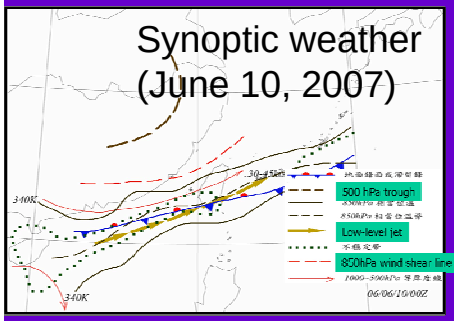
Spatial and Time Distribution of Thunderstorms in SOWMEX-2007

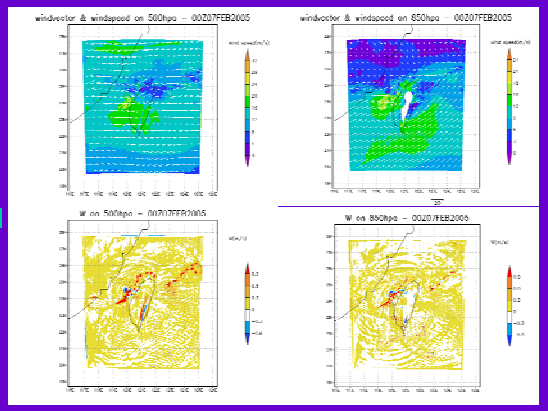
Po-Hsiung Lin Pao-Kang Wang Shun-An Liao

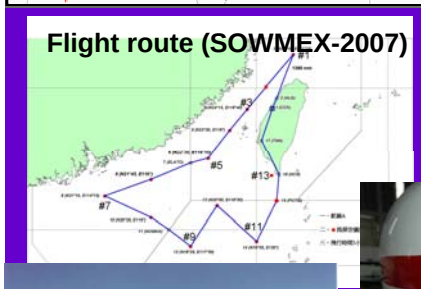
National Taiwan University, University of Wisconsin-Madison, Taiwan Power Research Institute

This study diagnoses the movement of thunderstorms associated with the frontal system during Southwest Monsoon Experiment (SOWMEX-2007) around Taiwan. 6 flights with dropsondes observation from ASTRA jet were arranged from June 5 to June 10, 2007. The lightning information came from The Vaisala total lightning detection system (TLDS) of Taiwan Power Company. The position mapping of intense TLDS lightning on the weather Radar echo had good relationship on the west side of Taiwan. The third flight of ASTRA on June 7, 2007 was hit by lightning at 20000-feet height during its climb. During its cruise flight on 42000 feet height at the same day, an ice cap plume above the anvil cloud was found from the aircraft.

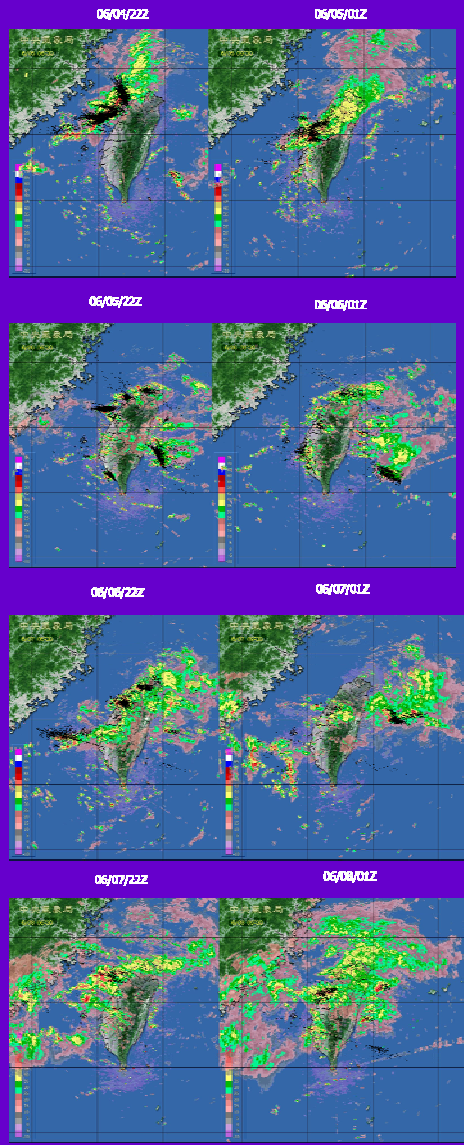


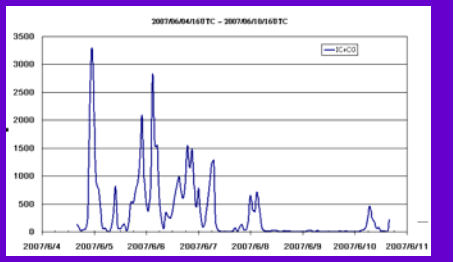
WRF simulation



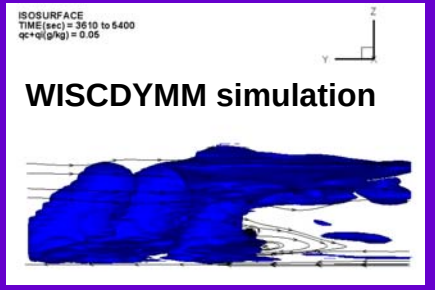


Lightning strike





hourly IC and CG lightning number
June 4 ~ June 10, 2007.



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