Headline: Climate Change 101

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The older folks among us have noticed that typhoons and hurricanes are coming more frequently, are more destructive, and no longer follow the seasons.

In the old days, for example, the typhoon season in the Philippines usually started in July and ended in September. Nowadays, the most powerful ones are in the last two months of the year and come even in the first half of the year.

Why? Scientists say this is because of climate change. Climate change affects rainfall patterns, storms and droughts, growing seasons, humidity and sea levels.

Farmers who depend on the rains to water their crops are not sure now when to plant or harvest. The winds and rains have become more severe. The rains which come with the winds come irregularly. A few areas might even get cooler than warmer and vice versa.

Located along the typhoon belt in the Pacific, the Philippines is visited by an average of 20 typhoons every year, the latest of which were “Ulysses,” “Rolly,” and “Quinta.” In the Philippines and Southeast Asia, the typhoons have become more frequent, violent, and destructive. Hurricanes, the American equivalent of our typhoons, have also become more frequent and destructive in the United States.

But the most destructive was Supertyphoon “Yolanda” (Haiyan) in 2013. That Category 5 typhoon smashed into Central Philippines and flattened the city of Tacloban and nearby cities in Leyte and Samar, killing some 10,000 people and causing property damage in the billions of dollars. It was the strongest typhoon to hit land at 350 kilometers per hour.

What has caused climate to change? Global warming. Scientists have identified global warming as the phenomenon that leads to specific changes in climate, with unique impacts on local plants, animals, and people.

Global warming also causes the water level of oceans to rise. The UN Intergovernmental Panel on Climate Change (IPCC) has predicted that warming oceans and melting glaciers due to global warming could cause sea levels to rise 7-23 inches by the year 2100.

And what causes global warming? The short answer is human activities, according to the IPCC. Human activities lead to increased levels of “heat trapping” of “greenhouse gases” such as carbon dioxide in the atmosphere. Because the heat cannot escape into space, our globe gets warmer.

The most common way people contribute to greenhouses gases is by burning fossil fuels, or oil pumped from the earth, which converts into gasoline to run our industries. We use coal, oil, and natural gas to generate electricity, heat our homes, power our factories, and run our cars.

As the levels of carbon dioxide and other greenhouse gases increase, more heat is “trapped” and global temperatures rise. This causes significant changes in the timing and length of the seasons as well as the amount and frequency of precipitation (IPCC 2017).

So what can be done to avoid global warming? The answer is simple but difficult to implement: Stop burning fossil fuels. The world's superpowers—the United States, Europe, China, Japan, and India—must lead the way in finding substitutes for their gasoline and other fossil fuel needs to run their industries. The substitutes can be found in green energy—mainly solar, wind, waves, waste, hydroelectric, and geothermal energy.

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