Cc: Jackson, Ryan[jackson.ryan@epa.gov]; Yamada, Richard (Yujiro)[yamada.richard@epa.gov]
To: Bowman, Liz[Bowman.Liz@epa.gov]
From: Steven Koonin
Sent: Thur 6/29/2017 6:18:48 PM
Subject: Re: E&E News: 'Red teams' gain prominence to question climate science, 6/29/17

I can be available to talk briefly today 1430-1700 EDT. Let me know when.

Steven E. Koonin
Director, NYU-CUSP

On Jun 29, 2017, at 10:59, Bowman, Liz <Bowman.Liz@epa.gov> wrote:

> Can we talk sooner and do this announcement 7/5 or 7/6?
>
> Sent from my iPhone
>
> On Jun 29, 2017, at 1:56 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
>
> > The problem is that Pruitt is excited about releasing this. Others are talking about it and we will lose control of fashioning this like it should be if we don't have some kind of preliminary announcement of what we plan to do and who we plan to involve.
> >
> > _____
> > Ryan Jackson
> > Chief of Staff
> > U.S. EPA
> > (202) 564-6999
> > Begin forwarded message:
> >
> > **From:** "Timmons, Natasha" <timmons.natasha@epa.gov>
> > **Date:** June 29, 2017 at 10:32:55 AM EDT
> > **To:** AO OPA OMR CLIPS <AO_OPA_OMR_CLIPS@epa.gov>
> > **Subject: E&E News: 'Red teams' gain prominence to question climate science, 6/29/17**
> >
> > **E&E News**
> >
> > https://www.eenews.net/climatewire/2017/06/29/stories/1060056782
> > **'Red teams' gain prominence to question climate science**
> >
> > By Scott Waldman 6/29/17

Trump administration officials are increasingly floating a new way to raise questions about the scientific findings that humans are driving climate change. It's called red team, blue team.

The concept, which originated in the military to test assumptions and strengthen the likelihood of operational success, is on the rise as Cabinet secretaries undertake an ambitious agenda to deconstruct climate rules enacted under President Obama. Energy Secretary Rick Perry, when pressed by reporters Tuesday about his acceptance of climate science, said he's happy to be a skeptic. He wants to have an "intellectual" conversation about science, he added.

"Let's have a conversation about the blue team and red team getting together and talking this out," Perry said.

In military applications, the red team is tasked with poking holes in the blue team's work and finding vulnerabilities that can be corrected. But science already has similar processes built into it through peer review, according to researchers. Before a paper is published, colleagues review it to look for uncertainties or flaws.

Using the red team concept in a scientific setting is inappropriate because it threatens to disproportionately elevate the view of a small number of skeptics in a field dominated by researchers who agree on the general assertion that humans are contributing to global warming, critics say.

"If there's any way to do red team, blue team about climate science, it's sort of like doing red team and blue team about whether or not the sun is going to rise tomorrow in my opinion," said retired Navy Rear Adm. Jon White, an oceanographer. "The facts are the facts. The sea level is rising, the air is warmer, climate is changing, the science is overwhelming in support of it."

So, introducing the red team, blue team concept in a highly politicized field of research such as climate science could elevate doubt to an equal footing with certainty, opponents of the concept say. The majority of scientists determined years ago that humans are driving a rapid warming of the planet through fossil fuel consumption.

The concept would actually have some usefulness in preparing vulnerable areas for climate change, said White, who serves as president of the Consortium for Ocean Leadership. He said the military has used the red team concept to prepare for the effects of climate change, including at the naval station in Norfolk, Va., where rising sea levels are impacting training and operations related to nuclear submarines and other vessels.

The red team exercise could also be applied to climate refugee crises and low-lying island nations that could be consumed by rising sea levels in the near future. When it comes to science, White said, the basic facts are established, and red teams could be used as an excuse to stall preparation for climate change.

Perry disagrees. He appears to view it as a way to test the basic findings of climate science. Last week, Perry suggested that carbon dioxide isn't a key driver behind warming. Scientists observed the greenhouse effect more than a century ago.

"Can we agree we ought to have a conversation as a people, intellectually engaged, not screaming at each other, and not standing up in the middle of my speeches and saying 'You're a climate denier,' when the fact is, I just want to have a conversation about this?" Perry asked earlier this week.

Teams 'weed out' biases

The red team concept has been floated for years, but it gained new relevancy after a recent hearing on climate science by the House Science, Space and Technology Committee. A *Wall Street Journal* op-ed from a former Obama Energy Department official, Steven Koonin, also contributed to its revival.

"The outcome of a Red/Blue exercise for climate science is not preordained, which makes such a process all the more valuable," Koonin wrote recently. "It could reveal the current consensus as weaker than claimed. Alternatively, the consensus could emerge strengthened if Red Team criticisms were countered effectively."

Conservative think tanks have also latched onto the concept. Patrick Michaels of the Cato Institute has suggested using a red team to test the National Climate Assessment, which tracks changes to specific regions across the country. That report, last updated in 2014 and scheduled for another update next year, helped guide the Obama administration's climate policy agenda.

At the House hearing in March, two climate scientists — both of whom have broken with many of their colleagues by claiming humans have a minimal effect on climate change — said the field needs red team, blue team to narrow uncertainty.

Judith Curry, who recently retired from the Georgia Institute of Technology, said Tuesday that the red team concept would bring out the weaknesses in climate models that many researchers rely on. She said pointing out flaws would improve scientific understanding and remove politics from climate science.

She blamed the partisanship that now frames climate policy on scientists who have claimed certainty and demanded action based on their findings.

"There's all sorts of drivers and motivations for this consensus, and it's not science, and it also introduces biases into the process, and we as scientists need to weed that out," Curry said. "Part of the problem is that climate scientists themselves acted to scientize the policy debate; climate science demands this kind of thing, and that was really the wrong approach."

That message appears to have been heard in the Trump White House.

In recent weeks, both Perry and U.S. EPA Administrator Scott Pruitt publicly floated the red team, blue team concept. Earlier this month, Pruitt told Breitbart radio that Americans deserve "a true, legitimate, peer-reviewed, objective, transparent discussion about CO2." Last week, Perry floated the concept at a congressional budget hearing when he was pressed on his skepticism of mainstream climate science.

"Why don't we have a red team approach, get the politicians out of the room and let the scientists, listen to what they have to say about it?" Perry told lawmakers. "I'm pretty comfortable; what's wrong with being a skeptic about something we're talking about that's going to have a massive impact on the American economy?"

That is exactly how science already works, Sen. Al Franken (D-Minn.) told him. He said researchers collect data and make arguments. Peer reviews then question it, and the two sides go back and forth until consensus is reached.

"Every peer-reviewed study goes through red team, blue team treatment, and then thousands of studies are gathered into reports, and those reports themselves go through rigorous red team, blue team, and that's the scientific process," Franken said.

He said there's no peer-reviewed study that says climate change isn't happening.

"The time for red team, I'm sorry ... that's what scientists do every day, and 100 percent of peer-reviewed scientists have a consensus, and that is that this is happening," Franken said.

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