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Title: The Climate at Los Alamos; Are we measurement changes?

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The Climate at Los Alamos

Are we measuring changes?

April 20, 2015

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Background

*Our LANL Climatology was published in 1992 –
We needed an update!*

IPCC

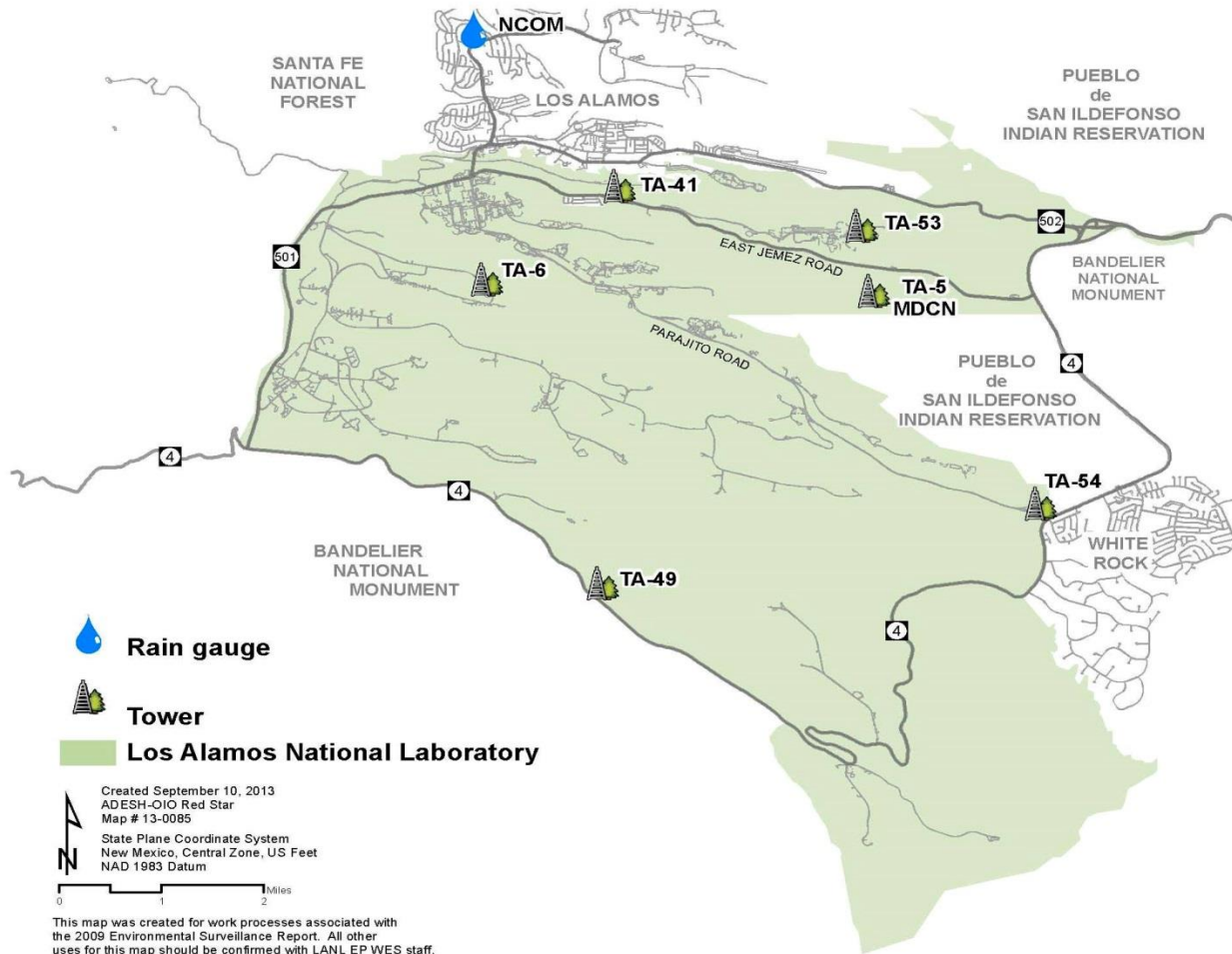
increasing temperature

decreasing precipitation

increasing intensity of summer heat waves

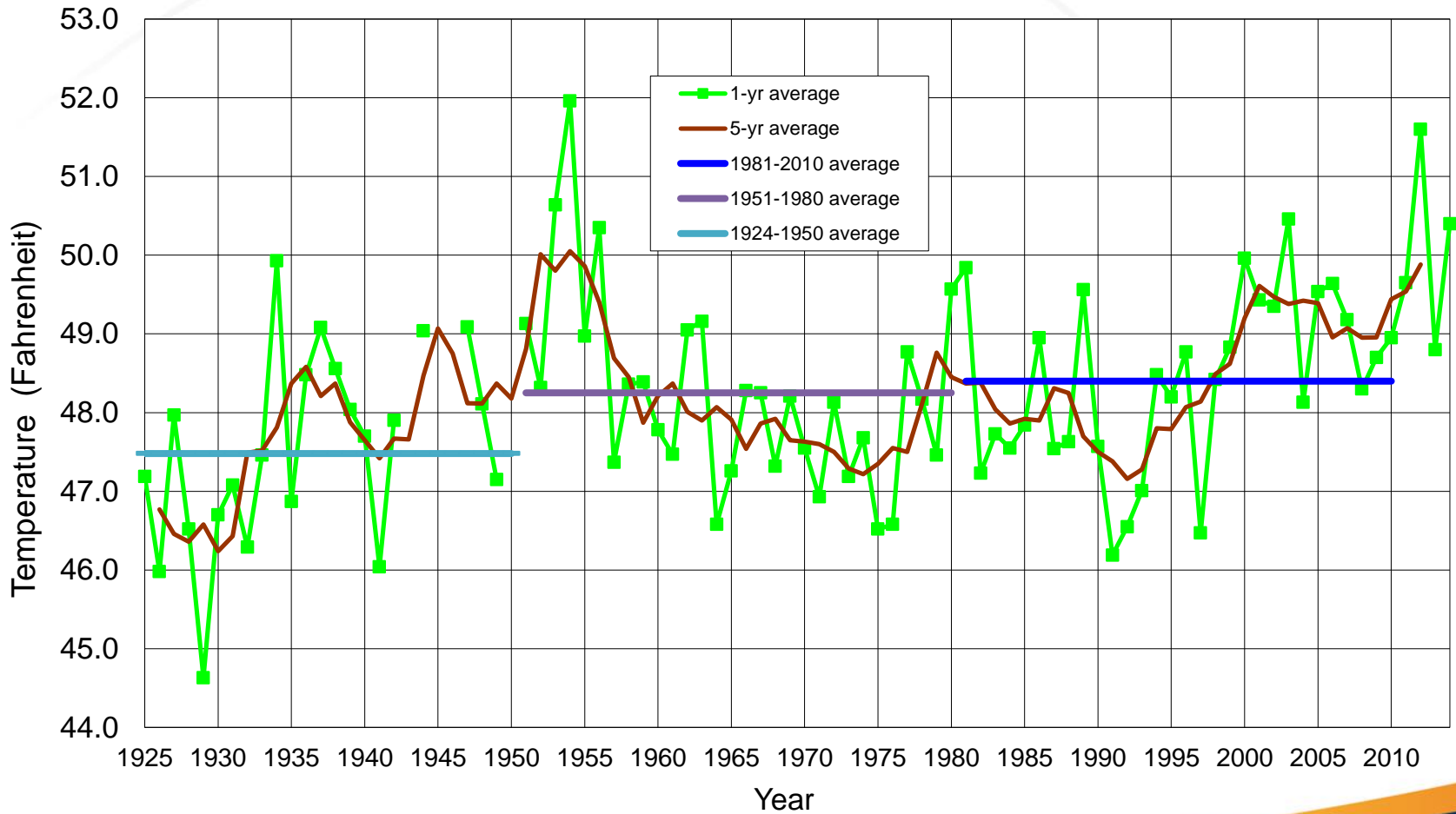
increasing heavy precipitation events

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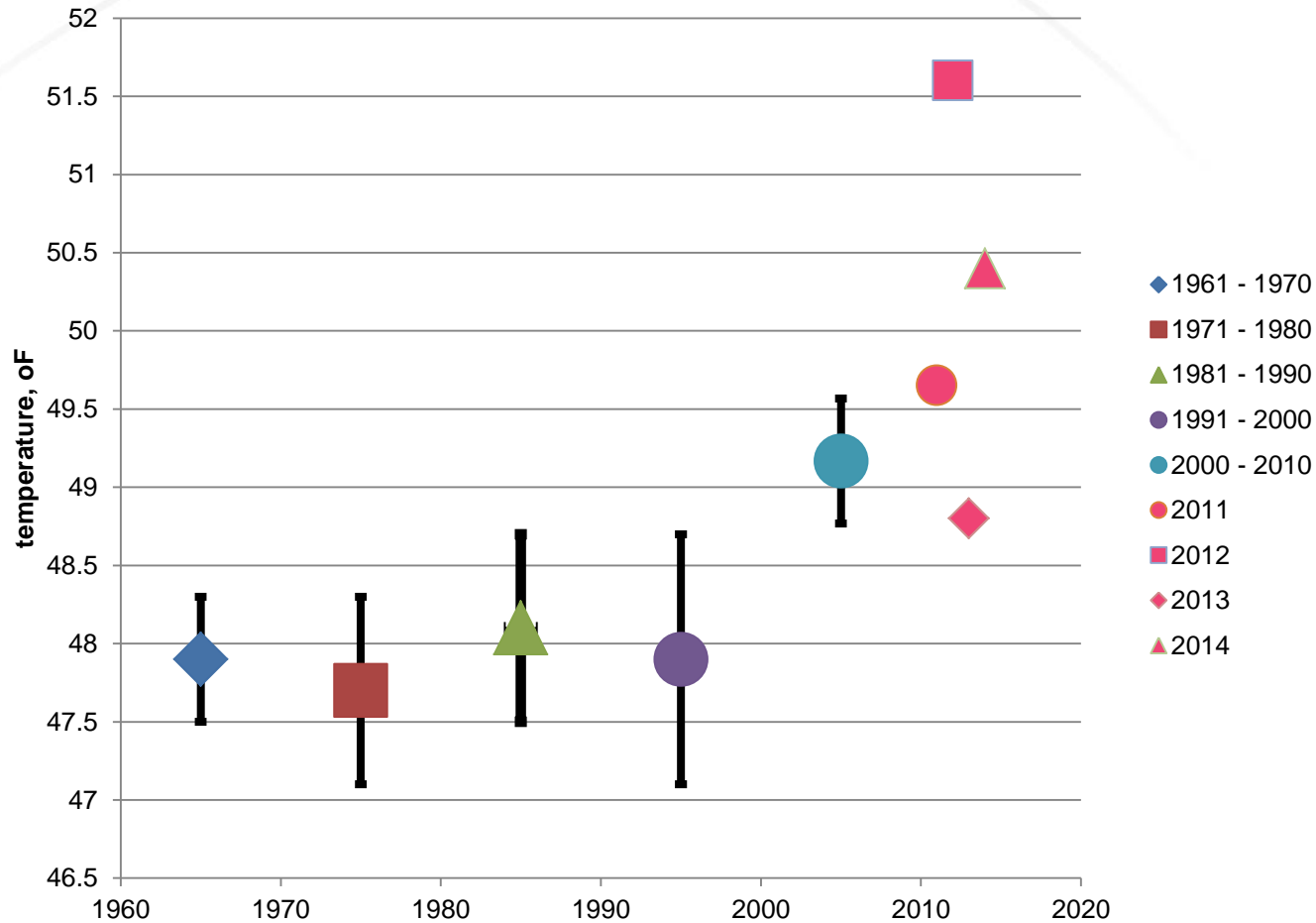
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Los Alamos (TA-6) Temperature Trends



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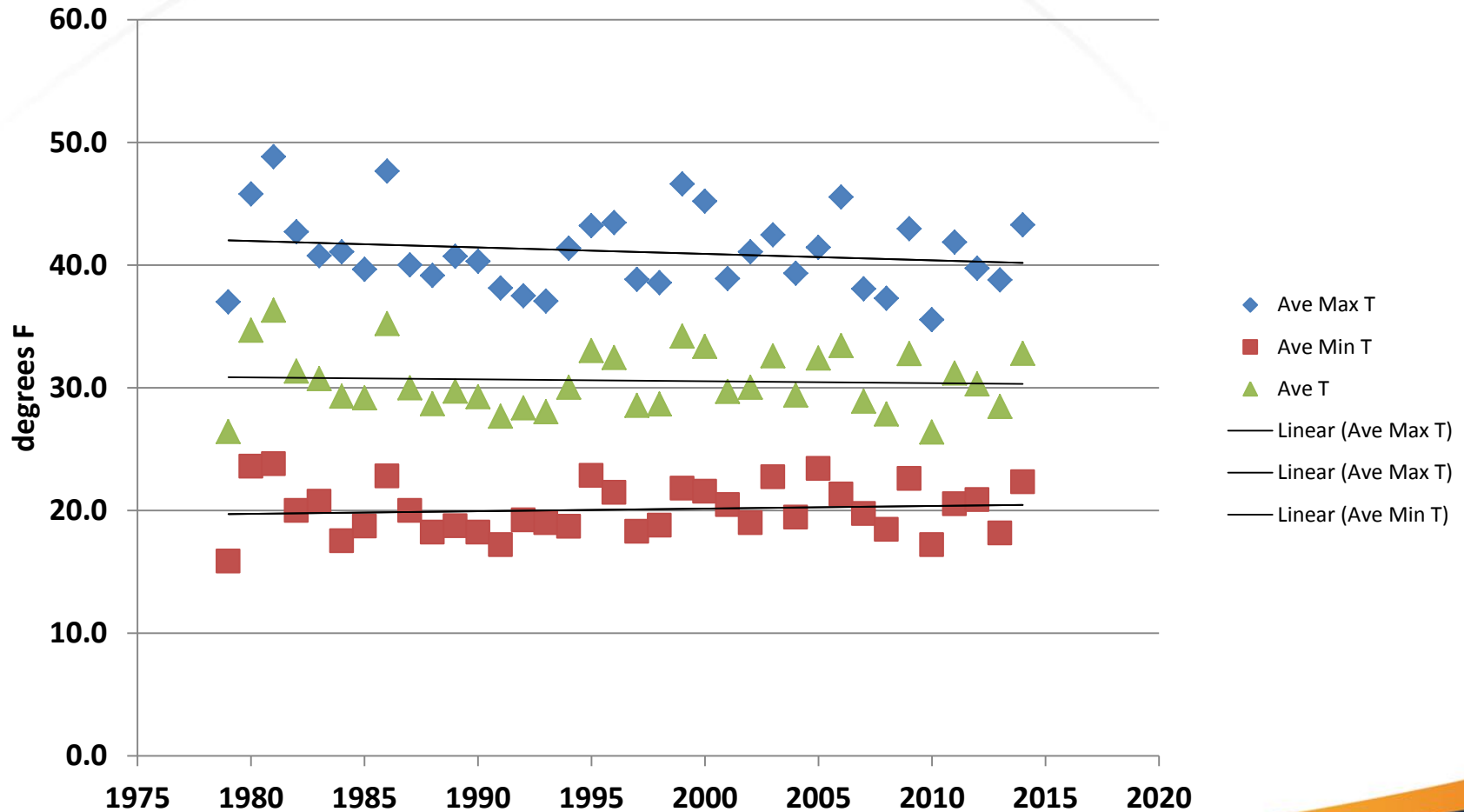
Los Alamos Decade Average Temperature with 2 * Standard Error



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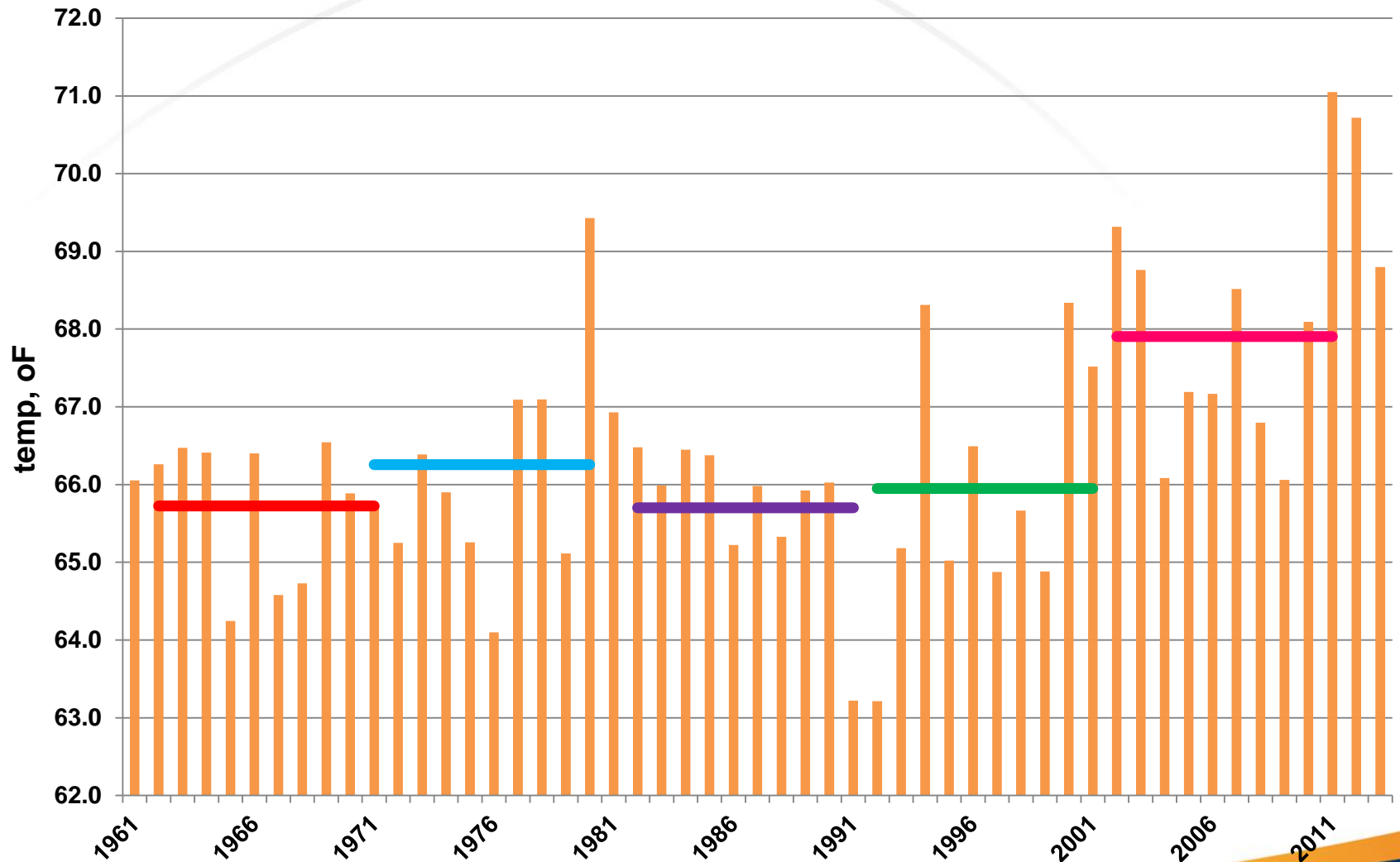
Is it the Summer or the Winter?

Los Alamos Winter Temperatures



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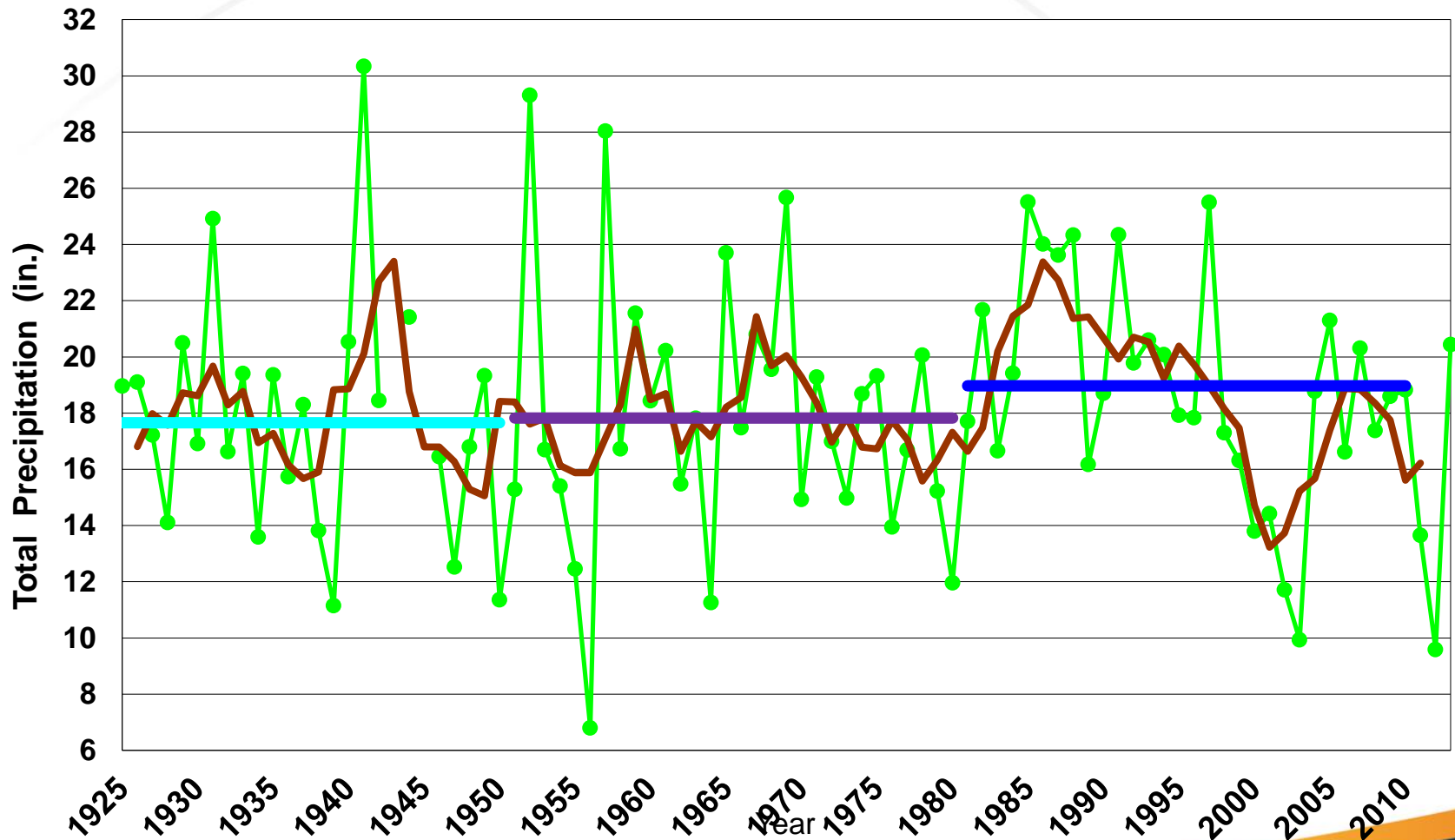
Los Alamos Average Summertime Temperature



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Los Alamos Annual Precipitation



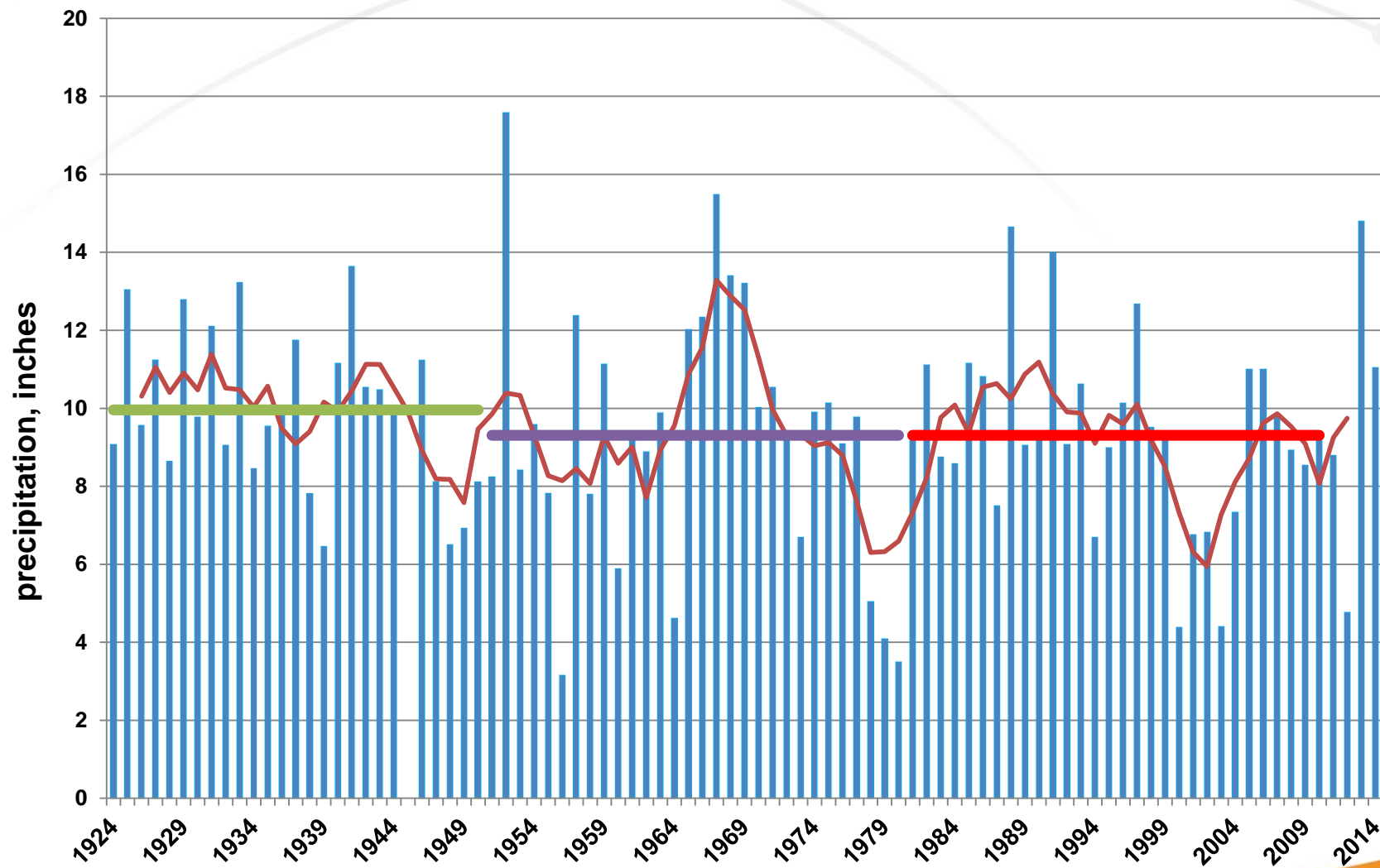
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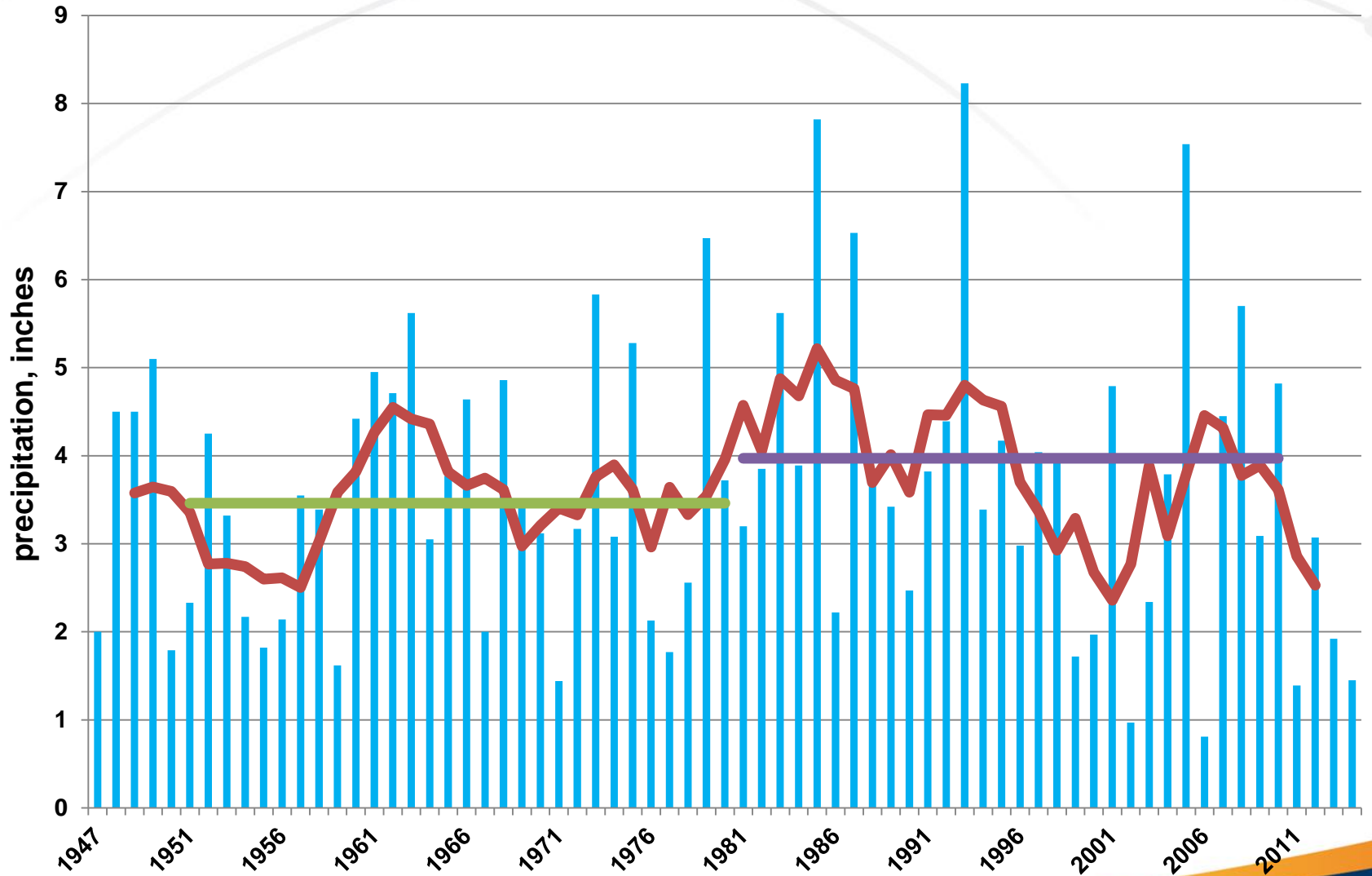
Los Alamos Monsoon Rainfall



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Los Alamos Winter Precipitation (Dec – March)



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LANL – Surface Roughness: before (& during!) fires



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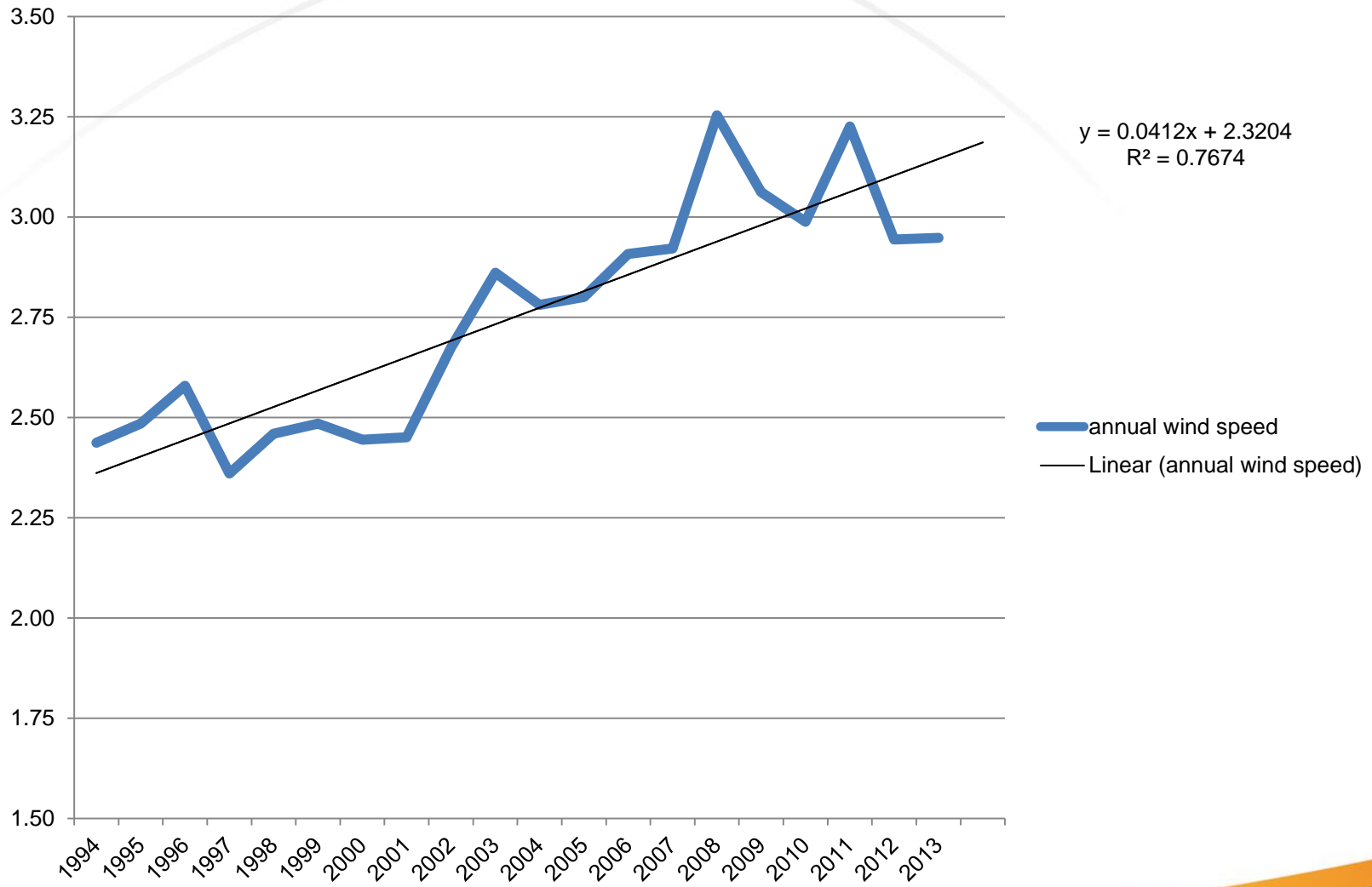
Northern boundary of Los Alamos- 2012



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TA-6 annual average wind speed

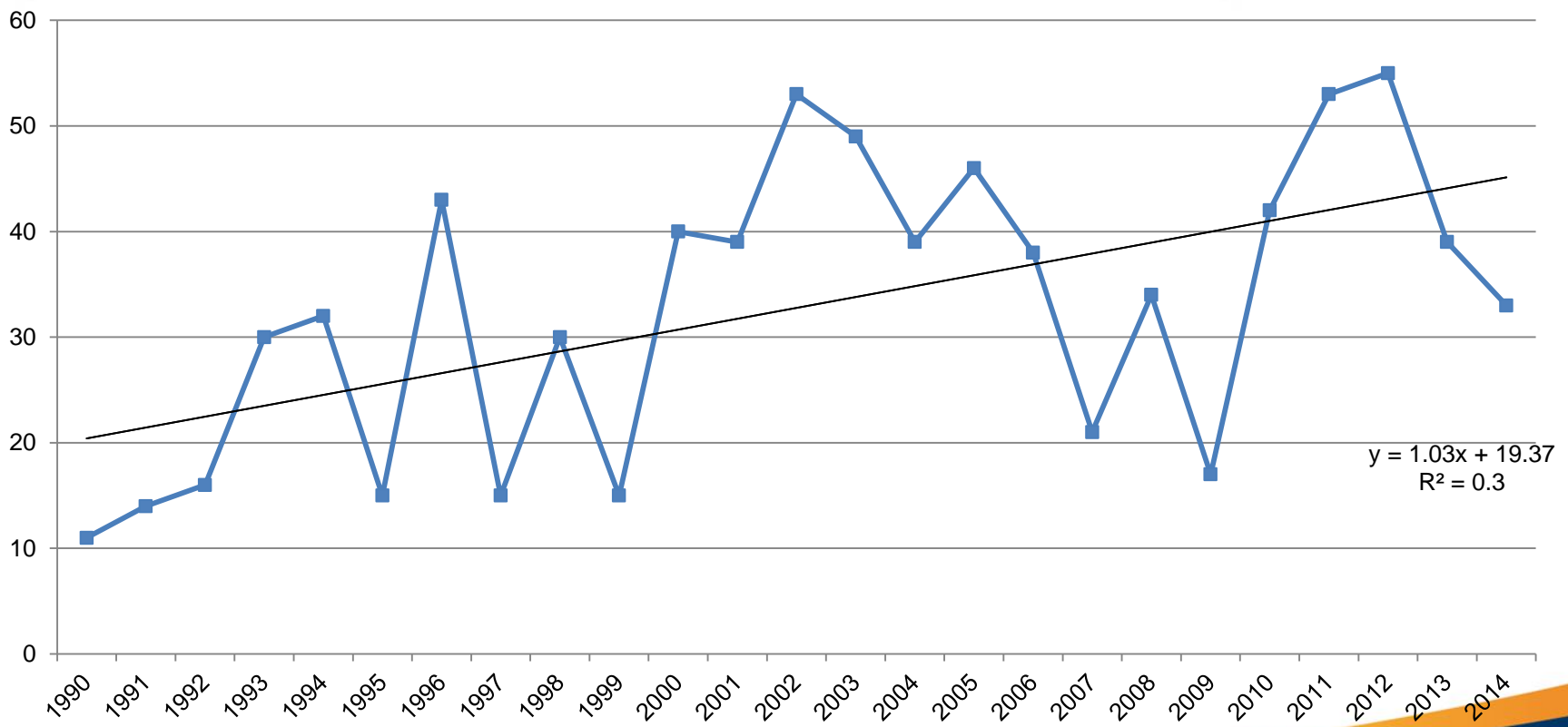


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Analog to NWS Red Flag Days - Los Alamos

of Red Flag (analog) Days

Gust > 20 mph: RH min < 15%

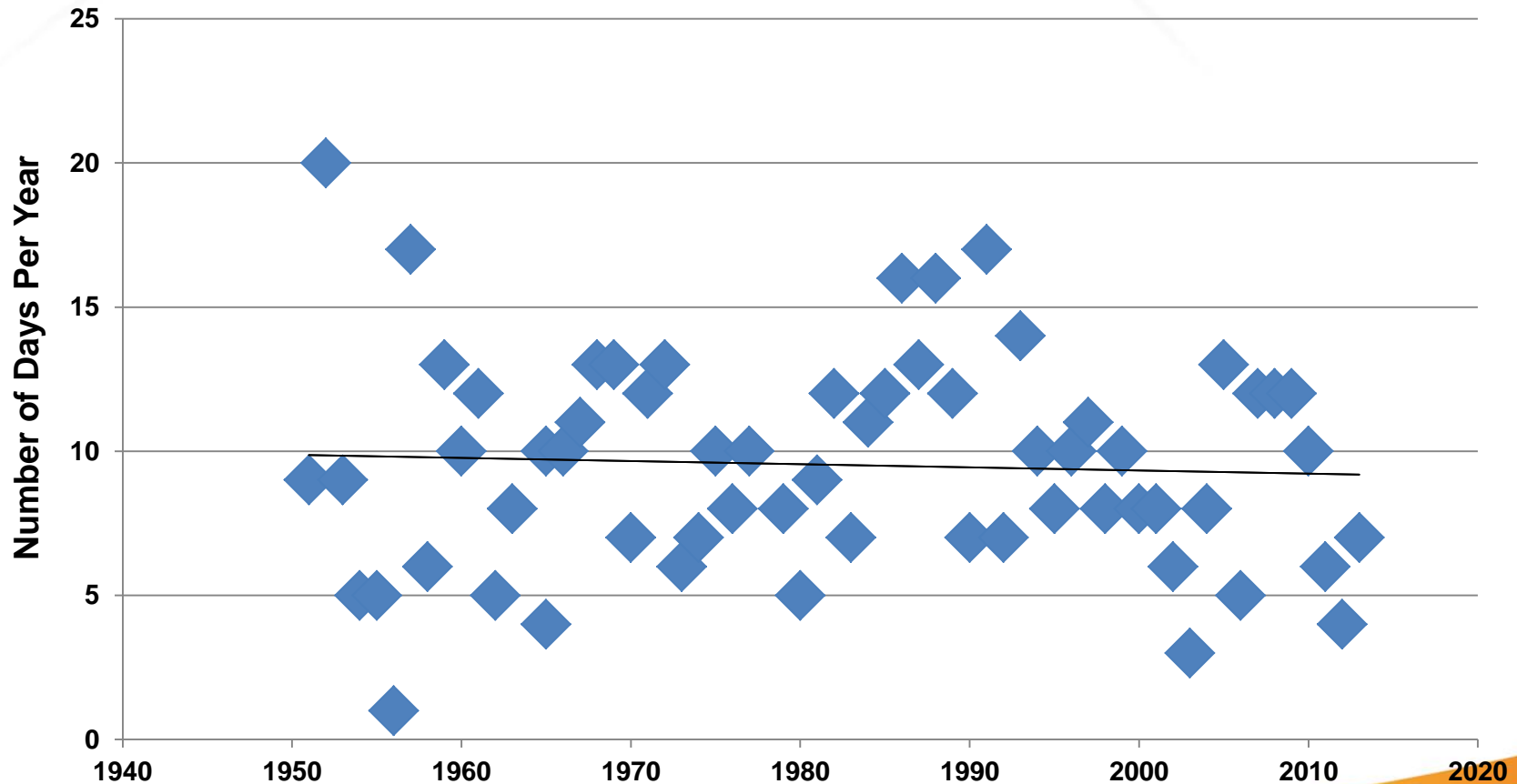


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Frequency of heavy precipitation events?

Los Alamos 24 hr Precipitation >0.5"



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Conclusion – at this time

- We do
 - measure an increase in temperatures, over the last 14 years – produced by summertime temperatures
 - measure increasing wind speeds consistent with decreased surface roughness

- We do not (yet) measure
 - a downward trend in annual precipitation
 - an increase in frequency of heavy precipitation

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Resources for Climate Change Adaptation

- NWS – Climate Resiliency Toolkit
- <https://toolkit.climate.gov/>

- Local Monitoring!
 - NM Climate Center <http://weather.nmsu.edu/>
 - CoCoRaHs <http://weather.nmsu.edu/cocorahs/>
 - NWS Co-op Station jason.frazier@noaa.gov

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