

Communicating Climate Trend Information: Come Prepared!

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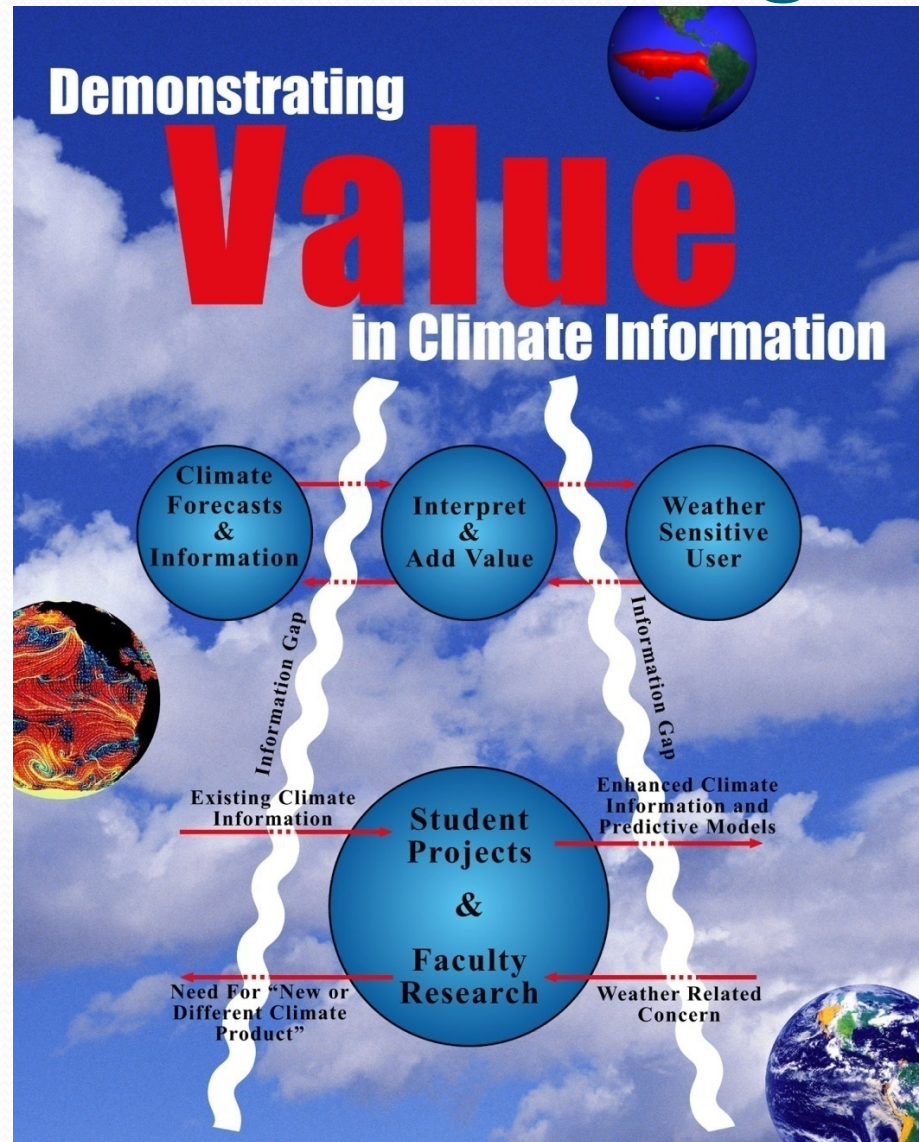
Dave...why the pictures?



First question: Who is my audience?

- How scientific 'savvy' are the people you are communicating with?
- Why are they interested in climate trends?
- If I tell them something, will they understand me and be able to repeat what they learned to someone else?
- What should be the main message conveyed based on our conversation (i.e., most people will remember one or two points). How should that point(s) be made?

Changnon's background in Communication: Working w/users.





Prepare for your conversation...

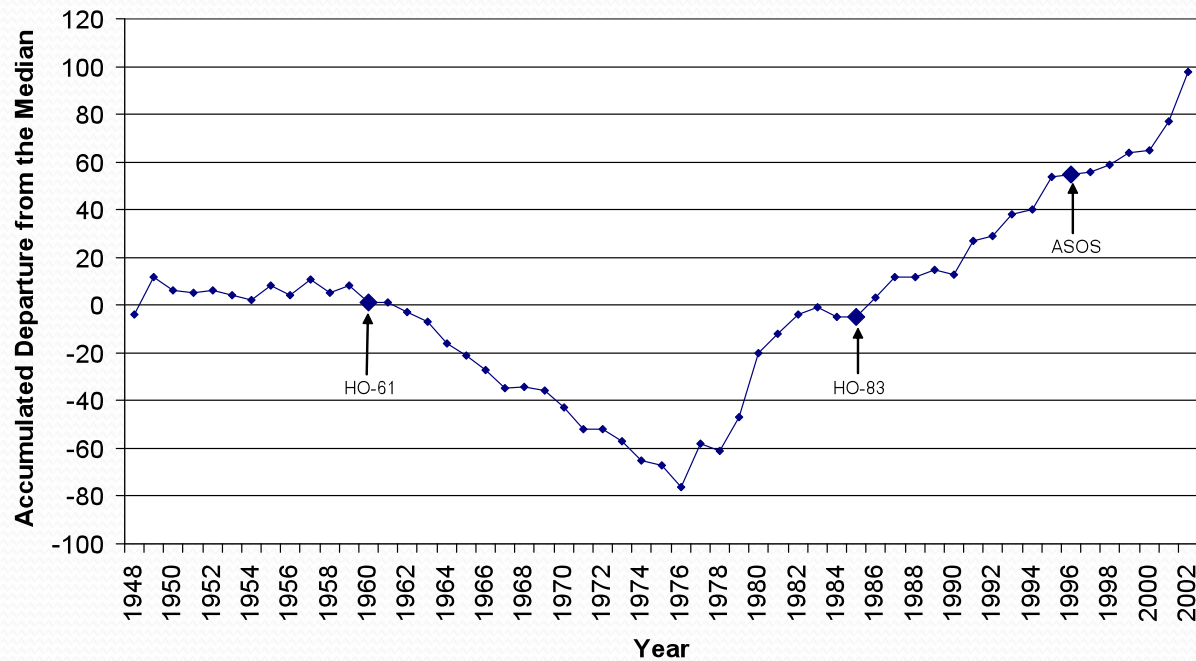
- Data, Data, Data...
- Identify analyses that can communicate necessary information.
- Use care in interpreting results.
- Use appropriate levels of uncertainty when trying to explain trends (if attribution information is requested).
- This is a ‘story’ you want them to remember!



Understand your data: The basics...

- Know where data were measured (e.g., manned or automated surface station, remotely sensed, etc.)
- Determine whether changes to instruments measuring various weather variables had occurred (e.g., station moved, instruments replace, calibration record, etc.) and what if any impact that could have on climate trends.
- How much data were missing and if missing data were estimated, provide approach/technique used.
- *Communicate your confidence in the data sets you work with...* If decision maker sees issues with your data then he/she will be reluctant to use the information.

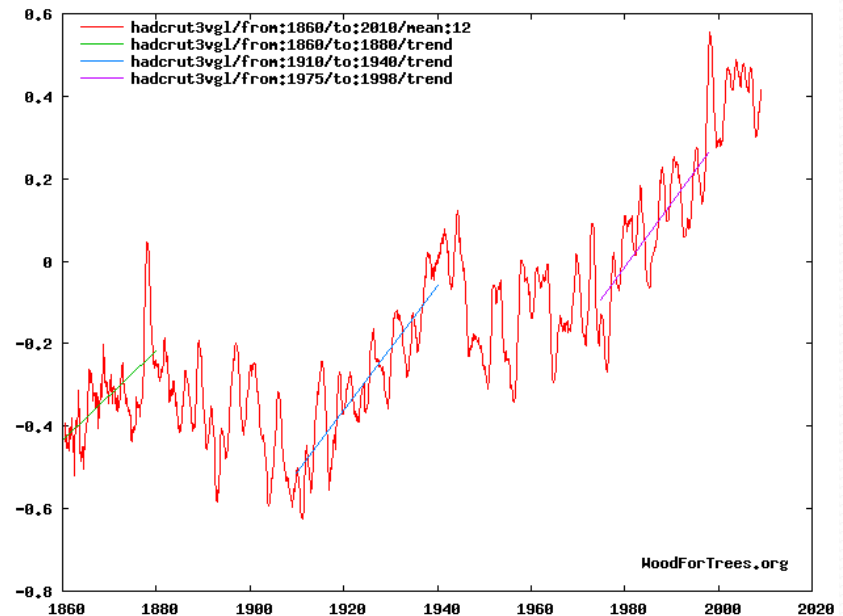
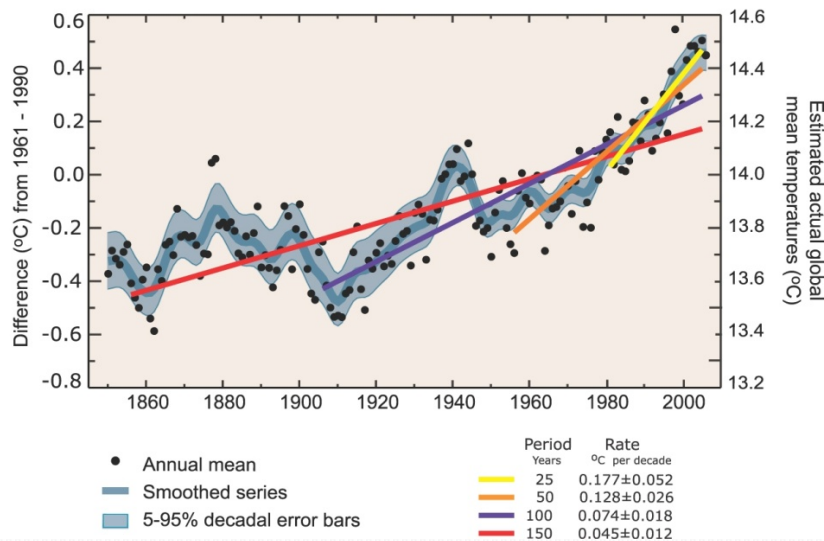
Accumulated Departure from median number of days/year with $DADT \geq 22^{\circ}\text{C}$ for Springfield, IL.



Explain methodology: Don't lose them here!

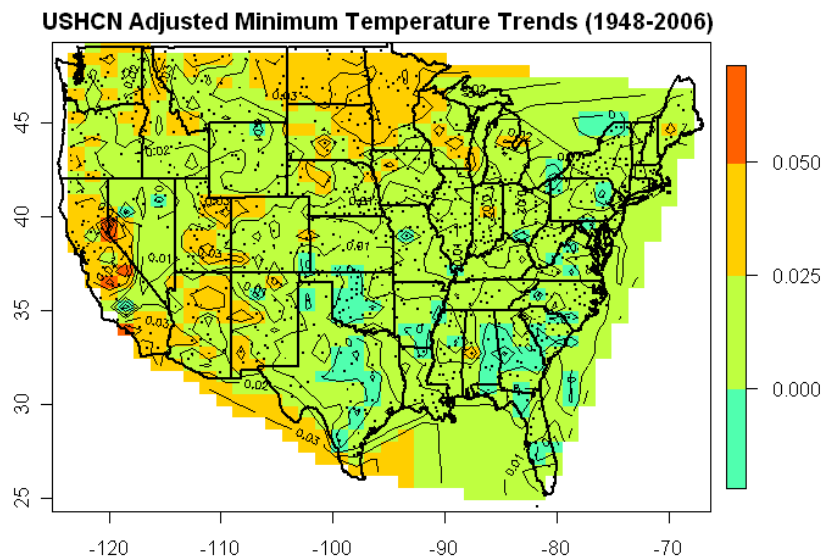
- What statistical tools are you applying to the climate data set? Why? Range of statistical background varies!
- When examining trends be mindful that you are looking at a specific temporal snapshot. Be aware that if you changed the period of investigating that the results could be altered (and sometimes drastically!).
- What spatial scale is your focus (point, area, world)?
- When trying to link identified climate trends to specific causes, be *cautious!* As scientists we understand the complexity of our climate system, however, others are just looking for one absolute cause to pin the climate trend on.

Climate trend analyses...who is making what point?

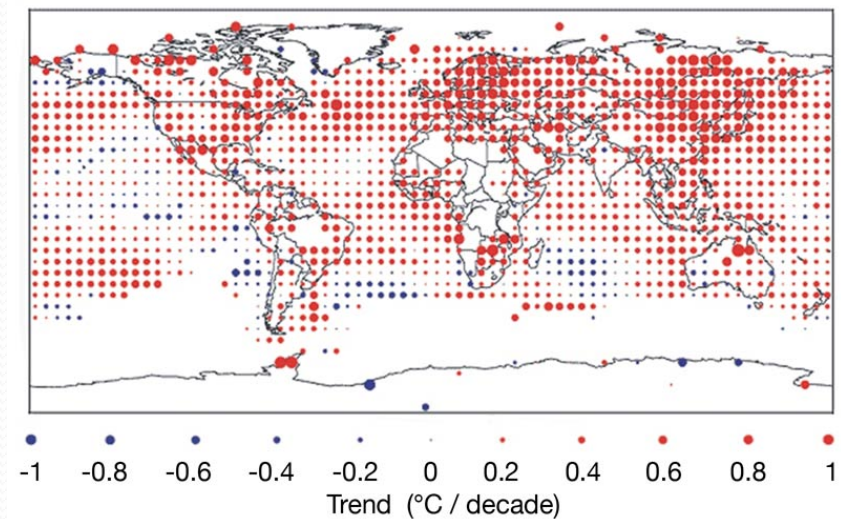


Spatial trends

U.S. Tmin Trends



Global Tmean trends



Describe results: The take home message...

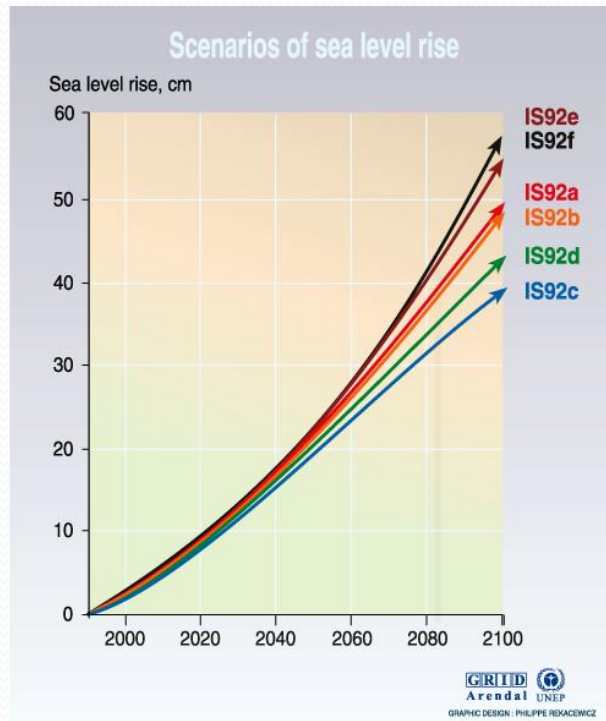
- Use various communication modes/media to convey your results (verbal, written word, graphical, etc.). People gravitate to different learning styles.
- Remember your audience is interested in understanding the trend and what may be causing it.
- If you are uncertain about some (or all) of your results...let your audience know that. Just like a weather forecast, we want to convey uncertain information in a fashion that the audience can comprehend and apply.

Attribution: Communicating this information to others...

- When communicating climate trend information, if you haven't considered the question “**why?**” then:
 - Direct the individual to those with that expertise.
 - Tell them you haven't tackled that question.
- To communicate uncertainty in attribution results/information consider the following ideas:
 - How is the information going to be used (e.g., Katrina)?
 - Can it be presented using “probabilistic” information?
- Types of responses:
 - *Rapid (or preliminary)*—be cautious (especially with limited evidence)!
 - *Authoritative*—use scientific approach

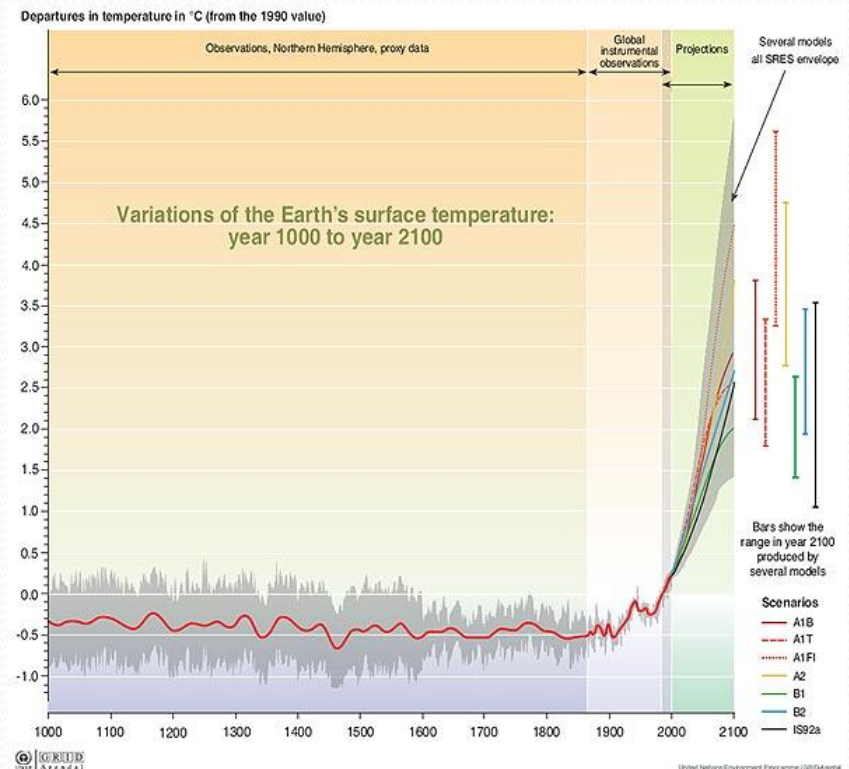
What is coming and why?

Projected sea-level rise



Source: Climate change 1995, Impacts, adaptations and mitigation of climate change: scientific-technical analyses, contribution of working group 2 to the second assessment report of the intergovernmental panel on climate change, UNEP and WMO, Cambridge press university, 1996; IPCC, Climate change 1994: radiative forcing of climate change and an evaluation of the IPCC IS92 emission scenarios, 1995.

Global Temperature trends





Lessons learned...

- Know your *audience* before you meet (or communicate) with them. Find out what they are interested in and then prepare your answer.
- Don't 'dumb down' the science...We are *educators*. We want to put the results in a language they can understand and can use, however, it is part of our role to push their knowledge of climate science forward.
- Apply a *scientific approach* to your discussion...clearly describe your data, the methods used to analyze the data, your results and interpretation. Make sure to adequately address any weaknesses that may exist in your study.

What did I miss??

- Ask your audience!
- Slow down and repeat those important messages.
- Ask them what they learned!
- Learn from your mistakes...Revise, revise, revise...
- And I always remember what my grandmother told me, “You have two eyes, two ears, and one mouth...use them in proportion!”