

The gravity waves in the atmosphere ; their relation with thunderstorm activity

Francis DALAUDIER

LATMOS – IPSL, Quartier des Garennes, 11, boulevard d'Alembert, 78280 Guyancourt FRANCE

Gravity waves are a natural response of the stably stratified atmosphere to meso-scales and small scales perturbations. They are able to propagate energy and momentum over large distances without net mass transfer. This topical talk will review their main properties, the order of magnitude of associated fluctuations and their potential effects on the atmosphere. Gravity waves will be compared to sound waves of similar scale, their specific behavior will be outlined. Gravity waves are ubiquitous in the atmosphere, even far from identified sources. Various models used for their description will be discussed. However their observation and quantification can still be a challenge in some regions of the atmosphere. Their potential sources –including thunderstorms– will be reviewed.