Abstract Details

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Title: Influences of biomass burning on the wet season onset over Amazon

Abstract:

The influences of biomass burning on local rainfall and the structure atmospheric boundary layer have been actively studied in recent year However, whether the large-scale biomass burning over Amazonia cou influence the wet season onset have not been examined. In Brazil, bi burning usually occur in later dry season strongly influenced by huma activities. For example, the date when the burning begins is planned government and it can vary from year to year. Previous observations shown that the substantial increase of rainfall from dry to wet season Amazonia are actually caused by small changes of the atmospheric thermodynamic structure relative to those over other monsoon regior Consequently, the onset date can vary greatly as influenced by exter internal anomalous forcings. Thus, it is possible that the transition of atmospheric thermodynamic structure and circulation from dry to wet is also sensitive to the impacts of biomass burning aerosols. To test th hypothesis, we have forced RegCM3 model with radiative forcing of th biomass burning aerosol inferred from MODIS for the transition seasc to December). The comparison with control run helps us to examine t direct and semi-direct influences of the biomass burning aerosols on t transition from dry to wet season. Our preliminary results show that t direct and semi-direct forcing of biomass burning aerosols can signific influence the rainfall and related atmospheric and land surface condit during the transition. However, these changes are sensitive to the pre vertical distribution of the aerosols. The physical and dynamic proces to determine the aerosols influence on wet season onset will be disc in our presentation.

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