



Above: Fire detection from the MODIS units aboard the Terra and Aqua satellites between August 15-22. NASA Earth Observatory images by Joshua Stevens, using MODIS data from NASA EOSDIS/LANCE and GIBS/Worldview.

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More than three decades have passed since climate scientist James Hansen warned a US senate committee famously of the danger of climate change. Governments were too slow to respond to the risk and their belated action may be insufficient.

Some leaders of major nations refuse. Many politicians who are aware of global climate change often themselves lack deep understanding of the science. Some leaders of major nations refuse to engage with science, rejecting findings from their own research organisations as political deceptions. Many of those politicians who are aware of global climate change themselves lack deep understanding of the science.

We are now in the fourth decade since Hansen delivered his stark report. It is urgent that everyone working to protect our planet should enter into a profound analysis of past strategies and how we can become for effective - time is running out.

Record heat waves in South East England and other locations around the world, have reminded people that the climate threat is growing year by year.

One of the most unexpected developments of the summer was Donald Trump, President of the USA, attempting to buy Greenland - and being soundly re-buffed by the leaders in Denmark and Greenland. His plan focused solely on what would have been economic and military strategic concerns; it had nothing to do with the threats posed to climate to ecology and human communities in Greenland and the wider Arctic. In the unlikely event that the USA had been allowed to purchase the island, these would have been key responsibilities for the US Government. Unfortunately, Trump does not accept the role of our species in causing climate change.

Meanwhile, a very disturbing piece of information has appeared in the respected Space.Com, indicating that scientists' reports are being *de facto* censored.

The article, from Rafi Letzter, began: "It Sure Seems Like the Trump Administration Is Suppressing Reports of Climate Change at USGS" It declared: "Trump administration officials are removing references to climate change from U.S. Geological Survey (USGS) press releases, according to a report from ClimateWire reporter Scott Waldman."

"USGS scientists are responsible for, among other things Earth-related, assessing various kinds of disaster risks and publishing research about those risks. That work seems to be continuing apace. But now when those scientists put together press releases about their results – documents that can tip off reporters about important findings, so the news can reach the public – they're finding those documents altered to avoid mention of climate change and even held up for months before being released to the public, according to Waldman's reporting." Letzter, R. July 11, 2019. Space.Com.

Below: On July 5, 2018, a natural-colour image was taken by the Operational Land Imager (OLI) aboard the NASA satellite Landsat 8. This looks down just offshore of Innaarsuit in North Western Greenland. Hard to spot in this image is this small island village, with a huge iceberg floating not far beyond in the sea. Credit: NASA/USGS/Joshua Stevens/Kathryn Hansen.





Above: A natural-colour image of the smoke from the fires over the Amazon basin. The VIIRS (Visible Infrared Imaging Radiometer Suite) aboard the Suomi NPP satellite (NOAA/NASA) August 21, 2019. NASA stated: "Smoke from the fires raging in in the Amazon basin has created a shroud that is clearly visible across much of the center of South America."

The Amazon rainforest become another major focus on environmental concern because numerous fires had broken out in the Amazon rainforest, including the loss of land belonging to indigenous people. Jair Bolsonaro, the President of Brazil, has encourage logging, burning, and out-of control fires. He accused environmentalists of deliberately having set the forest alight. Later, he was more open to the damage created by his own policies, but adamant that any outside help would amount to other nations seeking to interfere in Brazil's sovereign.

Writing in Space.Com (August 22, 2019) Doris Elun Salazar explained that "Brazil's Space Agency Head Was Forced Out for Defending Climate Science."

She reported that: "Ricardo Galvão, the former director of Brazil's space and climate-monitoring agency, left his position earlier this month after defending scientific findings that showed that the world's largest tropical rainforest is undergoing a sharp increase in deforestation." Bolsonaro has openly demounced his own space agency as lying.

An website from Sky News and under the heading of "Amazon wildfires: Threat to block EU trade deal as 'colonialist' row deepens" provided disturbing information: "Federal prosecutors are investigating a Brazilian newspaper advert calling on farmers to be part of Fire Day and burn parts of the forest to show the president "their willingness to work"" and "Filipe Martins, an adviser to Mr Bolsonaro, said the Amazon would be saved by Brazil and not "the empty, hysterical and misleading rhetoric of the mainstream media, transnational bureaucrats and NGOs"."

Governments have had *decades* to recognise the problems and to work on viable answers. In 1988, climate scientist James Hansen, who was then director of the NASA Goddard Institute for Space Studies, famously addressed the U.S. Senate Energy committee. He laid out, in straight forward terms, the dangers of human interference with climate. Talking on the 2019 David Attenborough documentary *Climate Change the facts*, Hansen pointed out that governments have failed for 30 years to tackle technologies and economies that could have made a real difference.

The episodes this summer with the presidents of the USA and Brazil demonstrate just how complex is the task of devending our Planet. The willingness of some governments to simply refuse to engage with science is a matter of extreme concern. In the final analysis, the fight for the Earth depends upon politicians sharing the same common intellectual scientific culture as environmentalists. Once they throw that out, there is little to talk about meaningfully. At the same time, these same politicians may have much to commend themselves to public support. Many people in Brazil, for example, have welcomed Bolsonaro's policies as an economic necessity. They have asked what the alternatives would be were logging and growing crops to cease. In the long-term, needles to say, the long-term devastation to our planet is not a meaningful alternative, but there has to human-friendly short-term pathways enabling us towards a credible future.

There is a cogent case for campaigners, NGO's, researchers and eco-supportive policy makers to collaborate and explore potential ways forward to make this vital decade a turning point for Planet Earth.

Martin Heath, Editor.

## Prime Meridian.

Prime Meridian is published by the Ecospheres Project, a research and media collaboration.

This newsletter follows global environmental issues alongside the cycle of the seasons in South East England. It steps back to look at the Earth in its astronomical context and it pursues the search for other habitable worlds.

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