**Ozone Processing Guide**

**Introduction**

The Dobson is one of BAS’s oldest and most prestigious datasets, beginning at the very first Halley station, known as Halley Bay in 1957. For several decades this data was recorded, but not analysed in much detail, until Jonathan Shanklin joined BAS. He was given the job of working up the old data and plotting it, which he was due to present at an Open Day at BAS. There was much speculation at the time about whether supersonic aviation or aerosol sprays may be having an effect on the ozone layer and Jonathan though this data could put people’s minds at ease; the reality however, was that the data contained the first evidence of what is now known as the Ozone Hole and it became the basis for a groundbreaking paper in 1985: “Large losses of total ozone in Antarctica reveal seasonal ClOx/NOx interaction”. This paper (and subsequent ones, which explained the mechanism by which the Ozone Hole forms) led to the Montreal Protocol, a piece of environmental legislation which stopped the use of CFCs – which were largely responsible for the Ozone Hole. The effect that this dataset had on the world is rightly held up as an example of how important it is to do science in Antarctica and is seen as an example of the impact that our findings can have on the world.

Ever since he started, Jonathan Shanklin has continued to do the processing of the Dobson data, both from Halley and Vernadsky (formerly the British base “Faraday”). This means that we have someone who is a specialist and an expert doing this important work. However, it also means that we have no record of what Jonathan does. Given that Jonathan is now technically retired (though he remains a very active member of BAS), he has no obligation to continue this act of charity on behalf of his former employer and for BAS, that outcome would be catastrophic. This document is intended to be a record of how to process the data that comes from the Dobson, essentially putting as much of Jonathan’s process into writing as can be achieved. Where relevant, I have tried to include references to publications, however much of the process has been found through experimentation over nearly 40 years, so references are not always available.

Many thanks to Jonathan Shanklin for giving me his time and insights.

*Josh Eveson*