

Sixth Meeting of the Pacific Meteorological Council (PMC-6)

Sustaining Weather, Climate, Water and Ocean Services for a Resilient Blue Pacific

14-16 August 2023, Sofitel Fiji Resort and Spa, Denarau, Nadi, Fiji

Agenda item 17.2: UK Met Office 'Pacific Fund'

Purpose of the paper:

To note background re UK Met Office 'Pacific Fund' and contribution to PIMS Pacific Key Outcome 8: 'Integrated observing and communication systems'.

Background:

As part of the UK contribution to the WMO Voluntary Cooperation Programme (VCP), managed by the UK Met Office, support has been provided to upper air observations in the Pacific since the 1970s. This support is currently provided for upper air observations at Tuvalu (Funafuti) and Kiribati (Tarawa) in partnership with KMS, TMS, SPREP and MetService New Zealand.

Through a tripartite MOU SPREP, since 2014, has provided essential management of the fund (~\$200k-\$250k per year) whilst MetService has provided long-term in-kind technical support. The fund includes a contribution towards radiosonde and balloon consumables, technical updates, and associated staff and operational allowances.

In 2023/24 the Pacific Fund will also be supporting the upgrade of hydrogen generators at both Funafuti and Tarawa. In addition, we will be reviewing how the Pacific Fund can best complement the future investment from SOFF, including the extension of upper air observations from 1 to 2 per day at both observing sites, in partnership with TMS and KMS and in line with the new WMO GBON standards.

Whilst upper air observations provide significant inputs to weather forecasting and DRR on a local and regional basis, observations from these islands (where other observation sources are sparse) are also critical on a global basis for long-term climate monitoring, and Numerical Weather prediction (NWP). The mean impact of remote island upper air observations on global NWP – including Tarawa and Kiribati – has been shown to be significantly larger than those situated in continental regions (Marriott, 2011).

Radiosondes provide the only observations of wind in the stratosphere. These observations are particularly key at low latitudes where wind information cannot be derived indirectly from measurements of temperature. In addition, Tuvalu and Kiribati are located in the area of the South Pacific Convergence Zone, a feature which plays a significant role in driving the weather and climate patterns in the region; and these observations are also useful for studies of the ENSO.

Recommendations

The Meeting is invited to:

- **Note** the significant and valued contribution of SPREP and MetService to the support of the UKMO Pacific Fund and upper air observations at Funafuti and Tarawa.
- **Note** the commitment and endeavours of TMS and KMS to effectively provide these observations for national, regional and global climate monitoring, and NWP/weather forecasting, benefits.