



## **The observational study of atmosphere-land interaction over heterogeneous landscape of the Tibetan Plateau area. An introduction of Tibetan Plateau Monitoring and Research Platform (MORP)**

M. Yaoming, Y. Tangdong, L. Zhong

Institute of Tibetan Plateau Research, the Chinese Academy of Sciences

ymma@itpcas.ac.cn

The Tibetan Plateau is often called the “Third Pole” of the earth due to its significance parallel with Antarctica and the Arctic. As a unique geological and geographical unit, the Tibetan Plateau dramatically impacts the world’s environment and especially controls climatic and environmental changes in China, Asia or even in the Northern Hemisphere. The Tibetan Plateau, therefore, provides a field laboratory for studying global climate change. Due to its heterogeneous topographic characteristics, the plateau surface absorbs a large amount of solar radiation energy, and undergoes dramatic seasonal changes of surface heat and water fluxes. The lack of quantitative understanding of interactions between the land surface and atmosphere makes it difficult to understand the complete energy and water cycles over the Tibetan Plateau and their effects on global climate change with numerical models.

In order to upscale the land surface heat and water fluxes to the whole Tibetan Plateau area, the Institute of Tibetan Plateau Research (ITP) of the Chinese Academy of Sciences (CAS) is establishing a Monitoring and Research Platform (MORP) for the study of land surface and atmospheric processes on the Tibetan Plateau. Three Comprehensive Observation and Research Stations (Mt.Qomolangma-Everest, Nam Co and Linzhi) have already been established in August, 2005. The instruments installed in the stations are working well and a large amount of data has been collected till now.

Firstly, the establishing and monitoring plan of long-term scale (5-10 years) of the MORP and three new comprehensive observation and study stations will be intro-

duced here. Some results on the local land surface fluxes partitioning (diurnal variation, inter-monthly variation, inter-yearly variation and vertical variation etc) over the three new stations and the stations of the CAMP/Tibet (CEOP (Coordinated Enhanced Observing Period) Asia-Australia Monsoon Project (CAMP) on the Tibetan Plateau, 2001-2010) will also be presented.