Geophysical Research Abstracts
Vol. 18, EGU2016-10558, 2016
EGU General Assembly 2016

Adaptation Strategies of Soil and Water Conservation in Taiwan for Extreme Climate

Wen-Cheng Huang (1), Cheng-Yu Lin (2), and Ting-Ju Hsieh (3)

(1) Department of Soil and Water Conservation, National Chung Hsing University, Taichung 40227, R.O.C. Taiwan (ken697201@gmail.com), (2) Department of Soil and Water Conservation, National Chung Hsing University, Taichung 40227, R.O.C. Taiwan (cylin@water.nchu.edu.tw), (3) Department of Soil and Water Conservation, National Chung Hsing University, Taichung 40227, R.O.C. Taiwan (candysting@yahoo.com.tw)

Due to global climate change, the impact caused by extreme climate has become more and more compelling. In Taiwan, the total rainfall stays in the same level, but it brings along changes to rain types. The rainfall with high recurrence interval happens frequently, leading to soil loss of slope-land, and it may further result in flooding and sediment hazards. Although Taiwan is a small island, the population density is ranked at the second highest around the world. Moreover, third-fourth of Taiwan is slope-land, so the soil and water conservation is rather important. This study is based on the international trend analysis approach to review the related researches worldwide and 264 research projects in Taiwan. It indicates that under the pressure of extreme climate and social economic changes, it has higher possibility of slope-land to face the impacts from extreme rainfall events, and meanwhile, the carrying capacity of slope-land is decreasing. The experts' brainstorming meetings were held three times, and it concluded the current problems of soil and water conservation and the goal in 2025 for sustainable resources. Also, the 20-year weather data set was adopted to screen out 3 key watersheds with the potential of flooding (Puzih River Watershed), droughts (Xindian River Watershed), and sediment hazards (Chishan River Watershed) according to the moisture index, and further, to propose countermeasures in order to realize the goal in 2025, which is "regarding to climate and socioeconomic changes, it is based on multiple use to manage watershed resources for avoiding disasters and sustaining soil and water conservation."

Keyword:
Extreme climate, International trend analysis, Brainstorming, Key watershed