

# **Potential Impact of Climate Change on Rainfall Erosivity in Kushiro Basin, Japan**

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The erosive power of rainfall is one of the drivers of soil erosion. In Kushiro, sediment intrusion into the wetland influenced to favor the growth and expansion of alder (*Alnus japonica*) trees in the wetland and thus the wetland becoming arid. This study estimated the rainfall erosivity factor of soil erosion on the probable impacts of future climate condition in Kushiro basin. The rainfall erosivity is assessed by comparing the R-factor of Revised Universal Soil Loss Equation (RUSLE) between the past climate and future climate periods. The relationship of mean annual precipitation and the mean annual sum of individual storm erosion index values were calculated using 10-min interval rainfall records of the six weather stations in Kushiro basin from 2000-2016. Past and future mean annual precipitation data were provided from the d4PDF (database for Policy Decision making for Future climate change) which is a large ensemble of climate change simulation. Past climate scenario is based on the historical climate simulation data (1951-2010) and the future climate scenario is based on the +4K future climate simulation data (2051-2110). The results of the study evaluated the effects of the expected increase of precipitation to the potential risk of soil erosion and aid for planning and decision making to adapt climate change in Kushiro basin.