OP-ED Submission "As I See It"
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We need a climate policy that is responsible and sensible

By Michael R. Arndt and Dr. Karl Svozil

Dr. Rubenstein's letter 'Vote with our climate in mind' 24 May 2020 prompted the offering of some pertinent facts and suggest possible alternative views and solutions on the issue of climate change.

While Dr. Rubenstein's passion on the subject of climate change are to be admired and respected, he, like many others, offers up unproven generalities of our current climate and a future climate state or states that is hypothetical and highly uncertain. We would like to offer some facts and thoughts on the relevant issues. This opinion piece is in no way attempting to refute anthropogenic climate change just the assumptions of unfounded truth that are often made. We need some perspective on the exaggerated statements that are continually propagated that have no proven current scientific basis that confirms their reality.

As the writer says "Severe storms, floods, wildfires, and crop failures don't respect our politics". I would add that they also don't respect uncertain, tentative, inconclusive science either as documented in the latest IPCC report. There is virtually no proof that these events are happening at any rate that is more severe since the mid 20th century in the eyes of the IPCC, the world's most authoritative source of scientific information on climate change.

The following summary from IPCC AR5 Chapter 2, Changes in Extreme Events states:
"In summary, there continues to be a lack of evidence and thus low confidence regarding the sign of trend in the magnitude and/or frequency of floods on a global scale."

Events like the Australian and California wildfires and drought are being unfairly labeled as climate causalities without conclusive evidence when they are more likely natural or in the case of wildfires anthropogenically induced events (i.e. arson, campfires accidents, downed power lines, ill conceived forestry management etc.) not related to anthropogenic climate change. Historically, it's not unusual at all for California and western US to have droughts and extreme climate variability.

In California, damage from wildfires is certainly higher attributable to building in and near wildfire zones and downed timber along with natural and human planted dried vegetation can add to the spread and intensity. More than 80% of the current wildfires there are human-ignited i.e. campfires, downed power lines etc. Any perception that global warming is causing more and bigger fires is downplaying the human element involved in starting, spreading and damage from wildfires and making the easy assumption that climate change is the culprit.

A study published in the Proceedings of the *National Academies of Science,* or *PNAS,* found that 84 percent of wildfires are ignited by humans, whether through downed power lines, careless campfires, or arson.

“Human-started wildfires accounted for 84% of all wildfires, tripled the length of the fire season, dominated an area seven times greater than that affected by lightning fires, and were responsible for nearly half of all area burned. “ the paper reported.

According to a 2016 NCBI study 'Global trends in wildfire and its impacts: perceptions versus realities in a changing world', Stefan H. Doerr and Cristina Santín
"Analysis of charcoal records in sediments and isotope-ratio records in ice cores suggest that global biomass burning during the past century has been lower than at any time in the past 2000 years."

The following summary from IPCC AR5 Chapter 2, Changes in Extreme Events states:
"In summary, the current assessment concludes that there is not enough evidence at present to suggest more than low confidence in a global-scale observed trend in drought or dryness (lack of rainfall) since the middle of the 20th century, owing to lack of direct observations, geographical inconsistencies in the trends, and dependencies of inferred trends on the index choice. Based on updated studies, AR4 conclusions regarding global increasing trends in drought since the 1970s were probably overstated. However, it is likely that the frequency and intensity of drought has increased in the Mediterranean and West Africa and decreased in central North America and north-west Australia since 1950."

The climate system is inherently complex and chaotic. There are no absolutes or certainties that can accurately be projected with our current knowledge and methods. There is only non-linearity, chaos, and ultimately uncertainty. That makes determining future reality within a reasonable amount of accuracy, even with the use of wide ranges of variability, not only difficult but conditional, tentative, and inconclusive.

IPCC Third Assessment Report, Advancing Our Understanding, Chapter 14 Executive Summary states:
“The climate system is a coupled non-linear chaotic system, and therefore the long-term prediction of future climate states is not possible. Rather the focus must be upon the prediction of the probability distribution of the system’s future possible states by the generation of ensembles of model solutions. Addressing adequately the statistical nature of climate is computationally intensive and requires the application of new methods of model diagnosis, but such statistical information is essential.”

We need a realistic risk assessment climate policy that is sensible, flexible and progressive but not oblivious to current and future reality either socially, economically, politically, or scientifically. It is important and useful to develop regionalized and localized vulnerability strategies relative to future climate states. A well executed vulnerability strategy includes all aspects of environmental risks and identifies any specific regions and localities that may be more susceptible to any particular type of environmental disruption caused by changes in climate. We can use the tools of climate models, paleo records, historical knowledge, and past abrupt worst case scenarios and apply them to current social, economic, and political conditions to develop a workable vulnerability strategy.

Accordingly, we need a reasonable, responsible, well crafted climate policy that realizes and understands the needs of today and the immediate future as well as preparing us for the uncertainties of the distant future. We cannot let zealous alarmism guide climate policy. We must act in a sensible, rational way and with enough foresight to devise a carefully considered plan of action and not take extreme highly emotional and politically motivated actions that cause more harm to society than good.

Finally, we need to realize and understand the complexities and uncertainties of the future climate and elect leaders who would calmly and rationally evaluate climate policy in light of reality and reason, not extreme hypothetical conjecture.

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