ESCAP/WMO Typhoon Committee Fifty-first Session 26 February – 1 March 2019 Guangzhou, China FOR PARTICIPANTS ONLY WRD/TC.51/15.1 20 February 2019 ENGLISH ONLY

TECHNICAL COOPERATION

(Collaboration and Coordination for Tropical Cyclone Reconnaissance Flights in Typhoon Committee Region)

WMO

ACTION REQUIRED:

The Committee is invited:

To support the initiative to develop coordination mechanism to facilitate the operation of reconnaissance flights into tropical cyclones across Flight Information Regions

APPENDIXES:

- 1) DRAFT TEXT FOR INCLUSION AT SESSION REPORT
- 2) COLLABORATOIN AND COORDINATION FOR TROPICAL CYCLONE RECONNAISSANCE FLIGHTS IN TYPHOON COMMITTEE REGION

APPENDIX A:

DRAFT TEXT FOR INCLUSION IN THE SESSION REPORT

XV. SUPPORT REQUIRED FOR THE COMMITTEE'S PROGRAMME (agenda item 15)

- 1. The Committee appreciated the recent initiative by Hong Kong, China to equip a search and rescue fixed-wing aircraft with an AVAPS (Airborne Vertical Atmospheric Profiling System) for operational tropical cyclone reconnaissance over the Hong Kong Flight Information Region (FIR), the data of which has been shared with WMO Members operationally and successfully assimilated into numerical weather prediction models in real time.
- 2. The Committee noted the great threat posed by tropical cyclones to life and property, and the benefit of reconnaissance flights in improving tropical cyclone track and intensity forecast and its contribution towards disaster risk reduction and multi-hazard early warning of tropical cyclone, and considered it advantageous if the reconnaissance flights could be extended to other regions through a coordination and collaborative effort of interested Members.
- 3. The Committee invited interested Members to explore the feasibility of developing a coordination mechanism, with the support from their air traffic authorities, to facilitate the operation of reconnaissance flights into tropical cyclones across multiple FIRs and sharing of the resulting meteorological data.

(Additional text to be added in the light of discussion on this item)

APPENDIX B:

COLLABORATOIN AND COORDINATION FOR TROPICAL CYCLONE RECONNAISSANCE FLIGHTS IN TYPHOON COMMITTEE REGION

- 1. Reconnaissance flights into tropical cyclones began in 1943. The meteorological data collected from reconnaissance flights such as in-situ and dropsonde data have been found to be very useful in determining the intensity and position of tropical cyclone and in reducing tropical cyclone forecast track error by up to about 20% after assimilation into numerical weather prediction models.
- 2. Since 2017, a search and rescue fixed-wing aircraft of Hong Kong, China has been equipped with an AVAPS (Airborne Vertical Atmospheric Profiling System) for operational tropical cyclone reconnaissance within the Hong Kong Flight Information Region (FIR). Twenty missions had been conducted so far. The resulting meteorological data has been shared with WMO Members operationally and successfully assimilated into numerical weather prediction models in real time.
- 3. Noting the significant impact of tropical cyclones to life, property and economy, it is considered advantageous to disaster risk reduction and multi-hazard early warning of affected Members if reconnaissance flights into tropical cyclones could be arranged, in coordination with the Members concerned and their air traffic authorities, crossing multiple FIRs. While a flight plan, based on the location and forecast track of the tropical cyclone concerned, would be filed for each reconnaissance flight operation, a coordination mechanism established in advance to grant the necessary permissions would greatly facilitate the reconnaissance flight operation.