

Home

Online Library ACP

- ▣ Recent Final Revised Papers
- ▣ [Volumes and Issues](#)
- ▣ Special Issues
- ▣ Library Search
- ▣ Title and Author Search

Online Library ACPD

Alerts & RSS Feeds

General Information

Submission

Review

Production

Subscription

Comment on a Paper

Impact
Factor
4.865

ISI
indexed



▣ [Volumes and Issues](#) ▣ [Contents of Issue 3](#)

Atmos. Chem. Phys., 2, 197-205, 2002

www.atmos-chem-phys.net/2/197/2002/

© Author(s) 2002. This work is licensed under a Creative Commons License.

Surface ozone depletion episodes in the Arctic and Antarctic from historical ozonesonde records

D. W. Tarasick and J. W. Bottenheim

Environment Canada, 4905 Dufferin Street, Downsview, ON, M3H 5T4 Canada

Abstract. Episodes of ozone depletion in the lowermost Arctic atmosphere (0--2 km) at polar sunrise have been intensively studied at Alert, Canada, and are thought to result from catalytic reactions involving bromine. Recent observations of high concentrations of tropospheric BrO over large areas of the Arctic and Antarctic suggest that such depletion events should also be seen by ozonesondes at other polar stations. An examination of historical ozonesonde records shows that such events occur frequently at Alert, Eureka and Resolute, but much less frequently at Churchill and at other stations. The differences appear to be related to differences in average springtime surface temperatures. The long record at Resolute shows depletions since 1966, but with an increase in their frequency over the period 1966--2000 of $0.66 \pm 0.59\%$ per year (95% confidence limits), explaining the apparent increase of Hg in Arctic biota in recent times.

▣ [Final Revised Paper](#) (PDF, 227 KB) ▣ [Discussion Paper](#) (ACPD)

Citation: Tarasick, D. W. and Bottenheim, J. W.: Surface ozone depletion episodes in the Arctic and Antarctic from historical ozonesonde records, Atmos. Chem. Phys., 2, 197-205, 2002. ▣ [Bibtex](#) ▣ [EndNote](#) [Reference Manager](#)

Copernicus Publications
The Innovative Open Access Publisher

Search ACP

Library Search

Author Search

News

- ▣ [Sister Journals AMT & GMD](#)
- ▣ [Financial Support for Authors](#)
- ▣ [Journal Impact Factor](#)
- ▣ [Public Relations & Background Information](#)

Recent Papers

01 | ACPD, 12 Mar 2009:
A new insight on tropospheric methane in the Tropics – first year from IASI hyperspectral infrared observations

02 | ACPD, 11 Mar 2009:
Comparison of analytical methods for HULIS measurements in atmospheric particles

03 | ACPD, 11 Mar 2009:
Vertical distribution of aerosols in Mexico City during MILAGRO-2006 campaign