

**Improving Agrometeorological  
Bulletins –  
Perspectives from the  
Caribbean Region**



## **Agrometeorological Services in Jamaica**

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### **Introduction**

Jamaica is an island in the Caribbean Sea with a total landmass of 4411 square kilometers. The island is centered on latitude 18° 15' North and longitude 77° 20' West. Jamaica is approximately 145 kilometers south of the island of Cuba. The Island is elongated along west-northwest to east-northeast alignment, roughly 230 kilometers long and 80 kilometers wide at its broadest point. The country has several rugged mountain ranges, with the highest point, the Blue Mountain Peak soaring over 2,256 meters. More than 120 rivers flow from the mountains to the coast. There are several plains, hectares of fertile agricultural lands, towering cliff's waterfalls and dense tropical forests. The island is divided into fourteen parishes and Kingston is the capital city. The population amounts to nearly 2, 600,000 inhabitants.

### **The Meteorological Service**

The Meteorological Service currently resides in the Ministry of Water and Housing. There are five major divisions within the service: the National Meteorological Centre, the Caribbean Radiosonde Network, the Radar Section, the Synoptic Sub Station and the Corporate Head Office (which houses the Climate Branch and administrative sections).

The agrometeorology section resides in the Climate Branch section. Currently, no agrometeorological bulletins are issued by the service, but data from the service are supplied to the farming community and on request to other groups with agricultural interests. A high staff turnover rate in the Agrometeorological section severely affected its development. The recent departure of two trained individuals has brought the situation back to the early stages. New initiatives to fully revive this section are underway.

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## **Agriculture in Jamaica**

Agriculture remains one of the key economic sectors of Jamaica. This sector contributes approximately to 7.3% of the Gross Domestic Product (GDP), which represents approximately 12 % of the foreign exchange earnings and employs approximately 25 % of the population. Sugarcane is the most important crop in Jamaica contributing approximately 45% of the export earnings for all exported crops. Bananas are the second most important crop. Coffee, citrus, pimento, coconut and cocoa are also exported. With the strong dependence of agriculture on weather, and the thrust to cope with fluctuations in yields imposed by climate variations, the need for timely and accurate agrometeorological information has increased. The Ministry of Agriculture produces a quarterly report on comparative estimates of domestic crop production and area reaped.

Additionally, the Pesticides Control Agency produces a farmer calendar. This publication focuses on the planting season, the crops grown and the application of fertilizers and pesticides. The Meteorological Service supplies rainfall data for this publication, which is their only input. Research agencies and the Rural Agriculture Development Agency (RADA) provide support services for the sector. St. Elizabeth, the parish that produces the largest share of domestic crops, is located in the rain shadow zone of the island. Known as the “bread basket” of Jamaica, the parish is sited to the south west of the island. Most of the parish receives less than 100 mm of rainfall per month, (less than 1000 mm annually). Recently two irrigation projects were launched in the parish, funded by the government through funds provided from international agencies. In Jamaica, there is a strong reliance on traditional farming techniques. These methods will have to be revised, and in some cases dispensed, to cope with the challenges of developing and maintaining a more viable and efficient sector.

### **Recommendations**

Following a workshop hosted at the Caribbean Institute of Hydrology and Meteorology (CIMH) held the 3-4 July 2000 in Barbados, the following recommendations for Jamaica were made.

The Meteorological Service should:

- Develop precipitation outlook for Jamaica, using output from CIMH.
- Monitor temperature changes and make temperature forecasts for farmers.

- Determine crop zones for agricultural land-use (with the aid of agricultural agencies and GIS technology).
- Coordinate the work of multidisciplinary teams with representatives from the Meteorological Service, Water Resources Authority, Rural Agricultural Development Agency, the Ministry of Agriculture and other interest groups.
- Produce a 3-5 day agrometeorological forecast for critical districts using farmer-friendly terminologies.
- Formulate soil water balance calculations for Jamaica (aided by Cuba and WMO).

The Agricultural community would:

- Identify periods during which data was most urgently required and the exact data needed.
- Identify sources of agricultural, soil and phenological data and forward it to the Meteorological Service.

Many of these recommendations have not yet been adopted. Various circumstances have prevailed, whereas not the least is a current chronic shortage of staff. A first step to overcoming these obstacles consists in establishing closer relations between the Meteorological Service and the Ministry of Agriculture. However, current links are tenuous.