Climate Changed!

Last week climate experts and officials from government agencies from all over the world met in Paris to discuss the Fourth Inter-Governmental Panel on Climate Change (IPCC). At the center of these discussions were the recent events that have display accelerations in global change.

In the past fifteen plus years since the publication of the first assessment on climate change, the world community has seen the growing evidence of climate change. There have been distinct episodes of warming – large portions of the Greenland ice sheet have broken off. The areas covered with glaciers have decreased and there is earlier melt in the Pacific Northwest. There have been changes observed in other portions of the earth climate system as well. There is an earlier greening of the boreal forests due to earlier onset of spring thaw of the soils. The growing season has advanced by about one week in a decade which roughly translates to one more growing day a year. The global runoff in the world's rivers and streams has changed due to changes in vegetation transpiration. The warming of the tropical ocean by a degree or two has increased the intensity of hurricanes due to its greater convective ability. The change in the global snow cover at higher latitudes has endangered the habitat for wildlife. Though the amount of annual precipitation has not changed, its spatial distribution and temporal cycle has been altered. There are a lot more intense storm events and with them associated natural disasters such as floods and landslides. The drought in the United States Southwest has lasted for several years. In short, global change is having a wide impact by manifestation of an increased frequency of extreme events.

One of the largest contributors of climate change is the emission of greenhouse gases. Greenhouse gases include emissions from vehicles, industries and power plants. There have been concreted efforts by the global community to curb these emissions. However, three of largest emitters, United States, China and India are not party to these agreements due to various reasons. The United States views this as an anti-industry move and that enforcing such standards would hurt businesses. India and China believe that the western nations have emitted greenhouses gases in the past during their industrial revolution and that they have the right to do so now as they are undergoing a period of growth and to curb emissions now would limit industrial growth.

In reality, cutting down on emissions is neither anti-business nor anti-growth. The benefits realized from curtailing emissions will be realized in lower health care costs which are often make up a substantial portion of a company's operating costs and retiree population benefits. In India and China, lower emission implies lower pollution and hence lower costs associated with environmental clean-up. Therefore in both these situations, having controls on emissions would actually help and not hurt the economy.

Here in South Carolina where so much of the state depends on the coastal system, the effects of sea level change or increased prospects of hurricanes can be devastating. Our state houses numerous renowned coastal communities whose economies depend on the attendance at the beach. The flora and fauna in our state is of great diversity in large part

due to the marine ecosystems – the wetlands, the coastal marshes and the beaches. Changes in climate have been repeatedly shown have far reaching consequences on coastal areas.

There have been two distinct changes.

First of all, the physical climate system has undergone a change. There is no denying the increased intensity and number of hurricanes that have hit the United States and elsewhere, the television and other media images of floating ice…

Secondly and more importantly there has been a change in the public perception of climate. Society as a whole is beginning to take this issue very seriously. It is no longer an academics only subject debated in lofty ivory towers, scientific journals and specialist meetings. It is now viewed as very real and a credible threat to society. The President in his State of the Union message referred to climate change and use of alternative sources of energy. Cutting back on greenhouse gases is no longer a voluntary choice but the only remaining option…

The ball is on our court and the time is now…

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