

Thesis Title	Assessment of the Impacts of Climate Change on Erosion and Water Resources: The Case Study of Upper Cau River Basin, Vietnam
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ABSTRACT

The Upper Cau river basin restricted at Gia Bay station belongs to Cau river basin which plays a significant socio-economic role in the north of Vietnam. It is facing problems in water resources generally, flow particularly and has the possibility of having erosion, especially under the impacts of climate change. The results of the study revealed that the total annual runoff and soil loss at Gia Bay station tends to increase compared to the base period 1980-1999 under the climate change scenario B2. For flow, the changes rate of the later periods is bigger than the previous ones, appropriate with the changing tendency of evaporation and rainfall which are the most important factors affecting on flow regime that later influences on soil erosion. The imbalance in the flow distribution in year is shown in the considerably increasing trend of flow in flood season and decreasing trend in dry season. For erosion, in the entire basin, it was not so severe in the base period. However, the potential erosion of the basin in the future has the increasing trend with more annual soil loss. The flood-season soil loss increases while the dry-season one decreases in climate change scenario B2. The effect of climate change on soil erosion is also not homogeneous throughout the basin. Therefore, under the climate change scenario B2, the climate

trends in Upper Cau river basin are leading to severer conditions for runoff generation as well as erosion status due to an increase in evaporation and rainfall in the period of 2020-2100.

Keywords: Flow/Runoff/Erosion/Soil loss/Climate change

