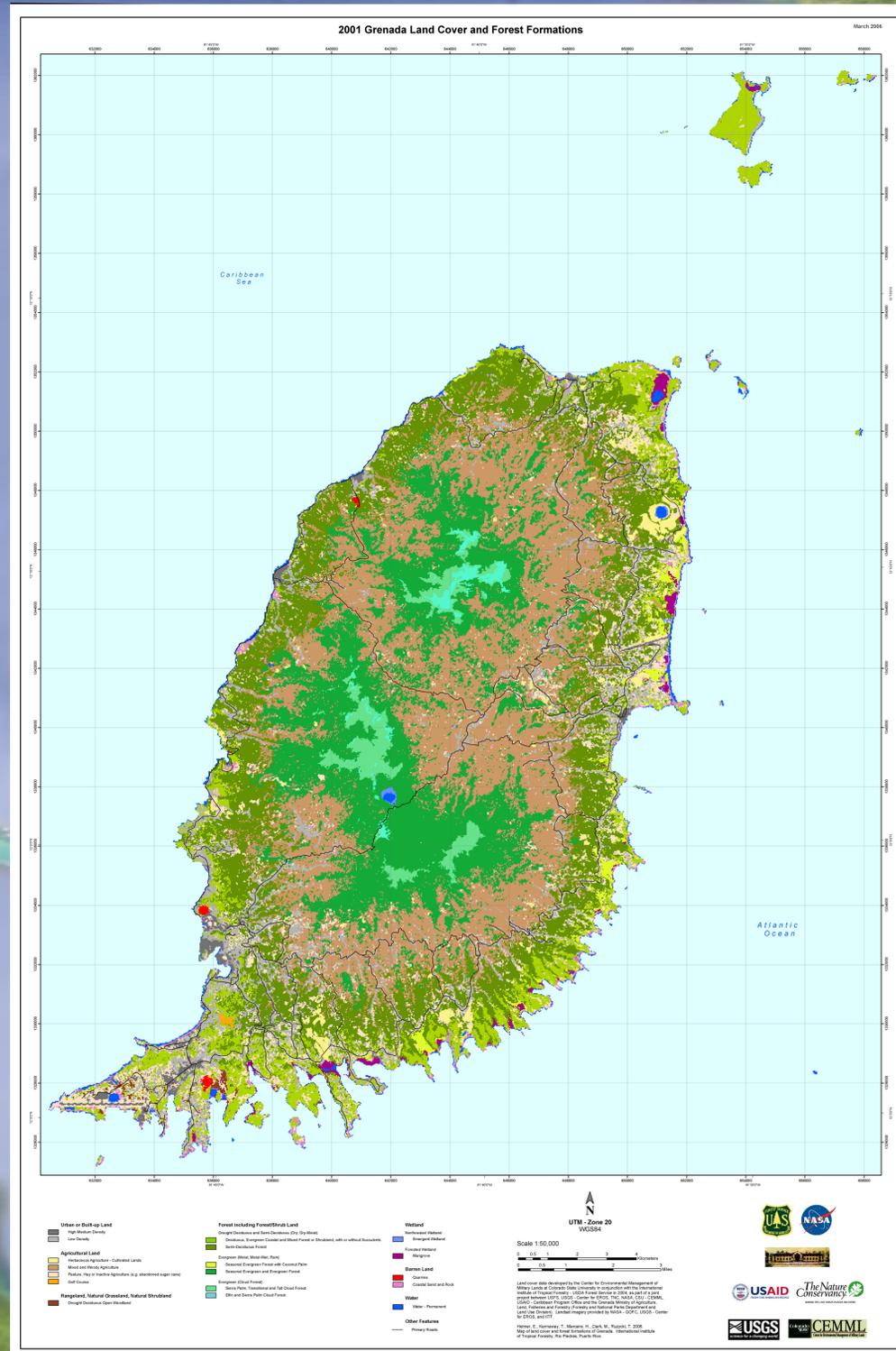


Forest Formation and Land Cover Map Series: Grenada

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ABSTRACT

From Helmer and others, 2007, Distributions of land cover and forest formations for St. Kitts, Nevis, St. Eustatius, Grenada, and Barbados from satellite imagery: in review, International Institute of Tropical Forestry, Río Piedras, Puerto Rico.

Forest formation and land cover maps for several Caribbean islands were developed from satellite imagery for a multi-organization project. For the map of Grenada (Helmer and others, submitted), we used decision tree software to classify Landsat Enhanced Thematic Mapper Plus (ETM+) image mosaics. The classifications were created from ancillary raster data, including topographic variables (Farr and Kobrick, 2000), combined with spectral bands from the Landsat image mosaics. The image mosaics were developed with regression tree normalization (Helmer and Rufenacht, 2005), which replaced cloudy parts of the scenes with data from other Landsat scenes. The accuracy of the Landsat image classification was assessed with 1-m pan-sharpened, false color IKONOS imagery. The forest classification scheme relates closely to that described in Areces-Malea (1999), with modifications similar to those in Helmer (2002).

A comparison of land cover areas in the maps with the areas reported by Beard (1949) reveals that land under cultivation on Grenada declined over the second half of the 20th century (Helmer and others, submitted). At the same time, areas of forest cover have increased as forests have been re-established on lands that were formerly grazed or cultivated. Developed lands have also increased on Grenada, mostly at lower elevations. Higher elevation forests on Grenada are generally well-protected, particularly submontane evergreen and evergreen cloud forests. Drier forest formations are not as well protected, where most land cover change to urban or residential land occurs.

CONTRIBUTORS

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DATA AVAILABILITY

These land cover data and cartographic products will be available in June 2007 for download at the following Web sites: USGS Center for Earth Resources Observation and Science - International Programs (<http://edcintl.cr.usgs.gov>) and USDA Forest Service International Institute of Tropical Forestry (<http://tropicalforestry.net/>).

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