

## On the meteorological scenarios and main air mass paths at the LALINET Natal station (Northeastern Brazil)

Juan Luis Guerrero-Rascado<sup>1,2</sup>

(1) *nstituto Interuniversitario de Investigación del Sistema Tierra en Andalucía  
(IISTA-CEAMA), Av. del Mediterráneo, 18006, Granada, España*

(2) *pto. Física Aplicada, Universidad de Granada, Fuentenueva s/n, 18071, Granada, España  
rascado@ugr.es, alados@ugr.es*

Fabio J. S. Lopes<sup>3,4</sup>, Lucas Alados-Arboledas<sup>1,2</sup>, Judith J. Hoelzemann<sup>5</sup>, José Henrique Fernández<sup>6</sup>, Neusa Paes

Leme<sup>7</sup>, Eduardo Landulfo<sup>3</sup>

(3) *enter for Lasers and Applications (CLA), Nuclear and Energy Research Institute (IPEN), Av. Prof. Lineu Prestes, 2242,  
Cidade Universitária, 05508-000, São Paulo – SP, Brazil*

(4) *nstitute of Astronomy, Geophysics and Atmospheric Sciences (IAG), University of São Paulo (USP), Rua do Matão, 1226,  
Cidade Universitária, 05508-090, São Paulo – SP, Brazil*

(5) *ederal University of Rio Grande do Norte - Center for Natural and Earth Sciences - UFRN/CCET, Natal/RN, Brazil*

(6) *ederal University of Rio Grande do Norte - School for Science and Technology - UFRN/ECT, Natal/RN, Brazil*

(7) *ational Institute for Space Research - North-Northeast Regional Center - INPE-CRN, Natal/RN, Brazil*

**Abstract:** To continue the effort in understanding the role of aerosol particles on continental scale, the Latin American Lidar Network (LALINET) [Guerrero-Rascado et al., 2014] will spread its activities to the North-eastern part of South America in the near future. A new LALINET station will be deployed at Natal (Rio Grande do Norte, Brazil, 5.84° S, 35.20° W) with the aim of characterizing the transcontinental transport of aerosol particles from Africa to South America, mainly Saharan dust and biomass burning, before their potential contamination with local particles. This study is conceived as a preliminary characterization on the atmosphere over Natal based on meteorological features including air mass clustering. On one hand, this work will allow to identify periods with the largest frequency of Saharan dust outbreaks and biomass burning episodes over Natal. On the other hand, it will provide a statistically detailed characterization of meteorological conditions in this region. To this aim, GDAS information (Global Data Assimilation System) will be the inputs in our analyses and HYSPLIT model (Hybrid Single Particle Lagrangian Integrated Trajectory model) (version 4.9) will be used to generate daily backward trajectories at six standardized height levels.

**Keywords:** air masses, LALINET, meteorology, transcontinental transport

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