**HadISDH Update Document**

**Date of Document Modification:**
2nd February 2017

**Text to add to Dataset webpage:**
The HadISDH.v3.0.0.2016p contains all 12 months of 2016. It is a major new version because it is now using the major new version of HadISD.2.0.1.2016p as its base product. This new version has: an increased station count (~8000 – final station counts in HadISDH are much lower due to missing data constraints); an updated QC suite; and an updated duplicate station identification and merging process. Further information can be found in Dunn et al. 2016 (http://www.geosci-instrum-method-data-syst.net/5/473/2016/gi-5-473-2016.html). In addition, stations where dew point temperature (in addition to dry bulb temperature in previous versions) homogenisation adjustments greater than 5 degrees Celsius are required have been removed from further processing. All other processing steps for HadISDH remain identical. The new version of HadISD has pulled through some historical changes to stations in earlier versions of HadISDH due to source archive changes. The homogeneity adjustments differ slightly due to sensitivity to the addition and loss of stations, historical changes to stations previously included and the additional 12 months of data. More information can be found in the HadISDH.v3.0.0.2016p_update.pdf (LINK) and at http://hadisdh.blogspot.co.uk/2017/02/2016-update-for-hadisdh3002016p.html.

**New Version Number vX.Y.Z.0000p/f:**
V3.0.0.2016p

**Major Changes X:**
HadISDH is now using a major new version of the source dataset HadISD (v2.0.1.2016p). The new HadISD dataset now has 7877 stations as opposed to 6103 – station selection will be revisited annually rather than being static as previously. The merging methodology has been automated to a greater degree and can now be run annually. There are 1993 composite stations within the complete list. For Germany and Canada, specific stations are merged based on known changes to the source IDs. The QC code for HadISD has been updated to include various improvements to threshold sensitivities for the distributional gap, streak, spike and unusual variance tests. The neighbour check station selection has also been improved. Using the new HadISD results in ~400 stations more for each HadISDH variable. Some stations will inevitably have been lost due to the new station selection and ISD archive changes.

**Minor Changes Y:**
All processing steps for HadISDH remain identical apart from the removal of stations with very large homogeneity adjustments. Previously, any stations with adjustments in dry bulb temperature greater than 5 degrees Celsius were removed. Now we additionally remove any stations which have adjustments in dew point temperature greater than 5 degrees Celsius. This results in a removal of 29 stations in total. Given the Major Change X above we have not incremented a Minor Change Y.

**Bug fixes / historical data updates Z:**
Retrospective improvements to the historical data in the ISD archive are ongoing and have been incorporated here where stations appear in previous and this new HadISDH version. These have not been documented. Given the Major Change X above we have not incremented a Change Z.

**New Start Date DD.MM.YYYY:**
No change

**New End Date DD.MM.YYYY:**
31.12.2016

**New hadisdhTable:**
No change – URL: http://cedadocs.badc.rl.ac.uk/1267/

**New Reference:**
No change

**Any other notes to add:**
None – could highlight the "For more detailed information e.g bug fixes, routine updates and other exploratory analysis, see the HadISDH blog: http://hadisdh.blogspot.co.uk/ " in red or bold? The update blog post is here:
http://hadisdh.blogspot.co.uk/2017/02/2016-update-for-hadisdh3002016p.html