

**TC4 DC8 Science Flight: July 29, 2007**  
**Tentative Flight Plan**

**Flight Scientist:** M. Schoeberl

**Sortie:** Stratus

**Pilots:** Ed Lewis and Mike Fuller

**Takeoff (SJO):** 1230 UTC

**Landing (SJO):** 2030 UTC (14:30 PM local)

**Duration:** 8:00 hrs

**Objectives:**

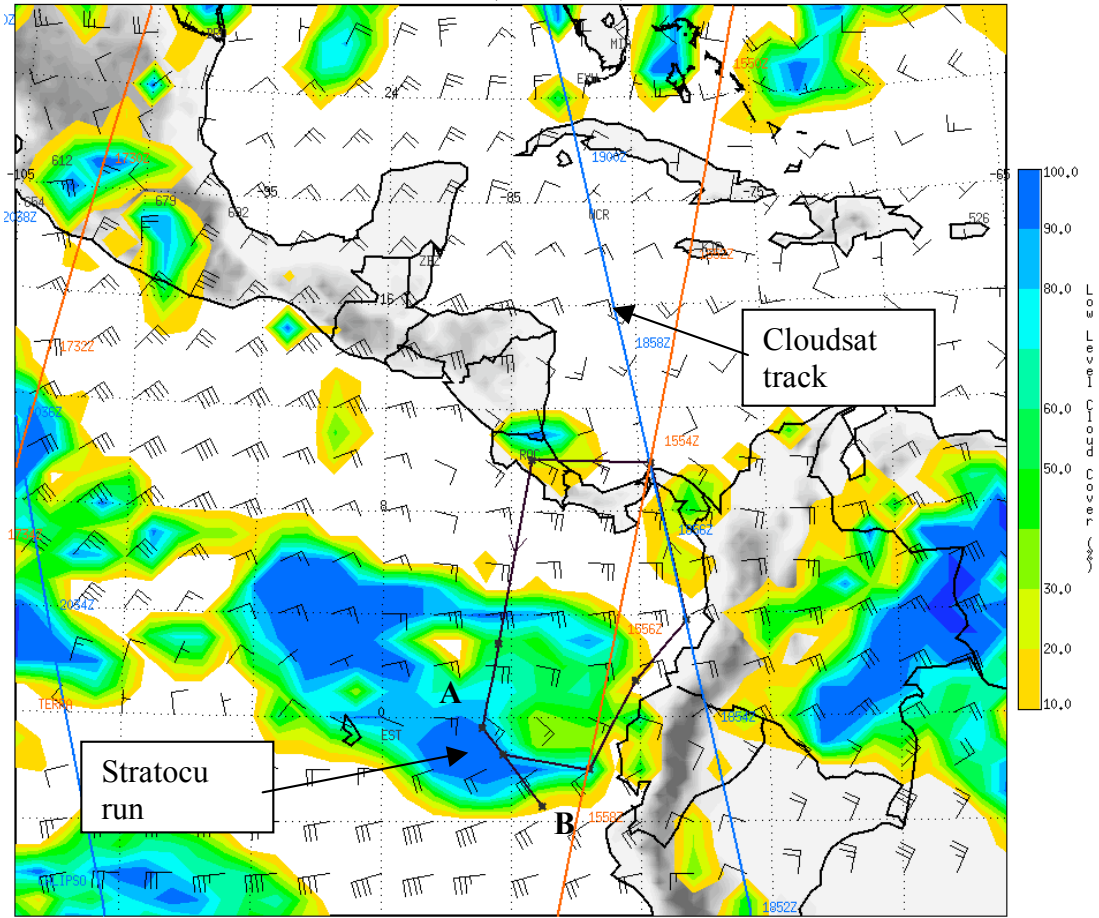
1. Examine chemical and particle distributions of stratus layers off Ecuador
2. Sample the Tungurahua volcanic plume
3. Underfly the CALIPSO and Cloudsat tracks
4. Avoid turbulence and lightening

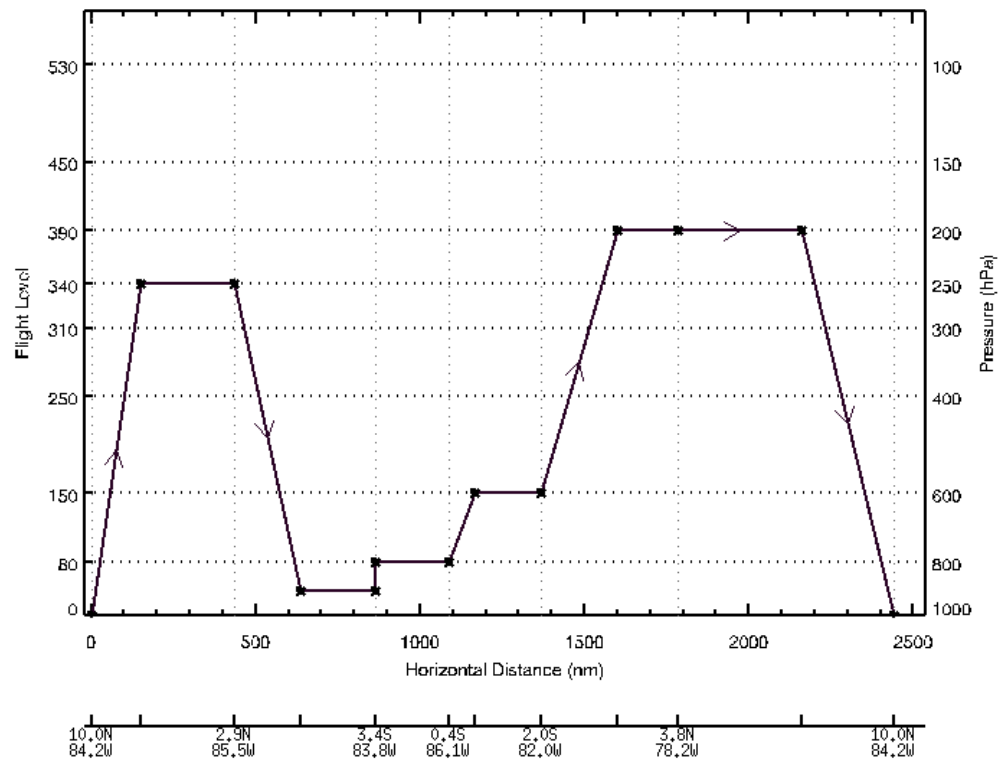
**Flight Profile.** We will transit from SJO to a Nav point off the Ecuador coast and descend into the stratus layer. We will fly a NW-SE track first below the stratus layer and then return porpoising through the layer on short 3 minute legs; each long leg will be ~40 minutes. The porpoising will be – 3 minutes level, 3 minutes up – 3 minutes level – 3 minutes down (to base) – 3 minutes level, etc., CPI probe should be set to “random mode” for these runs. Whole air samples should be made in the mid-cloud region and on the level legs. After returning to the starting point we will ascend to about 5kf and look for the volcanic plume, this will give us the opportunity to also look at CO emissions and black carbon emissions from South American burning regions. Once we locate the volcanic plume, we will follow the Tungurahua plume eastward to Ecuador then turn north toward the flight track around Ecuador. Finally we will head north until we intersect the CloudSat track and follow it north – northwest until we cross Panama and we will return to Costa Rica.

1728Z

NCEP GFS Wind Flags (knots) on Press = 250. hPa

Init:2007072800 Valid:2007072818





Tungurahua volcano