

What will the future hold?



Pine Plantation Research and Decision Support Tool Rollout

May 16-17, 2017 Athens, GA



United States
Department of
Agriculture

National Institute
of Food and
Agriculture

Historical Context



Earth has been around for a while



There has been a lot of change at the regional scale



And Change at the global scale



Our experience is MUCH shorter



Sumerians (Edith and Howard)



Approximately 3300 BC

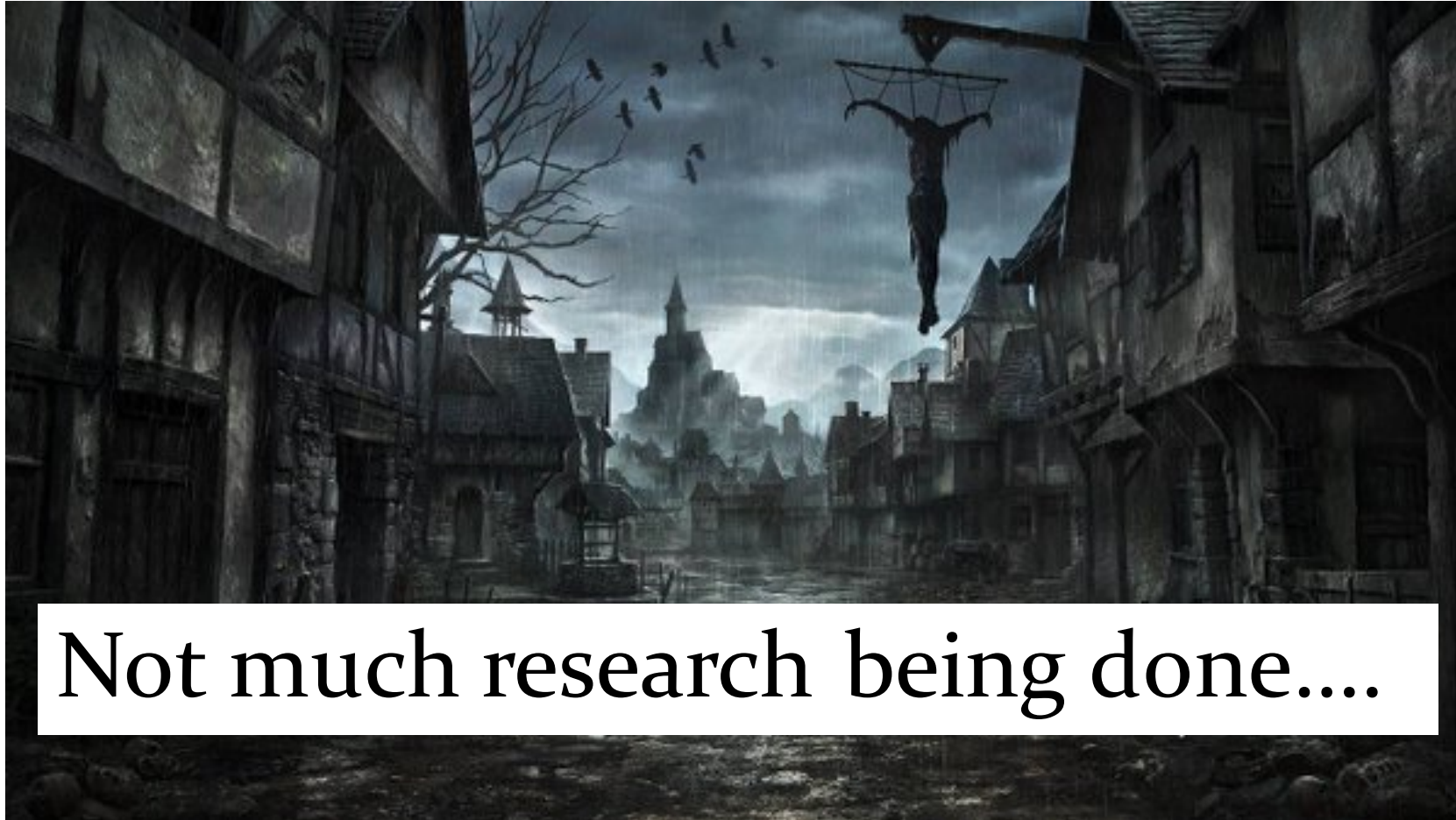
Aristotle

natural philosophy



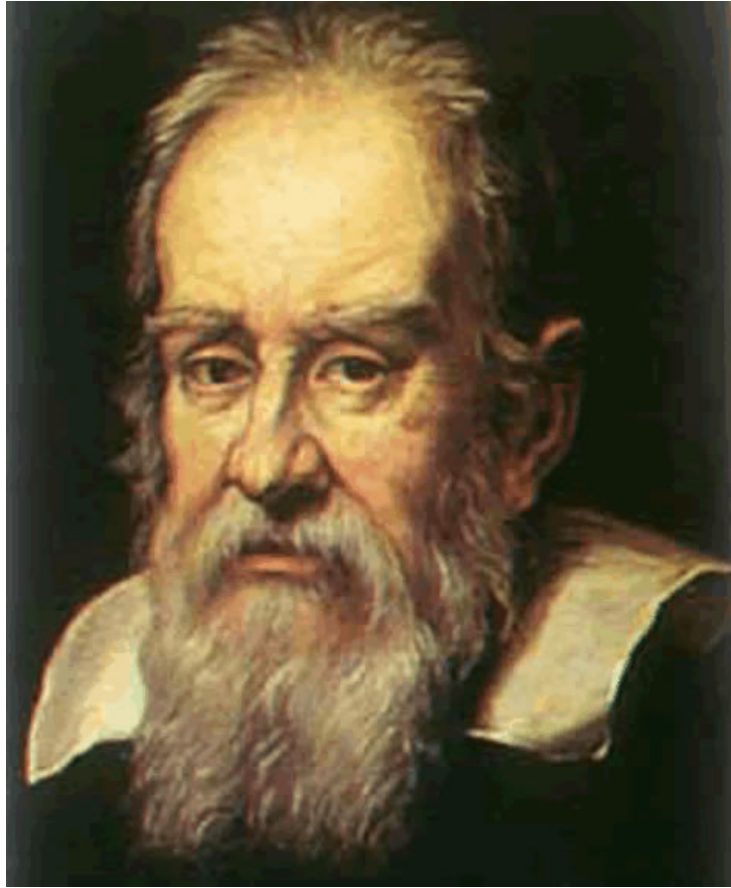
4th Century BC

The Dark Ages

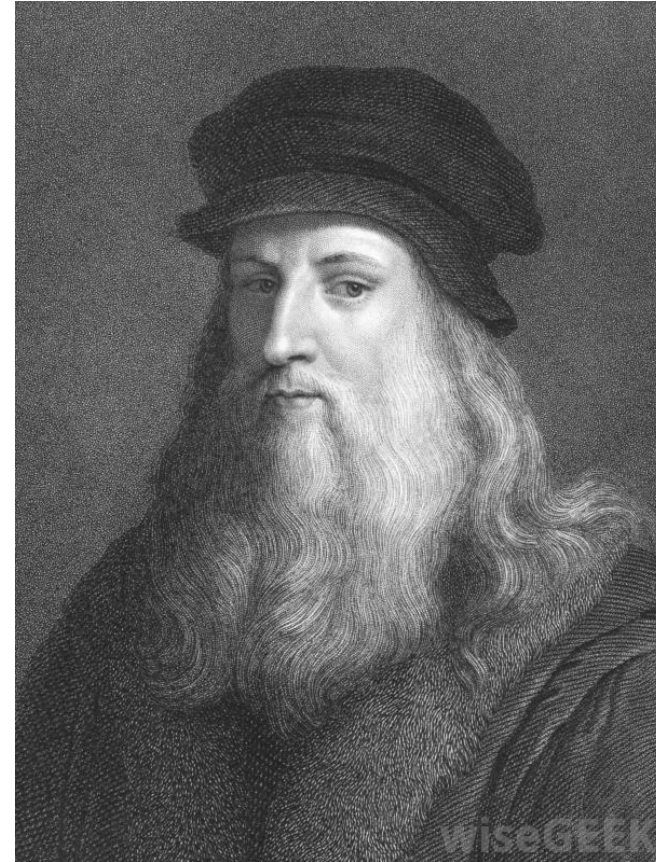


Not much research being done....

Beginning of modern study (and great beards) 15th Century



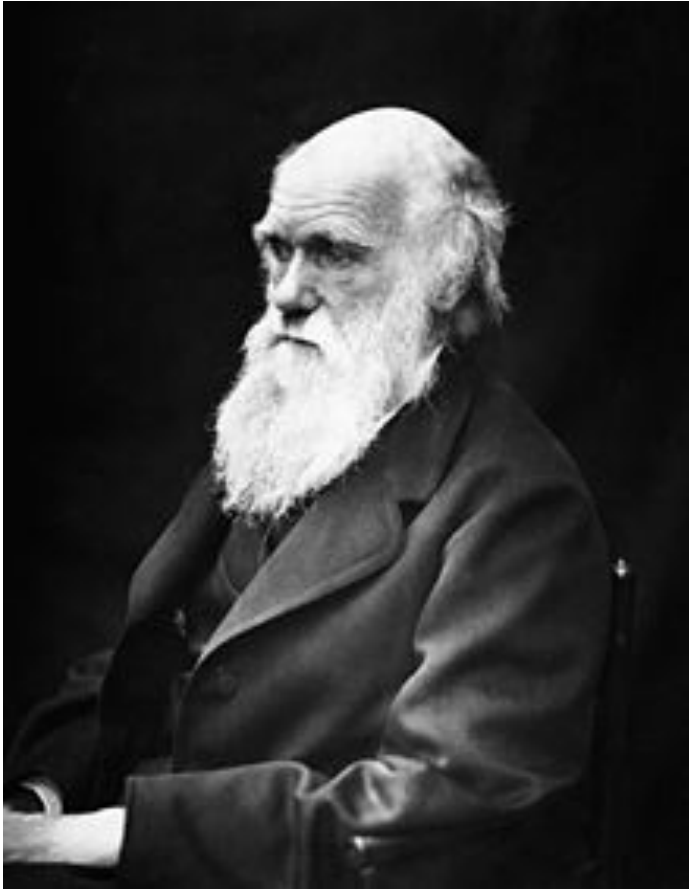
Galileo



Da Vinci

Darwin

19th Century

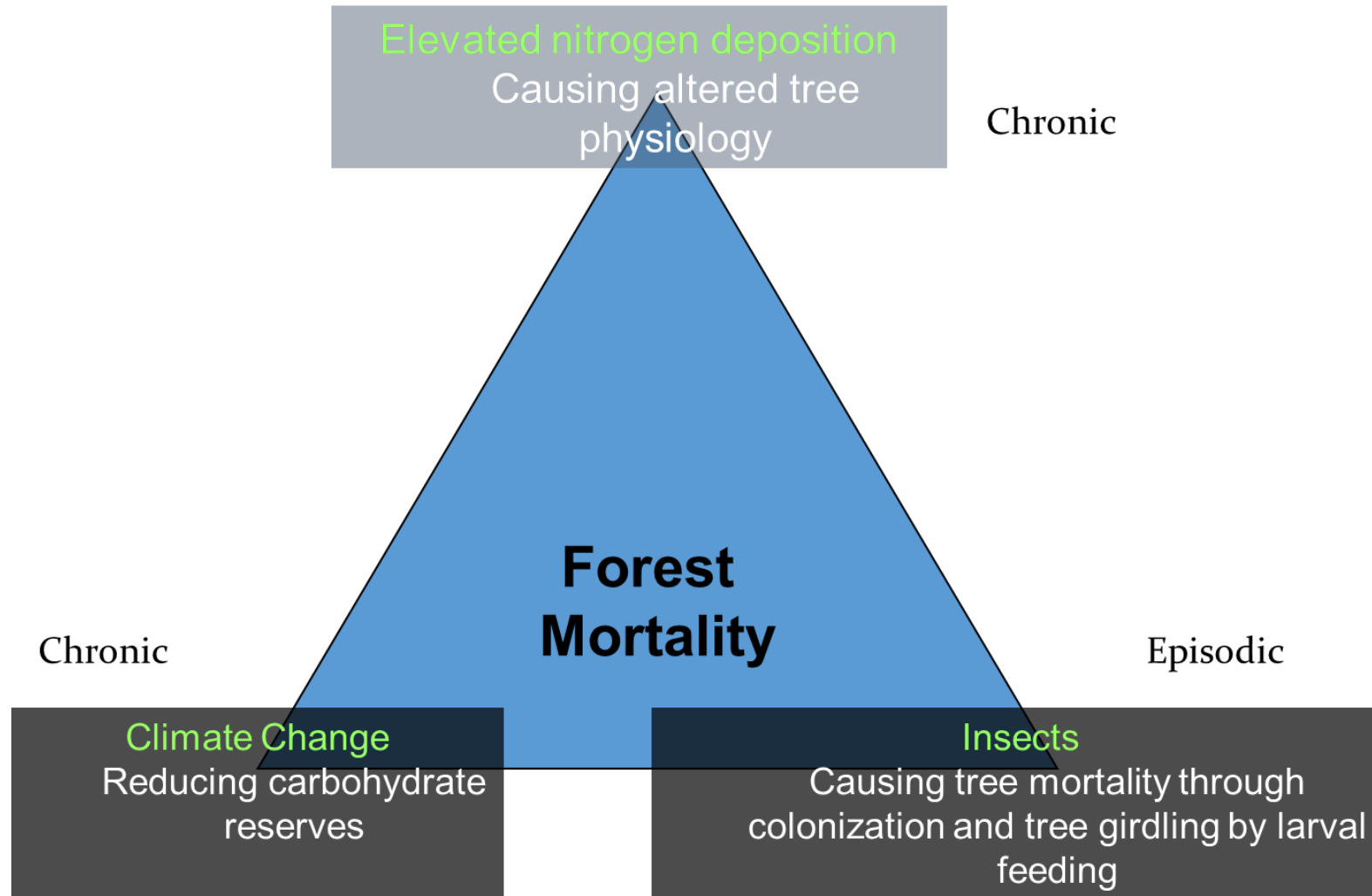


NCC - 638
U.S.S. BEAGLE

BEAGLE CLASS

DETAILS OF THIS VESSEL ARE CURRENTLY UNAVAILABLE
DUE TO MEMORY ALPHA SUB/SS6 UPGRADE
AND MAINTENANCE

Great need for additional understanding of interactive environmental stress impacts



So...

That gives us less than 200 years of
real environmental study

That could be a problem

A really big problem



Because....

“As we know, There are known knowns. There are things we know we know. We also know. There are known unknowns. That is to say we know there are some things We do not know. But there are also unknown unknowns, the ones we don't know we don't know.”



Donald Rumsfeld Feb. 12, 2002
Department of Defense news briefing

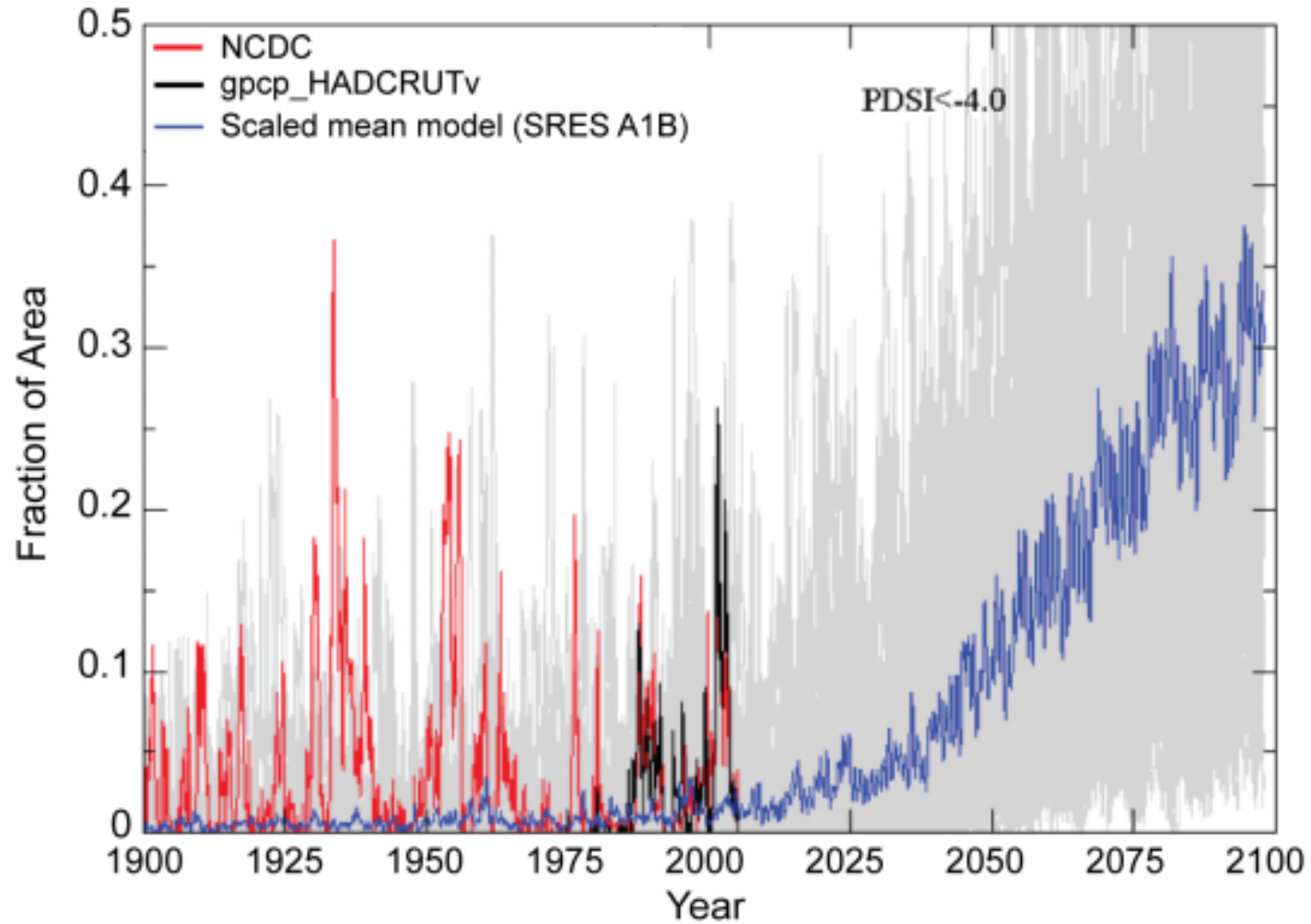
This may be not be unusual, just unusual in human experience



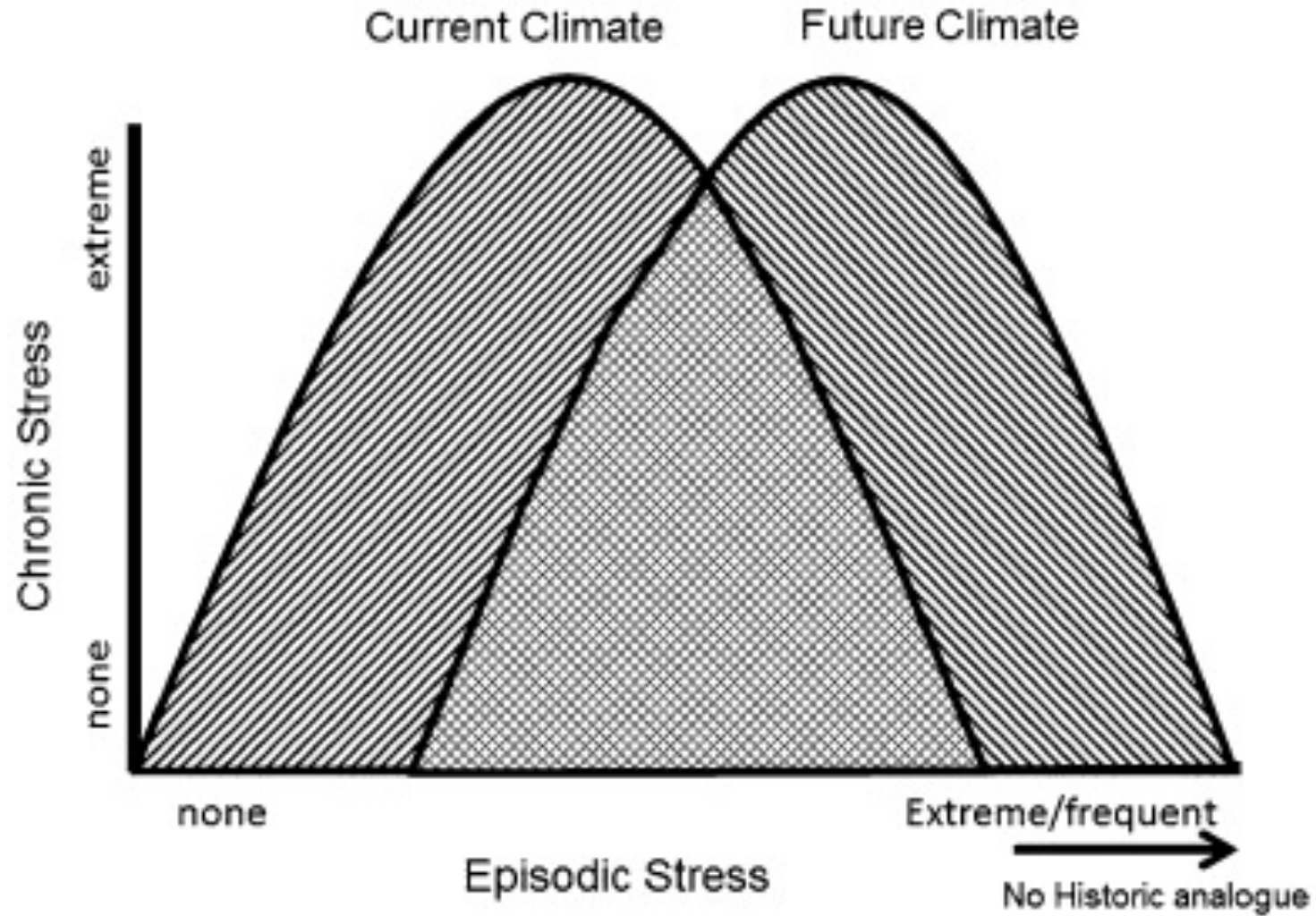
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Extreme Drought in the U.S. and Mexico, Past and Future



Stable chronic stress, but increasing episodic stress?



A shift in administration philosophy regarding climate change?

Yes and No

	Is the climate Changing?	Is Natural Resource Sustainability important?	Are humans responsible?
Obama	YES	YES	YES
Trump	YES	YES	Probably NOT



Interviewer: ... sir, most science shows that climate change is a fact. Do you agree with that statement?

Perdue : I agree that climate change is a fact.

From a interview with Perdue on April 28th, when Agric. Sec. Perdue was asked about climate change.



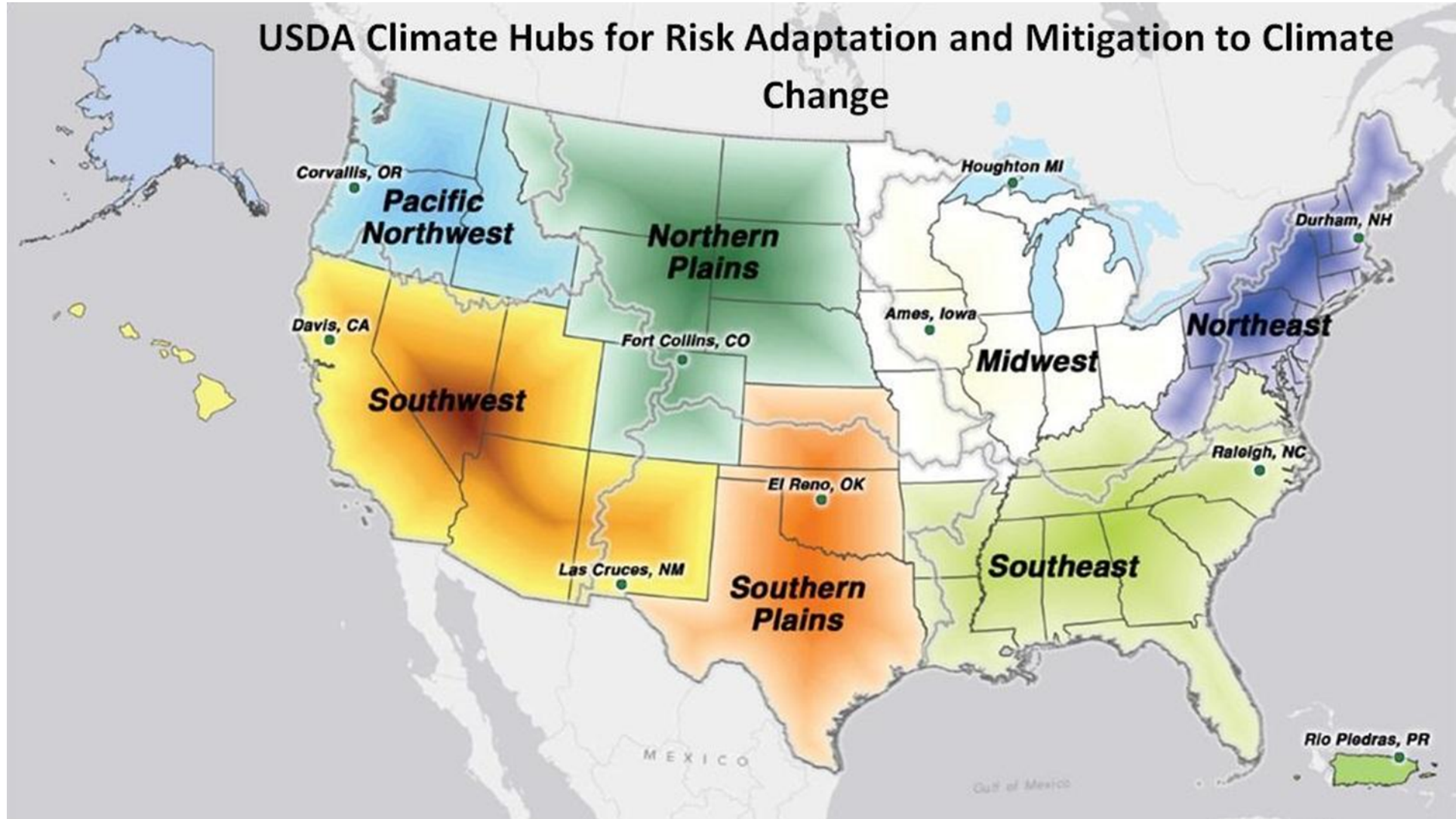
I think the real controversy about climate change and what we do...If you go back and look at my record in Georgia, we had an energy policy of which a large portion of that was dealing with climate change. I've been on a farm since the early '50s and I can tell you the climate is changing. But the fact of what the cause of it is really what is in dispute. In some of the things we've done from manmade causes I think are very unproductive. So the science, we don't know definitively in my opinion what is causing climate change.



Many people feel like from a scientific basis that it's settled. I don't agree with that. I think we still need to pursue the things that we conduct. As governor and as secretary of agriculture, I believe there are things that we can do that makes sense to contribute to clean water, clean air and a better environment on our farms, in our fields, in our forests that we ought to do irrespective of what the cause of climate change is. And that's what we'll be doing.



USDA Climate Hubs for Risk Adaptation and Mitigation to Climate Change



Climate variability impacts on Forestry

- Timing of controlled burning
- Opportunities to log wet areas
- Planted seedling survival
- Growing season wildfire risk
- Catastrophic wind damage
- Southern pine beetle epidemics
- Conflicts with metropolitan and agricultural water demand



Needs include

- Better forecasting of seasonal climate
 - for ordering seed type
 - for harvest and planting schedules
 - for controlled burning
- Better forecasting of local conditions
- Better alert systems



Opportunities

“The reason a lot of people do not recognize opportunity is because it usually goes around wearing overalls looking like hard work”

Thomas A. Edison



What are the Climate Hubs doing?

- Develop and Deliver Tools
 - Connect land managers with useful tools to assist with adaptation and mitigation
- Regional Vulnerability Assessment
 - Connect land managers to the science
- Partner with LGUs and Extension
- Outreach and Education
 - Leading workshops and continuing education
 - Outreach to extension, Farm Groups, Forestry Groups, Tribal Groups



Regional Priorities

- Timely delivery of climate hazard and risk information and tools at the right spatial and temporal scales
- Demonstrations to test and communicate the best adaptive management strategies
- Partner with extension, consultants, and conservationists to communicate climate information to land managers



Developing land manager tools

- SERCH is working with other federal, state and private organizations to develop practical tools that land managers can use to increase their resilience to climate variability and change. Examples include
 - Agroclimate
 - SERCH LIGHTS
 - Tool shed
 - Instructional webinars



Conservation and ecosystem stress are not new issues

— PALOUSE, WASHINGTON
FRIDAY, OCTOBER 4TH, 1963

FEDERATED WOMEN'S CLUBS TO CONVENE

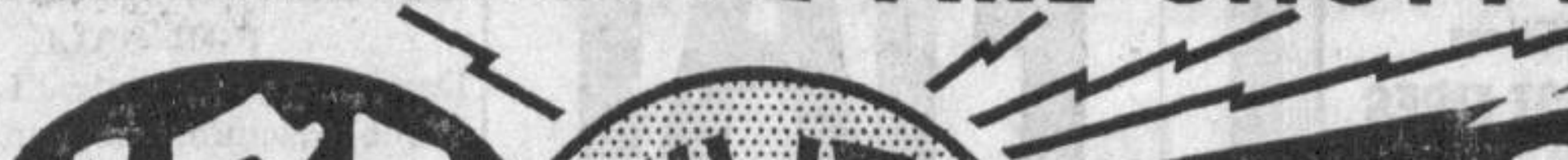
The Northeastern District Federation of Women's Clubs will hold the 93rd semi-annual convention in Colville on Saturday, Oct. 12 with the theme: "Conservation For a Better Tomorrow." A coffee hour will begin at 8:45 a.m.

and the closing time will be at 3:00 p.m. Clubs will answer roll call with three minute reports on projects planned for conservation. The noon luncheon will be held in the Congregational church. W. H. Ibenthal, forest supervisor of Colville National Forest, will be the featured speaker and show a film on "The Impact of National Forests on Living Conditions in N. E. Washington."

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present a program
direction of Mrs. M
of Rosalia.
Mrs. Albert Zellme
port, district president.
side. First vice president
W. A. Lund, Spokane



MORE PEOPLE ARE SHOPPING



Randi

