

4.1.2. UMKEHR OBSERVATIONS

Umkehr observations made with the Automated Dobson Network instruments continued in 1998 and 1999 at Boulder, Colorado; Haute Provence, France; Lauder, New Zealand; CMDL Mauna Loa Observatory, Hawaii (MLO); Perth, Western Australia; and at the Geophysical Institute, University of Alaska. Data processing has been completed for all stations through December 1998, and the vertical profiles are available from WOUDC. Processing has also been completed through November 1999 for Boulder, Lauder, Perth, and the Geophysical Institute. Problems at MLO and Haute Provence have yet to be resolved.

Preliminary results from a number of Umkehr "inter-comparisons" were presented at the Meteorological Service of Canada (MSC)-WOUDC Umkehr Meeting, November 17-18, 1999, in Toronto, Canada. The results showed that, in general, instruments well calibrated in total ozone mode agreed to within 3-5% of the standard in Umkehr layers 4, 5, and 6 and to within 10% in layers 3, 7, 8, and 9. However, there appeared to be systematic differences between some of the instruments. Further investigation will to be done in an attempt to determine the possible causes of these differences.