

From *Centre Daily Times*, September 25, 2013, page A10. The article is interesting, whether you agree about global warming or not. [I also happen to disagree about the 13.8 billion years age of the universe, which is mentioned.] Nevertheless, I highlighted (with a red box) portions of the article that deal with the 95% standard for hypothesis testing, as discussed in class.

Scientists deem warming threat a virtual certainty

By Seth Borenstein
The Associated Press

WASHINGTON — Top scientists from a variety of fields said they are about as certain that global warming is a real, man-made threat as they are that cigarettes kill.

They are as sure about climate change as they are about the age of the universe. They said they are more certain about climate change than they are that vitamins make you healthy or that dioxin in Superfund sites is dangerous.

They'll even put a number on how certain they are about climate change. But that number isn't 100 percent. It's 95 percent.

And for some non-scientists, that's just not good enough.

There's a mismatch between what scientists say about how certain they are and what the general public thinks the experts mean, specialists said.

That is an issue because this week, scientists from around the world have gathered in Stockholm for a meeting of a U.N. panel on climate change,

and they will probably release a report saying it is "extremely likely" — which they define in footnotes as 95 percent certain — that humans are mostly to blame for temperatures that have climbed since 1951.

One climate scientist involved said the panel may even boost it in some places to "virtually certain" and 99 percent.

and gas, The Associated Press asked scientists who specialize in climate, physics, epidemiology, public health, statistics and risk just what in science is more certain than human-caused climate change, what is about the same, and what is less.

They said gravity is a good example of something more certain than climate change. Climate change "is not as sure as if you drop a stone it will hit the Earth," Princeton University climate scientist Michael Oppenheimer said. "It's not certain, but it's close."

Arizona State University physicist Lawrence Krauss said the 95 percent quoted for climate change is equivalent to the current certainty among physicists that the universe is 13.8 billion years old.

But even the best study can be nitpicked because nothing is perfect, and that's the strategy of both tobacco defenders and climate deniers, said Stanton Glantz, a medicine professor at the University of California, San Francisco, and director of its tobacco control research center.

Centre Hall Audiology & Hearing Aid Center

Dr. KATHRYN O

Certified/Licensed Audiologist



*Did you HEAR ...
the rumor that
Dr. O got married?
It's true!!* (and it's not to this guy)

Hearing Problems... Need Solutions... 814-364-3113
Visit Centre Hall Audiology & Hearing Aid Center

Just past the former Elks Country Club on Rt 45

Sammis Greenhouse
8,000 HARDY MUMS
Bunches Starting at 99 cents!

Continued on next page ↓

Some climate-change deniers have looked at 95 percent and scoffed. After all, most people wouldn't get on a plane that had only a 95 percent certainty of landing safely, risk experts said.

But in science, 95 percent certainty is often considered the gold standard for certainty.

"Uncertainty is inherent in every scientific judgment," said Johns Hopkins University epidemiologist Thomas Burke. "Will the sun come up in the morning?" Scientists know the answer is yes, but they can't really say so with 100 percent certainty because there are so many factors out there that are not quite understood or under control.

George Gray, director of the Center for Risk Science and Public Health at George Washington University, said that demanding absolute proof on things such as climate doesn't make sense.

"There's a group of people who seem to think that when scientists say they are uncertain, we shouldn't do anything," said Gray, who was chief scientist for the Environmental Protection Agency during the George W. Bush administration. "That's crazy. We're uncertain and we buy insurance."

With the U.N. panel about to weigh in on the effects of greenhouse gas emissions from the burning of oil, coal

Continued on previous page ↑

Pumpkins Starting at 99 cents!

Large Mums \$4.99

X-Large Planters \$9.99 & \$15.99

1/3 off Beautiful Hanging Baskets and Mixed Planters

25% off Perennials and Shrubs

Wholesale and Retail

Mon. - Sat. 10 am - 6 pm • Sunday 10 am - 5 pm

814-364-2881

In the town of Centre Hall, turn opposite Rt. 192, onto W. Church Street. Go 1 mile to greenhouse.

\$199

WINDOWS!

INCLUDING INSTALLATION

FREE LOW-E/ARGON!

- White Double Hung Windows
- No Set-Up Fee! See Office For Details
- Pa Code Compliant!
- Call Now! Free Estimate!
- Disposal Of Old Windows Included
- Lifetime Warranty Including Glass Breakage

Tax Credit for Windows & Doors

PLUS...

- Siding • Sunrooms • Soffit • Fascia
- Doors • Vinyl Railing • Porches & Decks

Celebrating 50 Years!

www.ronaldwjohnson.com

RONALD W JOHNSON **FREE ESTIMATES!**

HOME IMPROVEMENTS **814.364.1436**

Contractor Registration #002047