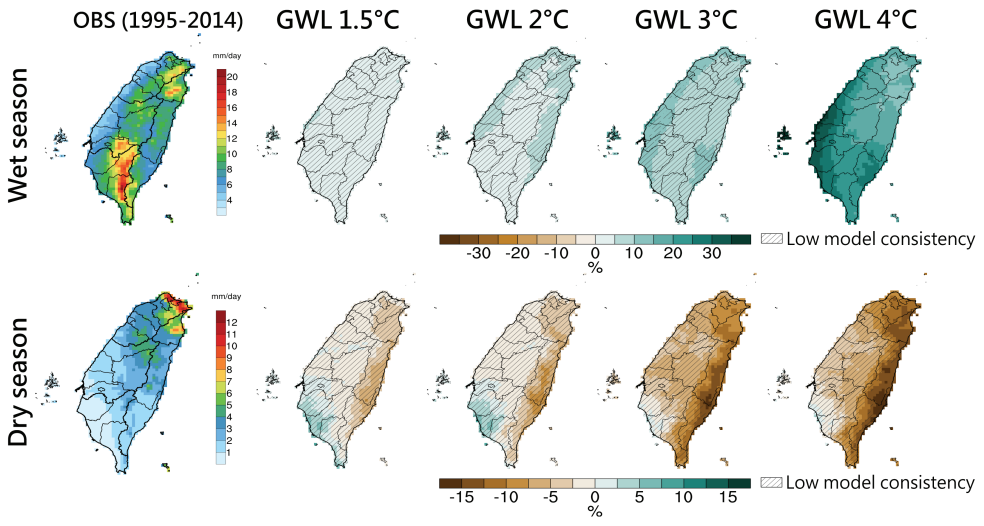
CHANGES IN RAINFALL

Over the past century, rainfall trends in Taiwan have not been significant. Projections under warming scenarios do not reveal consistent changes in rainfall because of the marked variation between models, indicating high uncertainty. However, the difference between the dry (November to April) and wet (May to October) seasons is projected to increase with the increasing GWL. For example, during the dry season, most regions in Taiwan are projected to experience reduced rainfall, especially the northeastern and eastern areas. Additionally, under GWL 1.5°C and 2°C, model projections indicate an increase in the number of dry days (albeit with low model consistency) in the southwestern region, which is typically dry.

By contrast, under GWL 4°C, wet-season rainfall is projected to increase notably across Taiwan with high model consistency. Rainfall in the coastal areas of central and southern Taiwan, in addition to Taitung and Penghu, could increase by more than 30%. These results suggest that with more severe global warming, the trend in Taiwan's seasonal rainfall pattern—of the dry season becoming drier and the wet season becoming wetter—will become more pronounced. Nevertheless, results vary among models, although more than 75% of the models indicate similar trends under GWLs of 3°C and 4°C (Figure).



Figure

Historical mean rainfall and projected changes under various GWLs in Taiwan during the wet (top) and dry (bottom) season.

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