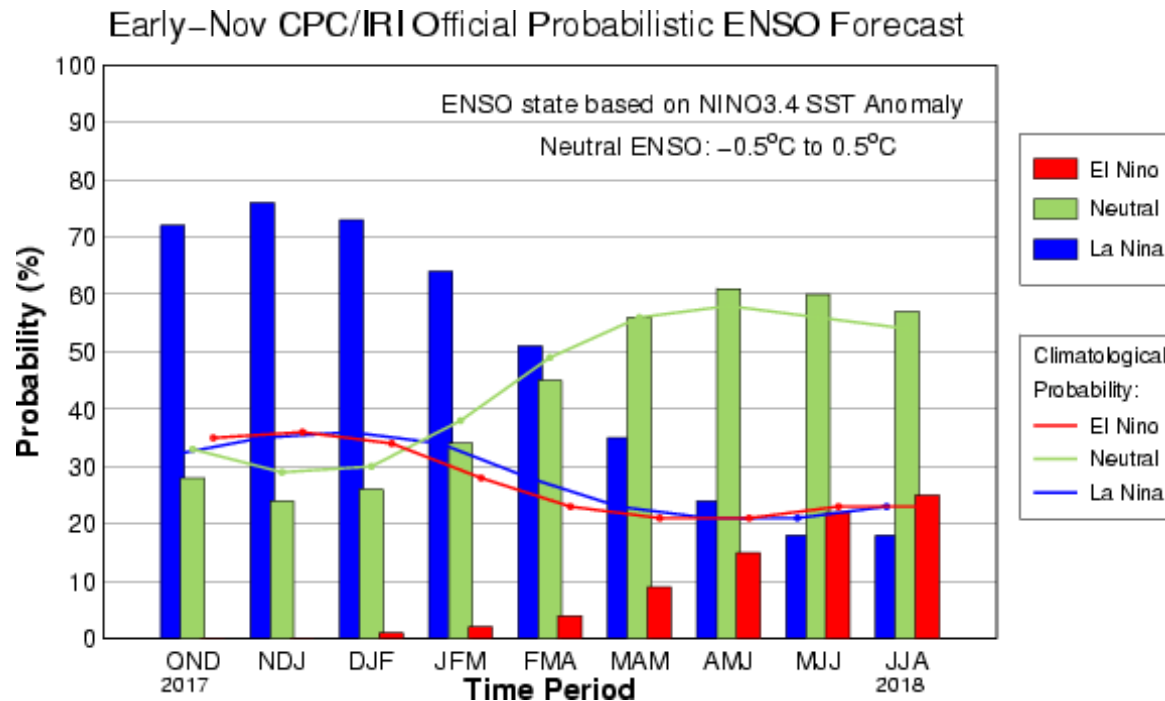
# Historical ENSO Conditions

\*Anomalies are computed with respect to the 1981-2010 averages by NOAA Climate Prediction Center



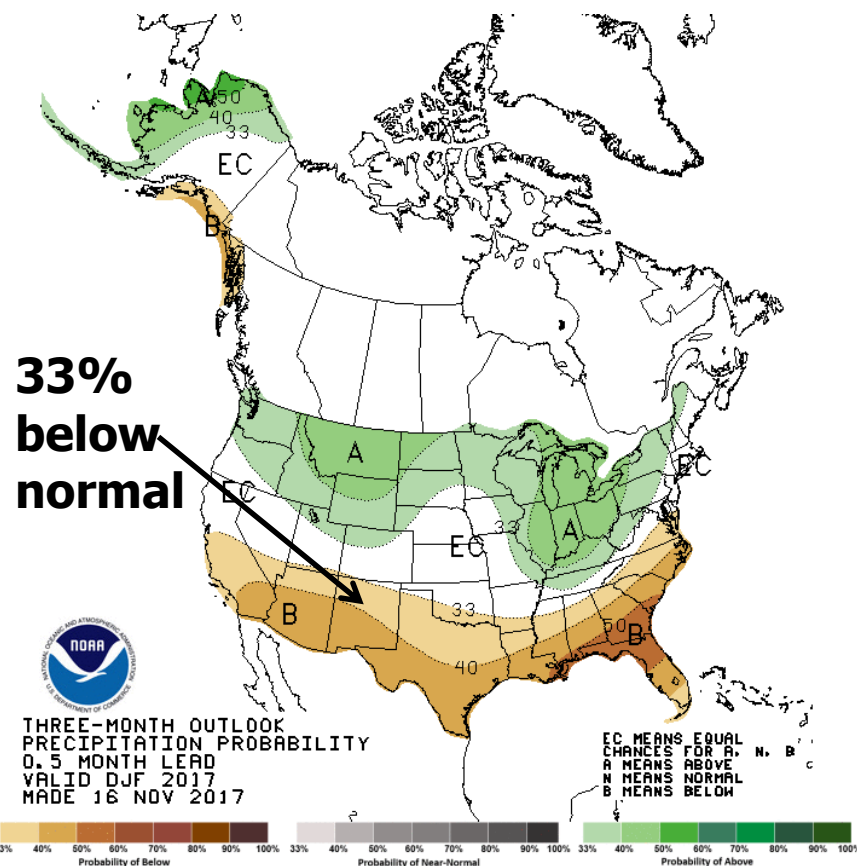
# Current ENSO Conditions

La Niña conditions predicted to continue (~65-75% chance) through the Northern Hemisphere winter 2017-18, with a 51% chance of continuation through spring 2018

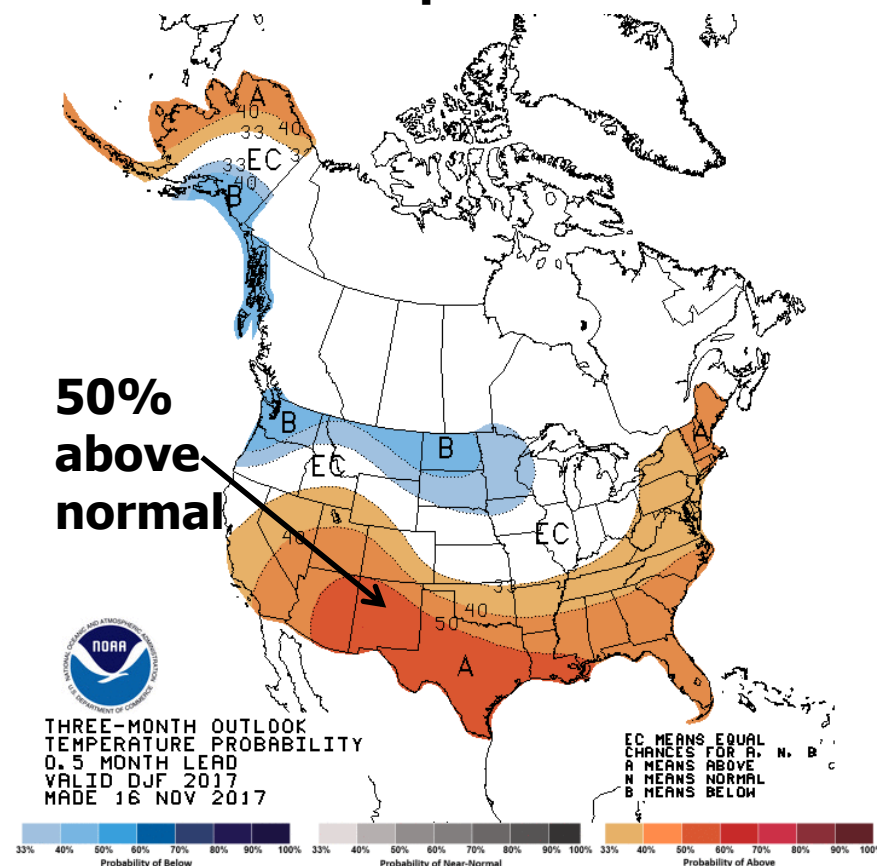


\*Anomalies are computed with respect to the 1981-2010 averages by NOAA Climate Prediction Center

## Precipitation



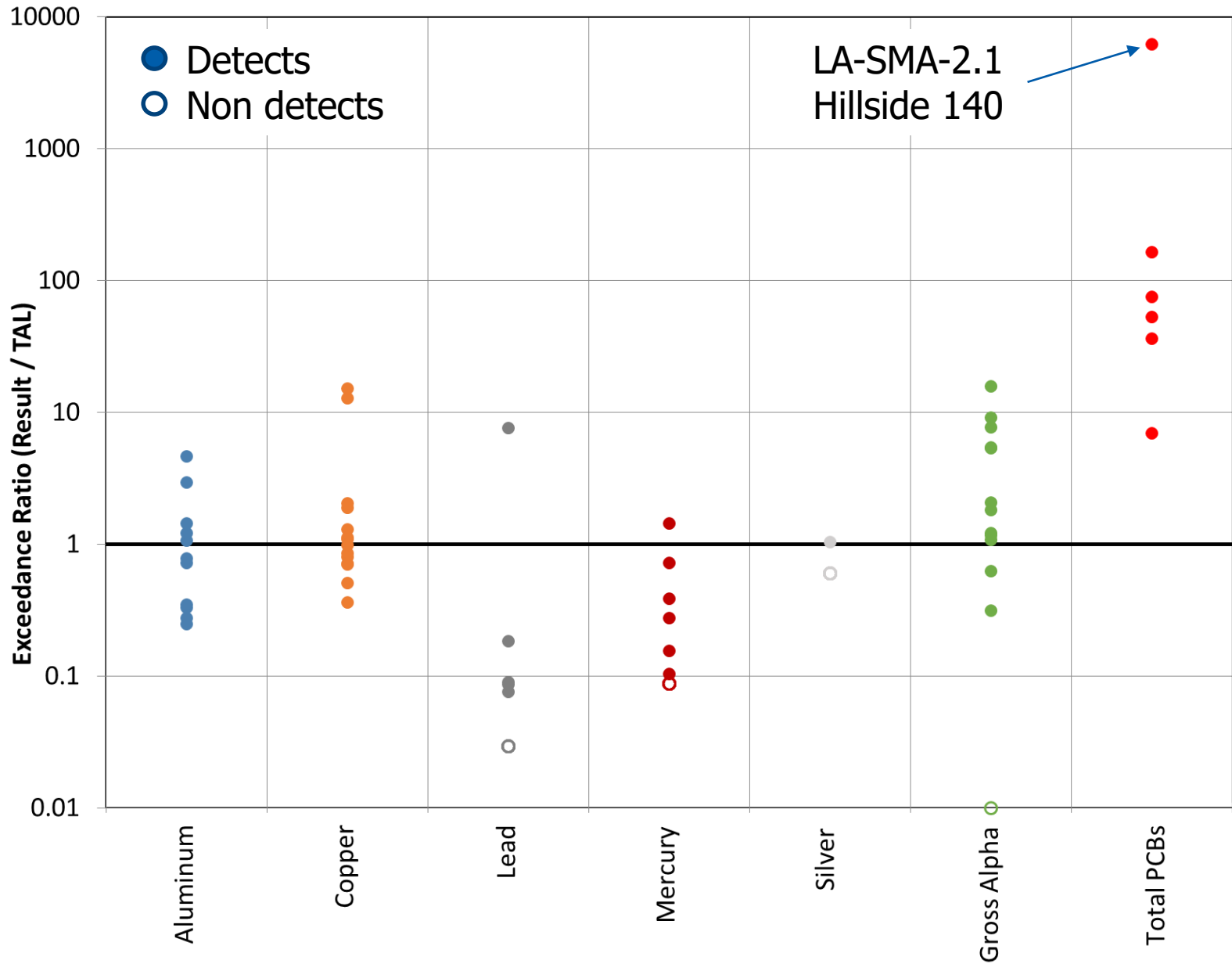
## Temperature



\*NOAA Climate Prediction Center



# IP Results from 2017



2017 IP Sampling Locations	TAL Exceedances							
	Aluminum	Copper	Lead	Mercury	Silver	Gross alpha	Total PCB	None
2M-SMA-3								x
3M-SMA-4		x						
ACID-SMA-2	x					x	x	
ACID-SMA-2.1	x	x				x	x	
CDV-SMA-2.42	x	x				x		
LA-SMA-1						x	x	
LA-SMA-2.1						x	x	
M-SMA-1.2		x						
PT-SMA-1		x				x		
S-SMA-6	x	x	x			x	x	
STRM-SMA-4.2	x	x			x			
T-SMA-7						x		
W-SMA-1.5								x
W-SMA-9.5				x		x		

2017 IP Sampling Locations	TAL Exceedances							
	Aluminum	Copper	Lead	Mercury	Silver	Gross alpha	Total PCB	None
2M-SMA-3								x
3M-SMA-4		x						
ACID-SMA-2	x					x	x	
ACID-SMA-2.1	x	x				x	x	
CDV-SMA-2.42	x	x				x		
LA-SMA-1						x	x	
LA-SMA-2.1						x	x	
M-SMA-1.2		x						
PT-SMA-1		x				x		
S-SMA-6	x	x	x			x	x	
STRM-SMA-4.2	x	x			x			
T-SMA-7						x		
W-SMA-1.5								x
W-SMA-9.5				x		x		

- Aluminum – geology
- Gross alpha – geology & lab-related
- Copper – urban areas & lab-related
- Lead, mercury, silver – lab-related
- Total PCBs – associated with humans (in atmosphere, precipitation, and storm water runoff) & lab-related

**N3B** *Los  
Alamos*