

# 氣候變遷下淹水對玉米之衝擊-以臺南市為例

## Impact of floods on maize under climate change - Taking Tainan City for Example

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### 摘要

臺南市為全臺各縣市中，耕地面積最大之縣市，轄內地勢平坦且有大小溪流橫互，豐富優渥的條件下，使臺南市成為臺灣重點農業產區之一，主要作物包含水稻、玉米、芒果、洋香瓜等。而近年來在氣候變遷的影響下，極端降雨事件逐年增加，造成淹水災害日益加劇，嚴重影響農產業的經濟損失。

綜整農糧署108年度農作物，玉米為臺南市雜糧類收穫面積最大宗作物，同時也是飼料作物之一。其適栽環境為溫暖且排水良好的肥沃土壤為佳，對於水分需求量因生長期不同而有所差異，一般而言，玉米的幼苗期及生育期間最忌淹水，如不慎遇害，將嚴重影響整體產量與品質。故本研究使用科技部「臺灣氣候變遷推估資訊與調適知識平台」計畫所進行之淹水模擬對玉米的影響面積及分布，探討其變化趨勢與衝擊影響。比較20世紀末至21世紀末期之30公分以上淹水模擬範圍，玉米受影響面積增加約2倍，說明未來的極端氣候將會造成更多的衝擊影響。

關鍵詞：氣候變遷、玉米、淹水災害、臺南市

## **Abstract**

Tainan City, the largest arable country in Taiwan, with rich geographical conditions of the flat terrain with streams crisscrossing, has become one of the important agricultural production areas in Taiwan. In recent years, climate change has influenced the main crops in Tainan City including rice, maize, mango, cantaloupe, etc. The extreme rainfall events increasing in recent years not only caused flooding disasters but also seriously induced the economic losses of the agricultural industry.

According to the analysis of Agriculture and Food Agency in 2019, maize is the largest crop in Tainan City and it's also a kind of common forage crop. Warm, well-drained and fertile soil is a suitable planting environment of maize as well as the water requirement is different in its every growth period. The excessive water which may damage the maize should be especially avoided when the seedling and growth period, otherwise the overall production and quality will be severely affected by the agricultural disaster of flooding.

To explore the effect of the flood to maize, this research will use the flooding simulation conducted by "Taiwan Climate Change Projection Information and Adaptation Knowledge Platform (TCCIP)" to study the changes in the area and distribution of maize after flooding. The results show that the affected area has been increased to 2-times during the late 20th to the 21st century. That is to say, the extreme weather may cause more impacts in the future.

Keywords : Climate change , Maize , Flooding disaster , Tainan City