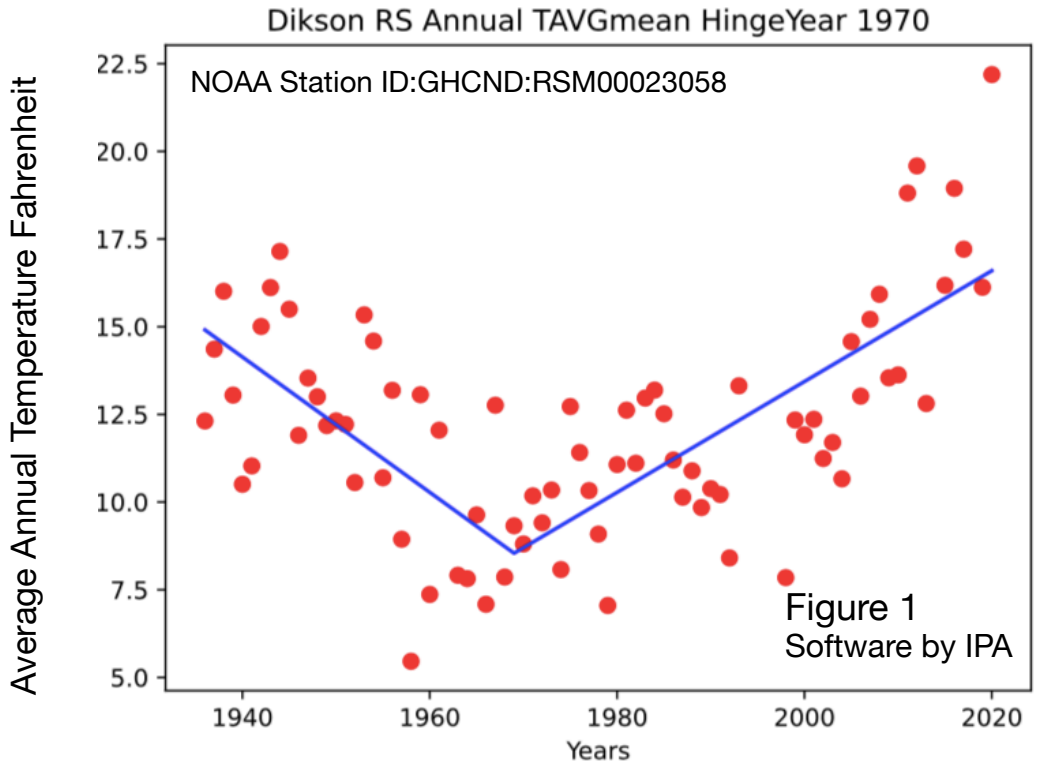
Is There Another Mechanism Driving Arctic Warming?

Dikson is Russia's northern most settlement and one of the fastest warming regions on Earth. It is situated on the Kara Sea near the mouth of the Yenisei River. The climate of this Arctic desert tundra region was rapidly cooling until 1970 and then the cooling trend abruptly ended with unprecedented warming ever since. I used a 1970 hinge year in Figure1 to coincide with the 1970 tipping point in Arctic temperatures in Figure 2.



There has to be another driver, besides increased carbon emissions, to cause such a radical change in Dikson's annual average temperature trend lines. I believe, the mechanism is water vapor emissions, a powerful greenhouse gas. In the 1950's, the Soviets announced at the United Nations its intention to use evaporation from its hydroelectric Arctic mega power plants (AMPS) to rapidly warm the Arctic climate. (See Figures 1 and 2)

My book, Arctic Blue Deserts, brought to the forefront a now viable Russian hypothesis for warming the climate. Analysis of Arctic weather data from NOAA's global climatological collection, exposes how human experimentation with the hydrological

cycle on Arctic rivers caused what appears to be a cataclysmic and irreversible turning point in its climate.

Russia built seven inland sea-sized hydroelectric reservoirs between 1956 and 1978 on the Angara, Yenisei, Irtysh, and Ob rivers whose waters flow into the Kara Sea near the Dikson weather station. These reservoirs absorb and stockpile an inexhaustible supply of summer solar energy in the water column before it is released throughout the winter in regulated high outflows. This results in unfrozen rivers downstream, with flows typically 4 to 8 times greater than natural winter flows. The warm winter dam discharges in contact with the dry super cold air generate massive and never ending evaporation. This unleashes an inexhaustible supply of water vapor emissions that increase winter humidity levels serving to thermally pollute and warm the Arctic.

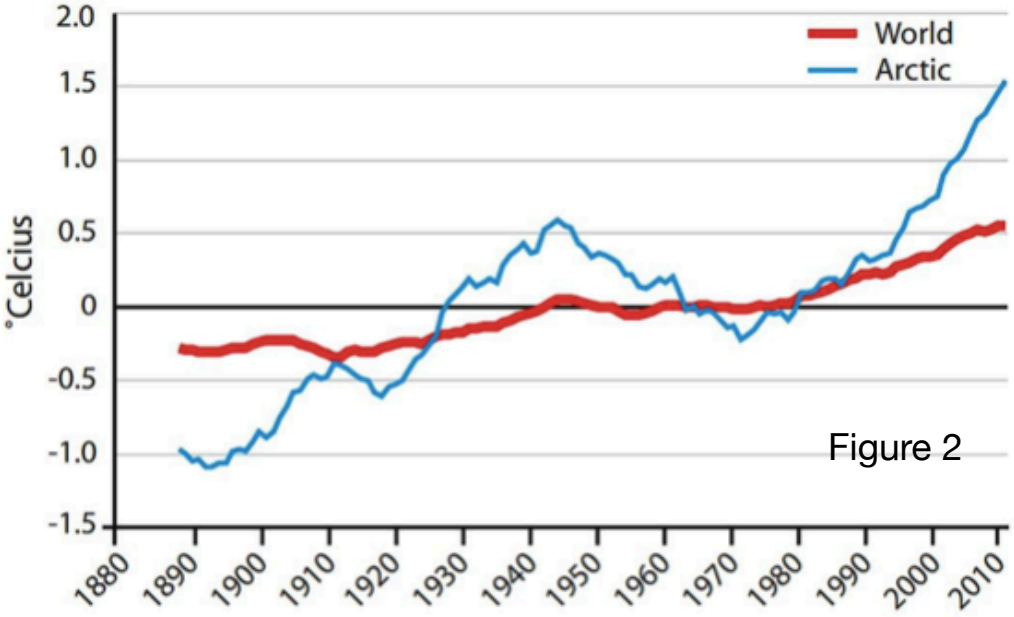


Figure 2

The combined sea-surface and air temperatures, globally (red) and in the Arctic (blue), show temperature anomalies for the period 1880-2011 compared to a 1951-1980 baseline. *Source: NASA/GISS 2012*

Nature never possessed regulating faucets like the mammoth gates on these dams suppressing and storing the spring run-off. Now, that humankind has disrupted the hydrologic cycle in the most climate sensitive regions of the earth, the weather data appears to be saying that this human caused Arctic warming may have strong global warming implications.