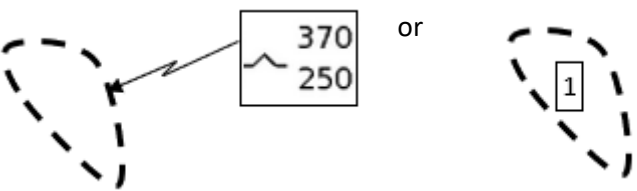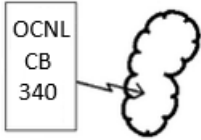**WAFS IWXXM SIGWX DATA INFORMATION**

The IWXXM SIGWX Objects have been created from the WAFS gridded data sets, and various functions are applied to it to contour, simplify and smooth the data to form the different SIGWX features.

The lower boundary of the new SIGWX chart is FL100, whilst the upper boundary is FL600.

Global coverage is provided for all fields.

| Feature | Information on: |
|---|---|
| Jet Stream | Jet stream information is created from the WAFS wind datasets and should be visualised using the current conventions (i.e. the same as for BUFR).<br><br> |
| Tropopause level | Tropopause level is provided as contours at 5000ft intervals (this is different to the BUFR which had spot height values). It should be plotted as a dashed contour.<br><br> |
| Turbulence | Turbulence objects have been created from the new WAFS turbulence datasets which provide their forecasts in terms of Eddy Dissipation Rate (EDR). Thresholding has been applied to the data so that the polygons are based on the MOD and SEV turbulence thresholds for a medium sized aircraft that are defined in ICAO Annex 3 – *Meteorological Service for International Air Navigation*. (Appendix 4, Para 2.6 ). The new turbulence objects also now forecast both clear air and orographic turbulence, and should be visualised using the current conventions (i.e. the same as for BUFR).<br><br> |
| Icing | Icing objects have been created from the new WAFS icing datasets which provide a categorical assessment of icing intensity and will mark out areas of MOD and SEV icing.<br><br>Depiction is a little different to the current convention (which is a combined icing and in-cloud turbulence field). It is recommended to use a scalloped line to represent the objects (but please note that in the test plots the WAFCs are currently using a zig-zag line) |

| | |
|---|---|
| |  |
| Cumulonimbus (CB) | Cumulonimbus objects are created from the WAFS cumulonimbus extent data set, and then further processed using the cumulonimbus base and top data to define its vertical extent.<br><br>In a change to the current conventions, only OCNL and FRQ amounts of cumulonimbus cloud will be forecast (no ISOL EMBD).<br><br>The upper and lower bounds of the objects will be provided within the IWXXM data sets, however only the CB top needs to be plotted. CB base is optional, as it will nearly always be XXX – i.e. below the base of the chart.<br><br> |
| Tropical Cyclones | Point source information will be provided which will contain the tropical cyclone position and name. |
| Volcanic Eruption | Point source information will be provided which will contain the volcano cyclone position and name. |
| Nuclear Release | Point source information will be provided which will contain the nuclear release site name and position. |
| Sand Storm | Point source information will be provided which will contain the position. |

*Note: Tropopause, Turbulence, Icing and Cumulonimbus objects will be closed polygons*