Network for the Detection of Atmospheric Composition Change

11 December 2020

President of the Leibniz University Hannover
Prof. Dr. jur. Volker Epping
Welfengarten 1
30167 Hannover
Germany

Dear President Epping,

This letter is to express the support of the international Network for the Detection of Atmospheric Composition Change (NDACC) for the continued operation of the Institute of Meteorology and Climatology in Hannover, Germany.

NDACC is a global network of high-quality in-situ and remote-sensing research instruments and stations established to provide a consistent, standardized set of long-term measurements of atmospheric trace gases, particles, and physical parameters. One of the network's primary goals is to study the temporal and spatial variability of atmospheric composition and structure in order to provide early detection of changes in the physical and chemical state of the stratosphere and troposphere. The network also provides independent calibrations and validations of space-based sensors of the atmosphere that are known to drift over time, as well as data for verification of numerical models of the atmosphere. As such, the ground-based instruments operated within the NDACC framework are indispensable. NDACC is organized around categories of observational techniques (sonde, lidar, microwave radiometers, Fourier-transform infrared, UV-visible DOAS (differential optical absorption spectroscopy), Dobson and Brewer spectrometers and spectral-UV radiometers, for which the University of Hannover has been an excellent and world-wide well known contributor over many years.

NDACC is a major component of the international atmospheric research effort and has been endorsed by national and international scientific agencies, including the International Ozone Commission (IO_3C) of the International Association of Meteorology and Atmospheric Physics (IAMAP), the United Nations Environment Programme (UNEP), and the World Meteorological Organization (WMO) Global Atmospheric Watch (GAW) Programme.

NDACC strongly supports the continuation of the measurements and training of scientists within the Institute of Meteorology and Climatology at the University of Hannover. The UV-standards on which the entire world's radiometric protocols rest are those of the Institute that promulgates

them to the WMO's GAW program. The Institute's intercomparisons and its education of young scientists in this area are *irreplaceable*. In addition, the Institute is developing new instruments that are at the cutting edge of spectroradiometric measurement technology. A cornerstone of NDACC is making sure that the observational technology evolves in parallel with established methods.

We point out that although many decision-makers may regard global ozone depletion as a "solved problem," nothing could be further from the truth. A 2018 study by Montzka et al. (https://www.nature.com/articles/s41586-018-0106-2) found "rogue" ozone-destroying chemicals throughout the northern hemisphere based on data from NDACC-partner networks. In northern hemisphere winter 2019-2020 the largest ever Arctic ozone depletion episode occurred. In the past two months the Antarctic ozone hole was its largest in 15 years. These findings mean that the University of Hannover's UV radiometric monitoring is more important than ever.

Thus, NDACC strongly supports continuation of the research and education in this area. The critical importance of the ozone layer for human health and the need to monitor its current and future state are the foundations of the 1985 Vienna convention for the protection of the ozone layer and the 1987 Montreal Protocol (and later amendments) to which Germany is a party. In addition to other funding agencies' support, NDACC is NASA-sponsored and European-sponsored and it is eager to see the critical measurement program at the University of Hannover maintained as part of Earth's global observation system.

Sincerely,

Dr. Anne M. Thompson, Co-Chair
NDACC Steering Committee

Martine De Mazière (Signature)

Digitally signed by Martine De Mazière (Signature)
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Dr. Martine de Mazière, Co-Chair
NDACC Steering Committee

This letter is also sent to

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Niedersachsen, Germany
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30169 Hannover
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Minister for Environment, Energy, buildings and climate protection,
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Mr. Olaf Lies
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