

# 提升氣象署水位觀測資料可信度與國際接軌—借鑒 NOAA潮位站管理經驗

## Improving the credibility of water level observation data within CWA and aligning it with international standards - drawing on NOAA's experience in tide station management

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### 摘 要

2022年IHO潮汐、水位資訊技術工作小組修訂M-3決議，強調國際海水位變化監測對氣候變遷理解的重要性，並進一步新增潮位站管理的嚴謹要求。為提升署內潮位資料品質以期接軌國際，該文整合2010年內政部潮位站設置標準先期研究及NOAA近年潮位站規範與交付標準、CO-OPS水位品質管視覺化開源套件研究等文獻，提出精進潮位站管理策略、優化品質準確度與效能的參考方針如下。一、初步調整觀測策略以提升資料品質，包含明確標註儀器維護期間的非自然訊號、儲存每6分鐘水位的標準差。二、設施與基準點管理制度化並落實執行，強化管理人員專業知識與嚴謹態度，並以便於查驗的方式詳實留存可供追溯的metadata紀錄。三、推動與建立水位觀測儀器檢校機制，精進水位資料校正、品質、率定能力。

關鍵字：潮位，品質，觀測

### Abstract

The IHO Working Group on Tides, Water Level and Currents (TWCWG) revised Resolution M-3 in 2022, emphasizing the importance of international sea level change monitoring for understanding climate change, and further adding stringent requirements for tide station management, particularly concerning the newly proposed resolutions on metadata for tide and tidal stream/current records. To improve the quality of water level data within CWA and align with international standards, this document integrates findings from the 2010 preliminary study on tide station establishment standards by the Ministry of the Interior, recent NOAA tide station specifications and deliverables, and the CO-OPS open-source software research on water level quality control visualization. It proposes the following reference guidelines for enhancing tide station management strategies and optimizing quality control accuracy and efficiency:

1. Adjust initial observation strategies to enhance data quality, including explicitly marking non-natural signals during instrument maintenance periods and storing the standard deviation of 6-minute water levels.
2. Systematize and implement facility and benchmark management, strengthening the professional knowledge and rigorous attitude of management personnel, to meticulously retain traceable metadata records in an auditable manner.
3. Promote and set up instrument calibration mechanisms for water level observation, improving capabilities in water level data correction, quality control, and calibration.

Key words : tide station, sea water level, data quality control, observation