

Enhancement of HKO SIGMET Coordination Platform with IWXXM encoding

Hong Kong, China

MET/IE WG/18 & MET/S WG/10 --- IP/ 06

Agenda Item 3: Monitoring of meteorological information exchange

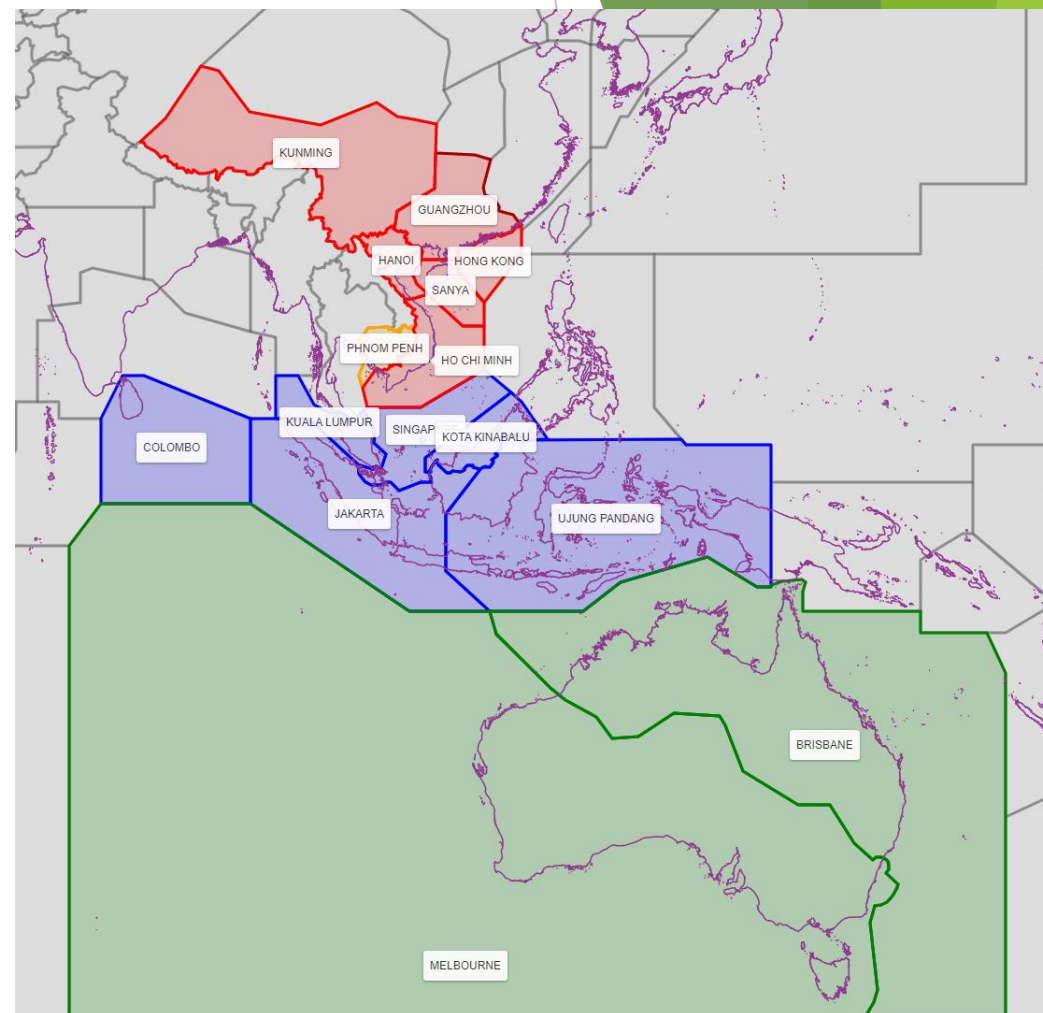


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Introduction

- ▶ Hong Kong Observatory (HKO) has been providing a Regional SIGMET Coordination web platform to support the operations of several SIGMET coordination projects in the APAC region, namely
 - ▶ Operational SIGMET Coordination project between Indonesia, Malaysia and Singapore
 - ▶ GHSV SIGMET Coordination project between China, Hong Kong China and Vietnam including 6 MWOs
 - ▶ SIGMET coordination trial between Australia and Indonesia
 - ▶ South and south-eastern Asia (SSEA) SIGMET coordination project between Indonesia and Sri Lanka
- ▶ Focused on the harmonization of WS SIGMET on thunderstorms



Blue: Operational, Red: semi-operational, Green: trial



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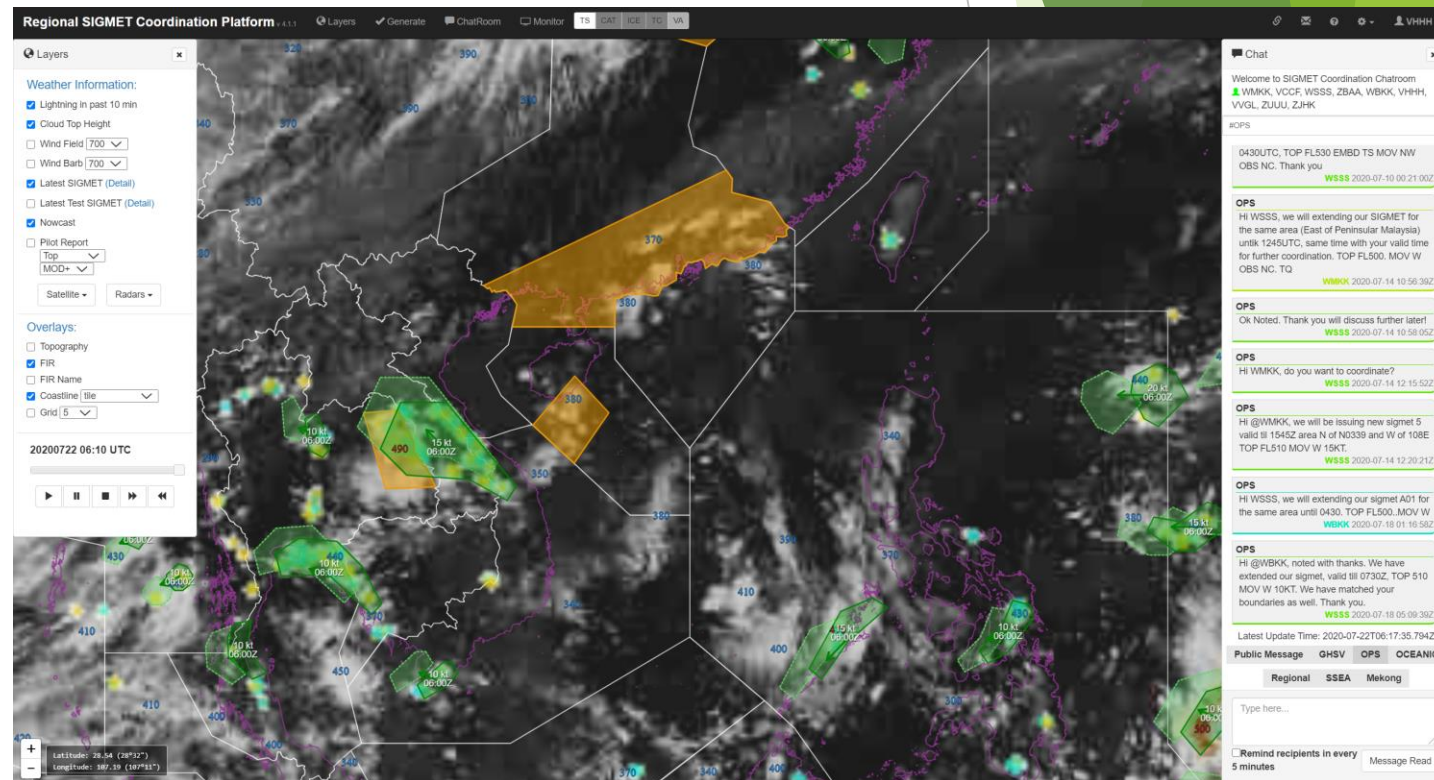
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Introduction

- ▶ **Amendment 78 to ICAO Annex 3** states that beginning on 5th November 2020, volcanic ash advisory information, tropical cyclone advisory information, space weather advisory information, METAR, SPECI, TAF, SIGMET and AIRMET shall be disseminated in IWXXM GML form in addition to the dissemination of their corresponding Traditional Alphanumeric Code (TAC) form.
- ▶ SIGMET is one of the information that would need to be disseminated in IWXXM form.
- ▶ This paper reports the upgrade of the HKO SIGMET Coordination platform to provide smooth transition to users in the provision of IWXXM formatted SIGMET service.

HKO Regional SIGMET Coordination platform

- ▶ Now provides automatic encoding features of the WS SIGMET on thunderstorms and WV SIGMET on volcanic ash
- ▶ Forecasters could manipulate the weather polygons on a map, input relevant WS or WV SIGMET parameters, discuss and coordinate on the parameters and then encode the SIGMET message for their own FIR(s) into TAC format for dissemination
- ▶ Also serves as a portal for common situation awareness with updated weather information



Enhanced capability of encoding SIGMET into IWXXM XML format

Regional SIGMET Coordination Platform v.3.3.0

Tool: Ruler

Convective Phenomenon:

TS parameter

Area of Responsibility: VHHK

Creator Filter: ALL

Encode Area Preview

Auto Encode

Simplify after Encode

MOVEMENT FCST PSN

Option 1:

VHHK SIGMET 1 VALID 080400/080800 VHHH- VHHK HONG KONG FIR EMBD TS OBS AT 0400Z WI N2011 E11650 - N1808 E11510 - N1931 E11214 - N2102 E11249 - N2122 E11413 - N2031 E11649 - N2011 E11650 TOP FL480 MOV E 10KT NC

Option 2:

VHHK SIGMET 1 VALID 080400/080800 VHHH- VHHK HONG KONG FIR EMBD TS OBS AT 0400Z NE OF LINE N1808 E11512 - N1930 E11212 and E OF LINE N1930 E11212 -

Please make your changes below:

MOVEMENT FCST PSN

MOVEMENT OP1 MOVEMENT OP2

VHHK SIGMET 1 VALID 080400/080800 VHHH- VHHK HONG KONG FIR EMBD TS OBS AT 0400Z WI N2011 E11650 - N1808 E11510 - N1931 E11214 - N2102 E11249 - N2122 E11413 - N2031 E11649 - N2011 E11650 TOP FL480 MOV E 10KT NC

OPS GHSV

IWXXM

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The TAC version and the XML version of the SIGMET are displayed side-by-side on the same page

- Ensure efficient preparation of the IWXXM format
- Ensure consistency between the XML and TAC message

IWXXM

SIGMET 0

```
<?xml version="1.0" encoding="UTF-8"?>
<iwxxm:SIGMET xmlns:xlink="http://www.w3.org/1999/xlink"
  xmlns:iwxxm="http://icao.int/iwxxm/3.0"
  xmlns:aixm="http://www.aixm.aero/schema/5.1.1"
  xmlns:gml="http://www.opengis.net/gml/3.2"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  reportStatus="NORMAL"
  permissibleUsage="OPERATIONAL"
  gml:id="uuid.cfbcc57a-cde4-4296-bb99-71078d9383b7"
  xsi:schemaLocation="http://icao.int/iwxxm/3.0 http://schemas.wmo.int/iwxxm/3.0/iwxxm.xsd">
  <iwxxm:issueTime>
    <gml:TimeInstant gml:id="uuid.e4221fb6-890e-4419-9db9-8fd3964d3b78">
      <gml:timePosition>2020-01-08T11:12:59Z</gml:timePosition>
    </gml:TimeInstant>
  </iwxxm:issueTime>
```

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latest version of IWXXM 3.0

Full-suite SIGMET coordination platform

- ▶ The HKO SIGMET coordination platform was enhanced with a full-suite of functions for handling various en-route hazardous phenomenon, namely
 - ▶ **Thunderstorms**
 - ▶ **Volcanic Ash**
 - ▶ Tropical Cyclone
 - ▶ Turbulence
 - ▶ Icing
- ▶ **These modules are launched in the operational platform**
- ▶ **These modules will be launched in phases**
- ▶ All these phenomenon have been enhanced with the encoding function to both TAC and IWXXM XML format



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Action by the meeting

- ▶ Hong Kong Observatory will continue to enhance the SIGMET Coordination platform to ensure it is ICAO compliant.
- ▶ The meeting is invited to note the information contained in the paper.

Thank you for your attention!

Any States who is interested in testing the HKO SIGMET Coordination platform could contact me at yyleung@hko.gov.hk