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A New Natural Climate Change Mechanism

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Abstract

This work separates the anthropogenic global warming mechanism through the greenhouse effect from natural climate change, which is proposed to occur mostly from deep in the oceans. The new natural climate change mechanism is one that establishes a direct relationship between cause and effect for relatively large climate variabilities in the Earth system, which can be experimentally verified and even observed in real time. It should be noted the 2013 IPCC report precisely stated that the oceans absorb 93% of the sun's energy that impact the Earth system, and its slower rates of movement match 1-7-yr time scales of climate variability data for global mean carbon dioxide atmospheric absorption, sea surface temperature, sea level rises, cryosphere masses, etc. It was just a matter of finding a viable mechanism to account for randomness of these variability cycles within the 1-7-yr range, whatever the cause(s) might be. This work shows that the venting of submarine volcanoes and hydrothermal vents deep in the ocean tectonic rifts are adequately capable of producing large underwater solitons that can temporarily alter the course of the thermohaline global ocean current, during times of increased volcanic activity. Deep ocean venting is all that is needed, not volcanic eruptions; and increased nutation of the Earth's rotational precession since the 1940s has been proposed as the source of increased ocean magmatic activities. Aside from the thermoenergetic chemical concept used to account for randomness of variabilities in climatic measures within the current 1-7-yr timescales, this work will show feasible quantitative results of calculations to add credibility to this newly discovered natural climate change mechanism. Another result is that with better understanding of this proposed climate change mechanism, it is possible to formulate mitigation strategies that can also facilitate the harvest of vast renewable hydrothermal energies from deep in the oceans.Such untapped enormous energy sources can be employed for various geoengineering activities and direct power usage.

Biography

Gerard Caneba is working as professor in chemical engineering department at Michigan Technological University, USA. He completed his PhD in Chemical Engineering at University of California–Berkeley Campus.With collaboration and financial support of NASA-Johnson Space Center (Houston, Texas), Dr. Caneba's group embarked on research involving polymer composites with single-wall carbon nanotubes (SWCNTs). Current efforts in this area involve the formulation of SWCNT/ polymer composite films for use as solar energy absorbers in building interior surfaces and lightweight radiation shields.

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