From VOA Learning English, this is As It Is.

Welcome to the show. I'm Caty Weaver. Today, two reports about the environment.

One explores climate conditions during the first ten years of the 21st century. The other investigates whole ecosystems on tiny pieces of plastic in the North Atlantic's Sargasso Sea.

A new report says the world experienced "unprecedented" climate extremes between 2000 to 2010. Now, international organizations are preparing to help nations deal with expected effects of a changing climate. Kelly Jean Kelly reports.

The World Meteorological Organization, or WMO, produced the report. It examined world and local temperatures, rainfall and other precipitation during the first ten years of this century. It found that all of the years of the decade, except 2008, were among the ten warmest since records began more than 150 years ago.

The report also looked at extreme events including heat waves in Europe and Russia and Hurricane Katrina in the United States. The investigators also reviewed droughts in the Amazon Basin,

East Africa and Australia as well as floods in Pakistan.

Omar Baddour from the World Meteorological Organization says the report shows the extent of recent climate change.

"There is some dramatic change in the state of the climate and it is being observed in the present years as well."

Mr. Baddour says some extreme weather events can be explained by natural changes. But, he says, rising amounts of heat-trapping gases in the atmosphere are also changing the climate.

Bob Ward is with the Grantham Research Institute on Climate Change and the Environment at the London School of Economics. He says the problems created by weather extremes are made worse by the way the world is changing. He says the growth of cities is increasing the danger.

"If you look around the world in Asia and in parts of Africa, which are developing quickly, we're seeing large areas of population gathering in cities that are located on coastlines and they are particularly vulnerable to extreme weather."

The WMO report says 370,000 people died as a result of extreme weather events during the ten-year period. That was up 20 percent from the 1990s.

The increase was mostly the result of severe heat waves in Europe in 2003 and Russia in 2010. The report says deaths from drought and storms fell from 2000 to 2010. It says people were better prepared for these events than in the past.

Bob Ward says such preparation for climate change will be increasingly important in the years to come.

"No matter how well we reduce emissions over the next three or four decades, we're committed to a degree of climate change in any case over that period. And to help people adapt and make themselves as resilient as possible, they need information about how the climate may change."

He says making sure climate change information is communicated quickly can help prevent human disasters.

The WMO says 70 nations have little or no climate services to spread climate and weather information. The 70 countries include most of the least developed nations.

WMO official Wayne Elliot is working to start such services in Burkina Faso, Mali, Chad and Niger. He says in Niger, seasonal predictions are helping farmers to plan.

"There is a lot of information if tailored correctly for farmers that they can use to plan, for example, what types of seed, when they seed, when they water, when they need to think about harvesting crops, etc., around dry spells and around the rainfalls arriving as well."

World Meteorological Organization Secretary General Michel Jarraud says the new report disproves the belief among some scientists that global warming is slowing.

I'm Kelly Jean Kelly.

The world's oceans contain large amounts of plastic waste. Plastic bags, bottles and other trash float with the currents and can harm fish and other marine life.

Some get trapped in it. Others eat it and get sick. However, for a few ocean organisms, the plastic trash becomes home. Scientists have discovered a wide mix of microbes that make colonies of life on plastic. Jim Tedder has our story.

It takes about six weeks for a plastic bottle or bag to ride the surface currents from the coastal United States to the Sargasso Sea, in the center of the North Atlantic. The area is a gyre, an area of water that circles around and around, trapping the plastic trash in the currents. Unlike other waste found in the ocean, the plastic does not break down.

Microbiologist Tracey Mincer with Woods Hole Oceanographic Institute in Massachusetts is interested in this long term trash. He, and scientists from the Marine Biological Laboratory in Woods Hole, joined students on a boat trip to the Sargasso Sea. They collected plastic from the water to check it for microbes.

"We hypothesized that the microbes on plastic were specifically interacting with it for a reason."

The team used electron scanning tools and gene sequencing techniques to closely examine the plastic. Tracey Mincer says they found rich colonies of bacteria.

The microbiologist says the organisms in this so-called plastisphere were different from those in the surrounding water, which is lacking in nutrients.

He says this suggests that the plastic acts as a microbial reef. He says it could shelter disease-causing organisms and other harmful algal species.

"A lot of times certain toxins are oily in nature and they will absorb onto the plastic, but when the microbes interact with it and could be releasing those toxins off of the plastic."

Some of those additives to plastic are known to have hormonal effects in humans.

More than 90 percent of the trash floating on the ocean surface is plastic. Tracy Mincer says it is important to learn how the plastic affects marine species because there is a lot of it in the water.

"Fish are eating the plastic. And are they picking up certain toxins from the plastic or not?"

The scientist says this first investigation identified about 1,000 microbes that live on and interact with plastic. The research is published in the journal Environmental Science and Technology.

I'm Jim Tedder.

And that's As It Is for today. I'm Caty Weaver. Thanks for joining us.

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