

Weather Report (2010/03/14)

In March 14th, the observations made at Meteorological Facilities of CLA showed few clouds than previous day above Alcântara. In the beginning of day the sky was partially covered. Few kinds of clouds were observed during this day, but cumulus presented the most frequency. This kind of cloud presented base height at 540 m. The Fig. 1 showed that whole day presented the great wind speed values with predominant direction of Northeast. Hourly variations of the air temperature and mixing ratio are presented in Fig. 2. A minimum and a maximum of air temperature were observed, computing 3 °C difference between each one, with minimum along the morning and maximum in the afternoon. It can be noted in Fig. 2 that the mixing ratio showed great variability during the day. The sea level pressure variation is shown in Fig. 3.

Light rain was observed, mainly close to 00:30 UTC. This precipitation occurred mainly in village site at 00:50 UTC. Rain gauges registered rainfall in village's site only. The maximum amount observed was 0.5 mm of precipitation. The upper level cyclonic vortex has continued to influence in the circulation above experiment area. Several rain systems caused precipitation in adjacent areas. The CLA RADAR also registered the precipitation at 00:30 UTC (Fig. 4). The RHI echoes shows that the precipitating cloud top reached to a height of 3 km with few minutes of duration. The thermodynamical conditions at São Luis airport station can be seen at Figure 5. The atmosphere presented the lowest values of instability, approximately 725 J/kg. Increasing instability during the day, though. The Skew T – log P diagram obtained by the radiosondes at the Meteorological Facilities of CLA got it (Fig. 6).

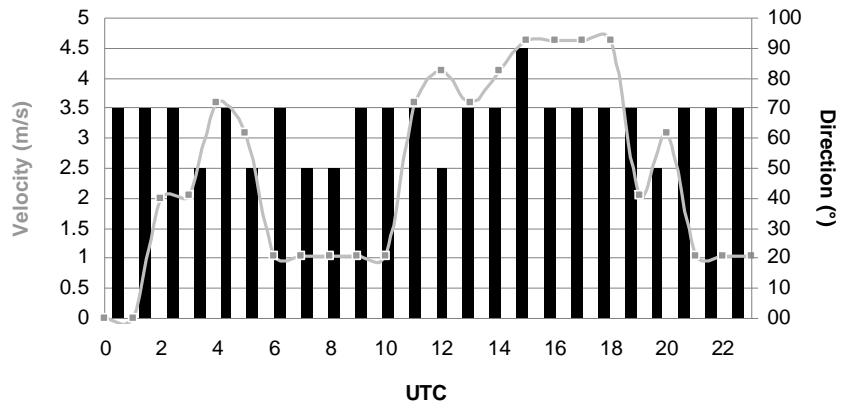


Figure 1 – Hourly wind direction and velocity for 2010/03/14.

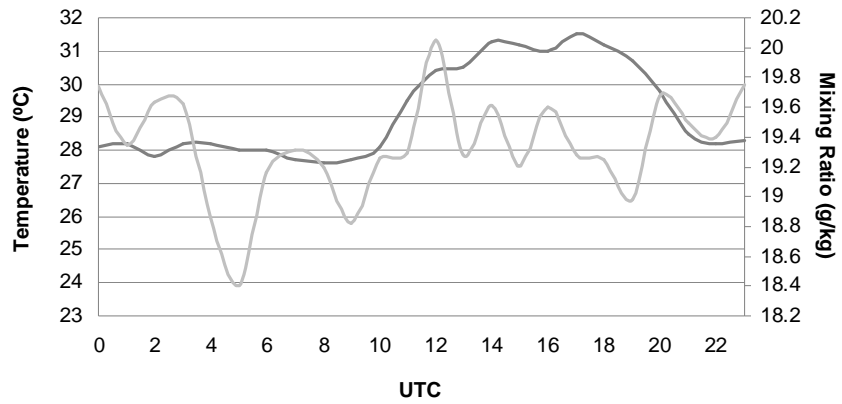


Figure 2 – Hourly temperature (black) and mixing ratio (gray) for 2010/03/14.

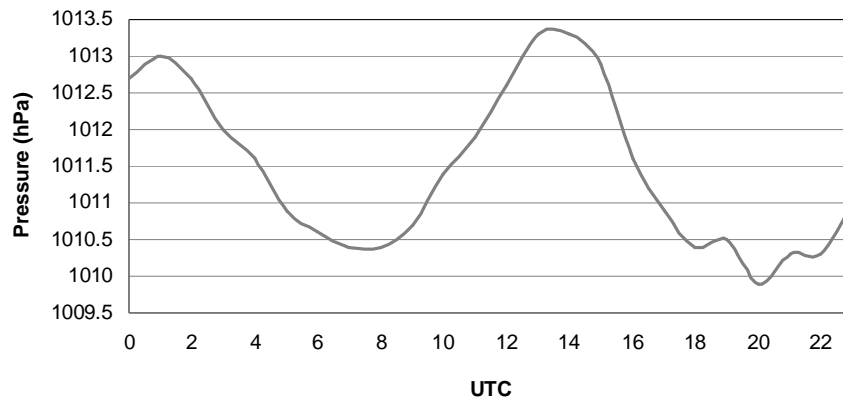


Figure 3 – Hourly sea level pressure for 2010/03/14.

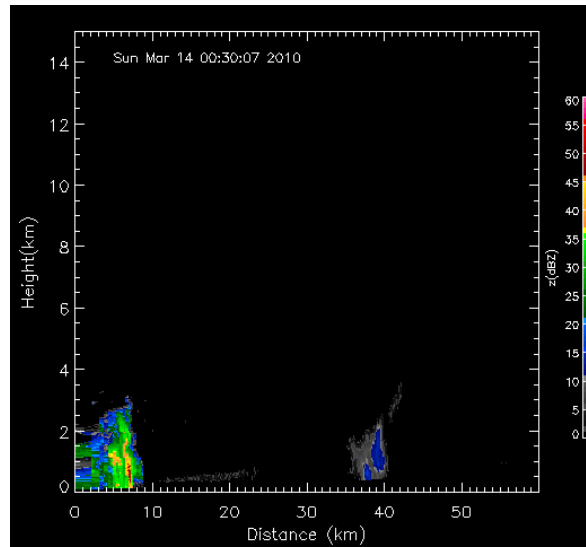


Figure 4 – RHI at 141.2 ° azimuth from CLA RADAR.

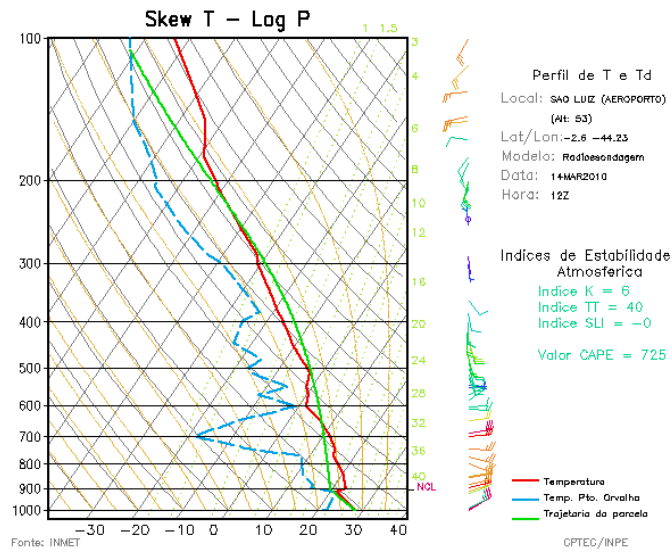


Figure 5 – SkewT LogP diagrams in São Luis airport (Near to Alcântara).

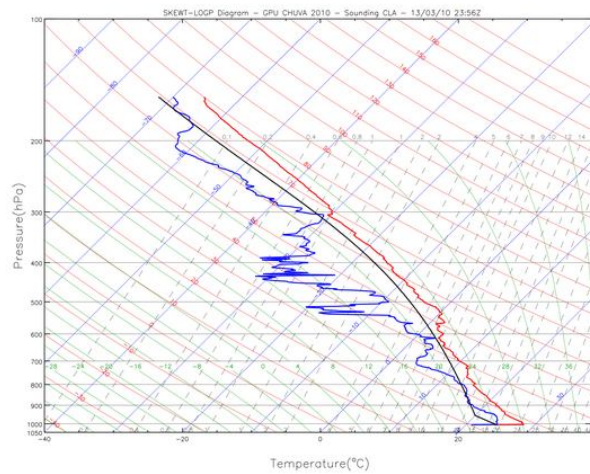


Figure 6 – Sequence of SkewT LogP diagrams. Continue.

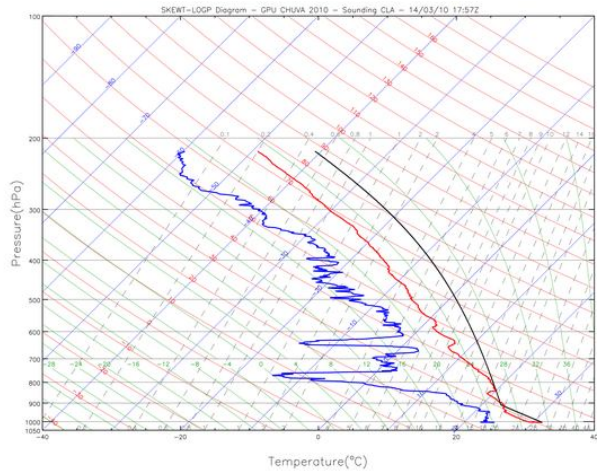
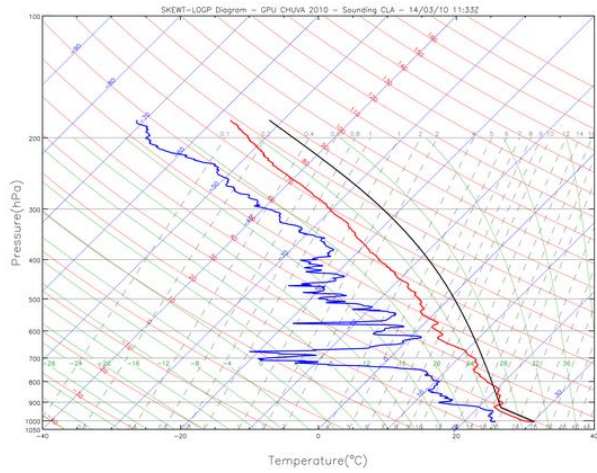
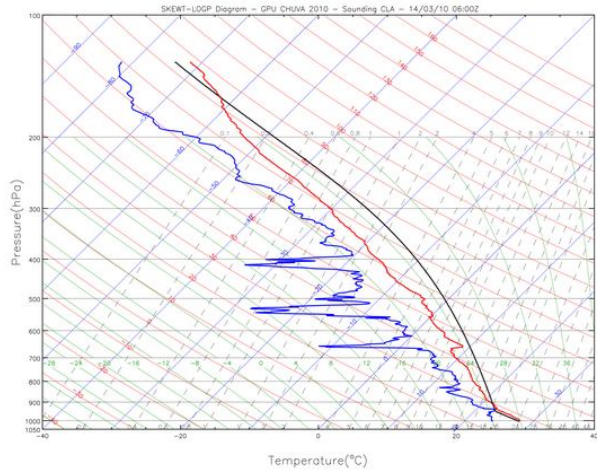


Figure 6 – Conclusion.