臺灣農業氣候變遷指標圖集之建置

Establishment of Climate Change Atlas of Taiwan's Agriculture

國家災害防救科技中心

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摘　要

氣候變遷為影響農作物生長及產量的重要因素之一，在各種不利作物生長的天氣現象，如寒害、熱害、乾害、水災及風災等農業災害氣象，受全球氣候變遷影響而極端氣候頻率增加，對作物的衝擊影響極大。

本研究將利用日統計降尺度資料，進行降雨、極端溫度等月尺度氣候變遷分析評估。針對全臺 12 個月份，產製農業專家需求之關鍵指標，包含影響農業重要的溫度與降雨氣象因子。指標包含溫度:月高溫、月均溫、月低溫等及降雨:月平均雨量、日雨量 80㎜、200㎜ 與 350㎜ 門檻，並分別有 4 個時段氣候推估資料：歷史時期、2030 年、2040 年與 2050 年。

關鍵詞：韌性農業、氣候變遷圖集，日統計降尺度

Abstract

Climate change is one of the primary determining factors on the growth and yield of a crop. Extreme weather phenomena that are unfavorable to crop growth, such as cold, heat, dry, floods and wind disasters. These events are occurred frequently that made a great impact on the crop in climate change. This study will use daily dataset that statistical downscaling from CMIP5 to explore changes and impacts during the growing season of fruit crops under different climatic scenarios.

This study will use daily dataset that statistical downscaling from CMIP5 to analyze and evaluate monthly climate changes such as rainfall and extreme temperatures. For the 12 months in Taiwan, the key indicators required by agricultural experts include the temperature and rainfall meteorological factors that affect agriculture. The indicators include temperature: monthly maximum temperature, mean monthly temperature, monthly minimum temperature, etc. and rainfall: mean monthly rainfall, threshold of daily rainfall 80mm, 200mm and 350mm, and four periods of climate estimation data: historical period, 2030, 2040 and 2050.

Keywords: Resilient Agriculture，Climate Change Atlas，Daily Statistical Downscaling