**Debris Avalanche Formation at Kick'em Jenny Submarine Volcano**

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Kick'em Jenny submarine volcano near Grenada is the most active volcanic center in the Lesser Antilles arc. Multibeam surveys of the volcano by NOAA in 2002 revealed an arcuate fault scarp east of the active cone, suggesting flank collapse. More extensive NOAA surveys in 2003 demonstrated the presence of an associated debris avalanche deposit, judging from their surface morphologic expression on the sea floor, extending at least 15 km and possibly as much as 30 km from the volcano, into the Grenada Basin to the west. Seismic air-gun profiles of the region show that these are lobate deposits, that range in thickness from tens to hundreds of meters. The debris avalanche deposit is contained within two marginal levees, that extend symmetrically from the volcano to the west. A conservative estimate of the volume of the smaller debris avalanche deposit is about 10 km3. Age dating of the deposits and the flank failure events is in progress, by analysis of gravity cores collected during the 2003 survey. Reconstruction of the pre-collapse volcanic edifice suggests that the ancestral Kick'em Jenny volcano might have been at or above sea level. Kick'em Jenny is dominantly supplied by basalt to basaltic andesite magmas, that are extruded now as submarine pillow lavas and domes or ejected as tephra in relatively minor phreatomagmatic explosions. Geochemical evolution of this volcano has not, however, reached the stage of generation of volatile-rich silicic magmas that might form highly explosive eruptions.