

Town Crier VI: Changing the climate by fouling our nest

By Pete Haug | Posted: Wednesday, October 28, 2015 12:00 am

Science is never "settled." Good science demonstrates that yesterday's good science wasn't quite so good after all. Science converges on reality or, for nerds, it approaches Truth asymptotically.

Fifty years ago I got into the nascent game of using computers to analyze environmental systems - how they behave and how human activities affect that behavior.

In 1972, a group of young MIT scientists published "The Limits to Growth," one of the earliest books documenting environmental systems analysis. The study examined growth trends among five interlocking environmental sectors: industrialization, food production, natural resource depletion, pollution and population.

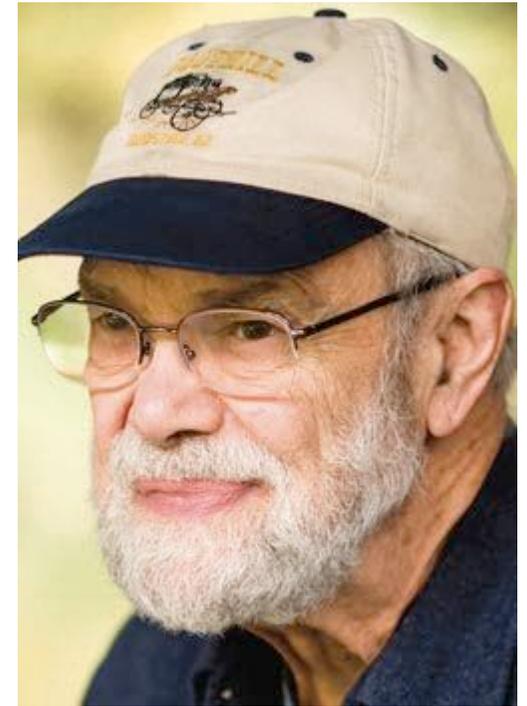
It concluded that if measures were not taken to address those trends, the limits to growth on this planet would be reached within a century. The book created a furor similar to the one currently surrounding climate change, not surprising because the issues are related.

In updates published 20 and 30 years later, the authors continued to factor in new information and better science as they appeared. Considerations of global warming, climate change, planetary boundaries and sustainability contributed to later assessments.

Conclusions were largely unchanged: Man continues toward an environmental reckoning.

As scientists and governments recognized impending threats from human activities, the United Nations created the Intergovernmental Panel on Climate Change in 1988 to operate under the auspices of the UN Environment Programme and the World Meteorological Organization. It's tasked to issue periodic reports about climate change based on the best available science throughout the world.

The IPCC's Fifth Assessment Report, published in several volumes (2013-14), involved 831 scientific experts from 80 countries. They reviewed, integrated, synthesized and summarized information from more than 30,000 peer-reviewed scientific reports.



TOWN CRIER VI Changing the climate by fouling our nest

Pete Haug

The process is transparent. Results include uncertainties associated with conclusions. During the two and a half decades the IPCC has been reporting, the science continues to converge, accuracy has improved and uncertainties have diminished.

The IPCC is reliable, not infallible, and therein lies a problem. Changing technologies, data-collection procedures and analytical techniques exacerbate uncertainties inherent in climate change research.

Worse, they provide opportunities for creating "FUD" - fear, uncertainty and doubt - among the general public by exploiting cherry-picked data. Those who reject mainstream climate science - for political, corporate, religious or whatever reasons - cherry-pick imperfections from the IPCC analyses, distorting those imperfections out of proportion.

Trends are clear, however, even if precise numbers are not, just as in "The Limits to Growth" study 43 years ago.

Because of uncertainties, it's taken more than two decades for a critical mass of scientists, government officials and media to recognize realities and potential enormities resulting from our changing climate.

In addition to assessing physical climate factors, the IPCC considers potential impacts and vulnerabilities, as well as ways to adapt and mitigate climate change. These include underlying technological, economic, and institutional requirements, such as concerns for social, economic and ethical issues, as well as sustainable development.

This last point - sustainability - is critical to any successful attempts at coping with a seemingly insurmountable problem. Energy use drives the first four "Limits to Growth" environmental sectors. Sustainable development requires continued use of energy, but not fossil-based energy - the kind that drives climate change.

The good news is an amazing revolution in alternative energy is occurring even as the climate deteriorates. Will it be in time?

The fifth sector, which drives the other four energy-consuming sectors, is population. Earth's population has increased more than three and a half times, 350 percent, from 2 billion to 7.3 billion.

In what timeframe? Since I was born, eight decades ago.

Nature was nature before man was man. In the game of life, nature bats last.

Pete Haug's eclectic interests and several careers drew him across the U.S. and into China with his wife before retiring south of Colfax.

drpeterlaoshi@aol.com