The effect of landcover changes on surface temperature and precipitation in the Southeast Asia region

ABSTRACT

Research on landcover change on global environmental change has emerged in the last few decades with the realization that land surface processes influence the atmospheric dynamic and thus climate. This study explores the effects of possible future landcover forcing itself with atmospheric forcing on surface climate over the end of the 21st century in Southeast Asia (SEA). The A2 climatic scenario for landcover in the year 2070-2100 for SEA has been developed, accounting for projections of economic activity in the region, particularly in the agricultural sector. The effect of future landcover forcing alone during winter and summer seasons within the A2 scenario was observed to be small and to produce cooling temperatures. Under an A2 climate scenario, the effect of landcover forcing alone was observed to cause a small increase in precipitation during winter and a small decrease during the summer season.