

“Improving Impact-Based Seasonal Outlooks for South Central Texas”

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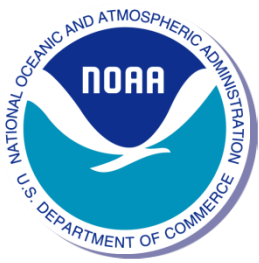
Meteorology

Weather-Ready Nation

NWS San Antonio/Austin Weather Forecast Office

Larry Hopper and Mark Lenz, co-mentors

August 2017

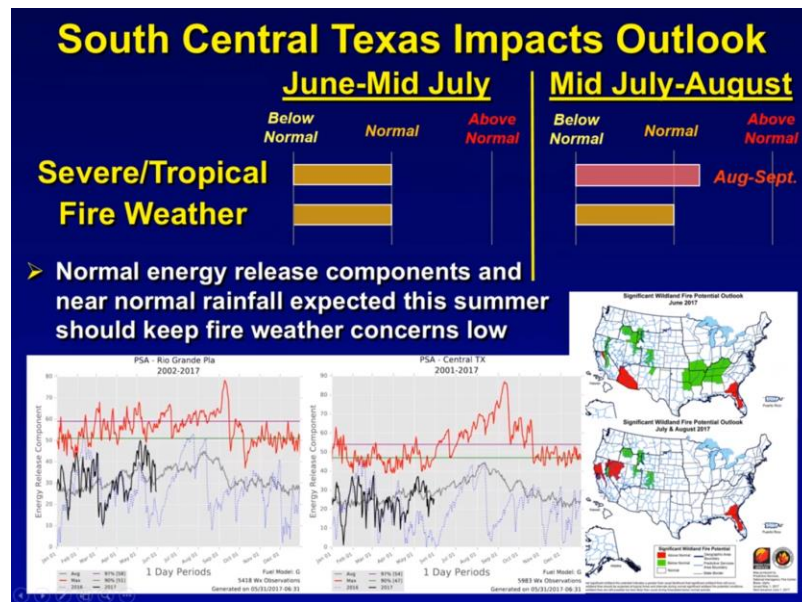
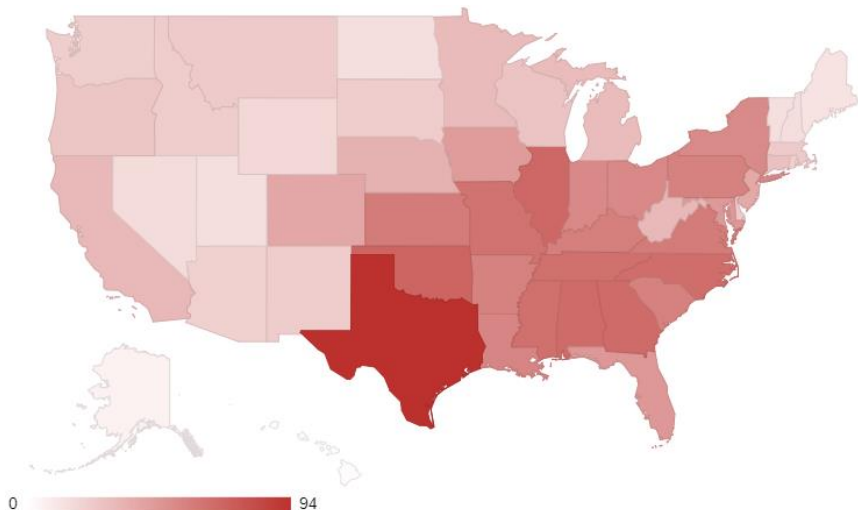


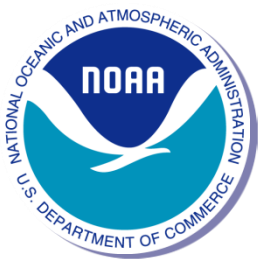
Outline

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Motivations

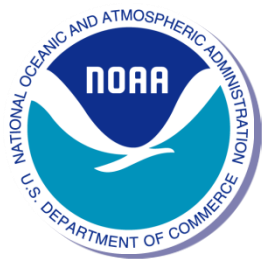
- As of July 7, 2017, Texas leads the U.S. in CPI-Adjusted Billion-Dollar Weather and Climate Disasters
 - Record drought and subsequent flooding, most catastrophic wildfires and costliest hailstorm in state history since 2010
- Beginning fall 2015, EWX produced quarterly seasonal outlooks for stakeholders to inform potential for upcoming season to be above normal, near normal, or below normal





Objectives

- Events:
 - Severe Weather
 - River and Flash Flooding
 - Fire Weather
 - Winter Weather
- Subjective vs. Objective forecasting
- Verification indices made for each weather and climate event
 - Modified Heidke Skill Score
 - Ranked Probability Score



Background

- Separation into winter (DJF), spring (MAM), summer (JJA), fall (SON)
- List all relevant co-collaborators, i.e. other students, your mentors and co-mentors, etc.
- Describe the approach or methodology
 - What assumptions were made
 - What is the anticipated outcome



Results

- Discuss the results of your project.
 - Was there a new finding? If so, describe and discuss its application in NOAA.
 - Did your project contribute or support a larger NOAA effort?
 - How did your project enhance existing knowledge or research in the NOAA office?



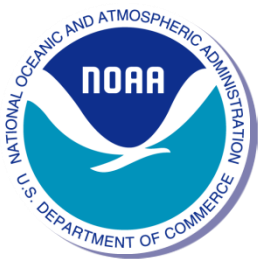
Summary

- Summarize your project and results.



Next Steps

- James Bruce Morehead Award at OU
 - Expand to individual states, Southern Plains
 - Integration into experimental developments of seasonal severe weather forecasts made by the SPC and CPC
 - Meeting with WFO DTW to discuss application of winter weather process to regions with more experience
- Use PRISM gridded data to eliminate assumptions made in using climate divisions
- Add downriver streamflow as an indicator to river flooding

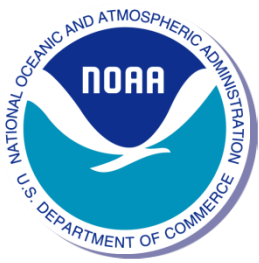


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and many others who I bounced ideas off of the past several months.



Works Cited

- NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2017). <https://www.ncdc.noaa.gov/billions/>