W O R L D M E T E O R O L O G I C A L O R G A N I Z A T I O N

WORLD WEATHER RESEARCH PROGRAMME (WWRP)

STANDING COMMITTEE ON SERVICES FOR AVIATION (SC-AVI)

A subsidiary body of WMO's Commission for Weather, Climate, Hydrological, Marine and Related Environmental Services and Applications (SERCOM)

ONLINE MEETING OF THE AVIATION RESEARCH AND DEVELOPMENT PROJECT – PHASE 2 (AvRDP2) SCIENTIFIC STEERING COMMITTEE

12 March 2025

Meeting minutes

Published March 2025.

1. OPENING OF THE MEETING

Piers opened the meeting by confirming the face-to-face meeting details for September 24-26 at the Met Office in Exeter, noting that meeting rooms had been booked. Chris expressed uncertainty about his travel availability but acknowledged that holding the meeting at the Met Office would ensure in-person participation of at least one of the two SSC co-chairs. Stephanie and Hellen confirmed the dates were feasible from a financial standpoint. Piers and Chris discussed the next steps to finalize arrangements, considering ongoing travel challenges but agreeing to proceed with the Met Office as the venue. The meeting then moved to the next agenda item, with Piers inviting Denise to provide an update on the Hong Kong to Singapore route.

The agenda for the meeting included:

1. Welcome – opening
2. In person meeting
3. HKG-SIN update
4. LHR-JBG update
5. Next step
6. AOB

---

1. AvRDP2 SSC 4th face-to-face meeting

The group discussed the venue for the final in-person meeting in 2025 and agreed that hosting it at the Met Office would facilitate in-person participation. The location was also recognized as cost-effective, and attendees confirmed their availability. While acknowledging the logistical challenges of travel, it was confirmed that meeting rooms at the Met Office had been secured. The group expressed appreciation for Xiaoming's offer to host the meeting at Hong Kong University, but after careful consideration, the decision to proceed with the Met Office was reaffirmed.

2. Updates on the demonstration products on the two airport routes (LHR-JNB and HKG-SIN)

Update on HKG-SIN pair (Danice and Gerald)

- Danice provided an update on the Hong Kong to Singapore route, presenting a comparison of cloud top heights derived from various products, including the blended forecast, Himawari-9, and FY-4B, against Hong Kong satellite-derived radar reflectivity. The results indicated that the blended forecast demonstrated the smallest differences compared to satellite observations. She also shared findings on deviation statistics, emphasizing the need to focus on the convective season, which will soon begin, rather than the winter period, for more accurate assessments. Additionally, updates from air traffic controllers (ATCs) and pilots were discussed, highlighting the ATCs' preference for a simplified risk matrix display and pilots' interest in integrating the blended forecast into their electronic flight bag (EFB). Danice confirmed the HKO was working on that integration.
- Gerald provided verification updates on the Hong Kong to Singapore route, covering the expanded analysis from July to December, as well as a comparison against existing aviation forecasts such as the SIGMET and WAFS. His comparison of the blended forecast against Hong Kong satellite-derived radar reflectivity and MSS's in-house Satellite-derived thunderstorm identification product showed that their blended forecast maintained helpful skill up to 3-4 hours lead-time, which would translate to about 1-3H into a flight's duration if the forecast is referenced on a typical flight dispatch/fuel

planning timeline. He also highlighted the blended forecast's main benefit in bridging SIGMET and WAFS products, ensuring hourly and seamless coverage across different timeframes.

Update on LHR-JNB pair (Piers & Morne)

- Piers provided an update on Jacob's work on trajectory prediction analysis, noting that while Jacob has been heavily involved in the technical migration at the Met Office, he will have more time to focus on this analysis in the coming months. A more detailed update is expected at the next meeting, likely in June.
- Andrew presented progress on integrating global and regional data for the London to Johannesburg route, exploring potential sources such as the UKV, MOGREPS-UK, and the London model. However, challenges remain in aligning parameters and resolutions between the global and regional models, requiring further refinement.
- Regarding Morne's work on convective events over Southern Africa, efforts are ongoing to analyze significant dates for severe weather events. The next steps involve following up with Morne to assess progress, with plans to use the identified dates to generate WAFS probabilities for comparison. This will support the harmonization of products across both the Hong Kong to Singapore and London to Johannesburg routes. It was reminded that Morne's work environment has been strongly disturbed by the cyber-attack that the South African Weather Service faced with some months ago.
- The discussion emphasized the importance of regional model reliability in South Africa and the need for an effective approach to integrating global and regional data sources to enhance forecasting capabilities along the full route.

3. Next steps

- The full-year verification results for the Hong Kong to Singapore route, focusing on the convective season will be presented in the next online meeting in June.
- At the June meeting, the SSC will also discuss planning for the September in-person meeting, including strategies for engaging the community advisory group and workshop to present project outcomes and products in detail, as well as possibilities for inviting key stakeholders, such as ATCs and pilots involved in the trials, to facilitate discussion and feedback.
- NEXT ONLINE MEETING: 06th June 2025 at 12 UTC

AvRDP2-SSC-actions	**Who/Due date**
○ Danice and Gerald to provide dates of significant weather events on the Hong Kong to Singapore route, so that the Met Office colleagues can generate WAFS probabilities for those dates and make comparisons.	Danice and Gerald
○ Piers to confirm the availability of regional high-resolution model data over Southern Africa that could be used for the harmonized product.	Piers
○ Piers to arrange for the invitation letters from the Met Office for the September face-to-face meeting in Exeter.	Piers
○ Online meeting link	Hellen

LIST OF ATTENDEES

1. SSC members

COUNTRY	NAME	E-MAIL	WMO AFFILIATION
UNITED KINGDOM	BUCHANAN, Piers [1]	piers.buchanan@metoffice.gov.uk	SC-AVI
UNITED STATES OF AMERICA	DAVIS, Chris [1]	cdavis@ucar.edu	WWRP
ARGENTINA	DE ELIA, Ramon	rdelia@smn.gob.ar	WWRP
HKUST, CHINA	SHI, Xiaoming	shixm@ust.hk	WWRP
UNITED KINGDOM	TITLE, Helen	helen.titley@metoffice.gov.uk	WWRP
HONG KONG, CHINA	CHEUNG, Ping	pcheung@hko.gov.hk	SC-AVI
JAPAN	IKEDA, Michiko	michi-ikeda@met.kishou.go.jp	SC-AVI

[1] Co-chair of AvRDP-SSC

2. WMO Secretariat

NAME	POSITION	E-MAIL
MSEMO, Hellen	Scientific Officer, World Weather Research Division, Science and Innovation Department	hmsemo@wmo.int
WIGNIOLLE, Stephanie	Scientific Officer, Services for Aviation Division, Services Department	swigniolle@wmo.int
DE CONING, Estelle	Chief, World Weather Research Section, Science, and Innovation Department	edeconing@wmo.int

3. List of apologies/absentees

NAME	POSITION	E-MAIL	WMO AFFILIATION
BROCK, Greg	Chief, Services for Aviation section, Services Department	Gbrock@wmo.int	WMO Secretariat
FYANG, Fanglin	UNITED STATES OF AMERICA	fanglin.yang@noaa.gov	WCRP/WGNE
GIJBEN, Morné	SOUTH AFRICA	morne.gijben@weathersa.co.za	SC-AVI

4. Invitees

NAME	COUNTRY	E-MAIL
CRESWICK, Andrew	UNITED KINGDOM	andrew.creswick@metoffice.gov.uk
METHVEN, John	UNITED KINGDOM	j.methven@reading.ac.uk
NG, Yin Lam (Danice)	HONG KONG, CHINA	ylng@hko.gov.hk
LIM, Gerald	SINGAPORE	Gerald_LIM@nea.gov.sg

YEO, Cheng Xun	SINGAPORE	yeo_cheng_xun@nea.gov.sg