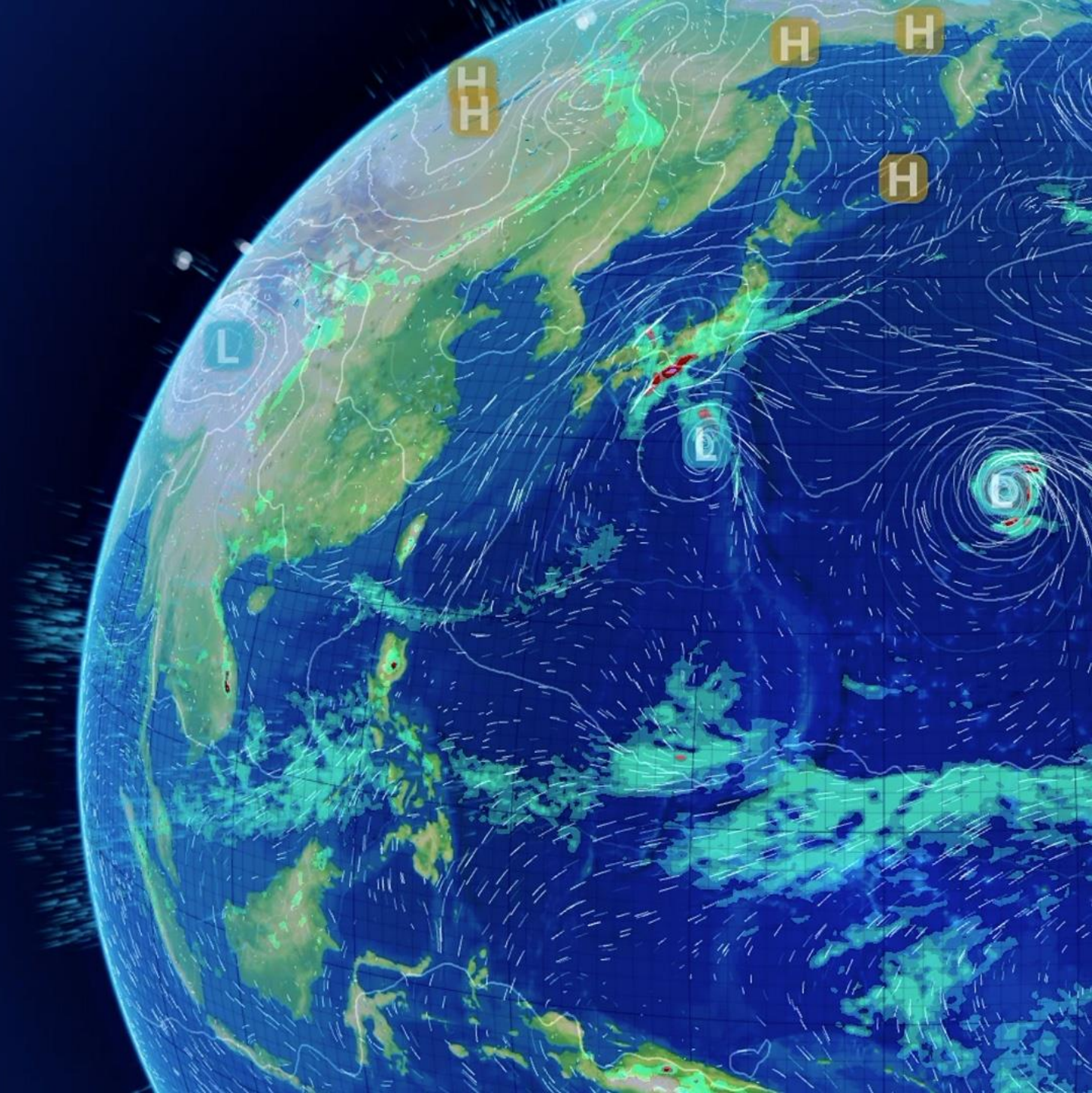
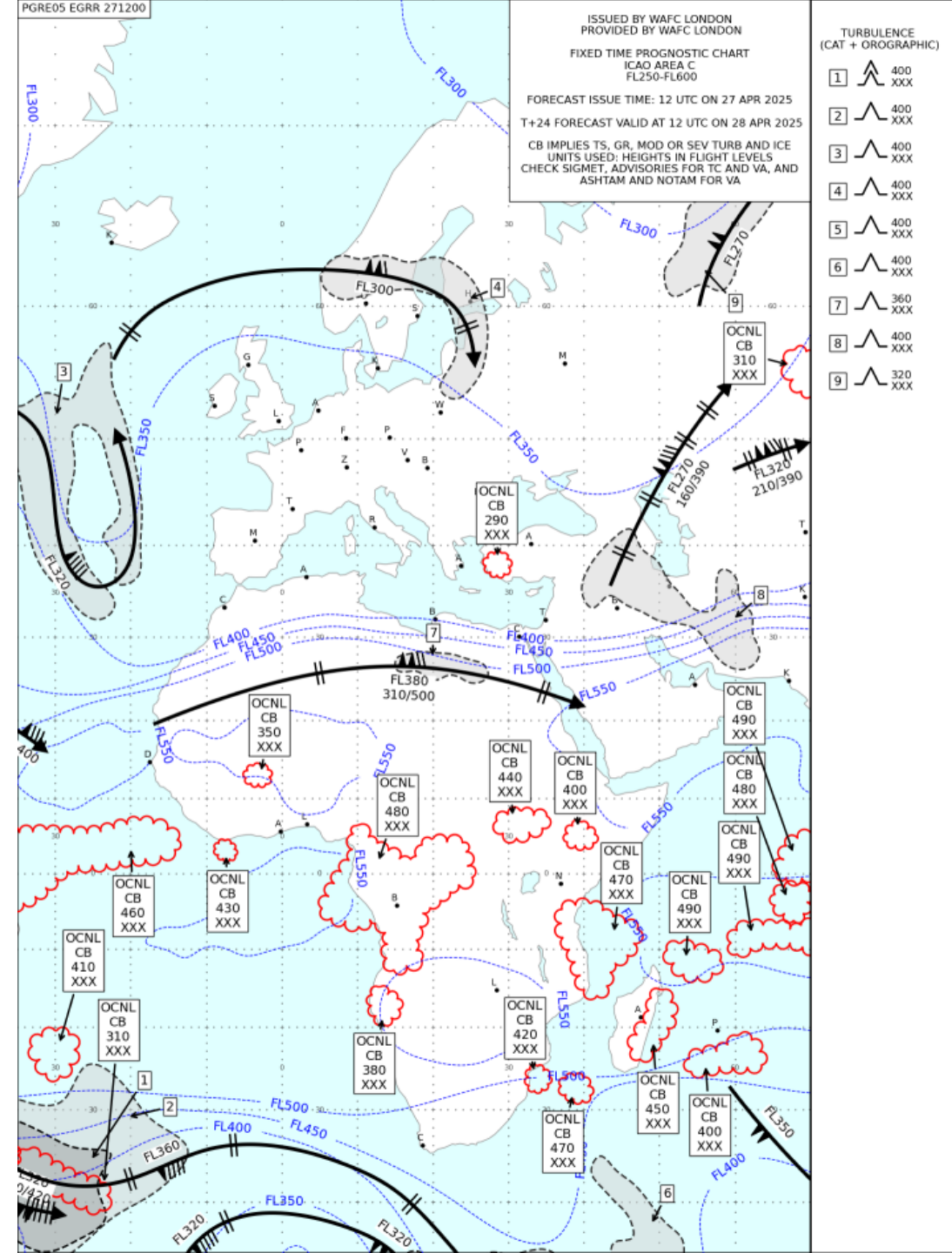


WAFS SIGWX forecasts



SIGWX ON SADIS FTP

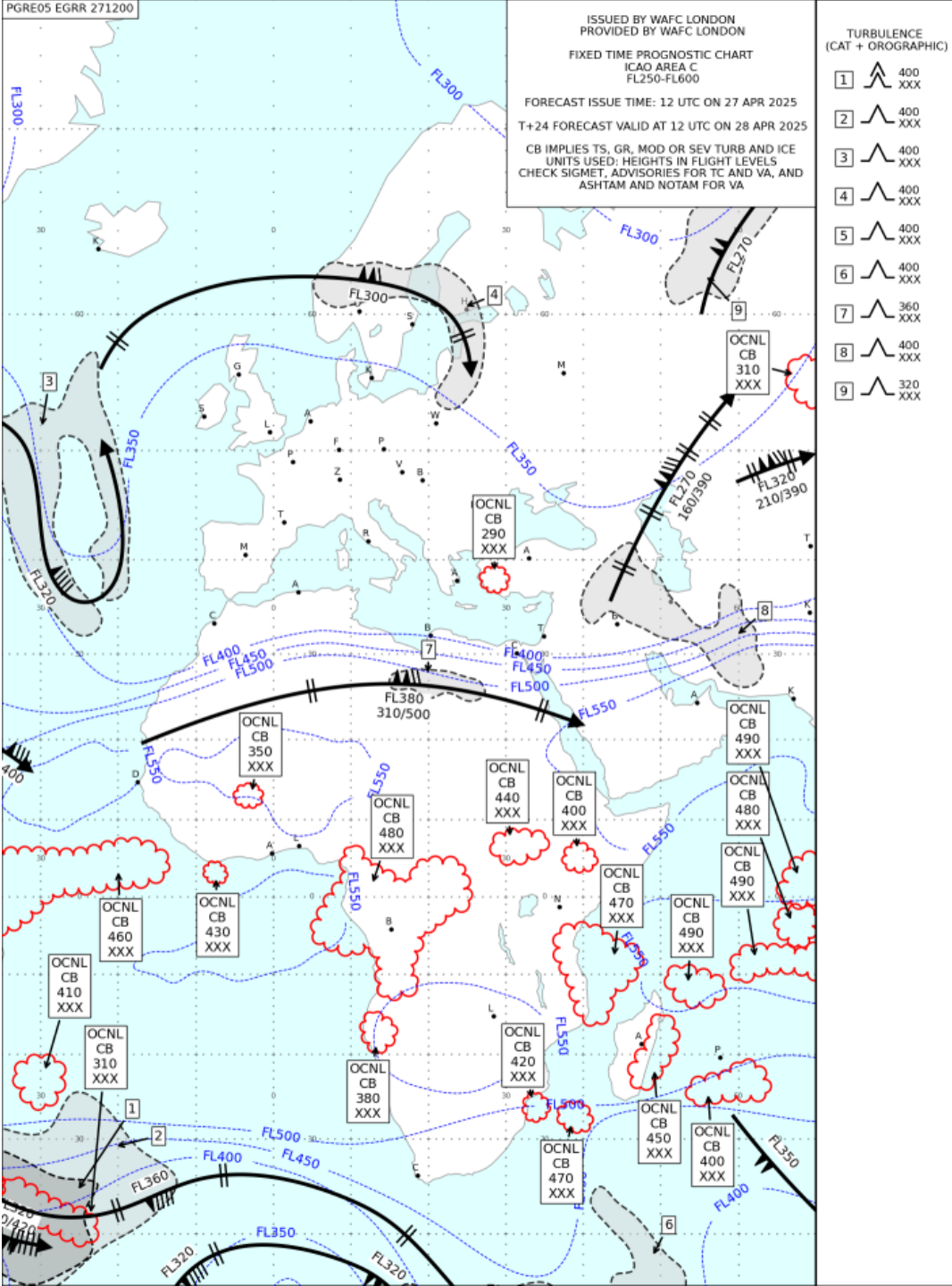
- 18 fixed charts (14 high level SIGWX, and 4 medium level SIGWX)
- T+24 only
- A BUFR digital data set



SIGWX ON SADIS FTP

SIGWX forecasts contains information on:

- Jet Stream
- Cumulonimbus clouds
- Icing and turbulence
- Tropopause height
- Erupting Volcanoes
- Tropical Cyclones
- Radioactive releases

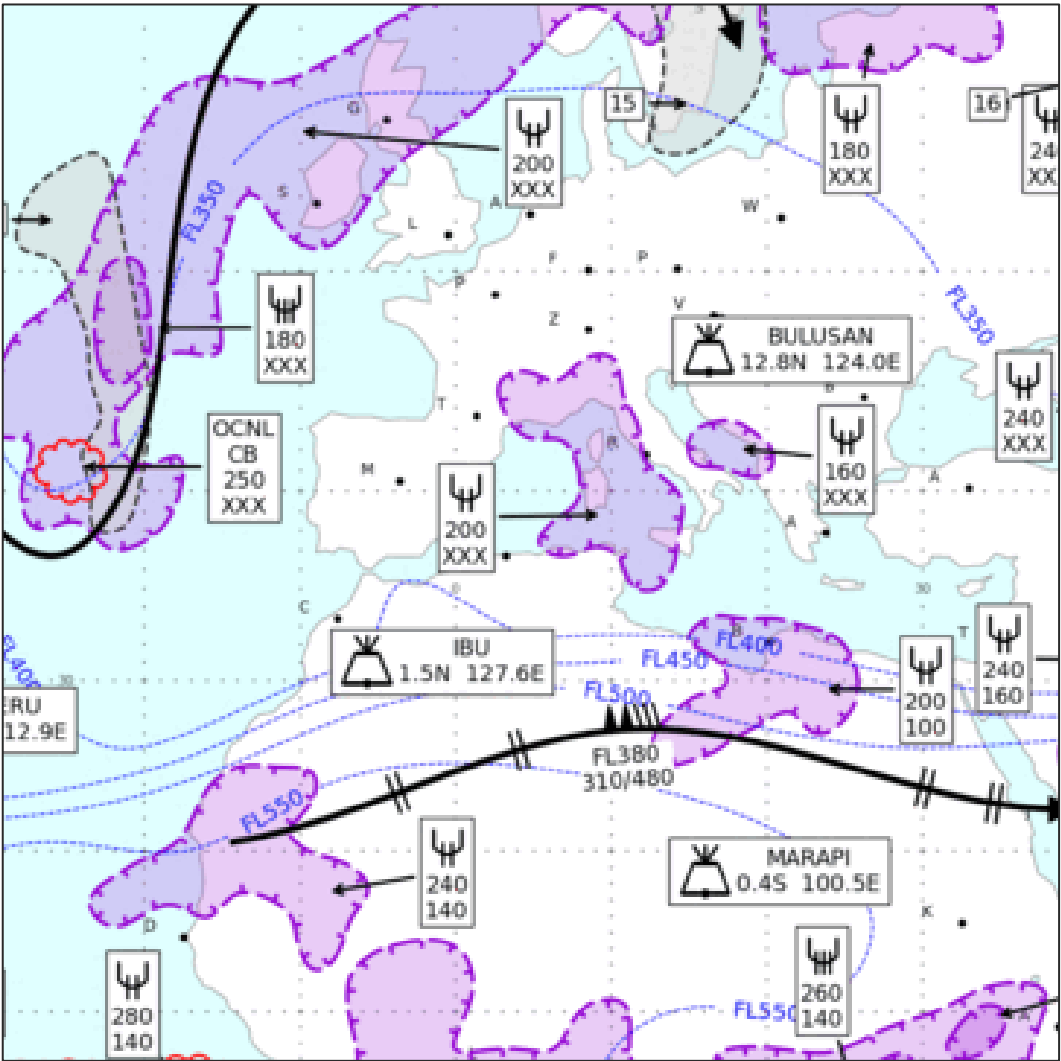


SIGWX ON SADIS API

- Multi-timestep SIGWX forecasts:
T+6 to T+48 at 3-hourly intervals
- Covers FL100 to FL600
- New IWXXM format, same parameters

Cross checking charts (not briefing quality):

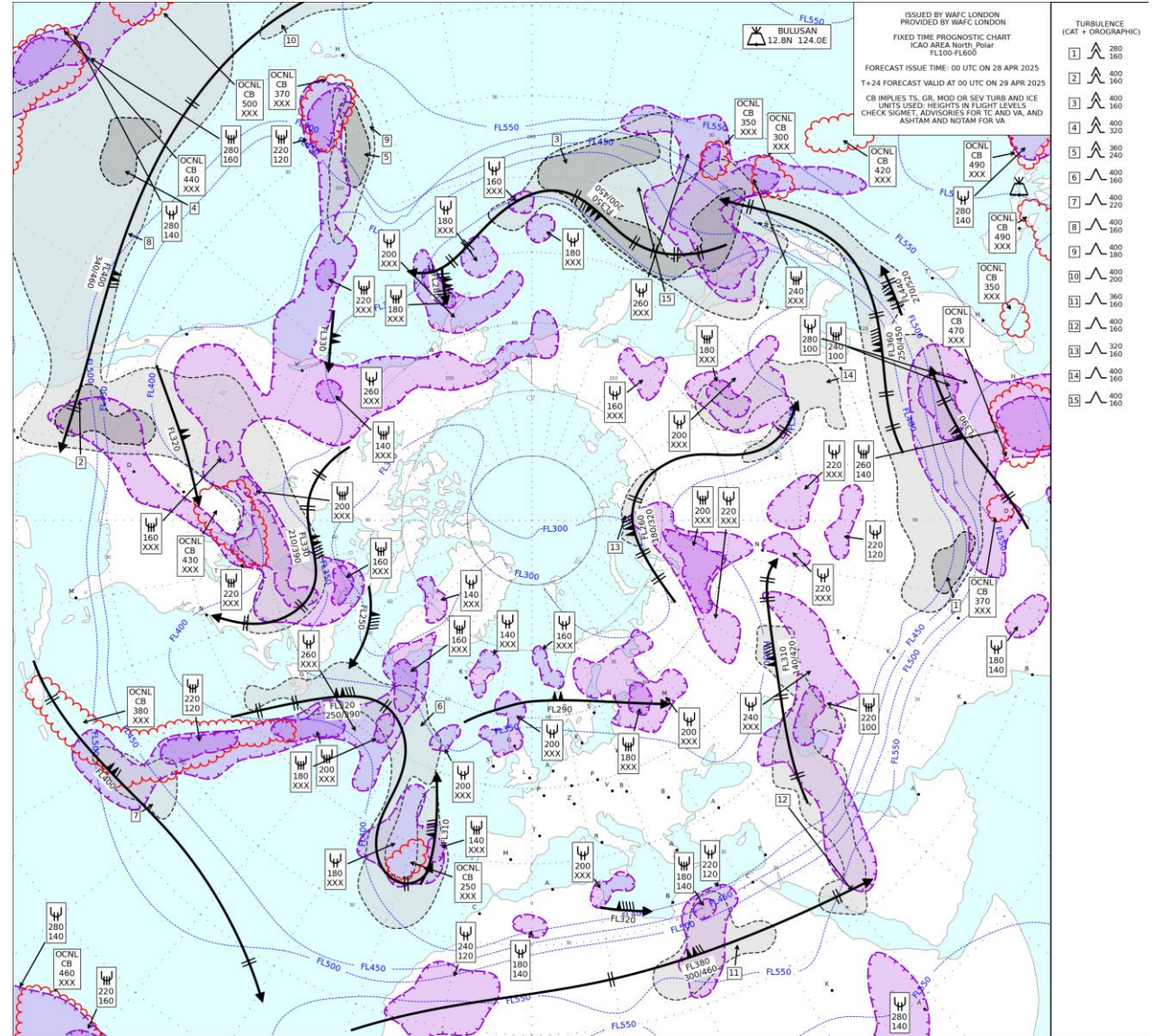
- Mercator chart spanning globe
- N. Polar chart
- S. Polar Chart



SIGWX CREATION

SIGWX is automatically generated from:

- WAFS gridded wind, tropopause, cumulonimbus, icing and turbulence data
- Volcanic Ash Advisory messages and VA SIGMETs
- Tropical Cyclone Advisory messages and TC SIGMETs
- Nuclear Emergency messages



IWXXM DATA

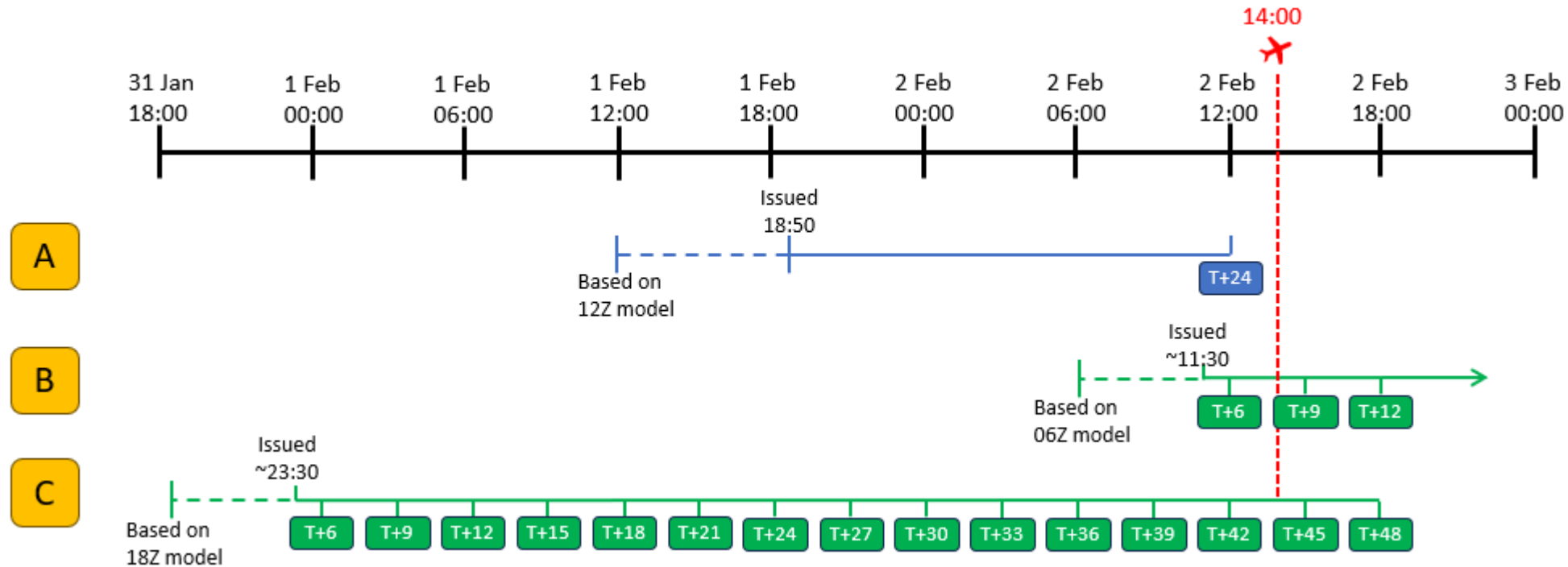
The new SIGWX data will be provided in IWXXM format. The schema has been developed and approved by WMO

<https://schemas.wmo.int/iwxxm/2023-1/WAFSSigWxFC.xsd>

```
<collect:MeteorologicalBulletin xmlns:collect="http://def.wmo.int/collect/2014" xmlns:gml="http://www.op
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" gml:id="uuid.dae663a8-1c3a-4932-9bf5-b8c5813b4cde"
  <collect:meteorologicalInformation>
    <iwxxm:WAFSSignificantWeatherForecast reportStatus="NORMAL" permissibleUsage="OPERATIONAL">
      <gml:identifier codeSpace="http://wafs/sigwxfc">uuid.a2db52e6-41dd-472a-98b9-2339e59b18a6</gml:iden
    <iwxxm:boundingPeriod>
      <gml:TimePeriod>
        <gml:beginPosition> 2024-05-24T06:00:00Z </gml:beginPosition>
        <gml:endPosition> 2024-05-24T06:00:00Z </gml:endPosition>
      </gml:TimePeriod>
    </iwxxm:boundingPeriod>
    <iwxxm:boundingVolume>
      <iwxxm:ElevatedEnvelope>
        <gml:lowerCorner srsDimension="2" axisLabels="Lat Long" srsName="http://www.opengis.net/def/crs
        <gml:upperCorner srsDimension="2" axisLabels="Lat Long" srsName="http://www.opengis.net/def/crs
        <iwxxm:upperElevation uom="FL">600</iwxxm:upperElevation>
        <iwxxm:upperVerticalReference>STD</iwxxm:upperVerticalReference>
        <iwxxm:lowerElevation uom="FL">100</iwxxm:lowerElevation>
        <iwxxm:lowerVerticalReference>STD</iwxxm:lowerVerticalReference>
      </iwxxm:ElevatedEnvelope>
    </iwxxm:boundingVolume>
    <iwxxm:phenomenaList xlink:href="http://codes.wmo.int/49-2/MeteorologicalFeature/TURBULENCE"/>
    <iwxxm:phenomenaList xlink:href="http://codes.wmo.int/49-2/MeteorologicalFeature/TROPOPAUSE"/>
    <iwxxm:phenomenaList xlink:href="http://codes.wmo.int/49-2/MeteorologicalFeature/JETSTREAM"/>
    <iwxxm:phenomenaList xlink:href="http://codes.wmo.int/49-2/MeteorologicalFeature/AIRFRAME_ICING"/>
    <iwxxm:phenomenaList xlink:href="http://codes.wmo.int/49-2/MeteorologicalFeature/CLOUD"/>
    <iwxxm:phenomenaList xlink:href="http://codes.wmo.int/49-2/MeteorologicalFeature/TROPICAL_CYCLONE"/>
    <iwxxm:phenomenaList xlink:href="http://codes.wmo.int/49-2/MeteorologicalFeature/VOLCANO"/>
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      </gml:TimeInstant>
    </iwxxm:issueTime>
    <iwxxm:originatingCentre>
      <iwxxm:WorldAreaForecastCentre>London</iwxxm:WorldAreaForecastCentre>
    </iwxxm:originatingCentre>
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      <gml:TimeInstant>
        <gml:timePosition> 2024-05-24T00:00:00Z </gml:timePosition>
      </gml:TimeInstant>
    </iwxxm:phenomenonBaseTime>
    <iwxxm:phenomenonTime>
      <gml:TimeInstant>
        <gml:timePosition> 2024-05-24T06:00:00Z </gml:timePosition>
      </gml:TimeInstant>
    </iwxxm:phenomenonTime>
    <iwxxm:feature>
      <iwxxm:MeteorologicalFeature gml:id="uuid.5e009c78-343e-4c4a-94bc-d4648bcf40e6">
        <gml:identifier codeSpace="http://wafs/sigwxobj">03128594-400b-4b50-9a12-e4239ff9cc20</gml:iden
        <iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/MeteorologicalFeature/CLOUD"/>
        <iwxxm:phenomenonGeometry>
          <iwxxm:ElevatedVolume gml:id="uuid.18378a27-48ce-43d9-ad2f-8a9bf5b3078d" srsDimension="2" axi
            <gml:patches>
              <gml:PolygonPatch>
                <gml:exterior>
                  <gml:Ring>
```

BENEFITS OF MULTI-TIMESTEP SIGWX

SIGWX forecasts for a particular validity time will be available with a longer lead time and using more up to date model data.



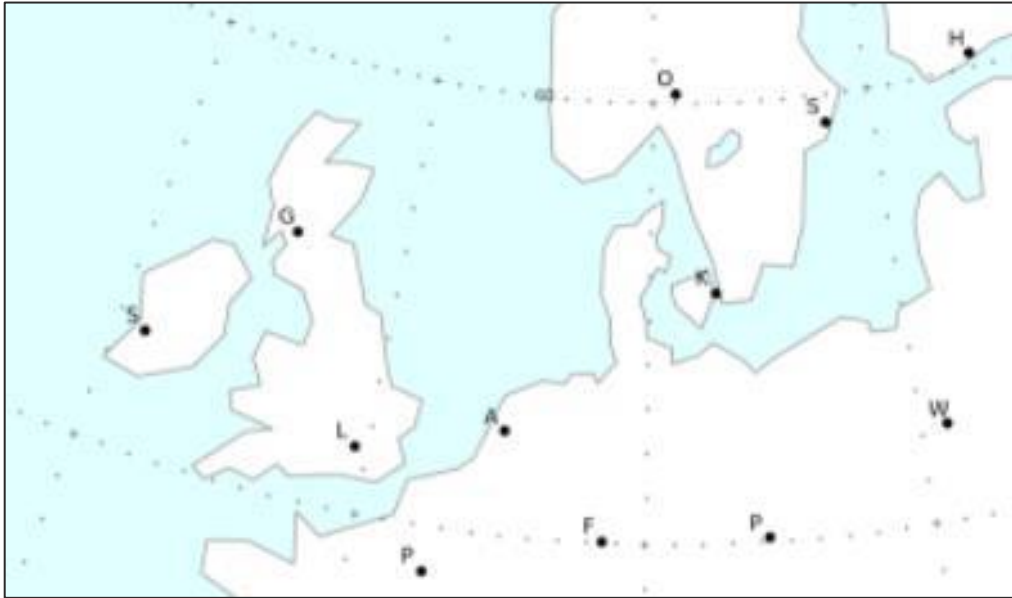
VISUALISING SIGWX DATA

- Visualisation of the IWXXM data needs to be done by the user' system
- Some SIGWX visualisation information is given in ICAO Annex 3, but colour schemes are not specified.

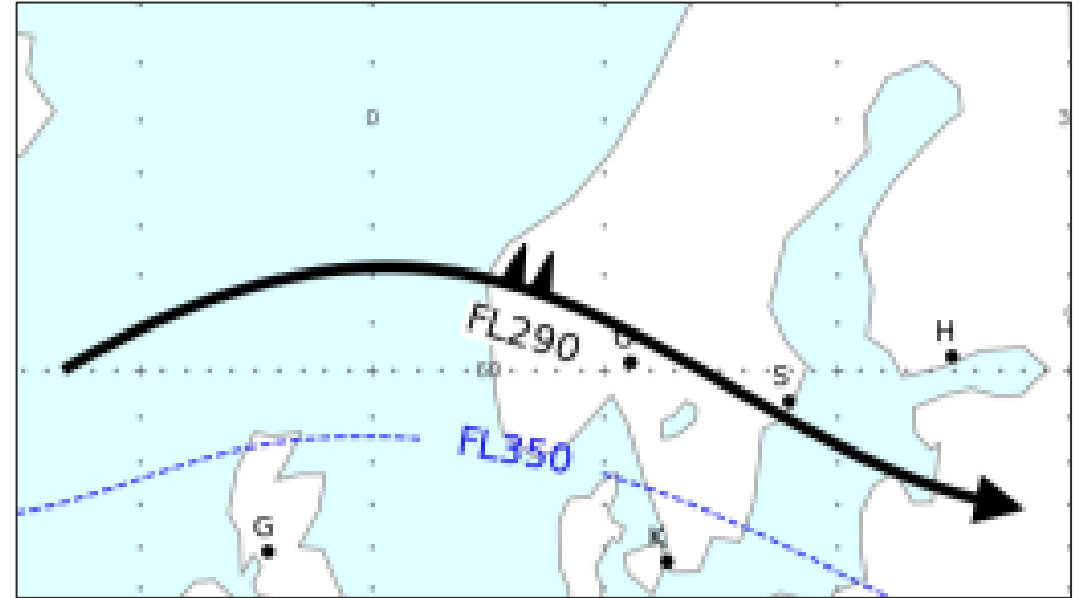
Benefit of visualising the digital data:

- You can use your chosen colour scheme
- You can pan and zoom the map to the area you are interested in
- You could switch individual SIGWX layers on and off
- You could overlay other information onto the SIGWX.

VISUALISING SIGWX DATA - IDEAS

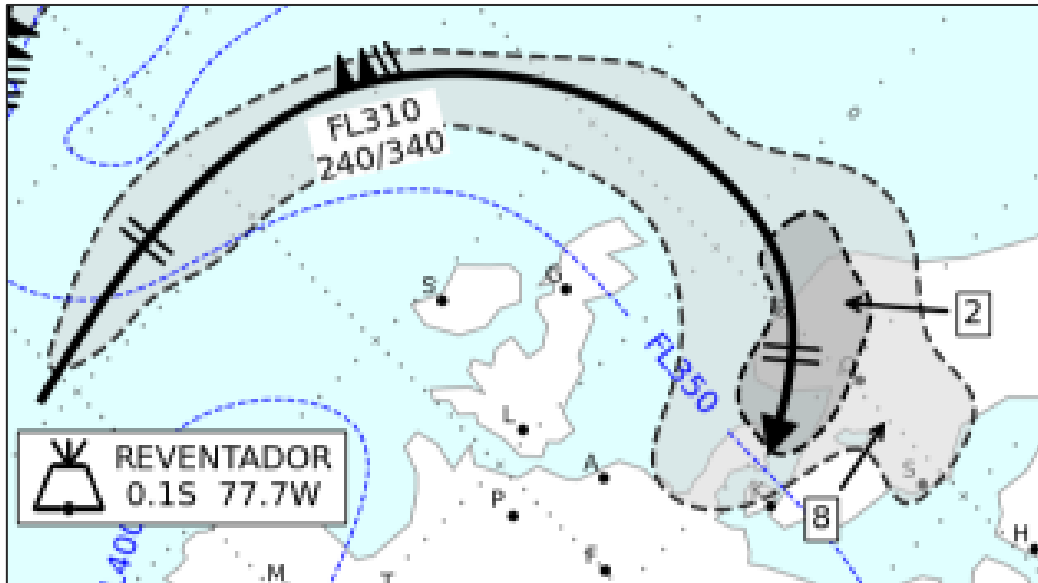


Background – blue ocean, major city markers

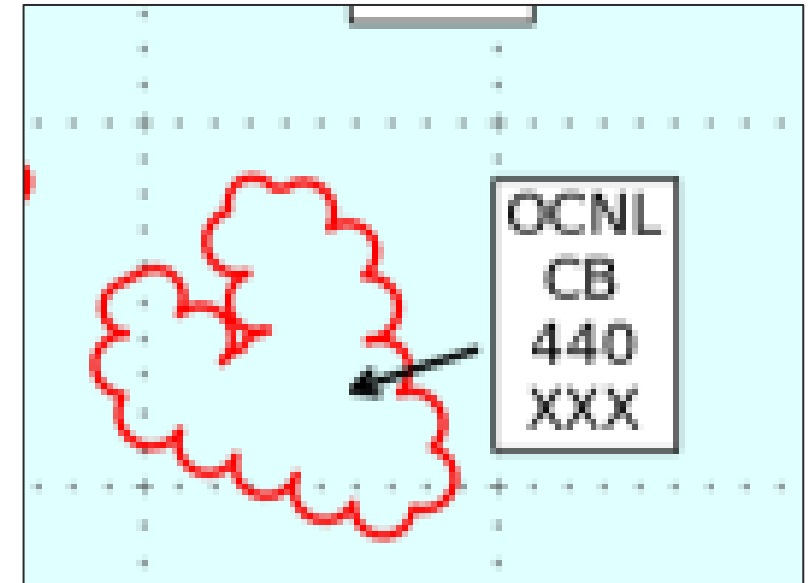


Jet Stream – black with wind fletches and height info

VISUALISING SIGWX DATA - IDEAS

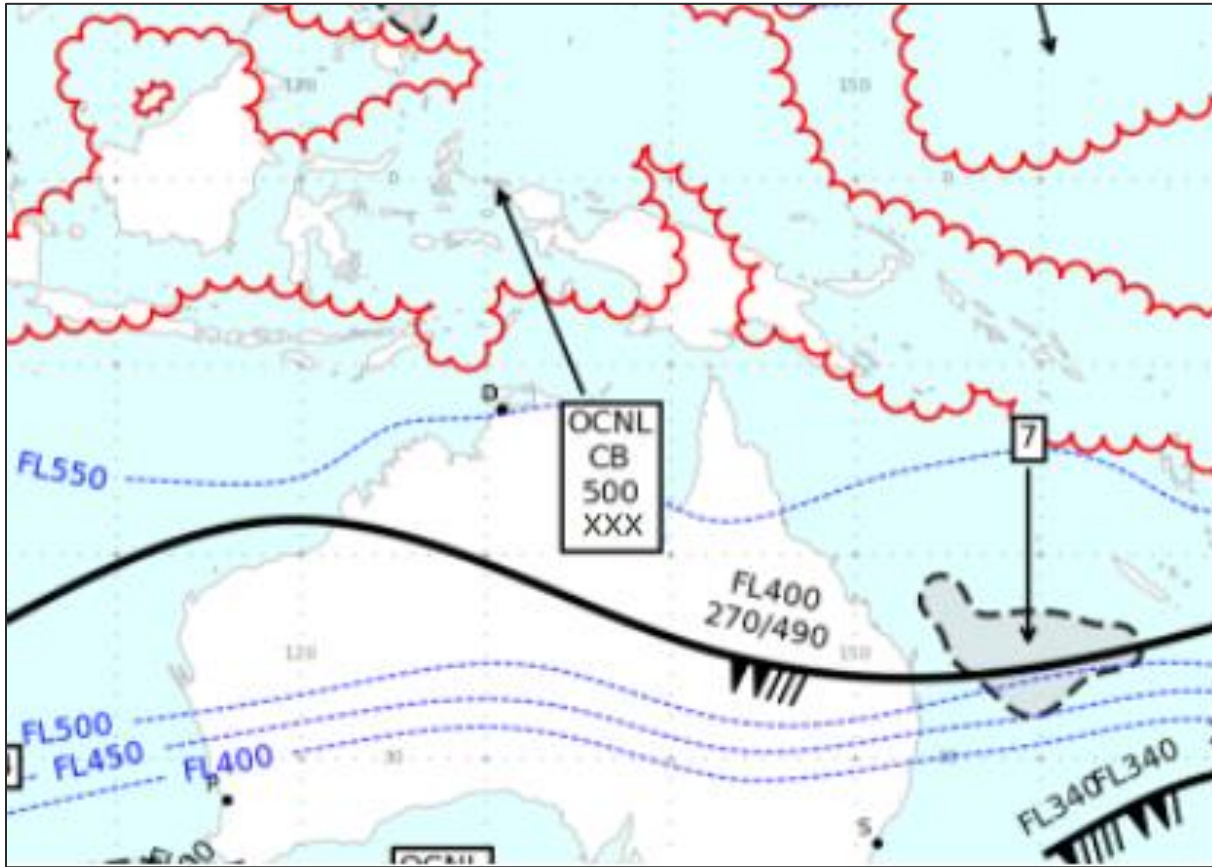


Turbulence areas – two tone grey shading.
Darker grey indicates SEV TURB

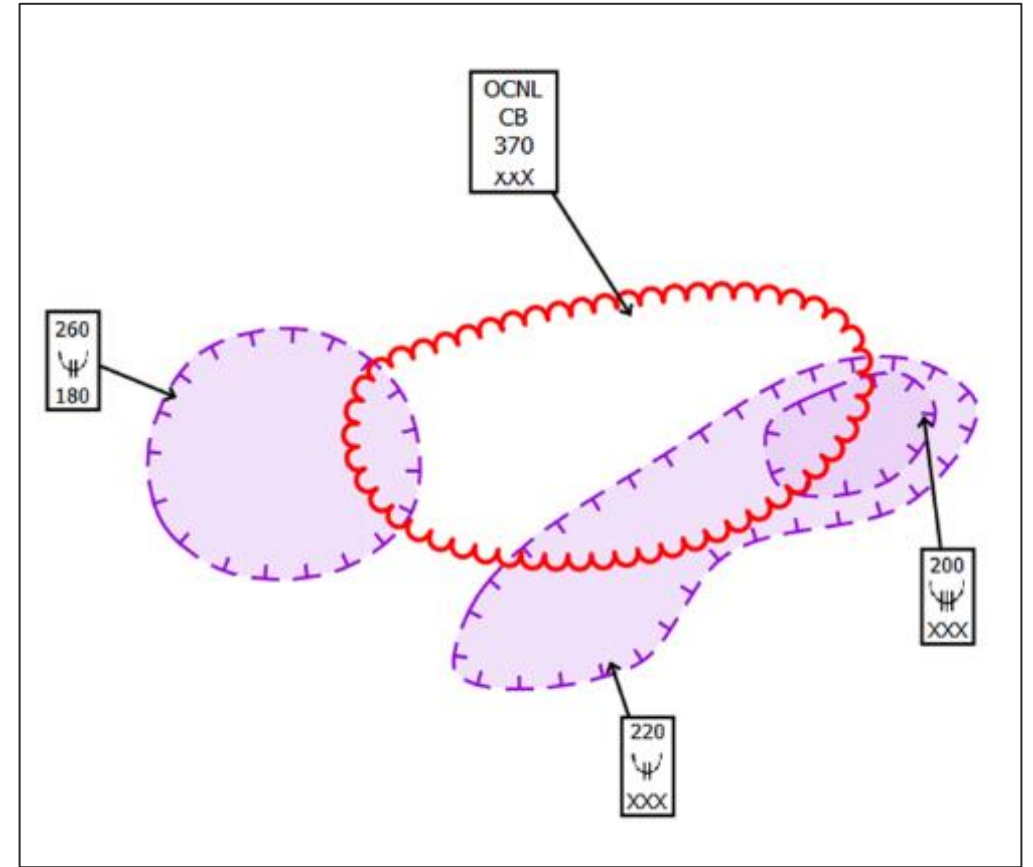


Cumulonimbus areas – red scalloped areas

VISUALISING SIGWX DATA - IDEAS



Blue tropopause contours



Purple shaded icing areas with a different line style to CB.

Thank you for listening