

# Considerations for Making the Transition to ALERT2

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# Considerations for Making the Transition to ALERT2

- List the pros and cons of upgrading to ALERT2
- Examine considerations to either proceed or delay upgrading to ALERT2
- Propose an implementation plan for Santa Barbara County upgrade.

# Considerations for Making the Transition to ALERT2

## The Advantages of ALERT2:

- Error free data – 100% certainty that only good data will be filed.
- Loss of data due to collisions are eliminated by assigned time slots.
- Virtually an unlimited number of Identifier assignments.

# Considerations for Making the Transition to ALERT2

## The Advantages of ALERT2:

- Makes more efficient use of radio channel assignments – bolstering agencies use of the Hydrological/ Meteorological radio spectrum.
- Richer choice of data types – large signed and unsigned integers and 32 bit floating point – allows the full resolution of the sensors and for calibrations to be performed in the field.

# Considerations for Making the Transition to ALERT2

## The Advantages of ALERT2:

- Rain report message type allows for extreme precipitation events without causing collisions.
- ALERT2 is compatible with your existing inventory of narrowband radios, antennas, solar panels, etc.

# Considerations for Making the Transition to ALERT2

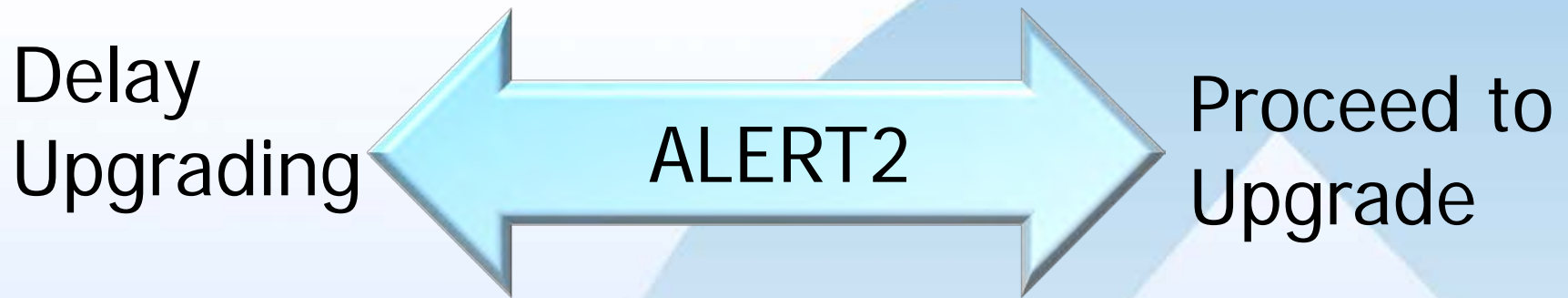
## The Disadvantages of ALERT2:

- Complexity – this manifests itself in many ways.
- Gone will be the days when the field tech diagnoses problems by listening to the warble of an ALERT message.
- Increased costs

# Considerations for Making the Transition to ALERT2

## The Disadvantages of ALERT2:

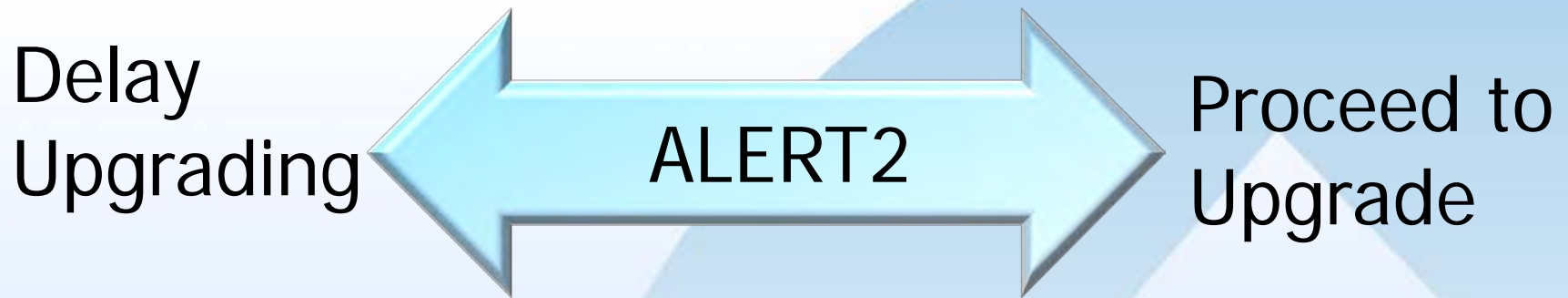
- Requirements for increased co-operation between agencies in a region.
- For the short term, the ALERT2 community is very dependent upon Blue Water Design, LLC.
- Increased costs



How big is your system?

- Large systems will experience more collisions, but overall cost is higher
- Smaller system will experience few collisions, but overall cost is lower





What is the age of your current systems?

- If your transmitters are near the end of their useful life, then it would be easier to justify upgrading to ALERT2.
- If you are using newer equipment, upgrading to ALERT2 may be more difficult to justify.

Delay  
Upgrading

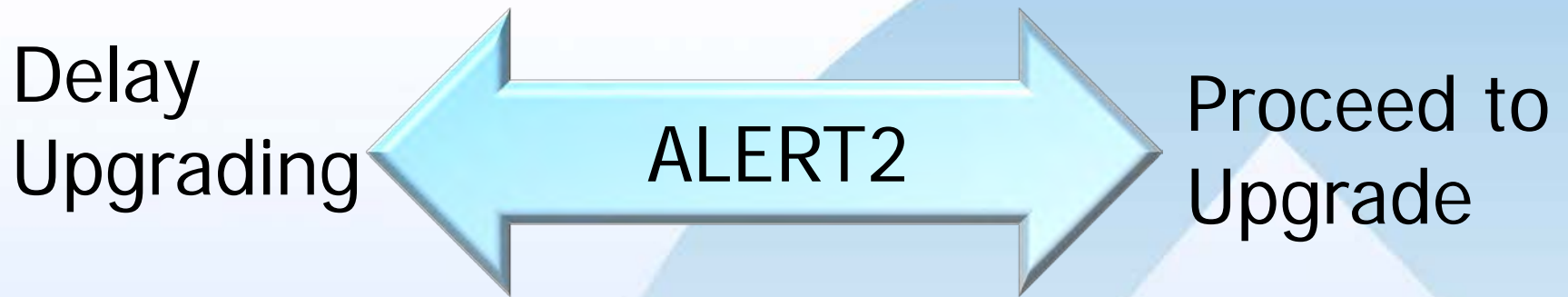


ALERT2

Proceed to  
Upgrade

What about all the accessory components?

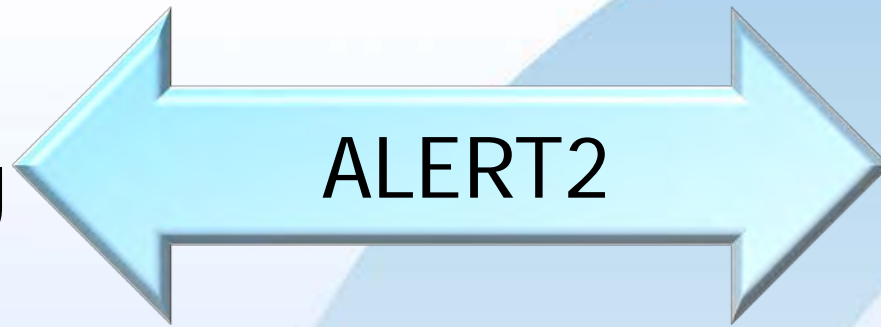
- If you have newer 12.5 kHz narrowband radios, they will be compatible.
- The same for transmitter cans, sensors, standpipes, batteries, solar panels, antennas, antenna cables, lightning protection devices, power amplifiers, etc.



Are there other regional base stations receiving data from your repeater(s)?

- Your upgrading to ALERT2 may negatively impact others who were receiving your data over the air.

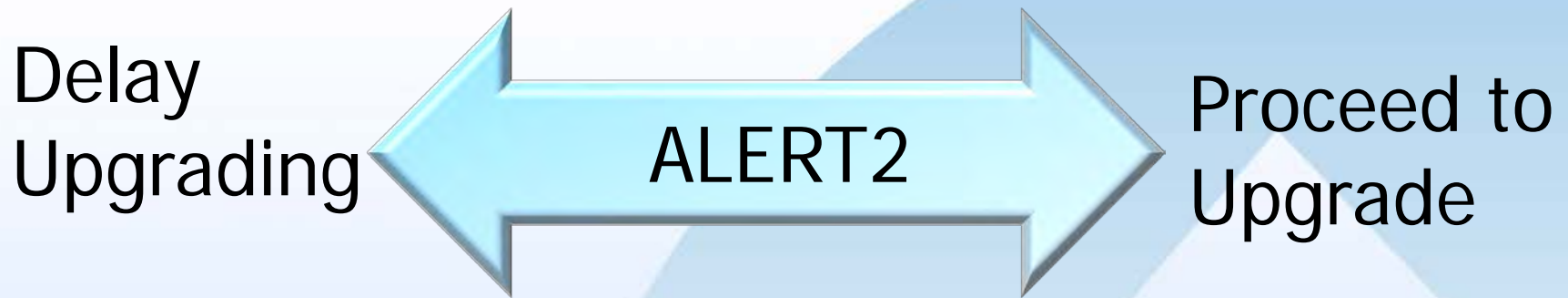
Delay  
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Proceed to  
Upgrade

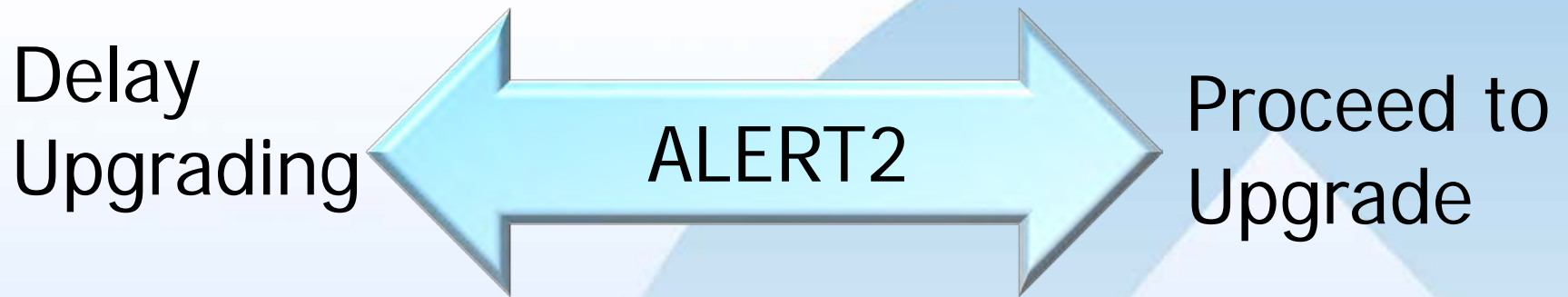
Is your system receiving data from another system that's upgrading to ALERT2 protocol?

- Your system may be forced into upgrading or find an alternative path to acquire the other systems data.



Has a nearby system upgraded to ALERT2?  
Some shared radio frequency channels may have been freed up in the process.

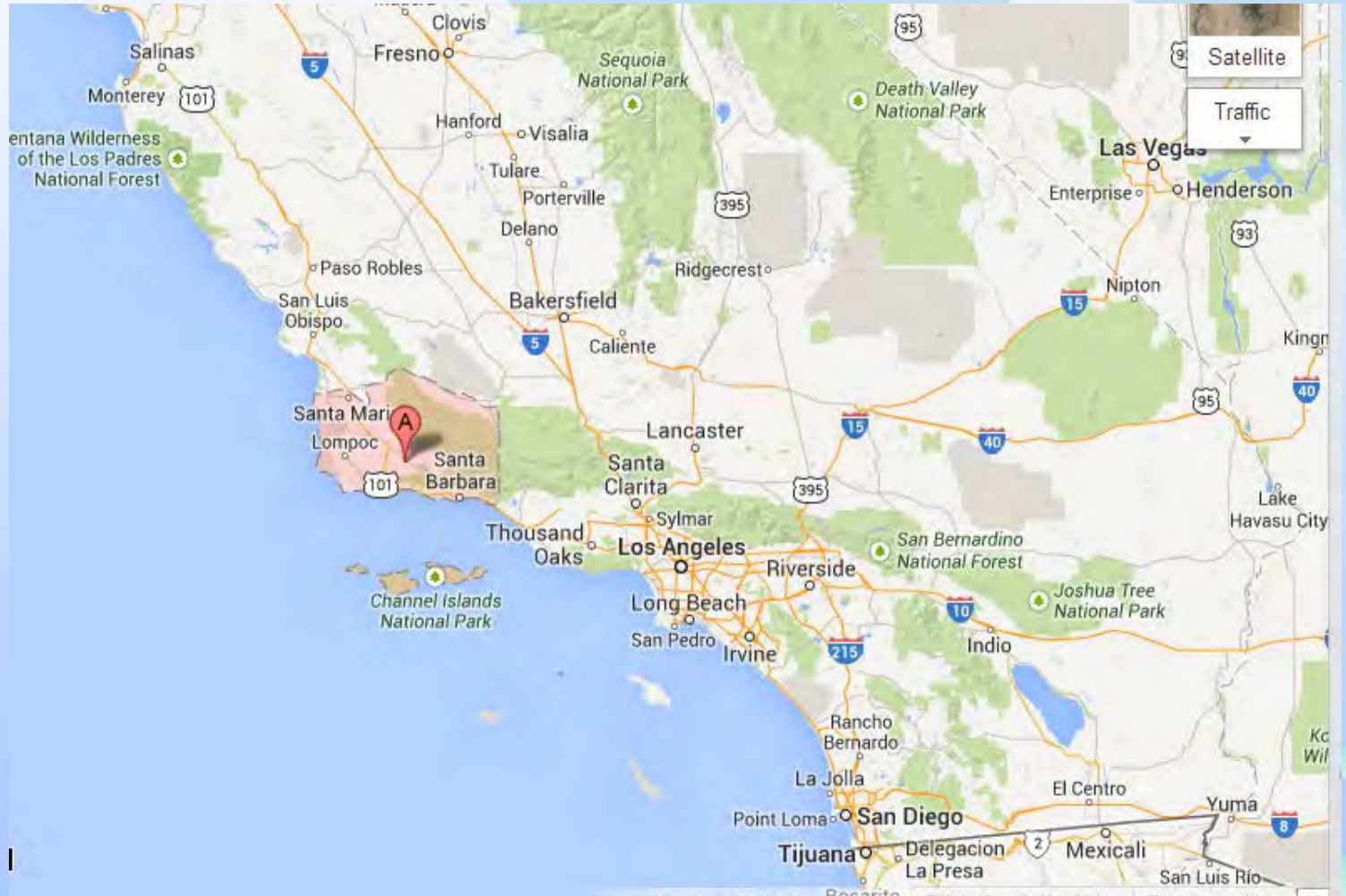
- Your system may now experience fewer collisions, making a decision to delay upgrading rational.



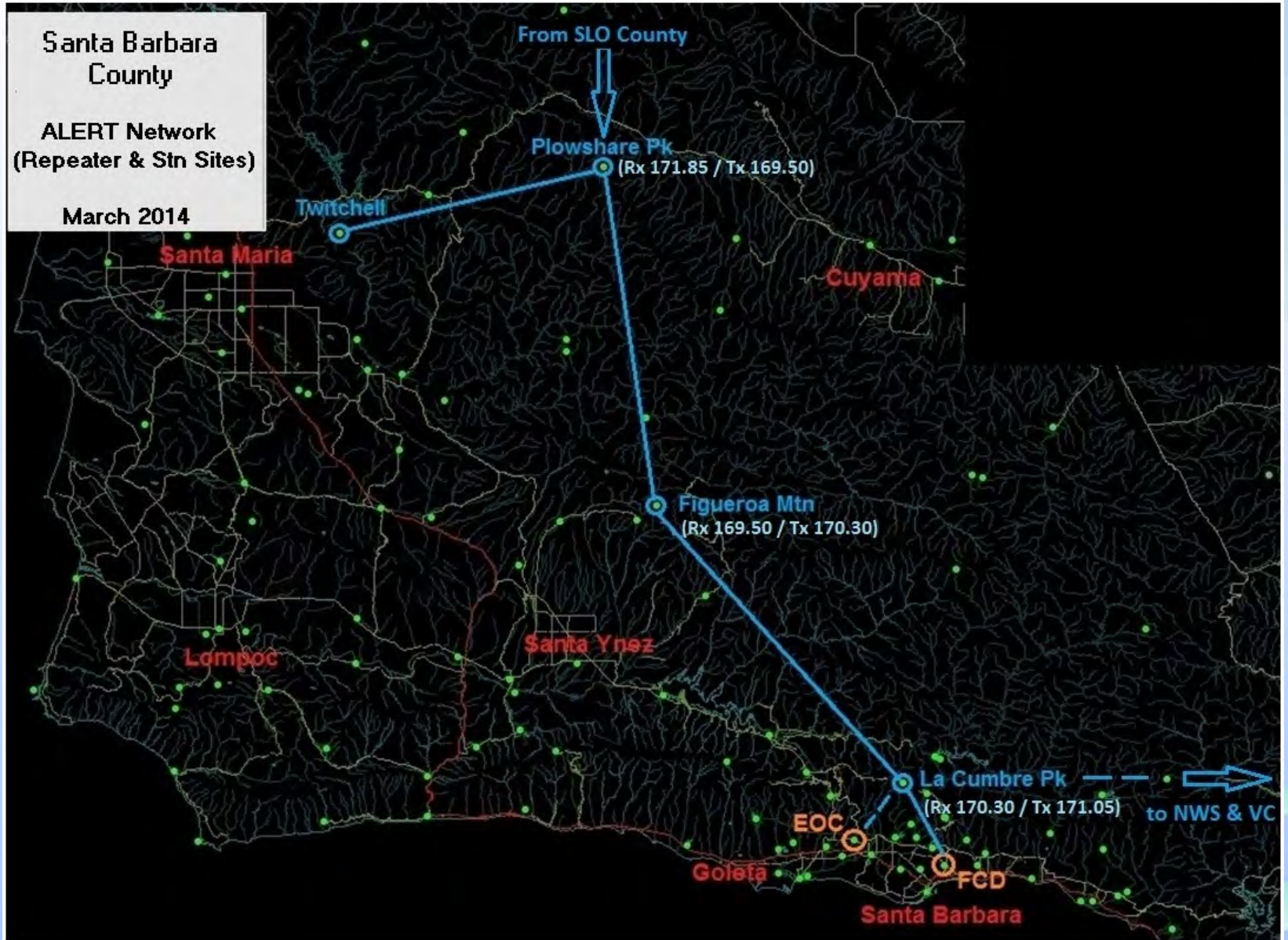
When adjacent systems upgrade to ALERT2, and share radio frequency channels, then more co-operation will be required to manage the TDMA assignments.

- This could be challenging.

# A look at Santa Barbara County's System



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## Initial Sites with ALERT2 Equipment Requirements

Plowshare Peak (??)

Figueroa Mtn

La Cumbre Peak

EOC Base Station

FCD Base Station

Ventura County

NWS Oxnard

# A look at Santa Barbara County's System



# A look at Santa Barbara County's System

## Plowshare Peak

- Simplest option would be leave this repeater as is. ALERT in & ALERT out
- Changing to a concentrator has implications for Figueroa Mtn
- Change to a concentrator in Phase 2

## Figueroa Mtn

# A look at Santa Barbara County's System

## Figueroa Mtn

- Simplest option would be to make this site an ALERT2 concentrator  
ALERT in & ALERT2 out
- Change to a full ALERT2 Repeater concentrator in Phase 2
- ALERT and ALERT2 in & ALERT2 out

# A look at Santa Barbara County's System

## La Cumbre Peak

- Change to a full ALERT2 Repeater concentrator in Phase 2
- ALERT and ALERT2 in & ALERT2 out

## EOC, FCD and NWS

- All need ALERT2 demodulator and ALERT2 capable base station software.

Ventura County will need ALERT2 receive capability