Attachment 8 Feb 23, 2017

Abrupt Climate Change

Written Testimony for Senate Education Committee

Data is now showing that Climate Change is rapidly accelerating. 16 of the world's 17 hottest years have occurred since 2000. Scientists and models may have been too conservative in the past. Data is showing the Arctic is warming at twice the rate as the rest of the planet. Sea ice is melting and becoming very shallow. Greenland ice sheets are melting and increasing global sea levels. There is data to show these processes. Antarctic warming is also occurring, but it is not as fast as Arctic warming at this time. As the Arctic loses its ice and snow, it warms and natural processes occur to release abundant greenhouse gases (GHG) of methane, water vapor, and carbon dioxide into the atmosphere. Humanity's induced release of greenhouse gases will be miniscule in comparison to the natural release mechanisms of the GHG from oceans and from the ice and permafrost of the Arctic. The runaway greenhouse process goes like this: the hotter it gets, the faster it gets hotter. The faster it gets hotter, the more GHG. The more GHG, the faster it gets hotter, the less ice and less solar reflection, and the faster it gets hotter. And so the process goes.

Extreme weather events are becoming more common and are related to abundant Arctic warming. Even the cold air outbreaks to mid-latitudes are enhanced by Arctic warming. There is data to support this. The scenario goes like this: Arctic warming reduces the north-south temperature difference in the atmosphere. As the temperature difference decreases, the jet stream slows down and becomes wavier. As the amplitude of these global waves, called Rossby waves, increases, the west to east progression of these waves slows down. Then the troughs and ridges in the waves, which drive local weather events (with low pressure areas forming near the bottom of the troughs), are more persistent and even tend to favor preferred locations. There is data. As a result, there are regions of prolonged seasonal and annual heating, cooling, wetness, and drying. These trends are either enhanced or mitigated by natural tendencies such as El Nino, La Nina, and Pacific Decadal Oscillations. For more recent information and data, google the Weather and Climate Change Conference.

Humanity may need to immediately provide emergency measures to mitigate runaway GHG effects and to sustain itself. This may include mega dollars to remove GHG from the atmosphere. I am very concerned about recent policies and measures to continue the release of GHG into the atmosphere.

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The Senate Education Committee hearing on the Science Standards is scheduled for 3:00 p.m. today, the 23rd in WW55 of the State Capitol. Public testimony will be accepted, with a limit of 3 minutes per person.

For more information, see these idahoednews.org articles.

https://www.idahoednews.org/kevins-blog/senate-education-takes-science-standards-thursday/

https://www.idahoednews.org/news/statehouse-roundup-2-9-17-house-committee-rejects-climate-change-language/

If you are concerned, I invite you to contact other members of the Senate Education Committee or attend the hearing.

Thank you for your support,

Janie

From: Paul Dawson [mailto:pdawson@boisestate.edu]
Sent: Thursday, February 23, 2017 1:29 AM
To: Senator Dean Mortimer; Senator Steven Thayn; Senator Chuck Winder; Senator Bob Nonini;idenhartog@senate.idaho.gov; Senator Jim Guthrie; Senator Carl Crabtree; Senator Cherie Buckner-Webb; Senator Janie Ward-Engelking
Cc: Paul Dawson
Subject: Climate Change issue

Dear Senators, Written Testimony Feb 23, 2017

Climate change is the most important issue that our youth and future generations will have to live with and try to mitigate. It is real, is supported by overwhelming data, and is rapidly accelerating (Please see my attachment). It is important for our youth to learn the science of Climate Change and its effects on humanity, on the environment, and on all aspects of life.

Please include the science of Climate Change in Idaho's Science Standards.
Thank you,

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