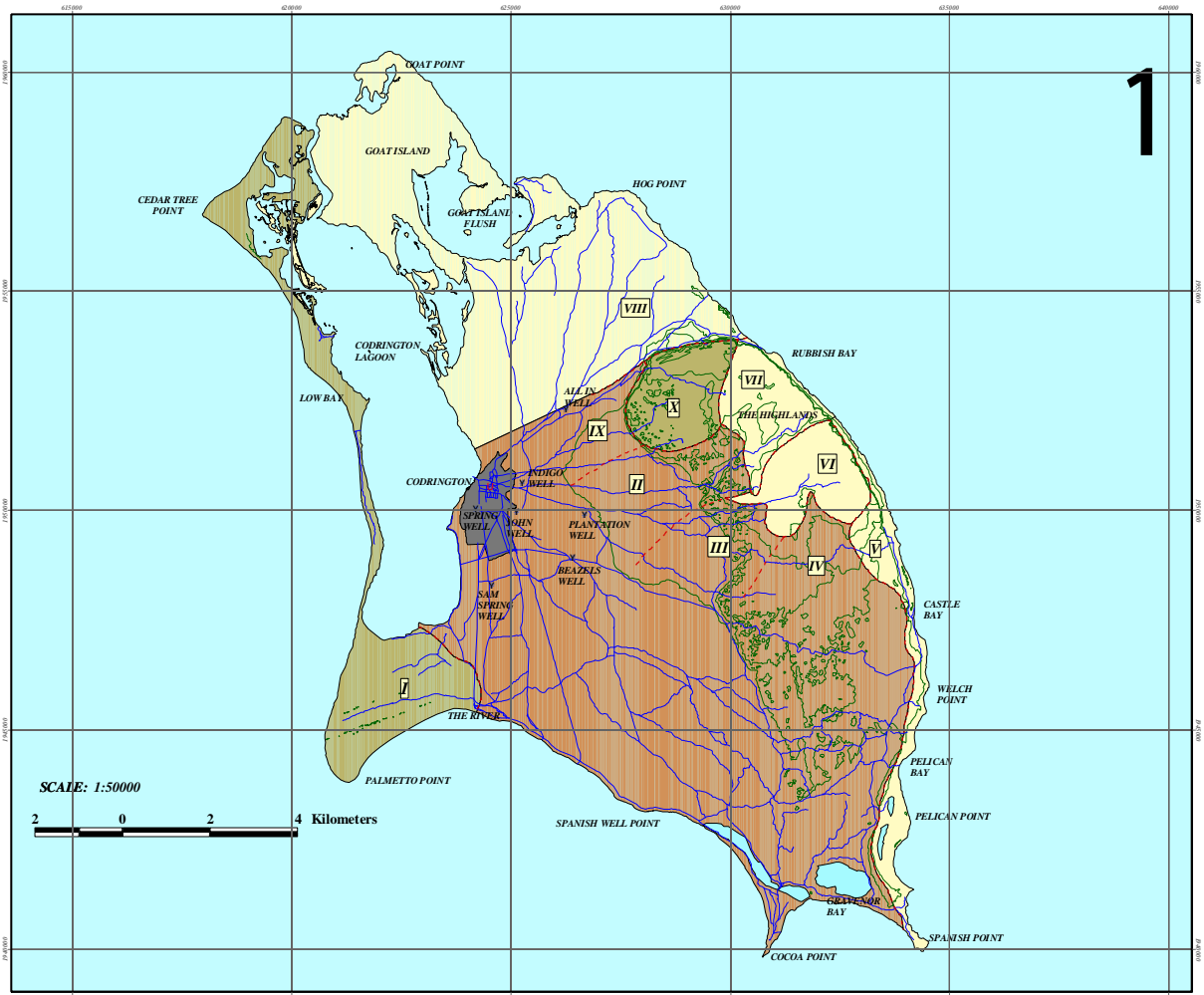


# BARBUDA DROUGHT RISK MAP



SCALE: 1:50000

2 0 2 4 Kilometers

## LEGEND

### Drought risk

LOW RISK

MODERATE RISK

HIGH RISK

WATERSHED NUMBERS

WATERSHED BOUNDARIES

CONTOURS

ROADS

WELLS

SETTLEMENT

## EXPLANATORY TEXT

### Drought Risk Criteria for Mapping

Mapping of areas on the basis of their risk to drought, namely - low, moderate, high, very high - is based on a set of criteria. Vulnerability to drought is associated with each criterion:

#### Environmental/Meteorological

- Rainfall < 35 inches
- Exposure to wind and marine influences
- Shallow soils
- Slopes > 11°
- Cactus scrub vegetation

#### Hydrological/Infrastructure

- Absence of wells
- Absence of agricultural reservoirs

#### Human/Landuse

- Cracking
- Crop location
- Population density > 5,000 per sq. mile

The level of risk was determined by giving each criterion a numerical value of 1 and the total value used to rank watersheds as shown:

- Low drought risk - 4
- Moderate drought risk - 5-6
- High drought risk - 7-8
- Very high drought risk - 9

#### Ranking was determined by:

- The spatial occurrence of vulnerability themes (criteria) in each watershed; and by
- Overlying themes and observing the frequency and extent to which intersecting of themes occurred.

DATE: MARCH 2001

PGDM WEBSITE:

<http://www.OAS.org/pgdm>



## USE AND LIMITATIONS OF MAP

Drought risk ranking by watersheds for Barbuda was achieved by manipulating data from five (5) data maps (vegetation, soils, slopes, watersheds and land use) in accordance with the described drought risk criteria. This drought risk map can be used by planners and administrators as a point of departure for spatial analysis of vulnerability issues at the watershed level. Spatial analysis within and across water zones can be facilitated by GIS overlay or merging applications using digital versions of the data maps, along with a digital contour map previously produced by the PGDM project.

Only limited field observations were possible in preparing the data maps. Therefore, secondary sources were primarily used and problems were encountered getting up-to-date information for mapping. Inadequate infrastructure for data collection and management was also found to be a limiting factor in map preparation for the island. Therefore, while this drought risk map provides a useful point of reference for drought mitigation, field investigations are required to update information on the data maps, in some cases, to support additional spatial analysis of vulnerability and risk at the watershed level that would be critical to drought mitigation.