



PRESS RELEASE

A Decade of Climate Extremes

The world has experienced its warmest decade in the period 2001-2010, since the start of modern measurements in 1850. During this decade unprecedented high-impact climate extremes were experienced across the globe. These were the main findings of a 100 page report, *The global climate 2001-2010, A decade of extremes*, that was published on July 3rd 2013. To come to this conclusion, experts across the globe analyzed global and regional precipitation, temperatures and extreme events such as heat waves, Hurricane events, floods and severe droughts. The results were alarming.

Climate variability is a natural phenomenon and is caused in part by the interactions between our atmosphere and oceans. Two such events are the El Niño and La Niña, which can be interpreted as some years being cooler than others. Between 2001 and 2010, there was only one moderate to strong El Niño event observed (in 2009/2010), which normally leads to higher temperatures. Much of the decade experienced either cooling La Niña conditions or neutral conditions. Notwithstanding this fact, the results show that this decade was the warmest for both hemispheres and for both land and ocean surface temperatures. The average land and ocean-surface temperature for the decade 2001-2010 was 0.47°C above the 1961-1990 global average. For many parts of the world the survey showed that all years of the decade, except for 2008, were amongst the 10 warmest years on record, with 2010 as the warmest. The record warming during this period was accompanied by a fast decline in the Arctic sea ice and glaciers, which resulted in a global mean sea level rise of 3 mm per year, about the double of the observed trend in the 20th century (1.6 mm per year).

Considering precipitation, the results showed that the 2001-2010 decade was the second wettest since 1901, with 2010 going into the history books as the wettest year since the start of instrumental records. According to the survey conducted, which resulted in the abovementioned report, floods were the most frequently experienced extreme event, while severe droughts affected more people than any other kind of natural disaster, due to their large scale and long lasting nature.

The amount of tropical cyclones did not stay behind in the North Atlantic Basin, while other Basins experienced a decline in tropical cyclone activity. According to the U.S. National Oceanic and Atmospheric Administration (NOAA), 2001-2010 was the most active decade since 1855 in the North Atlantic Basin. An average of 15 named storms per year were recorded. This is well above the long-term average of 12 per year. 2005 went into the history books as the most active year up to this date. The reason for this increase in the North Atlantic basin is still being debated.

Curaçao

Curaçao has also known its fair share of extremes during the last decade. Analyzing the data available for Hato Airport Curaçao, we come to the conclusion that the last decade can be characterized as a warm one, with 6 years (2000, 2001, 2004, 2006, 2003, 2007) ranking in the top 10 of highest maximum temperatures, as measured since 1918. 2007 and 2003 ranked the fourth and fifth highest maximum temperatures, with recorded temperatures of 36.9°C in October 2007 and 36.7°C in September 2003. The highest temperature ever recorded in Curaçao was in September 1996 and was 38.3°C.

Furthermore, two significant events, with highest precipitation in 24 hours, were recorded in this decade. One event occurred in November 2004, where 81.2 mm was recorded, while the other event occurred in November 2010, with a total amount of 106.8 mm. The latter event can be attributed to the passage of then Tropical Storm Tomás, which later on became a hurricane. The Tomás event caused the second highest precipitation amount in Curaçao for Hato, while both events are in the top 10 of highest precipitation events since 1969.



The aftermath of Tomás: bird's eye view of Saliña (Curaçao) during the morning of November 2, 2010.

Looking at the overall picture, the last decade can be characterized as a generally wet one, with 4 years in the top 10 of the highest number of wet days. 2004 Had the second highest number of wet days since 1956, 104 wet days. The highest number of wet days for Curaçao was recorded in 1988, a strong La Niña year, and totaled 117 days.

Notwithstanding, Curaçao has also known severe drought in the last decade. The years 2001, 2003 and 2009 were among the top 10 years of lowest number of wet days, with 2001 the lowest (44), and 2003 the second lowest (47), as rendered from measurements taken since 1956. The 2003 and 2009 drought events can be attributed to a moderate El Niño in 2002-2003 and a moderate to strong El Niño in 2009-2010.

As can be seen, many of the extreme events can be explained by natural variability of the climate system. However it is a fact that rising atmospheric concentrations of greenhouse gases also affects the climate. Clearly identifying the respective roles being played by climate variability and human induced climate change is still one of the main challenges being faced by researchers today.

