Weather Report (2010/03/15)

In March 15th, the observations made at Meteorological Facilities of CLA showed few clouds above Alcântara. During day the sky was partially covered. Just two kinds of clouds were observed during this day, cumulus and cirrus, but cumulus presented the most frequency. This kind of cloud presented base height about 540 m. The Fig. 1 showed that whole day presented the greats 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 4 ºC 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 greats variability during the day, as well as previous day. But it showed a increasing tendency in the end of day. The sea level pressure variation is shown in Fig. 3.

Light rain was observed. This precipitation occurred mainly in village and INPE sites. 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 05:12 UTC (Fig. 4). The RHI echoes shows that the precipitating cloud top to reached to a height of 4 km with few minutes of duration. The thermodynamical conditions at São Luis airport station can be seen at Fig. 5. The atmosphere presented great value of instability, approximately 3075 J/kg. The Skew T – log P diagram obtained by the radiosondes at the Meteorological Facilities of CLA can be seen at Fig. 6.
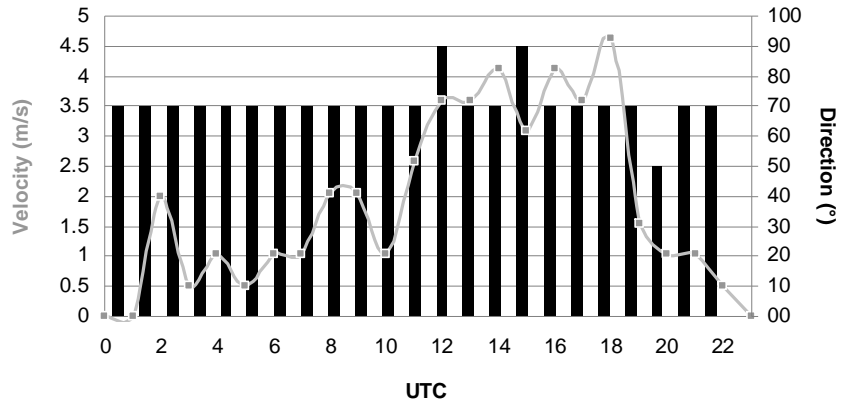
Figure 1 – Hourly wind direction and velocity for 2010/03/15.
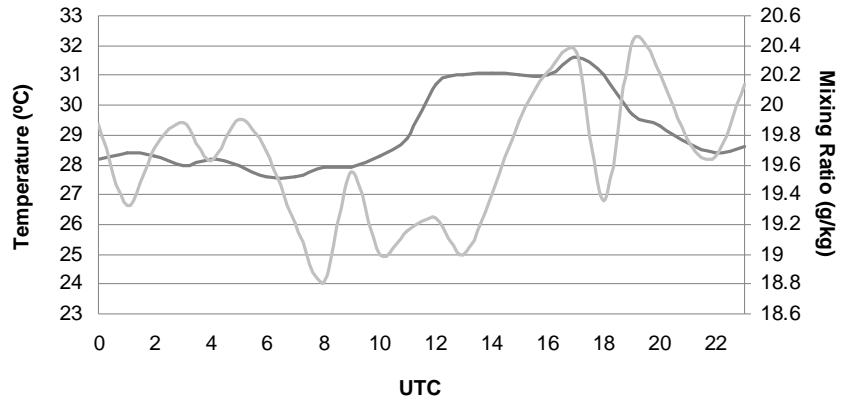

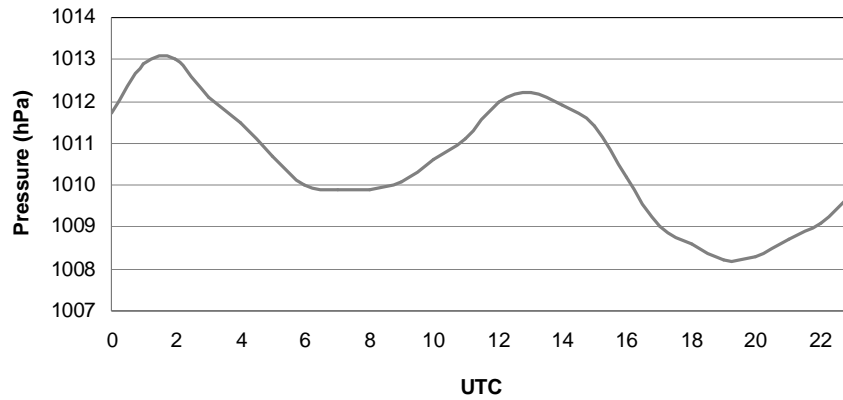Figure 2 – Hourly temperature (black) and mixing ratio (gray) for 2010/03/15.

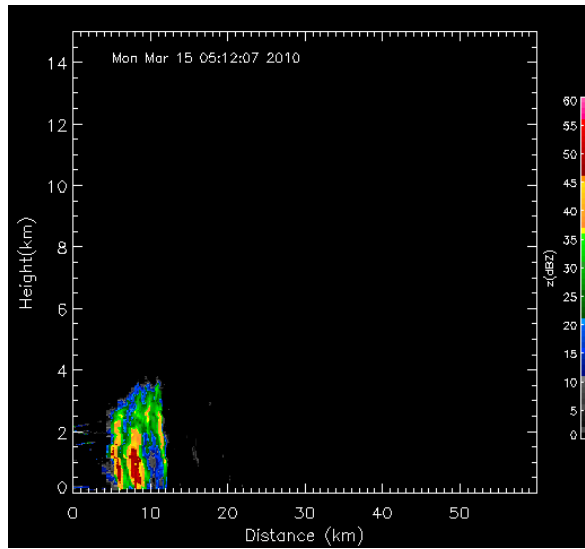Figure 3 – Hourly sea level pressure for 2010/03/15.

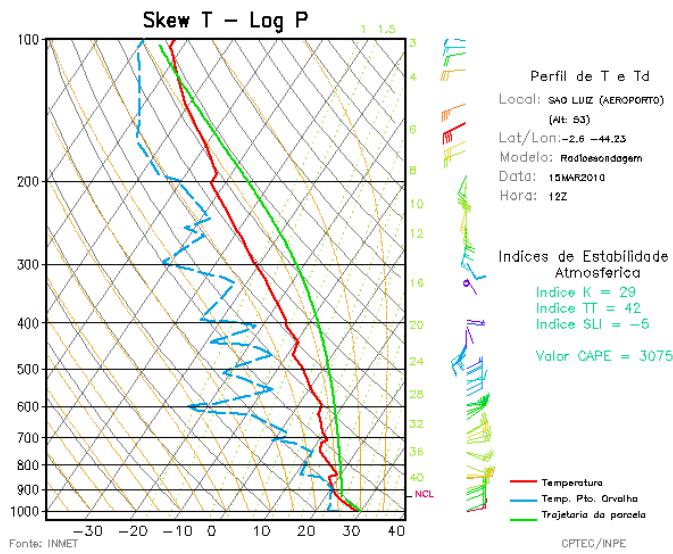Figure 4 – RHI at 141.2 ° azimuth from CLA RADAR.

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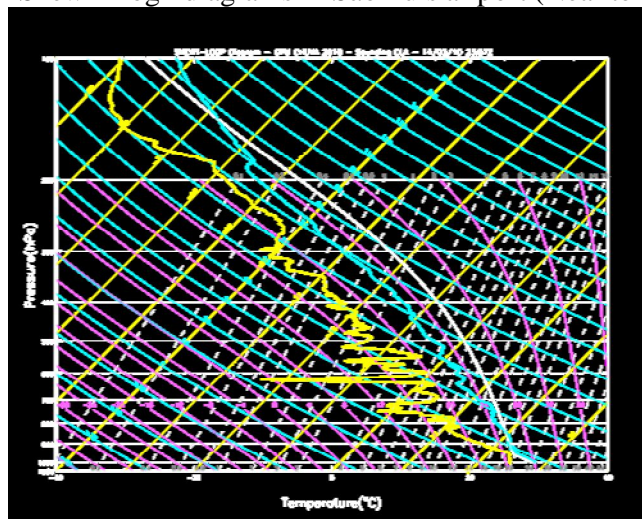

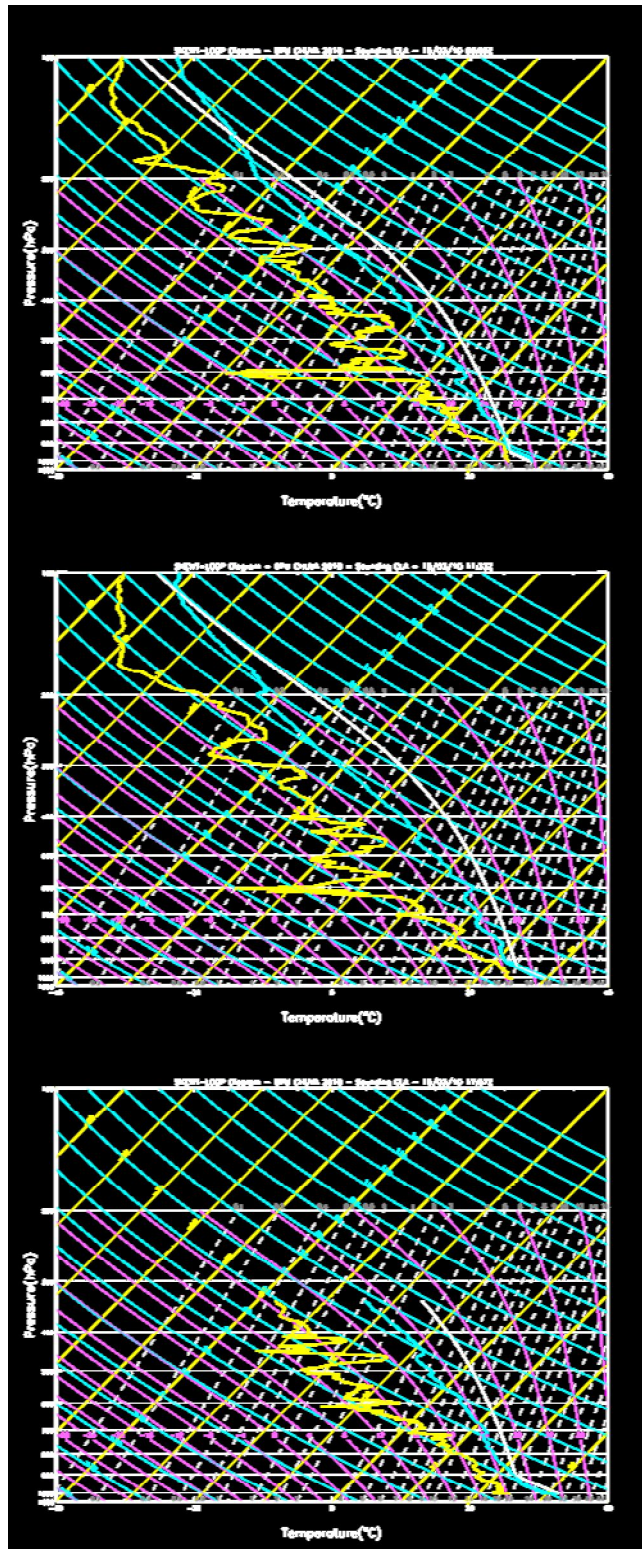Figure 6 – Sequence of SkewT LogP diagrams. Continue.

Figure 6 – Conclusion.