CARIBBEAN COUNTRIES FACED DROUGHT CONDITIONS DURING 2010

DROUGHT CONDITIONS ATTRIBUTED TO EL NIÑO

Walter Hays
From the Global Alliance for Disaster Reduction
With contributions from NEMO Secretariat, Saint Lucia
Drought—A Natural Phenomenon that Causes Disasters

Planet Earth’s atmospheric-oceanic-lithospheric interactions cause:

- Droughts
BACKGROUND
DROUGHT is an extreme environmental condition that is characterized by an absence of precipitation in the local and regional water cycle as a consequence of the physical interactions of elements of the atmosphere, hydrosphere, and lithosphere.
CHARACTERISTICS OF DROUGHTS

- SLOW ONSET
- DIVERSE IN LOCATION AND DURATION
- DIFFICULT TO MEASURE THE LONG-TERM SOCIETAL IMPACTS, ESPECIALLY HEALTH CARE AND ECONOMIC IMPACTS
DROUGHT LINKAGES

• Drought is typically linked to wildfires and (sometimes) to famine.

• Drought typically leads to major losses: a) life of people and animals, b) livelihoods, c) habitats, and d) economic.
HAZARDS
DROUGHT HAZARDS

- HIGHER TEMPERATURES
- LOWER HUMIDITY
- LESS WATER IN THE WATER CYCLE
- LOW WATER TABLES; VANISHING STREAMS, AND LAKES
DROUGHT RISKS
PROLONGED LACK OF PRECIPITATION

LOSS OF SOIL MOISTURE

LOSS OF AGRICULTURAL PRODUCTIVITY

DEPLETION/POLLUTION OF GROUND WATER

LOSS OF VEGETATION

INSECT INFESTATION

LOSS OF LAND FROM DESERTIFICATION

CAUSES OF RISK

DROUGHTS

DISASTER LABORATORIES
DROUGHT RISKS

- LOSS OF LIFE: PEOPLE AND LIVESTOCK
- LOSS OF LIVELIHOODS
- LOSS OF HABITAT (e.g., from desertification)
- BRUSH FIRES AND POSSIBLE FAMINE
2010: SITUATION IN THE CARIBBEAN
CARIBBEAN COUNTRIES EXPERIENCING DROUGHT IN 2010

- SAINT LUCIA
- BARBADOS
- SAINT VINCENT and the GRENADINES
- GRENADA
- ANTIGUA and BARBUDA
- JAMACIA
- GUYANA
- TRINIDAD and TOBAGO
DROUGHT CONDITIONS IN 2010 ATTRIBUTED TO EL NIÑO

- El Niño causes warming of the Pacific Ocean, which in turn causes Atlantic and Caribbean waters to be cooler.
EL NIÑO INCREASED TYPHOONS IN THE PACIFIC; REDUCED HURRICANES IN THE ATLANTIC

- The 2009 Pacific typhoon season was busy; the Atlantic hurricane season was not (i.e., much less rain)
Saint Lucia: Dry Road Side
Unusually dry conditions were the cause of bush fires in *Trinidad and Saint Lucia*, raising concern about watershed damage and the potential increase in flood risks and landslide risks later in 2010 and future years.
Saint Lucia: Dry Road Side
STATUS REPORTS OF AFFECTED STATES IN EARLY 2010
After living with worsening drought conditions that began in October 2009, the Caribbean Institute of Meteorology and Hydrology (CIHM) in St. James, Barbados, issued drought alerts for the Eastern Caribbean.
In 2009 the Saint Lucia Met Office indicated that the rainfall for September 2009 was the lowest on record for Castries since 1967 and the 5th lowest for Vieux Fort Since 1973.
Regional technical specialists classified this situation as an **agricultural drought** (short term), although each country had communities that were already severely impacted.
Antigua & Barbuda

There has reportedly been a marked depletion in surface water resources. Stored resources at the island’s largest dam would reportedly last until the end of February if rainfall patterns remain unchanged and existing consumption rates are maintained. The Antigua Public Utilities Authority (APUA) has implemented a water rationing system.
Barbados

Lower rain fed crop yields, decreased foliage levels and a marked increase in occurrence of bush fires compared to the same period last year due to the arid conditions have been reported. Water restrictions are being considered.
Grenada
Severely dry conditions have been experienced in Grenada since 2009. There has been a 75% increase in demand for irrigation services by farmers, while river flow levels have been notably reduced. The Government has advised citizens of the need for efficient conservation practices and has also outlined their plans for addressing the drought situation. These interventions include increasing storage capacity and augmenting its fleet of trucks for water distribution. Strict enforcement of water conservation regulations is also expected.
Guyana

The farming and hinterland communities especially at the level of households have all been impacted by the water shortages. As much as 50% of potable water consumption is being threatened in the capital Georgetown. Food Security has also become a concern among farmers.
During the last half of 2009, severely dry conditions were experienced in Grenada, causing an increased demand for irrigation water, a reduction in stream flow, and a rapid depletion of water resources.
EXAMPLE: Guyana is living with water shortages that are now adversely affecting 10,000 acres of rice land, livestock, other crops, and people.
Guyana
The government has allocated resources to support the agricultural sector and hinterland locations in response to the situation created by the drought conditions. The government has also increased its nationwide outreach to address the impact on cash and livestock farmers. The Ministry of Agriculture is also actively exploring options to access an efficient supply of water. The public has also been engaged in consultations about the existing situation and the Government has urged citizens to conserve on water.
Saint Lucia
Dry conditions have been occurring in Saint Lucia for the last six months and the water stock at various catchment sites has been depleted. Saint Lucia declared a *Water Related Emergency* on February 24, 2010 and advanced the "*Water Management Plan for Drought Conditions*" with the support of National Emergency Management Officials. Water rationing has commenced. The Ministry of Health is also monitoring the situation to ensure that the public supply of potable water is safe for consumption.
**Jamaica:**
The water supply in the Kingston and St Andrew area has been severely depleted. The water levels at two of the country’s largest reservoirs are critically low. The water stock is a mere 40% of total capacity. This is reportedly the lowest levels recorded in more than 20 years for the Mona Reservoir. Approximately 70 smaller water supply systems outside of the Corporate Area are similarly affected. Water rationing measures have been implemented. The public, through the Office of Disaster Preparedness and Emergency Management (ODPEM) is being urged to conserve and harvest water. Increased awareness of the possibility of bush fires is also being advocated.
**Trinidad and Tobago:**
Trinidad and Tobago continue to experience a significant lack of rainfall. The country’s reservoirs are recording capacities way below average. The state through the Ministry of Public Utilities has implemented water restrictions.

Citizens have been put on a distribution schedule and the state has adopted a strong regulatory stance to the non-adherence of the imposed restrictions on water usage.
RISK REDUCTION IN PROGRESS
All of the governments in the drought-affected countries issued alerts to their populations and began promoting water conservation measures.
EXAMPLE: Since the drought started, Guyana allocated $1.2 million US dollars to develop infrastructure (e.g., drainage and irrigation systems) to support farmers’ activities countrywide.
Guyana allocated resources to raise awareness among farmers that the scarce resources needed to be shared during this difficult time and provided information on dietary supplements, molasses, feed and veterinary assistance.
EXAMPLE: In Grenada the national water institution also sought to reactivate over 20 old water wells, and began to purchase water and to ship it to their small northern islands, (e.g., shipping 90,000 gallons of water to Carricou).
EXAMPLE: In Trinidad water conservation was encouraged by legislation and enforcement.
EXAMPLE: In Saint Lucia, water was rationed and the citizens were alerted that they should expect further shortages.
EXAMPLE: Saint Lucia authorities attempted to preserve and manage the depleted stock of water through creation of various catchment sites.
EXAMPLE: The water authority in Trinidad and Tobago rationed water supplies and also trucked water to areas experiencing severe shortages.
EXAMPLE: To coordinate risk reduction actions, the National Societies of Barbados, Grenada, Guyana, Trinidad and Tobago, and Saint Lucia communicated with the Int’l Federation of Red Cross and Red Crescent Society’s Caribbean Regional Representatives in Trinidad and Tobago, and the PAHO’S Disaster Response Unit.
EXAMPLE: All of the Caribbean Nations planned and undertook disaster preparedness programs, focusing on: 1) Vulnerability and Capacity Assessments (VCA), 2) community disaster response teams (CDRT), and 3) micro-mitigation programs.
THE KEY IS:

1) KNOW THE DROUGHT HISTORY OF YOUR REGION

2) KNOW YOUR COMMUNITY