

Rain over Argentina (VIRS, TMI, PR)

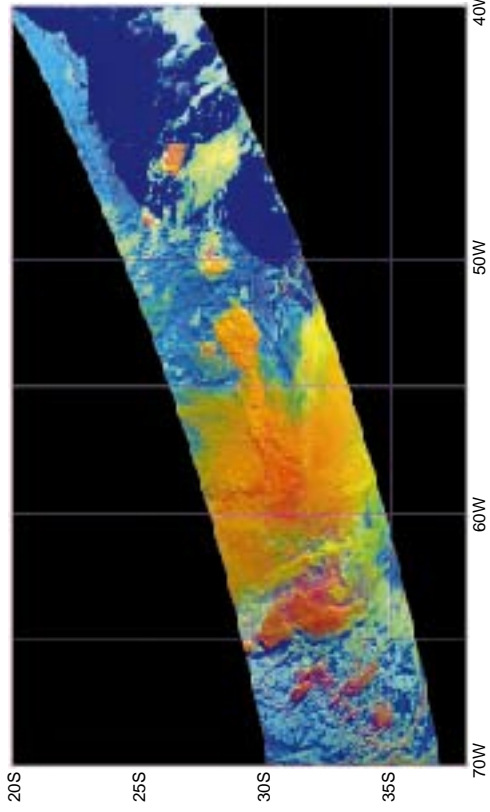


Fig.1 VIRS: RGB color composite

R,G,B = band 1,2,4

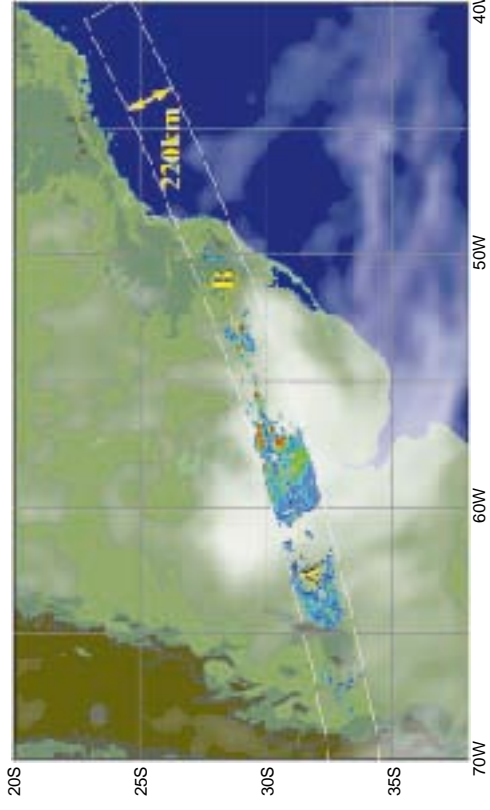


Fig.3 PR: Horizontal Cross Section of Rain at 2.0km Height

GOES IR 12:00 (UTC) by JWA

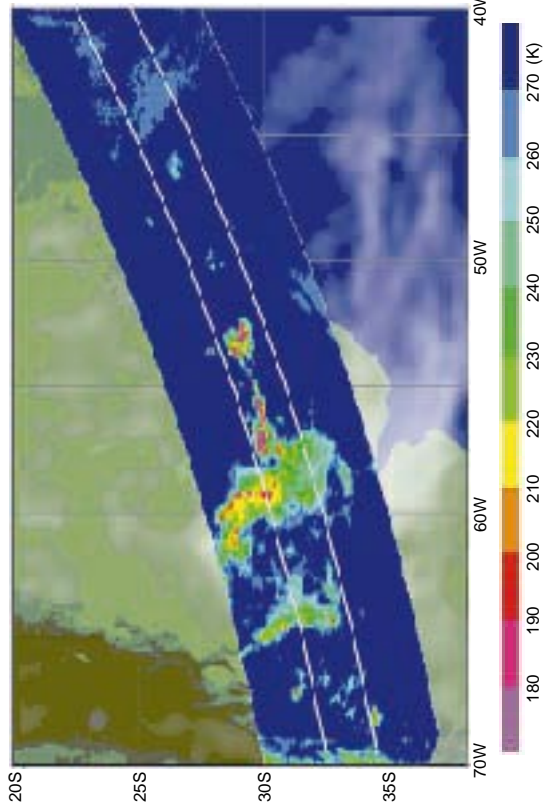


Fig.2 TMI: 85GHz V-POL. Brightness Temperature

GOES IR 12:00 (UTC) by JWA

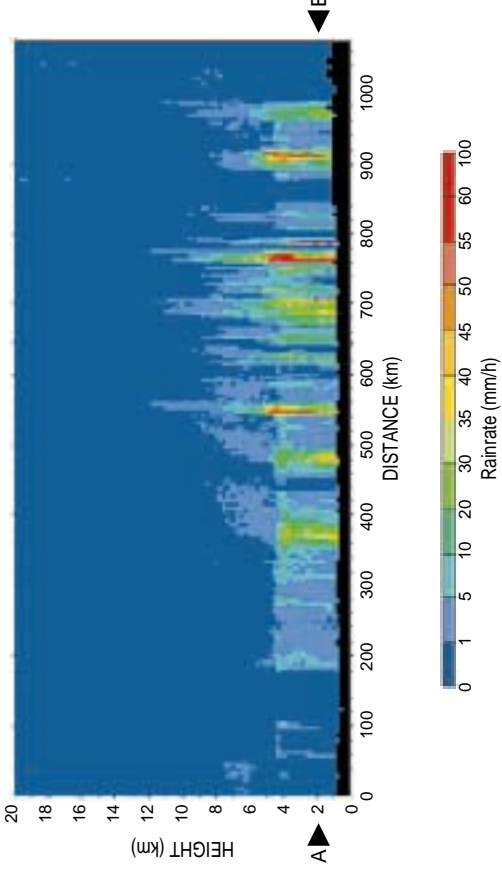


Fig.4 PR: Vertical Cross Section

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These images are simultaneous images of rain over northern Argentina and Uruguay from the Visible Infrared Scanner (VIRS), TRMM Microwave Imager (TMI) and Precipitation Radar (PR) from 10:40 to 10:48 on Feb. 20, 1998 (UT). Figure 1 is a color-composite RGB image of channels 1 (visible), 2 (near infrared) and 4 (infrared) (for red, green and blue respectively) observed by VIRS. Figure 2 shows the 85GHz, vertically polarized brightness temperature observed by TMI. Figure 3 shows the horizontal cross section of rain at 2.0km height. Figure 4 shows the vertical cross section of rain along the line AB in Fig. 3.

Optically thicker clouds at the upper layers are reddish in Fig. 1 because of the high reflectivity of ch 1 and their low temperature. Figure 3 shows that rainfall was observed in these areas. It is clear in Fig. 4 that the heavy rain developed in the layers above the heavy rain which was in the lower layers. Generally, there were ice crystals over the rain which developed at high altitudes. The brightness temperature in Fig. 2 decreased due to microwave scattering caused by these ice crystals.

In this way, the rainfall process in the clouds and the characteristics of rainfall will be revealed by the simultaneous measurement by these three sensors.