ACS applies SHOCS therapy to Caribbean nations

On Christmas Eve 2013, a severe unseasonal low-level trough system passed over the Eastern Caribbean. The two most severely hit islands, Saint Lucia and St Vincent and the Grenadines, were pummelled by the torrential rains and strong winds which deposited almost 10 inches of rain over the 24-hour period from Christmas Eve to Christmas Day.

Saint Lucia experienced widespread flooding and landslides on major corridors across the island resulting in massive infrastructural damage. Critical transport infrastructure was damaged with two major bridges at Canaries and Piaye being destroyed and other bridges requiring assessment. Other road infrastructure was also damaged preventing access into some towns. There was no report of permanent damage in St. Vincent and the Grenadines, however, sections of the island remain inaccessible. As a result of the flooding and landslides that occurred during and after the rainfall, there were thirteen reported casualties; eight in St. Vincent and the Grenadines and five in Saint Lucia.

Damage from the storm is expected to run into tens of millions of dollars. This is particularly exacerbated by the fact that both islands are still grappling with the cost of rehabilitation from the Hurricane Tomas which hit the island three years ago in 2010, causing damage of US$288 million and US$588 million in St Vincent and the Grenadines and Saint Lucia respectively. It is widely felt that the infrastructural damage caused by the storm is comparable to that inflicted by Hurricane Tomas.

The challenges faced by the islands and damage caused by this unexpected and unseasonal event serve to highlight some of the particular vulnerabilities of the small island states that make up a significant part of the Greater Caribbean. Due to a myriad of issues including lack of dedicated communication infrastructure, a lack of technological resource and in some cases a lack of human resource, the capacity of the islands to warn its inhabitants and adequately prepare for events becomes compromised. It is this lack of capacity that the Association of Caribbean States (ACS) is attempting to address through implementation of projects such as SHOCS – Strengthening Hydro-meteorological Operations and Services in the Caribbean SIDS (Small Island Developing States).

Funded by the Ministry of Foreign Affairs of Finland and carried out specifically by the Finnish Meteorological Institute (FMI) as part of the Finnish Development Policy adopted in 2007, the project SHOCS seeks to enhance the capacity of National Meteorological and Hydrological Services (NMHS) and Disaster Risk Reduction (DRR) agencies in preparing Caribbean States for the adverse effects of natural disasters. Statistics provided by a 2011 World Meteorological Organization (WMO) publication[1] indicate that in the Caribbean region between 1980 and 2007, nearly 98 per cent of disasters, 99 per cent of casualties and 99 per cent of economic losses related to natural hazards were caused by recurrent meteorological, hydrological and climate-related events such as strong winds, tropical cyclones, heavy rain and subsequent flooding. Further strengthening of national meteorological and hydrological services and related Early Warning Systems (EWS) therefore becomes increasingly relevant to securing risk reduction through preparedness.

In assessing the needs related to the Caribbean SIDS hydro-meteorological services, Phase I of the SHOCS project identified a number of challenges, financial, institutional, technical and operational. Not unlike those evidenced at Christmas, these challenges constrain the capacity of weather services of the SIDS meteorological offices to ensure preparedness. Ten (10) out of the sixteen (16) countries involved in the assessment agreed that the strengthening of institutional capacity, particularly as it relates to staffing, was essential with many NMHS at present being understaffed and/or lacking professionally-trained staff. Another challenge highlighted was the lack of technical resources to enhance hazard detection, monitoring and forecasting, with many countries noting that existing models are unable to capture information at the scale needed by small island states, which would enable them to identify occurrences such as heavy rainfall that result in flash flooding and landslides.

Capacity building opportunities for EWS must therefore be supported by adequate resources, human, financial and material, in order to ensure long-term sustainability and effectiveness. With this in mind, Phase II of SHOCS builds upon the assessment provided by SHOCS I to provide concrete tools for building resilience to the impacts of hydro-meteorological hazards. It will look to improve the operational capacity of the Caribbean SIDS weather and climate services by restoring into operation for example existing Automatic Weather Stations (AWS) in selected islands, and increasing the volume of hydro-meteorological observational data shared regionally. In addition, it will provide technical training to meteorologists and IT technicians to enhance their capacity to analyze weather situations and deliver forecasts, alerts and warnings and related information in a timely manner.

Indeed the events which occurred in the sister isles of Saint Lucia and St Vincent and the Grenadines are a tragedy of immense proportions. The impact of the storm indicates that all components of the EWS process must be strengthened, from the analysis of risks, the dissemination of timely and authoritative risk-based warnings and the ability to activate emergency plans to prepare and respond. Failure of one component would lead to failure in the whole system. The ACS understands this reality and with the assistance of other regional organisations through the project SHOCS, attempts to bolster the preparedness of Caribbean societies to future shock attacks.

[1]World Meteorological Organisation (WMO), 2011. Strengthening of risk assessment and multi-hazard early warning systems for meteorological, hydrological and climate hazards in the Caribbean.