

# 航機簽派與飛航管制之航空氣象協同合作

## The Collaborative Cooperation of Aviation Weather in Flight Dispatch and Control

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### 摘 要

民用航空業的氣象任務，主要是在於與航機簽派及飛航管制等任務協同合作。在航機簽派方面，航空氣象預報是飛行計畫製作階段時主要的決策資訊之一，包括機場終端預報 (terminal aerodrome forecast, TAF) 與顯著天氣資訊 (SIGnificant METeorological Information, SIGMET) 等，在決定備降站選定、油量與航路規劃方面，均具有一定的強制性。而在飛航管制上，即時的天氣預報則影響航班放行與調度，可避免無效飛行與轉降。因此航空氣象運用於航空運行，消極面是維護飛航安全。然而在積極面，則可以有助於航空公司營運之成本效益，舉凡避免轉降、節油、航班調度與安排等。此外，航機落地時所要求之天氣標準往往高於起飛，且備降站的天氣標準亦高於成為目的地站，因此航空氣象預報，首重在掌握場站天氣之變化，包含能見度、側風、低雲幕（目視等級適航標準）。另配合雙發動機延程飛行標準（Extended-range Twin-engine Operational Performance Standards, ETOPS）實行，航路顯著氣象資訊（SIGMET）的提供亦在航空氣象協同合作佔有舉足輕重的角色。

關鍵字：機場終端預報、顯著天氣資訊

### Abstract

The aeronautical meteorology in the civil aviation industry are mainly in collaboration with flight dispatch and control. In flight dispatch, aviation weather forecast is one of the main decision-making information in the planning stage, including terminal aerodrome forecast (TAF) and significant meteorological information (SIGMET), etc., which are mandatory for deciding the selection of alternate airports, fuel preparation, and flight planning. In terms of flight control, real-time forecasts affect the release and scheduling of flights, thus avoiding diversion and ineffective flights. Therefore, the application of aviation weather in aviation operation is to maintain flight safety on the negative side. However, on the positive side, it can contribute to the cost-effectiveness of airline operations, such as avoiding diversions and landings, saving fuel, rescheduling and rearranging flights. In addition, the weather condition for landing is higher than that for taking off, as well as the weather condition for airports which selecting as alternates are also higher than that for the destination. Therefore, the weather forecast for aviation focuses on understanding the change of factors at the airport, including visibility, crosswinds, and low cloud ceiling (visual meteorological condition). Moreover, with the implementation of the Extended-range Twin-engine Operational Performance Standards (ETOPS), the provision of SIGMET also plays a pivotal role in aviation meteorological collaboration.

Key words : terminal aerodrome forecast, significant meteorological information