Grids & Datums

Montserrat

by Clifford J. Mugnier, C.P., C.M.S.

On 11 November 1493, Christopher Columbus discovered the island and named it after Santa Maria de Montserrate, the mountain abbey outside of Barcelona, Spain. "English and Irish colonists from St. Kitts first settled on Montserrat in 1632; the first African slaves arrived three decades later. The British and French fought for possession of the island for most of the 18th century, but it finally was confirmed as a British possession in 1783. The island's sugar plantation economy was converted to small farm landholdings in the mid 19th century. Much of this island was devastated and two-thirds of the population fled abroad because of the eruption of the Soufriere Hills Volcano that began on 18 July 1995" (*World Factbook, 2011*).

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"In early 2007, Montserrat government authorities warned residents and visitors of volcanic activity and an increase in pyroclastic flows in Tyres Ghaut, Gages Valley and behind Gages Mountain. After placing sections of the lower Belham Valley off limits in January 2007 due to the danger posed by growth of the volcano's dome, the government of Montserrat lifted those restrictions in September. Access to all areas on the southern flanks of the Belham Valley east of the Belham Bridge and areas south remains prohibited, as is south of Jack Boy Hill to Bramble Airport and beyond. The Government of Montserrat has issued several recent proclamations and warnings urging residents and visitors to be vigilant and to be prepared to move at short notice. It last erupted in January 2009, requiring the large-scale evacuation of residents. Since that evacuation, residents have returned to their homes. On October 4, 2009, a series of eruptions began, but no one has been required to evacuate as of yet" (*U.S. Dept. of State, 2011*).

Montserrat is about 0.6 times the size of Washington, D. C., the lowest point is the Caribbean Sea (0 m), and the highest point is Chances Peak in the Sourfiere Hills (914 m). The island was originally mapped by the British Directorate of Overseas Surveys (DOS) from aerial photography taken from 1952–1959. There is one sheet at 1:25,000 scale of the island. The DOS performed a geodetic control survey and established the local datum origin at point M-36, the Montserrat Island Astro in 1958. The ellipsoid of reference is the Clarke 1880 where: a = 6,378,1249.145 m, and $^1/_f$ = 293.465. DOS established a local British West Indies (BWI) Transverse Mercator Grid for the island where the Central Meridian (λ_o) = 62° W, Latitude of Origin (φ_o) = Equator, the Scale Factor at Origin (m_o) = 0.9995, the False Easting = 400 km, and the False Northing = nil (zero at the Equator). The shift **from** Montserrat Island Astro 1958 Datum **to** WGS 84 Datum is: ΔX = +174 m ±25 m, ΔY = +359 m ±25 m, and ΔZ = +365 m ±25 m.

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