



Stratospheric Processes and their Role in Climate

A Project of WCRP



September 22, 2011

The Honourable Peter Kent
Minister of the Environment
Les Terrasses de la Chaudière
10 Wellington Street, 28th floor
Gatineau, Quebec K1A 0H3
Canada

Re: Closure of Canadian ozone network

N.B. An earlier version of this letter was sent to you on September 15, 2011, signed by the SPARC co-Chairs. The letter was subsequently distributed to the SPARC community and it has now been endorsed by the undersigned, representing scientists from around the world.

Dear Minister Kent:

We are writing in our capacity as the co-Chairs of the Scientific Steering Group of the World Climate Research Programme's SPARC (Stratospheric Processes And their Role in Climate) core project, to express our grave concern about the termination of Environment Canada's long-standing program to monitor changes in atmospheric ozone, as recently announced by *Nature* (<http://www.nature.com/news/2011/110912/full/477257a.html>). This has very serious repercussions for the international scientific community.

Ozone is an important greenhouse gas — indeed the third most important greenhouse gas in terms of its radiative forcing of climate change, after carbon dioxide and methane — and is also critical to life on Earth and human health through its role in filtering ultraviolet (UV) radiation. The cornerstone of our scientific understanding of any environmental issue is the observed record of past changes, which is why developing and maintaining this record through the Global Climate Observing System is a treaty obligation of all signatories to the United Nations Framework Convention on Climate Change. SPARC coordinates international research efforts to understand the role of the stratosphere in the climate system, and the observed record of ozone changes is central to this effort.

Although satellites play a unique role in the Global Climate Observing System through their near-global coverage of the planet, they are anchored by ground-based networks (including bal-

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loon launch sites) which provide essential calibration standards — critical for the issue of long-term changes — as well as providing more detailed and typically more accurate information than can be provided by satellites. In the case of ozone, satellite measurements provide only very limited information on tropospheric ozone, while the satellite-derived stratospheric ozone profiles currently come from research rather than operational instruments so their future provision is highly uncertain. For all these reasons, the ground-based ozone network — and, especially, the ozonesonde component of this network, which provides the information on vertical profiles and tropospheric ozone — is critical, as is confirmed by the continual use of this data in scientific research and in international scientific assessments of ozone and climate change.

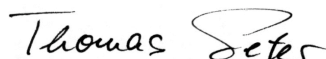
For reasons of sovereignty, ground-based measurement stations are the responsibility of the host country, and so Canada has a special role to play as the occupant of such a large fraction of the northern high-latitude land mass. Yet because ozone is transported globally, a global network is required in order to understand ozone changes: the Canadian measurements are of value not just to Canadian scientists, but to scientists worldwide. The loss of the Canadian measurements will therefore leave a devastating hole in the global ozone network. In addition, the Environment Canada research group responsible for these measurements, which we understand has now been decimated, has played a key international role for both ozone and UV measurements in maintaining calibration standards, assessing past changes for the World Meteorological Organization/United Nations Environment Programme Scientific Assessments of Ozone Depletion (which are mandated by the Montreal Protocol to occur at least every four years), and hosting the world data centre for these measurements (the World Ozone and UV Data Centre).

The value in long-term measurements lies in the continuity and stability of the record. Once there is a gap, it can never be filled. This is not the sort of activity that can be taken on by universities, which perform more ‘project-driven’ research. So we are extremely concerned, from an international perspective, about the implications of your Government’s decision to eliminate such a critical component of the Global Climate Observing System, and hope that a way can be found to maintain these key measurements.

Yours sincerely,



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Co-chair, SPARC SSG



Professor Thomas Peter
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cc.

- Dr. Paul Boothe, Deputy Minister, Environment Canada
- Dr. Karen Dodds, Assistant Deputy Minister, Environment Canada, Science and Technology Branch
- Mr. David Grimes, Assistant Deputy Minister, Environment Canada, Meteorological Service of Canada
- Dr. Charles Lin, Director General, Environment Canada, Atmospheric Science and Technology

I hereby agree with the content of the above letter concerning the “Closure of Canadian ozone network” and fully support the request of the SPARC co-Chairs not to close this network:

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