

IAEM Bulletin, Disaster Zone Column Climate Change or Climate Variability By Eric Holdeman

While the rest of the world has been thinking about the warming climate and planet for some time, in the United States we are just now starting to catch-up with projected climate issues that will impact emergency managers everywhere.

First, it would be good to define some terminology. In some political circles and geographical areas the terms “climate change” and “global warming” are not received well. These may be referred to as voodoo science using computer models to contort what is happening in nature. One way to get around getting sucked up into the debate about the causes of climate change is to talk about the warming climate using the term “climate variability.” Many who oppose the notion of the changing climate being attributable to human causes, i.e. carbon emissions, do accept the concept that our world has gone through various periods of warming and cooling, e.g. the ice age. The term “climate variability” speaks to this issue. No matter what the cause—we need to deal with the consequences of a warming climate. I must warn you though that I have run into people who believe that the earth is really cooling at present. Personally, I think their thermometer is broken!

In climate change terms the word “mitigation” is about controlling carbon emissions. Cap and trade is one of the tools some countries are looking at for those purposes. If you are dealing with taking steps to deal with the changing climate the term used is “climate adaptation.” In emergency management terms, “climate adaptation” may look more like our typical mitigation, but I think sticking with “climate adaptation” will help you stay out of hot water. Another warning is required. For purists who are seeking to reverse global warming the thought of focusing on climate adaptation is like surrendering to the inevitable. They fear that a move to climate adaptation will negate all the efforts at climate mitigation by reducing carbon emissions. As you can see the topic can be minefield of opinions and issues.

Warmer air temperatures are projected to bring us a whole host of natural disasters. Starting with sea rise, even the conservative estimates for ocean levels will cause some significant issues around the world. While “normal” weather conditions might still make things bearable for now, combining sea rise with other weather phenomenon like the series of hurricanes we experienced in 2017 is going to make those types of events much more damaging. Take Super Storm Sandy for instance. It came ashore at high tide making the storm surge much more destructive. Sea rise for our coastal cities may be extremely damaging, especially as people and population densities continue to increase in our coastal areas.

Severe weather is predicted to become more frequent and destructive. Warmer air holds more moisture which mean record breaking rainfalls and snow storms will become predictive events. It will be interesting to see if tornado alley becomes more like tornado boulevard with wider swaths of the nation being impacted.

I find it interesting that it is estimated that in some places we'll have too much moisture and in other locations drought may become the norm. Snow pack has been the expected standard for many parts in the Western States which are supporting growing populations, hydroelectric projects and irrigation for our nation's food basket.

Not all hazards will be directly attributable to nature's "climate variability." While you might not think of the United States as being an Arctic nation, the State of Alaska borders on the arctic. The decrease in the ice pack will allow for a true Northwest Passage, first in the summer and then eventually year round. The indirect impact of this new sea route will bring with it the potential for human caused events like maritime oil spills. With vast oil reserves in that part of the world the pressure to explore and tap those resources to feed our need for petroleum products will increase.

I've only scratched the surface with the types of hazards we might experience in the coming years that are impacted by climate variability. Combine that with old and aging infrastructure and the stresses and strains that nature puts on these systems and we will have significant failures. For instance, watch for an increasing number of levees and dams to become unstable and experience failures.

As emergency managers it's time for us to promote climate adaptation measures that protect our communities.

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