

# What's happening to Napa's Weather

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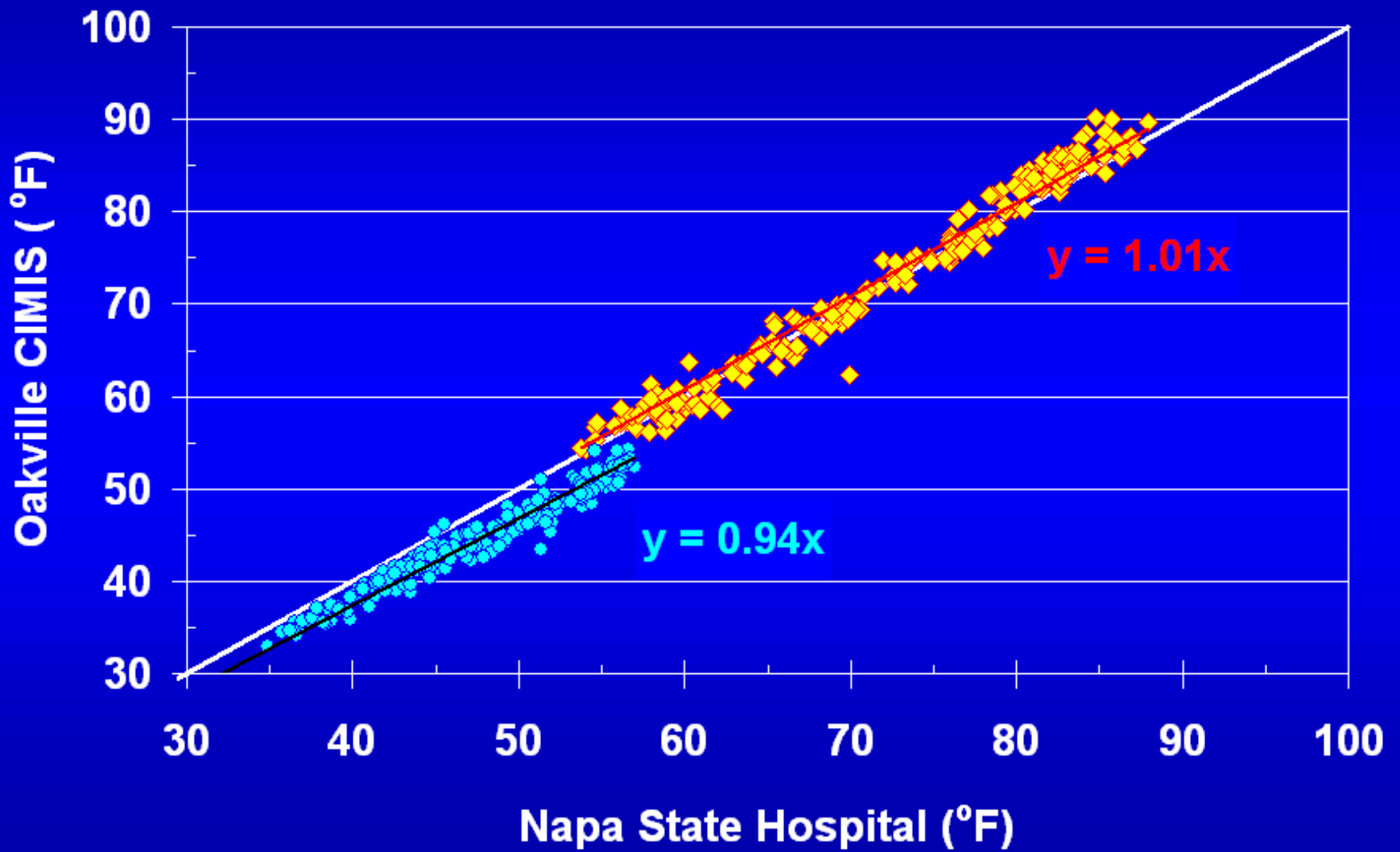
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# Climate Change Questions

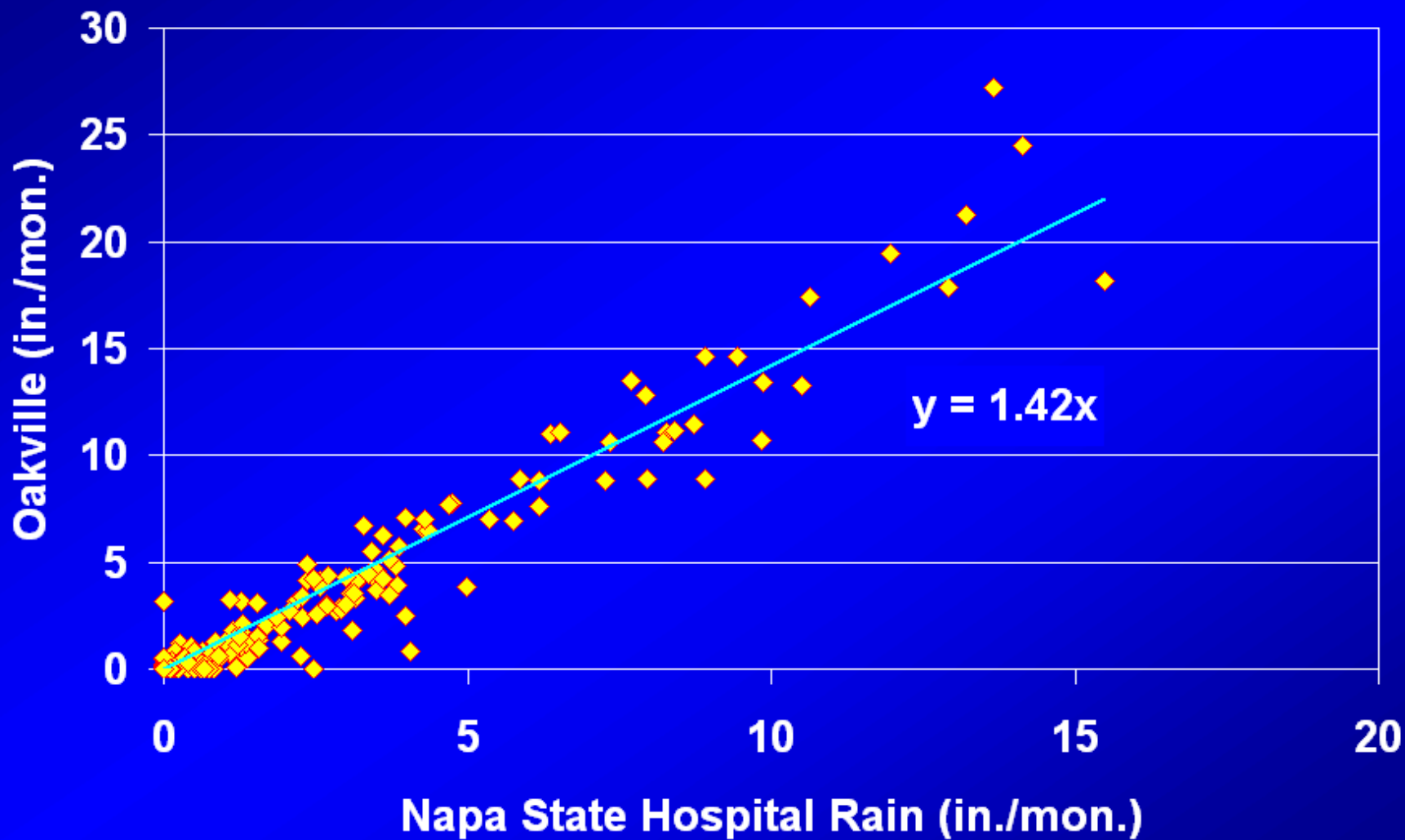
1. Is the global climate warming?
2. What will be the effect on Napa?
3. Do wine grape growers need to worry?
4. Can we predict what will happen?

1. Yes! The evidence is strong!
2. Nobody really knows!
3. Maybe! Extremes could get worse!
4. Can we forecast the weather next week?

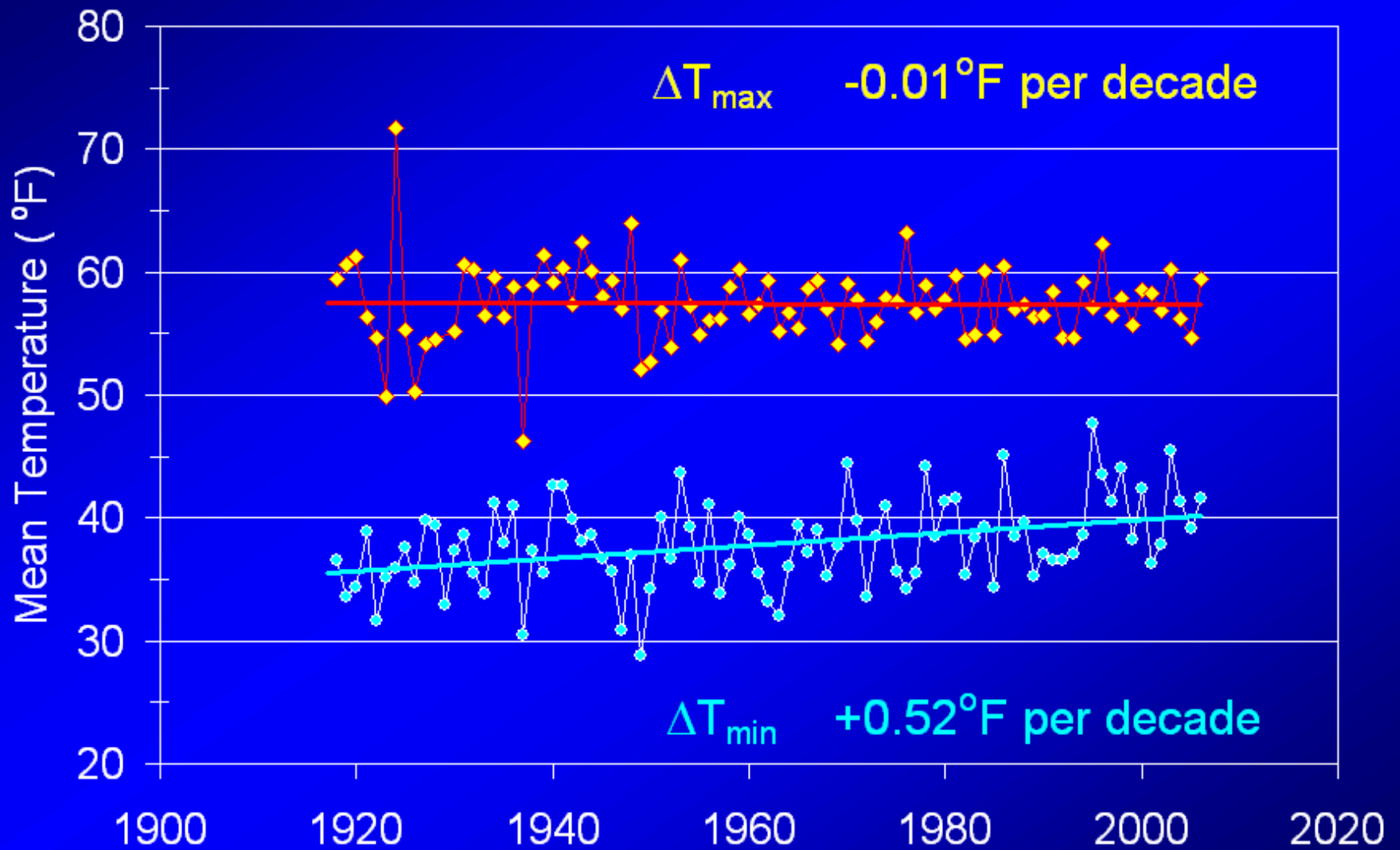
## Mean Max & Min Temperatures



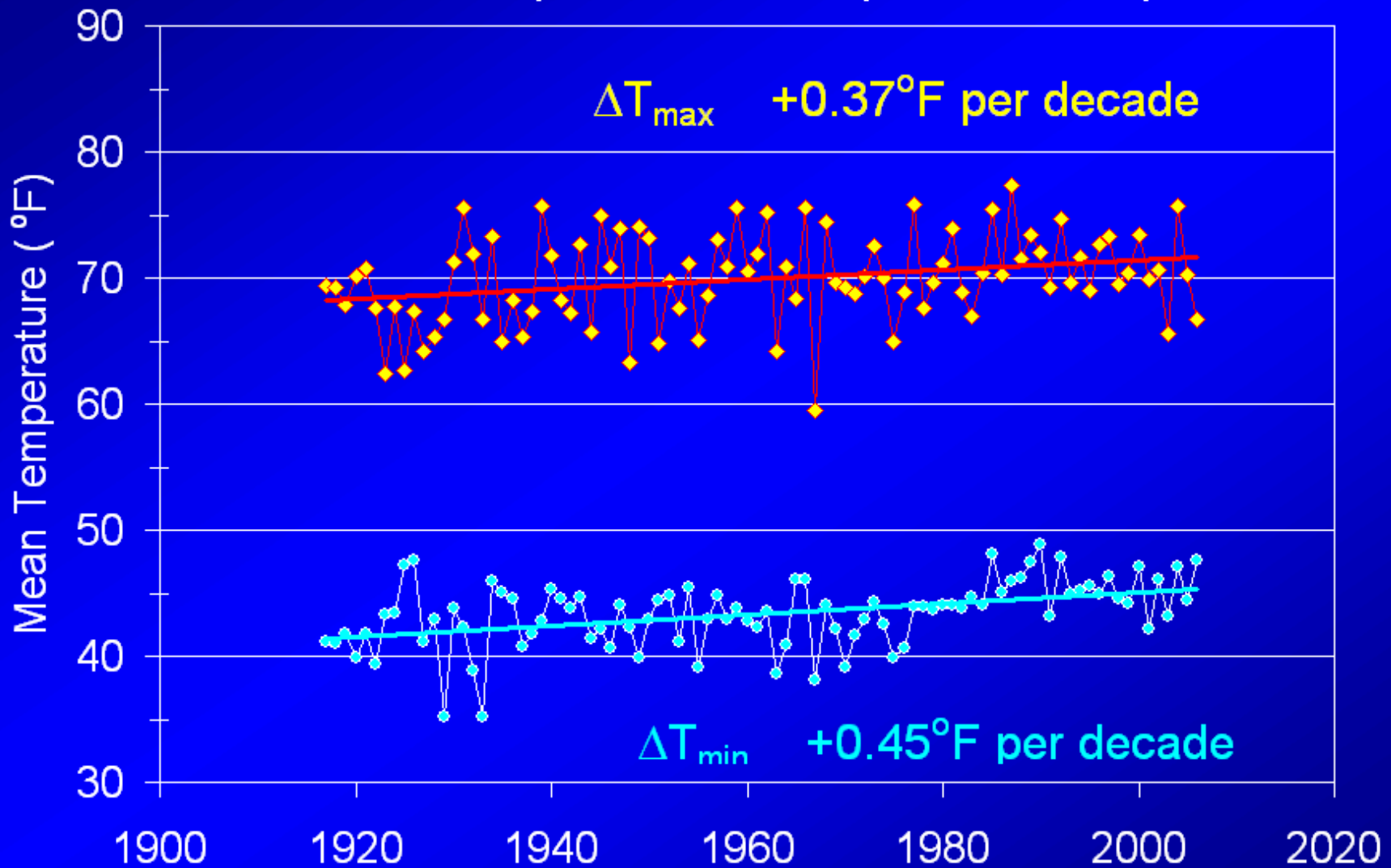
## Monthly Total Rainfall



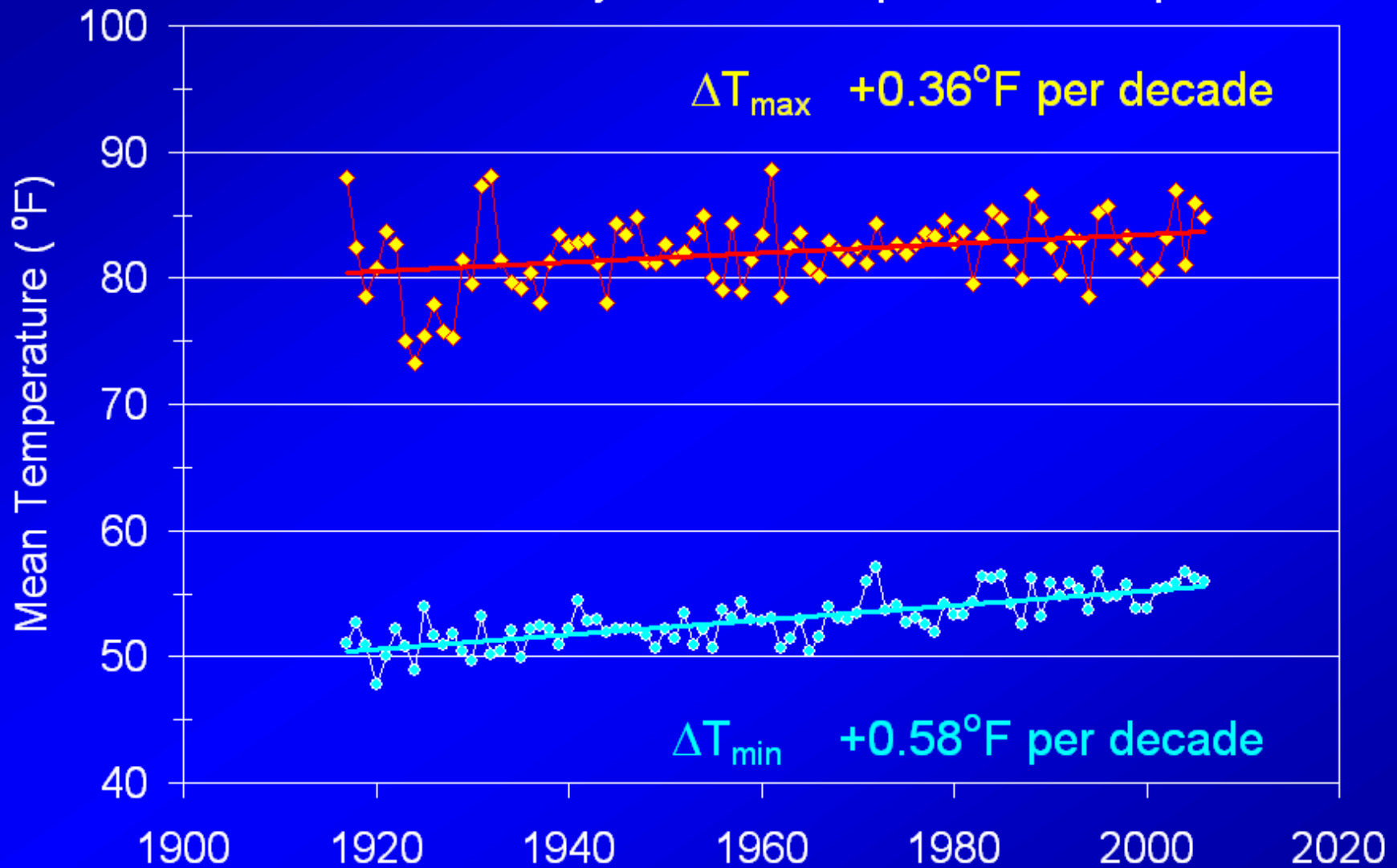
# 1917-2006 January Means - Napa State Hospital



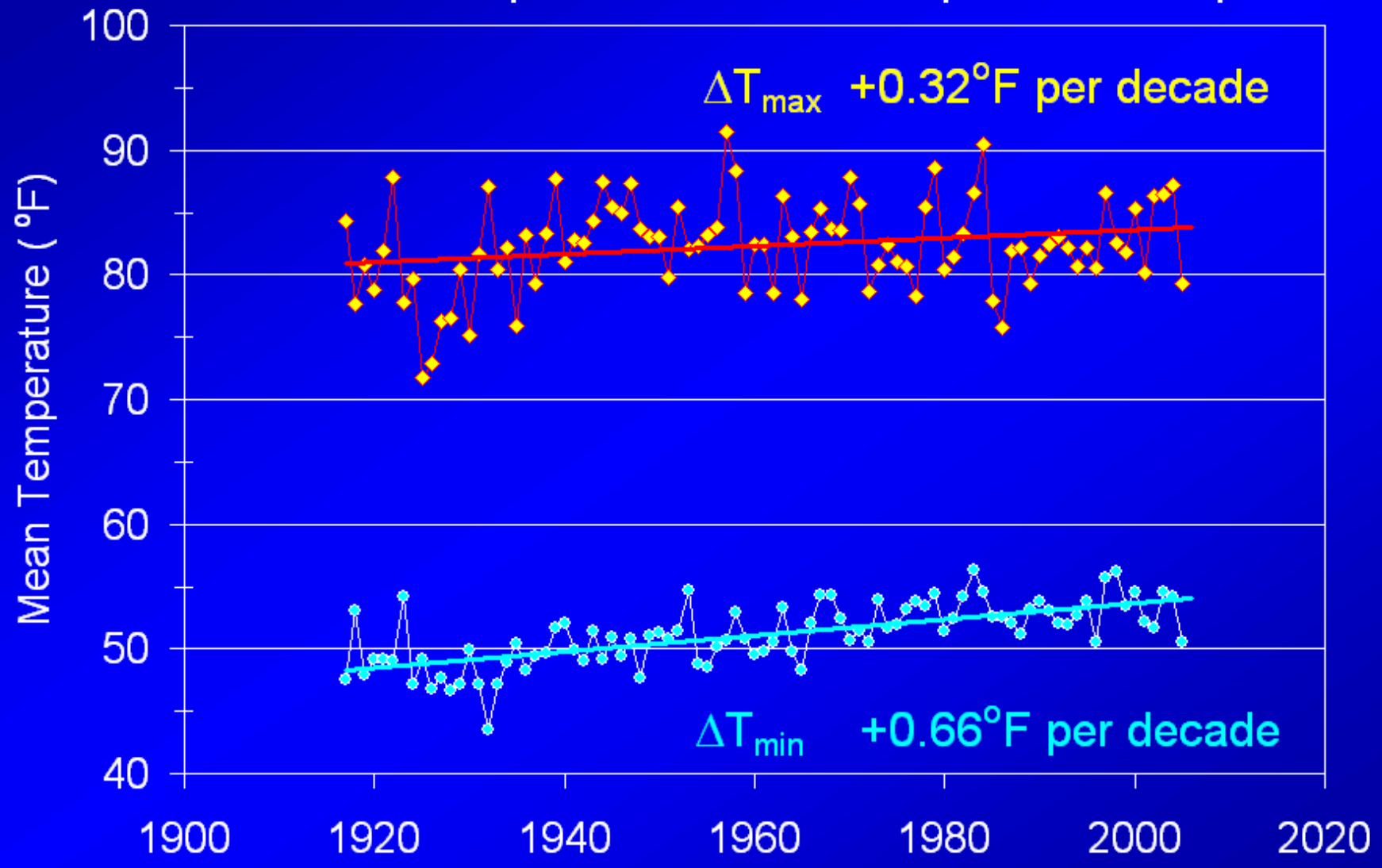
# 1917-2006 April Means - Napa State Hospital



# 1917-2006 July Means - Napa State Hospital



# 1917-2006 September Means - Napa State Hospital



$\Delta T_{\max}$  +0.32°F per decade

$\Delta T_{\min}$  +0.66°F per decade

# Extreme Temperatures (°F)

Month	High	Year	Low	Year
Jan	85	1962	19	1937
Feb	85	1948	23	1917
Mar	90	1955	23	1949
Apr	95	1921	27	1929
May	103	1950	30	1974
Jun	113	1961	34	1929
Jul	112	1972	38	1929
Aug	106	1998	37	1932
Sep	109	1944	36	1932
Oct	106	1980	28	1946
Nov	89	1921	25	1928
Dec	81	1967	14	1990

Napa State Hospital – 1917-2006

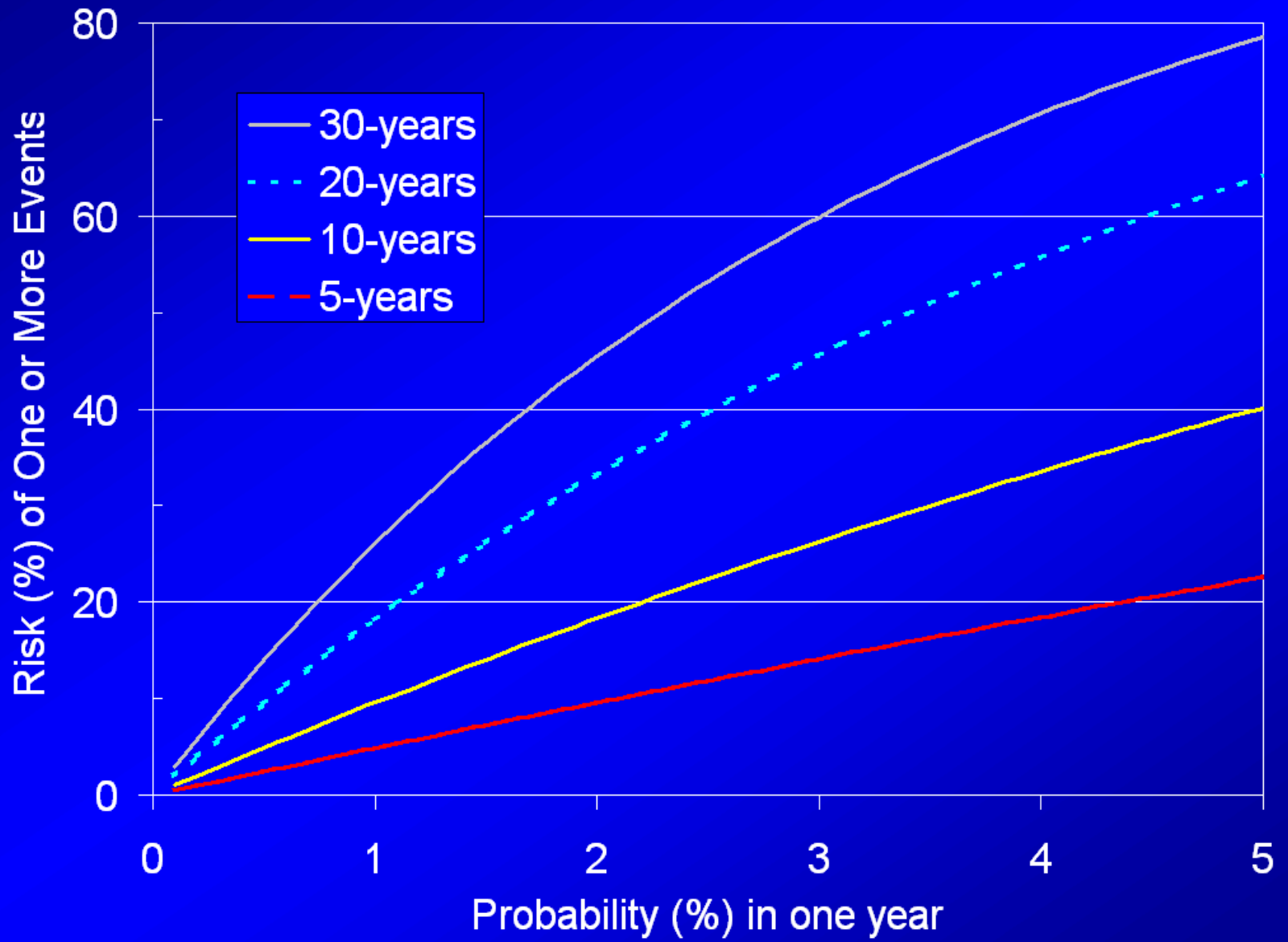
# Probability and Risk

## Probability

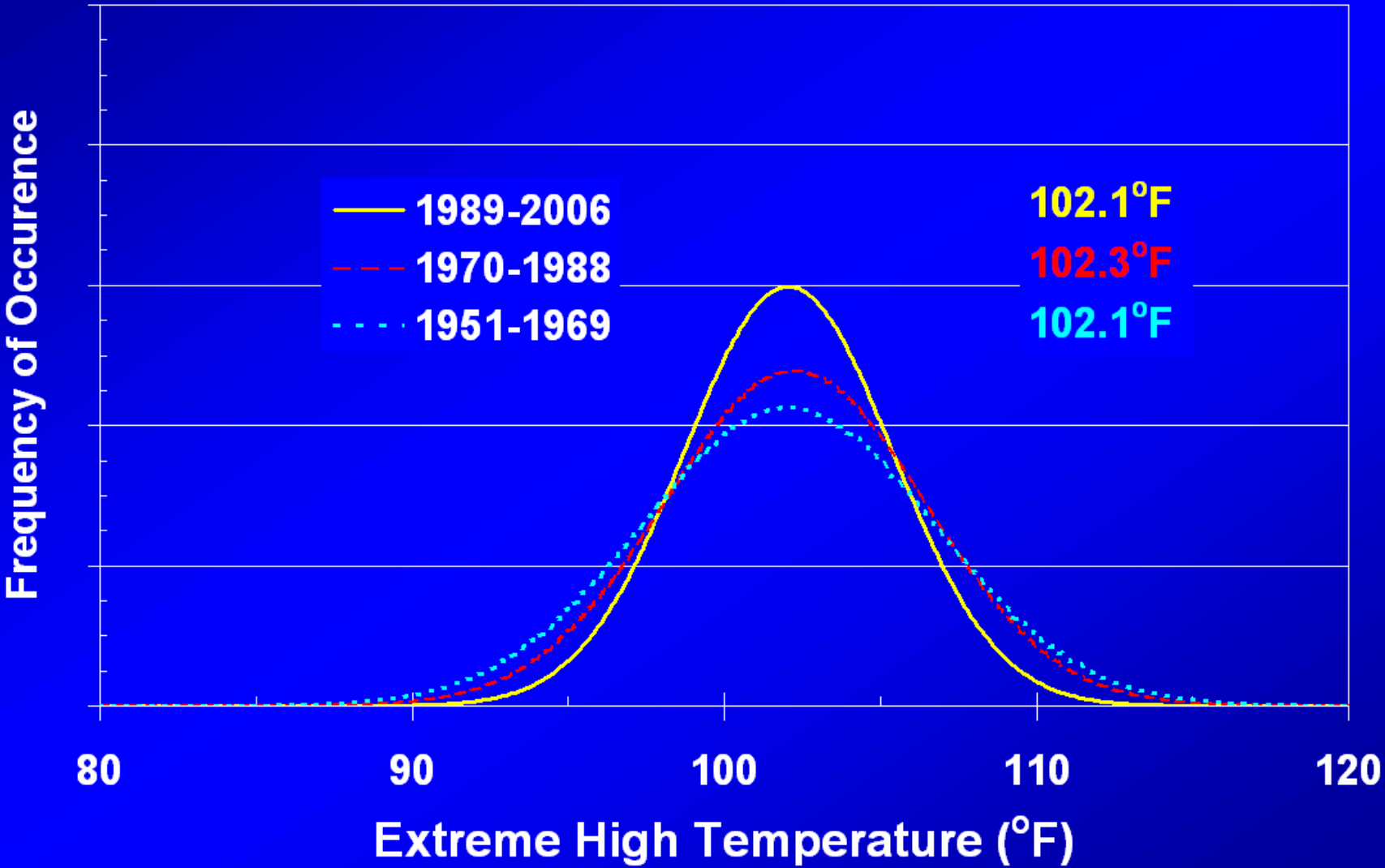
§ The chance that some extreme event might occur in any given year

## Risk

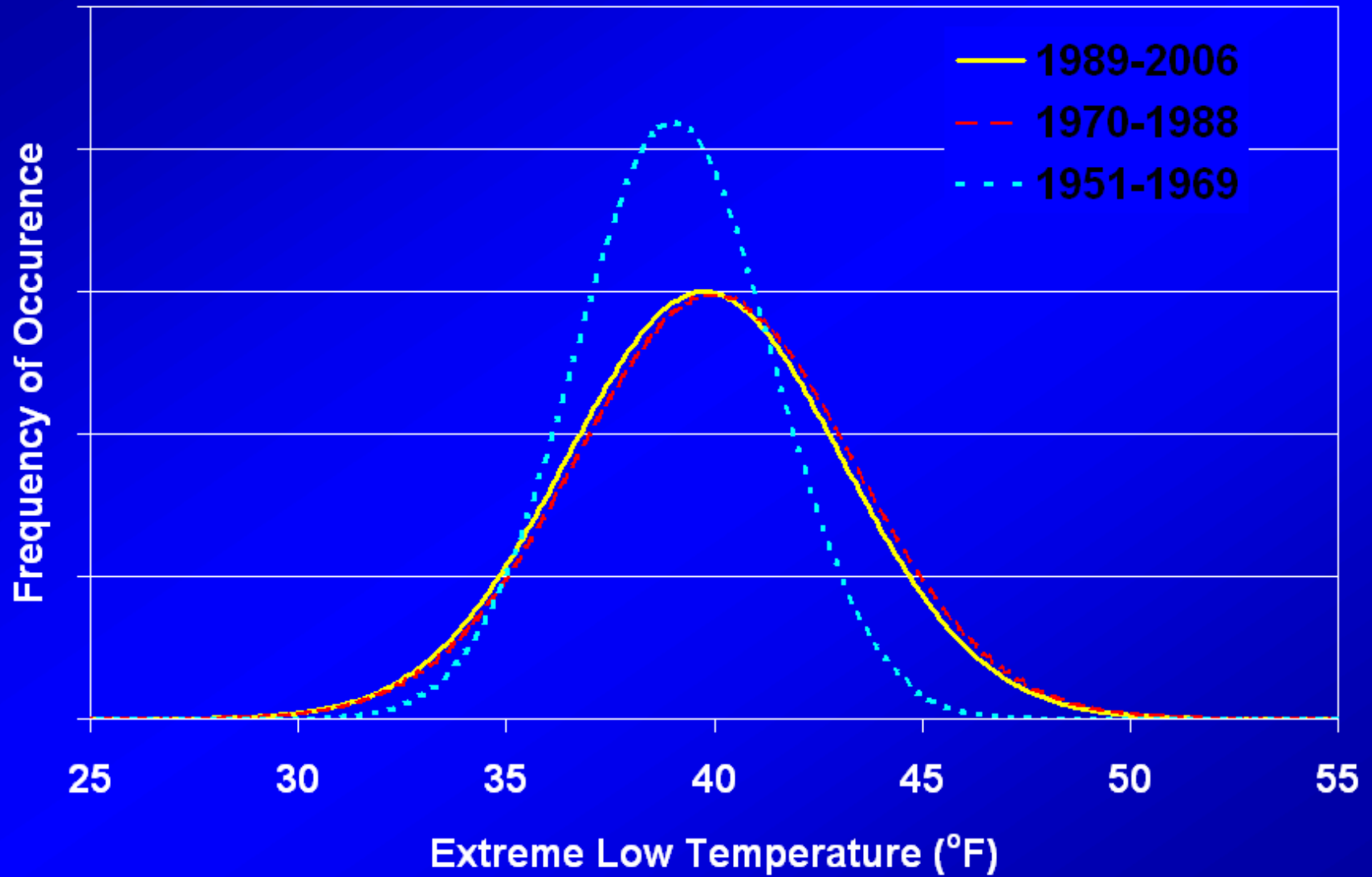
§ The chance that the extreme event might occur at least once within a specified number of years



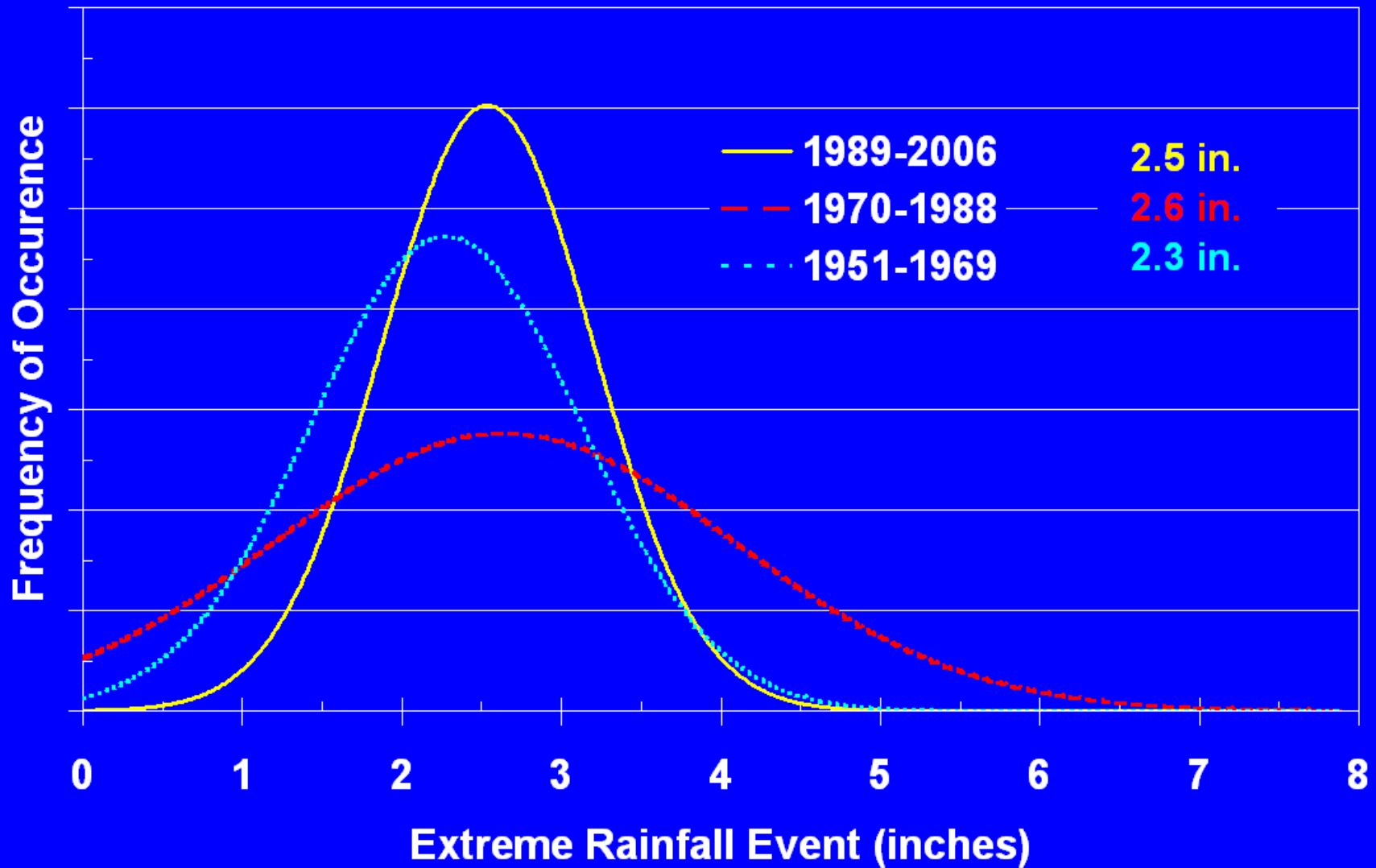
# Napa State Hospital June-August



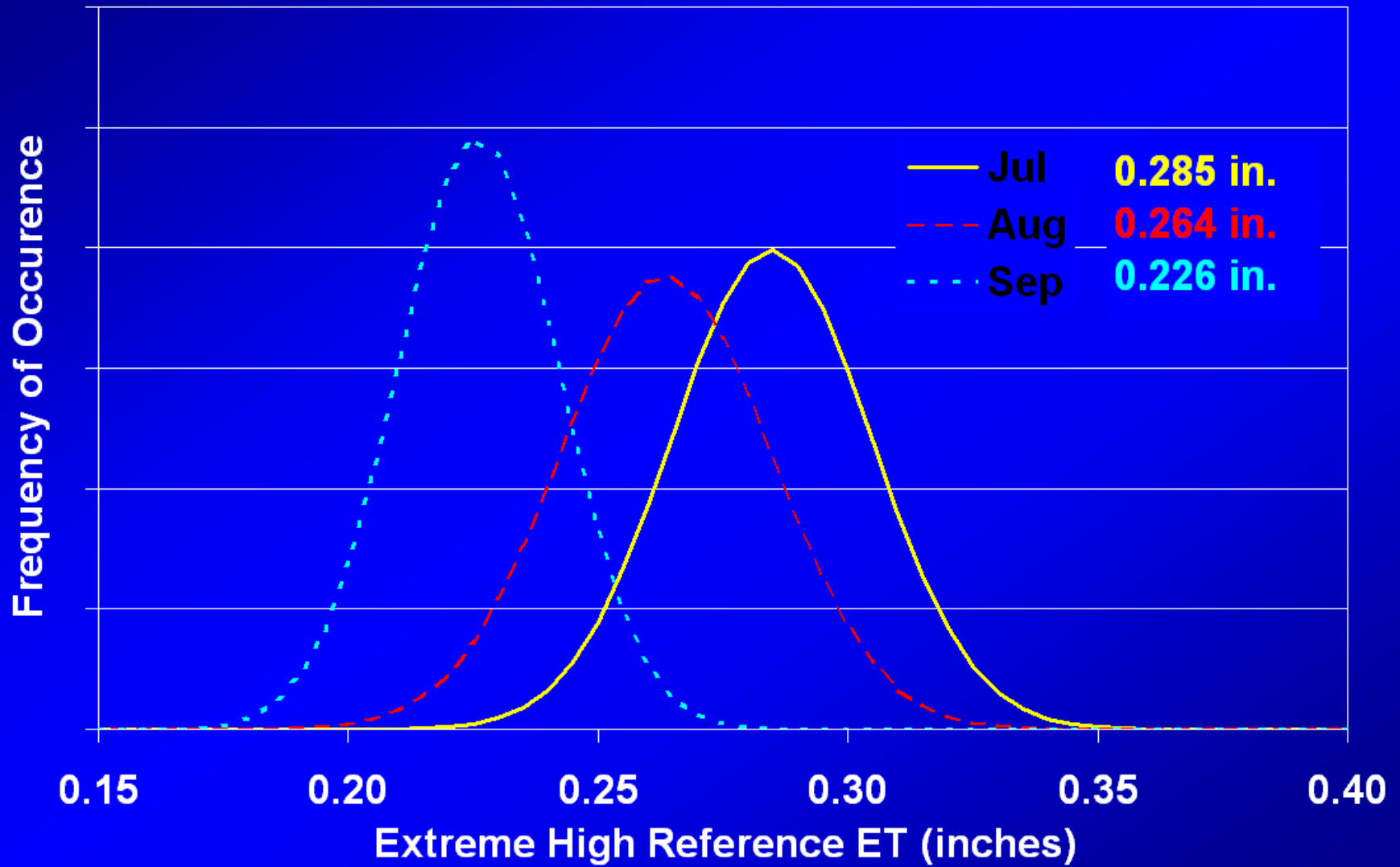
## Napa State Hospital September-October



## Napa State Hospital Annual Maximum Rain Event



## Oakville 1990-2006 Extreme High ET<sub>o</sub>



# Conclusions

- Probability of extreme events is more important than changes in the means.
- Risk of extreme events within a period of years is higher than the probability in any given year.
- The risk of Extreme High Temperatures (Jun.-Aug.) decreased slightly after 1988
- The risk of Extreme Low Temperatures (Sept.-Oct.) has not changed much since 1970
- The risk of Extreme Rainfall Events decreased after 1988.

# Thanks

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