

# 農業氣候情境查詢圖臺優化與推廣應用

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## 摘要

氣候變遷在未來的短期至中期之內，全球暖化程度可能升溫 1.5 至 2°C，將對農業帶來一定程度的衝擊。而氣溫的上升、極端降雨的變化，已顯著影響全球的農糧產業發展，並成為農地規劃、品種培育相當重要的評估因子。現在已可透過運用「農業氣候情境查詢圖臺」(<https://acca.ncdr.nat.gov.tw/scenario>)的現況與未來推估資料，予以比較現況與未來氣候的變遷趨勢，初步判斷特定區位是否適合農作物各生長期條件，以此進行農業生產分析與規劃。

「農業氣候情境查詢圖臺」具線上地理資訊系統展示功能，配以互動式操作可查詢現況與未來全臺氣候變遷情境空間資訊及各區位作物門檻指標等。於 2025 年 4 月，依據使用者需求，已完成「圖臺操作介面位置優化」與「客製化及查詢功能新增」等 9 項優化更新。「圖臺操作介面位置優化」包含頁籤位置調整、氣候資料版本查詢位置調整、查詢項目順序與操作優化、加大地圖展示空間、分析結果改為頁籤式查詢等。「客製化及查詢功能新增」包含圖層顏色及透明度客製化、快速篩選特定作物的地區與指標、不同氣候閾值進階比對、歷史查詢紀錄等。

為使農業應用人員了解圖臺功能及利於操作，另也搭配使用者操作說明懶人包與動畫影片之說明，除兩大功能「情境查詢」、「比對查詢」逐步驟拆解示範外，並以高接梨低溫寒害情境與玉荷包荔枝冬季花芽分化情境進行示意操作（操作說明影片：<https://www.youtube.com/watch?v=oMVM EUZJJ o>），希冀藉此順利橋接農業轉業人員應用於氣候變遷農業相關研究分析。

**關鍵詞：**農業、農業氣候情境查詢圖臺、生長期條件、農業生產分析、高接梨

# Optimization and Promotion of the Agricultural Climate Scenario Query Platform

## Abstract

Climate change may raise global warming levels by 1.5 to 2°C in the near to mid-term future, which could significantly impact agriculture. Rising temperatures and changes in extreme rainfall patterns are already affecting global food and agriculture systems. These changes have become important factors in farmland planning and crop variety development. In present, users can compare current and future climate data to observe trends and assess whether a specific area is suitable for various crop growth stages by using the Agricultural Climate Scenario Query Platform (<https://acca.ncdr.nat.gov.tw/scenario>). This helps with agricultural planning and production analysis.

The platform features an online GIS (Geographic Information System) with interactive tools to access current and future climate change spatial data across Taiwan, including crop threshold indicators by region.

The platform has been upgraded on April 2025 and within nine improvements based on user feedback. These include interface layout optimization and new customized and search features. The layout optimization includes changes such as rearranging tabs, adjusting the position of climate data selection, improving the order and ease of operations, expanding the map display area, and using tab-style results for easier viewing. New functions include customizing layer colors and transparency, quickly filtering specific crops and indicators, comparing different climate thresholds, and checking search history.

To help agricultural workers better understand and use the platform, a user guideline and tutorial video have been created. The two main features of Scenario Query and Comparison Query are explained step by step. The video also demonstrates how to use the platform with real cases, such as cold damage scenarios for high-grafted pears and winter flower bud formation for Yuherbao lychees (Watch the tutorial here : [https://www.youtube.com/watch?v=oMVMEUZJJ\\_o](https://www.youtube.com/watch?v=oMVMEUZJJ_o)). These resources aim to help users apply the platform to agriculture-related research and analysis in the context of climate change.

**Keywords:** agriculture, Agricultural Climate Scenario Query Platform, Crop growth conditions, Agricultural production analysis, High-grafted pear