

## THE NOCTURNAL BOUNDARY LAYER: OBSERVACIONAL ASPECTS IN RONDÔNIA

Rosa Maria N. Santos<sup>1</sup>, G. Fisch<sup>2</sup>, A. J. Dolman<sup>3</sup>

The dynamics and the structure of the Nocturnal Boundary Layer (NBL) are still not very understood especially in tropical forest areas, despite of its importance for the weather and climate control mechanisms. Data set from RBLE and WETAMC-LBA field experiments (dry and wet season respectively) in Ji-Paraná, Rondônia – Brazil were analysed and consist of tethered balloon profiles, surface fluxes (sensitive heat flux,  $H$ , latent heat flux,  $LE$ , soil heat flux,  $G$ , and net radiation,  $R_n$ ), and surface meteorological data. These data were collected in 2 sites: one representative of the pasture (Fazenda Nossa Senhora Aparecida/ABRACOS - 10°45'S, 62°21'W, 290 m), and another representative for tropical forest (Rebio Jarú–10°05'S, 61°55'W, 120 m). During the dry season on the forest the NBL was deeper than on the pasture. Otherwise, during the wet season the NBL was deeper on the pasture. The maximum development has occurred at around 5 am for dry season (420 m and 320 m, on forest and pasture, respectively). During the wet season the maximum development occurred at 10 pm on the forest (270 m) and 04 am on the pasture (450 m). Pasture was warmer and drier than forest for the dry season. The stable stratification on the pasture was larger in both of seasons. The CLN erosion occurred between 7-8 am, in both seasons (for the dry and wet periods). On the pasture it seems to exist a contribution of a horizontal flux to broken of nocturnal capping inversion, which is more effective during the dry season. This advection can be created by the juxtaposition of remanescence of tropical forest inside a larger deforested pasture. This situation is not so clear on the forest yet, where more detailed analysis are still needed.

<sup>1</sup> Instituto Nacional de Pesquisas Espaciais – INPE/CPTEC/LMO, Av dos Astronautas, 1758 – Caixa Postal

515 – Jardim da Granja – CEP 12201-970 – São José dos Campos – SP

Fone: 0xx12 3945-6821 Fax: 0xx12 3945-6817 E-mails: [rosa@cpotec.inpe.br](mailto:rosa@cpotec.inpe.br) ou [rosa\\_@cpotec.inpe.br](mailto:rosa_@cpotec.inpe.br)

<sup>2</sup> Centro Técnico Aeroespacial – CTA/IAE

<sup>3</sup> Free University (Vrije Universiteit) of Amsterdam