

Integrated Water Resources Management (IWRM) Projects and Initiatives in the Caribbean

Title: The Caribbean Drought and Precipitation Monitoring Network (CDPMN)

Organisation: Caribbean Institute for Meteorology and Hydrology (CIMH)

Aims and Objectives:

The Caribbean Drought and Precipitation Monitoring Network serves several purposes. Linking national and local government organizations, the CDPMN collects drought and flood data and makes relevant information available to water managers, farmers, and citizens. Drawing on the broader network, CDPMN also identifies and monitors trends. This information is provided in a monthly update that is made available to the general public, and in more targeted outreach to the directors of 16 national meteorological offices in the region. CDPMN affiliates have been meeting with stakeholders to identify and fill capacity gaps, and to make suggestions regarding drought policy.

As an addition to these final drought and precipitation status products, short term and seasonal precipitation forecasts will be used to provide a projection of future drought and excessive precipitation in the short and medium terms.

Duration: Start Year: 2009 Completion Year: Ongoing

Additional Comments:

Estimated Cost (USD): Not Known

Funding Source:

CARIWIN, Canadian International Development Agency through University Partnerships in Cooperation and Development until 2012. Post 2012 it will receive funding from UN FAO of Brazil an amount of USD 70,000.

Global Water Partnership-Caribbean IWRM Projects and Initiatives Database

Contact Information: Dr. Adrian Trotman, Caribbean Institute for Meteorology and Hydrology, Barbados; **Telephone:** (246) 425 1362/3/5; **Email Address:** atrotman@cimh.edu.bb; **Web Address:** http://www.climate-services.org/sites/default/files/CDPMN_Case_Study.pdf; <http://63.175.159.26/~cdpmn/cdpmn.html>

Key Words: Forecasting; Drought; Precipitation; Monitoring; Network

Geographic Coverage: Caribbean Wide

Sectoral Focus: Water; Agriculture; Emergency Management

Target Beneficiaries: Primary: National Meteorological Organisations; Also: General Public, Farmers, Water Resource Managers

Outputs:

Through the CDPMN, CIMH gathers and compiles relevant climate information from regional meteorological offices throughout the region. Information is also provided by the European Center for Medium-Range Weather Forecasting (ECMWF), the International Institute for Climate and Society (IRI), and the UK Meteorological Office. Data and information are used to produce a number of drought monitoring and forecasting tools such as

- Standardized Precipitation Index and deciles for current conditions
- Standard Precipitation Index Outlook, developed using the Caribbean Precipitation Outlook.
- Caribbean drought bulletin publication

Project Links and References:

http://www.climate-services.org/sites/default/files/CDPMN_Case_Study.pdf;
<http://63.175.159.26/~cdpmn/cdpmn.html>

Global Water Partnership-Caribbean IWRM Projects and Initiatives Database

Impact:

- The use of SPIs and Deciles were instrumental in assessing the severity of the 2009-2010 drought, and has been employed ever since.
- CDPMN has improved since it was created in 2009. It has proved useful during and acted as a major catalyst in the development of policies throughout the Caribbean
- Although the resources for CDPMN were limited, it was still able to produce information that was useful and incorporated into many governments' decisions
- Affected governments are using the CDPMN's service to create policies and formulate action plans for the next extreme drought.

Sustainability:

- **Limiting factor - funding** - Even though CDPMN is confident about its utility in the region, the question where funding will come from after 2012 is uncertain.
- **Limiting factor - data** - Another important lesson has to do with CDPMN's ability to scale and provide tailored information being dependent upon its users. Although national forecasts would be very useful, CDPMN is unable to provide them unless it can get long-term precipitation data. This illustrates the need for more data sharing between climate service institutions and governments. Additionally, although there is data available in some countries, the communication of this data to CIMH is not always promptly given, which hinders the production of timely climate information.
- **Limiting factor – capacity** - There are capacity concerns within CIMH and the national agencies. Many persons perform the activities of both CDPMN and the Precipitation Outlook on their own time out of interest in, and the importance of, the activity and outputs

Lessons for the Future:

Information not available

Global Water Partnership-Caribbean IWRM Projects and Initiatives Database

Opportunities Arising from the Project:

- There is a need to validate the SPI Outlooks. Researchers at CIMH are working to create hind casts for the SPIs Outlooks, but there are several datasets that are missing dates or have only partial time series. This has complicated the process. As a result, it is hard for the user to know how reliable the Outlooks are.
- CDPMN hopes to offer national as well as regional outlooks. It also hopes that other countries in the Caribbean that are not a part of CMO will begin to contribute their data in order to create a more robust regional outlook.
- The next step for CDPMN is to create longer-range forecasts to give decision makers and users a better idea of the distant future. However, this is a difficult goal to achieve since it requires more information and rigorous validation of the methods used, and cannot be accomplished until the SPI has been validated and its efficiency verified.

Further Comments:

A case study of the CDPMN can be found at the link below. This provides a useful overview of the system, including lessons learned and recommendations. The case study has been used to populate section 3 of the questionnaire.

http://www.climate-services.org/sites/default/files/CDPMN_Case_Study.pdf