

Opinion

Climate Change and Local Responses

DOUGLAS YAZELL, EDITOR, STARTING MY CLIMATE CHANGE COLUMN IN THIS ISSUE

My opinions are not necessarily the positions of AIAA or AIAA Houston Section.
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Additional resources

The Right Climate Stuff (TRCS) team is a Houston Clear Lake area group (mostly from that area) which first met in February of 2012. Most of their membership are veterans of the NASA/JSC community. Their web address is www.therightclimatestuff.com and they recently published preliminary [results](#).

The Climate Abyss is a [blog](#) in the Houston Chronicle by Dr. John Nielsen-Gammon.

NASA Global Climate Change
 NASA's Eyes on the Earth
 My Big Fat Planet
 A [blog](#) hosted by Dr. Amber Jenkins of NASA/JPL
<http://climate.nasa.gov/blog>

A 2008 Dr. Kevin Trenberth climate change lecture at UH is reported (pg. 9) in a past [issue](#).

“Expert Credibility in Climate Change, Proceedings of the National Academy of Science (PNAS), April 9, 2010 (sent for review December 22, 2009).

“Here we use an extensive dataset of 1,372 climate researchers and their publication and citation data to show that (i) 97-98% of the climate researchers most actively publishing in the field show support for the tenets of anthropogenic climate change (ACC) outlined by the IPCC, and (ii) the relative climate expertise and scientific prominence of the researchers unconvinced of ACC are substantially below that of the convinced researchers.”

Join the Energy Quest. Andrew C. Revkin says that is a better bumper sticker than one saying *Fight the Climate Crisis*. He was writing in a New York Times Dot Earth opinion blog [entry](#) of January 29, 2013 (*Other Voices, Can Climate Science Communication Matter?*).

I was between alarmed and skeptical and leaning to being alarmed after attending climate change [presentations](#) in September and October of 2011 in the Houston Clear Lake area. The September presenters were skeptical. The October presenters were three university professors, climate science experts in my eyes, and some, if not all three, were alarmed.

An [hour](#) of PBS television (Frontline, October 23, 2012, *Climate of Doubt*) put those presentations into perspective. Combining that TV show and its related web page with those 2011 presentations made it easy for me to have confidence in the results presented by the United Nations International Panel on Climate Change (IPCC).

After watching another [hour](#) of PBS television on January 4, 2013 (Anthony Leiserowitz of Yale University's Climate Communication [project](#) on Moyers & Company, *Ending the Silence on Climate Change*), I started writing this column and suggested adding climate change to our Section's upcoming Annual Technical [Symposium](#) of Friday, May 17, 2013, at NASA/JSC Gilruth Center.

Leiserowitz divided his audience into six groups: (1) Alarmed (16% of Americans),

(2) Concerned (29%), (3) Cautious (25%), (4) Disengaged (8%), (5) Doubtful (13%) and (6) Dismissive (8%). He encourages public debate, but not climate change debates titled, “Is it Real?”

Full disclosure: after seeing a draft of this article, two NASA/JSC veterans invited me to participate as a member of The Right Climate Stuff (TRCS, described in the sidebar), and I accepted. My proposed climate change columns do not necessarily reflect the views of any group.

Revkin calls attention to the excellent [work](#) of Dan Kahan of the Yale University Cultural Cognition Project. “How much risk do you believe climate change poses to human health, safety or prosperity?” Science literacy (measured as numeracy, analogous to literacy and as easily measured as literacy) has a weak correlation with where we fall in the range from skeptical to alarmed, but cultural identity has a strong correlation. Science literacy increases polarization on this subject, increasing alarm among the alarmed and increasing skepticism among the skeptical. *Ask not what the new science of science communication can do for you...*

A quick [search](#) found three national AIAA public policy information papers. They are not representing the AIAA position: (1) *Essential Capabilities for Operational Climate Change Monitoring* (2010, link not found), (2) *Leveraging Aerospace Capabilities for Climate Monitoring: An AIAA Information Paper* (2010, link not found), and (3) *Advancing and Applying Aerospace Technology to Protect the Global*

Environment (2009).

In his 2011 [presentation](#), Dessler summarized results of the IPCC:

- It is virtually certain that the climate is warming, and that it has warmed by about 0.7 degree C over the last 100 years.
- It is very likely that humans are responsible for most of the recent warming.
- If we do nothing to reduce our emissions of greenhouse gases, future warming will likely be at least 2 degrees C over the next century.
- Such a climate change brings with it a risk of serious adverse impacts on our environment and society.

A friend sent me a link to [How to Talk to a Climate Skeptic](#), by Coby Beck at a web site called [Grist](#), an environmental news and commentary web site. The same friend sent me a [link](#) to *How we Know Global Warming is Real and Human Caused* (February 8, 2012), by [Donald R. Prothero](#), writing on a web site called [Skeptic](#).

In his 2010 book *Storms of My Grandchildren*, James Hansen writes about data, just before his Figure 2: “...they take a scientific approach; they give primacy to real data. Theories and models of the future can help organize one's thoughts, but they are only useful if they explain the real world. A convincing analysis must start with and place most weight on data and real-world observations.”

Dessler's [charts](#) include a letter to a Senator on this subject. Other local responses: talking to friends and questions such as, “If sea level rise combines with a hurricane to damage our roads, should we create new standards before rebuilding?”