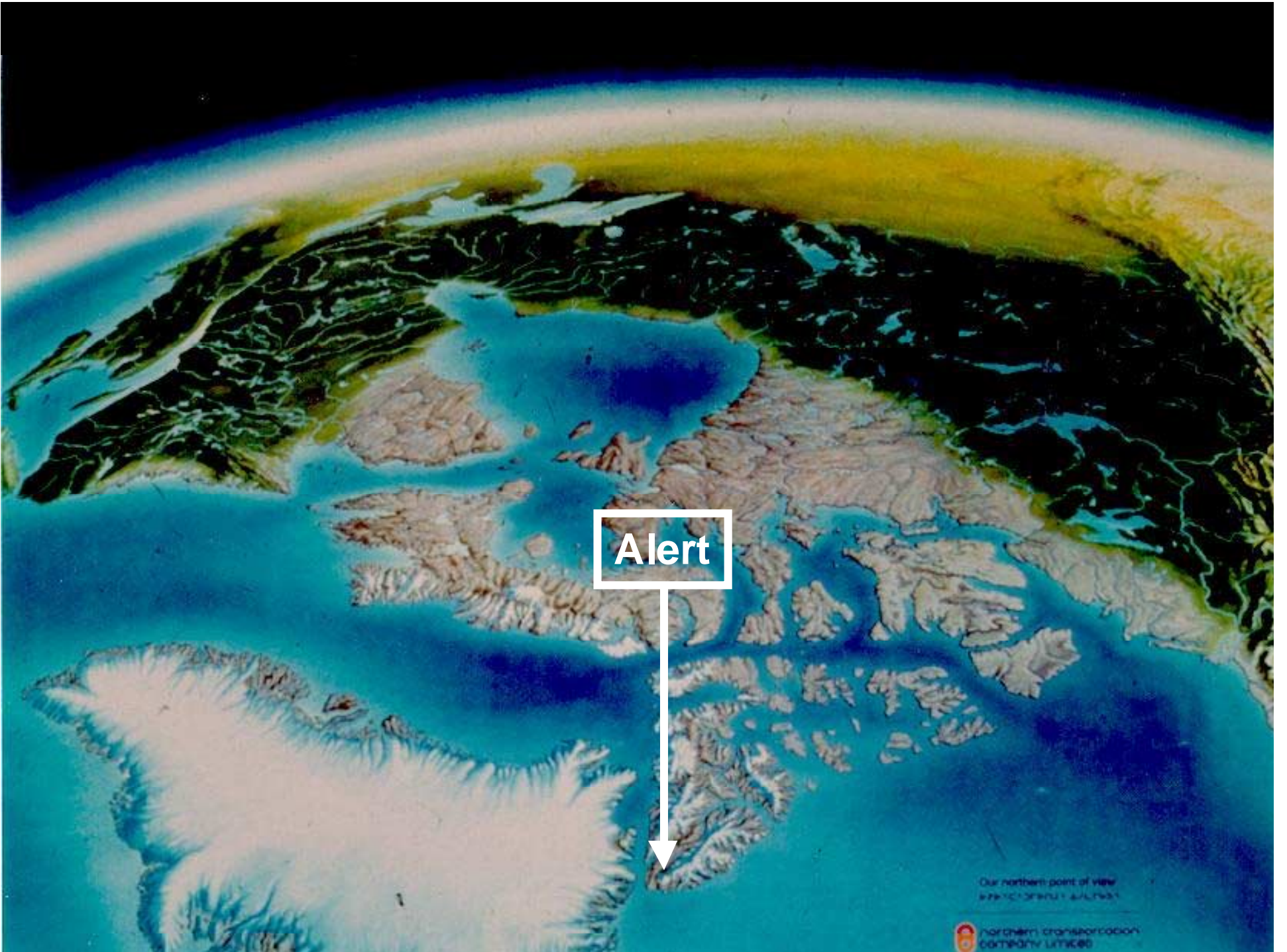


Polar Sunrise Experiments

Alert 2000

Photochemistry in air, ice and snow

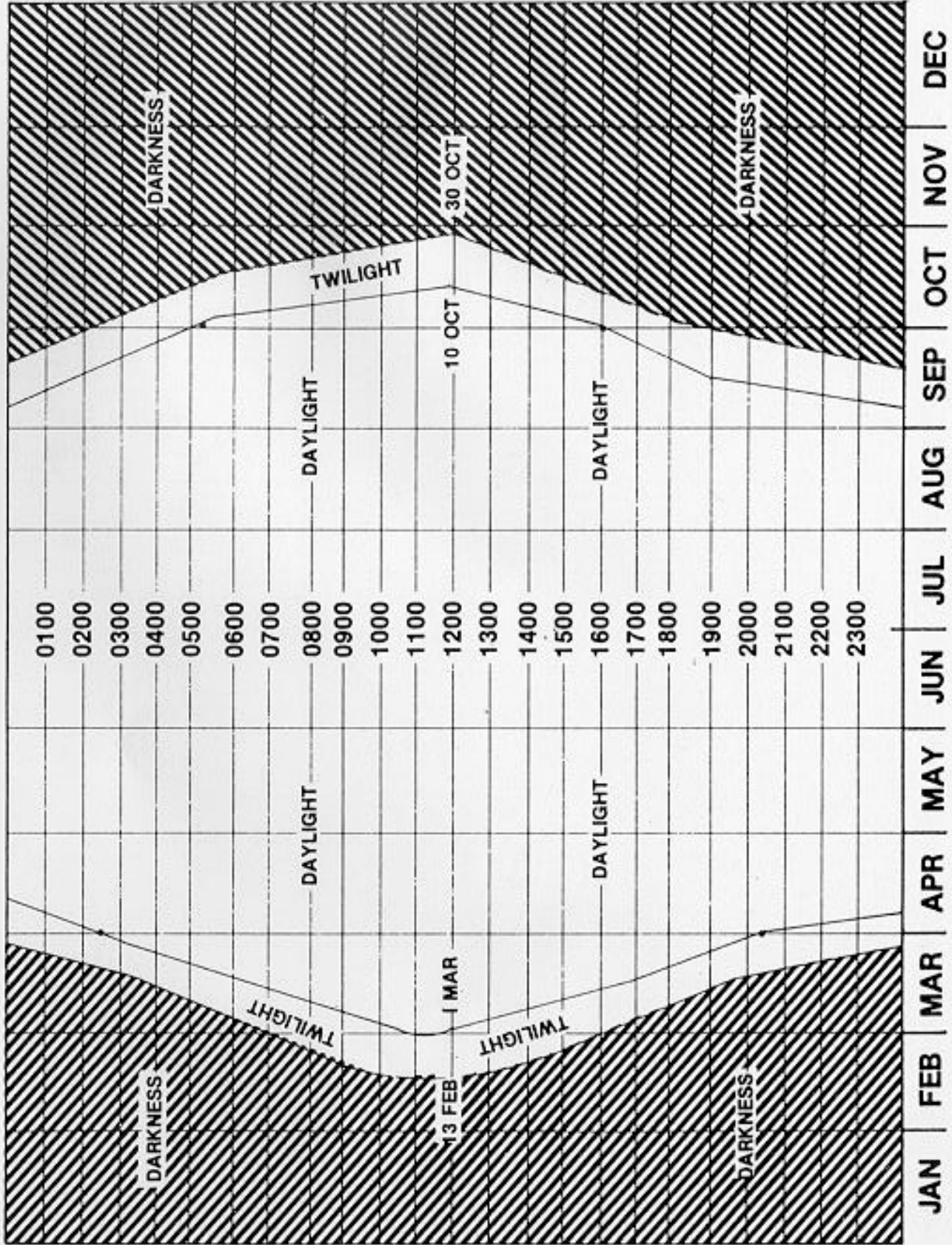


Alert

Our northern point of view
ଆମର ଉତ୍ତରୀୟ ଦୃଶ୍ୟ

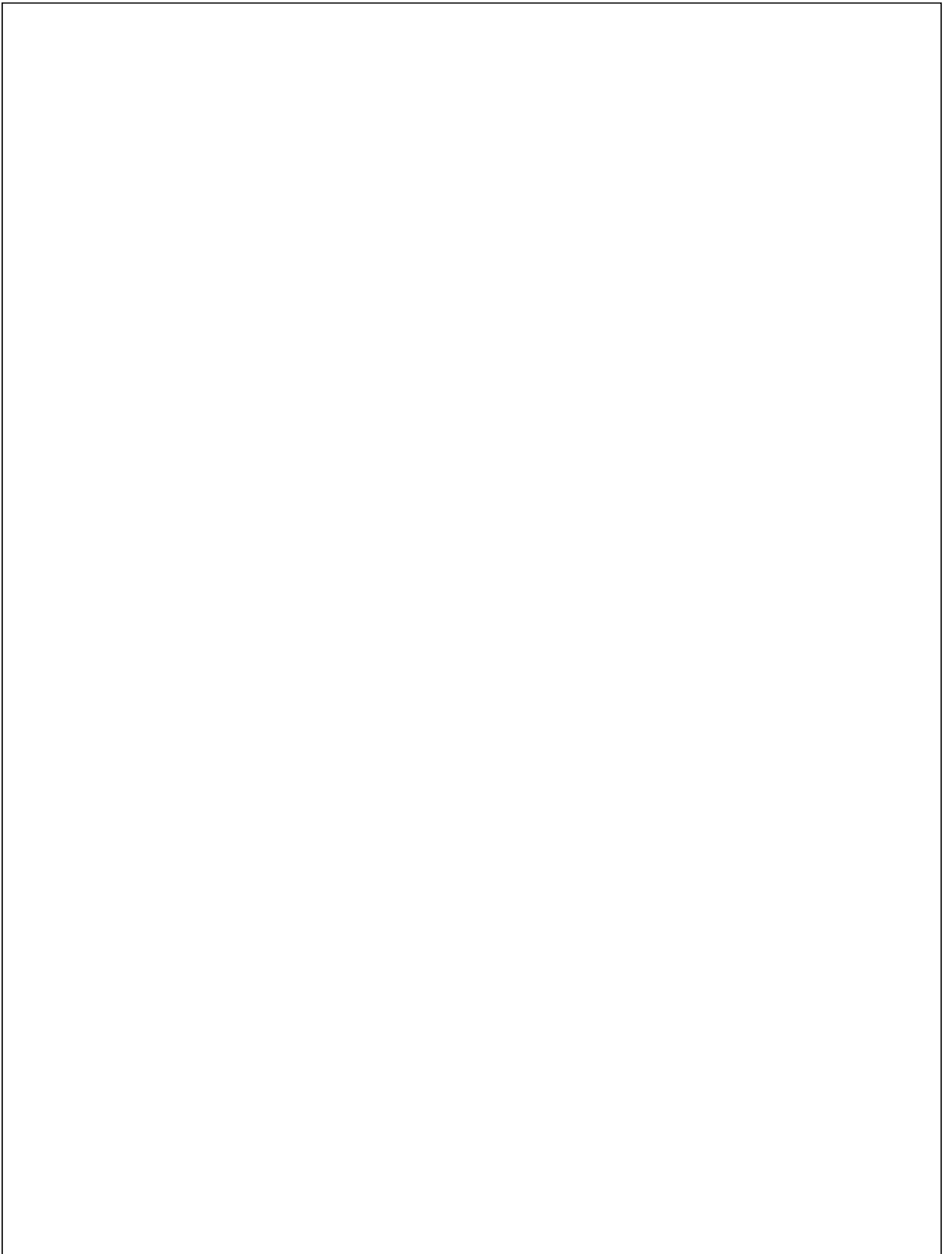
 northern transportation
company limited

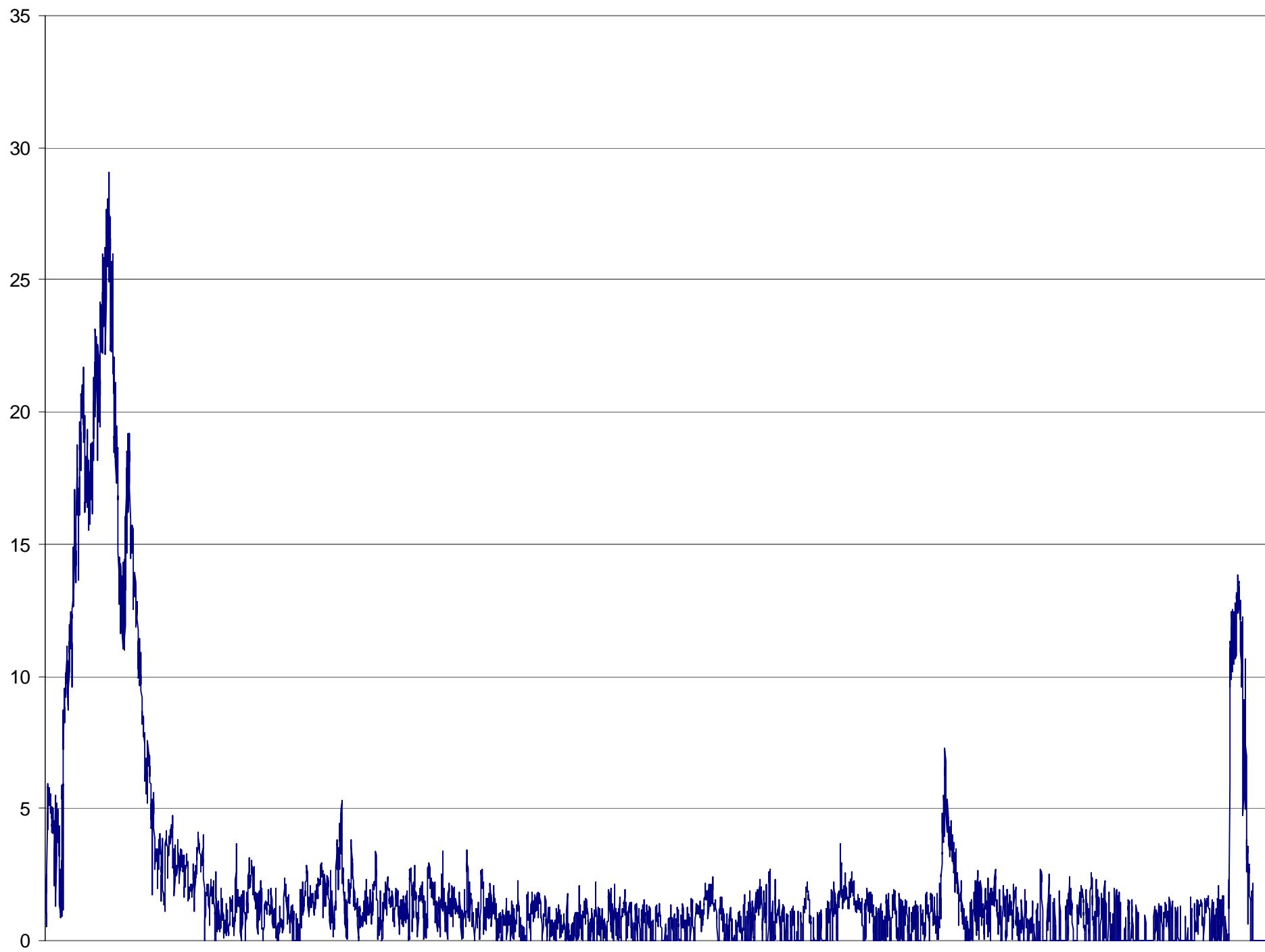
DAYLIGHT - DARKNESS CHART - CFS ALERT











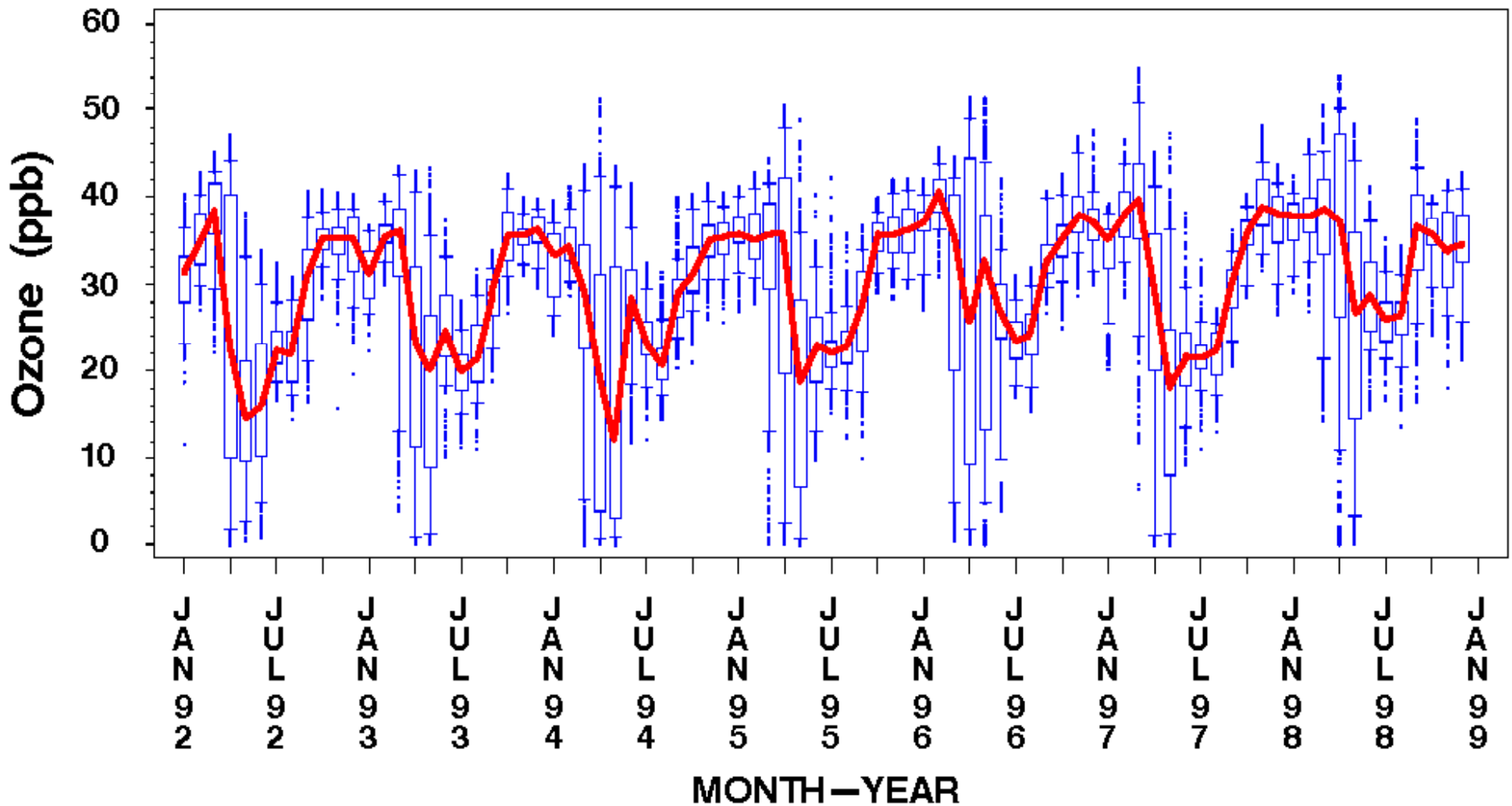
Special Studies Trailer, Alert, Nunavut



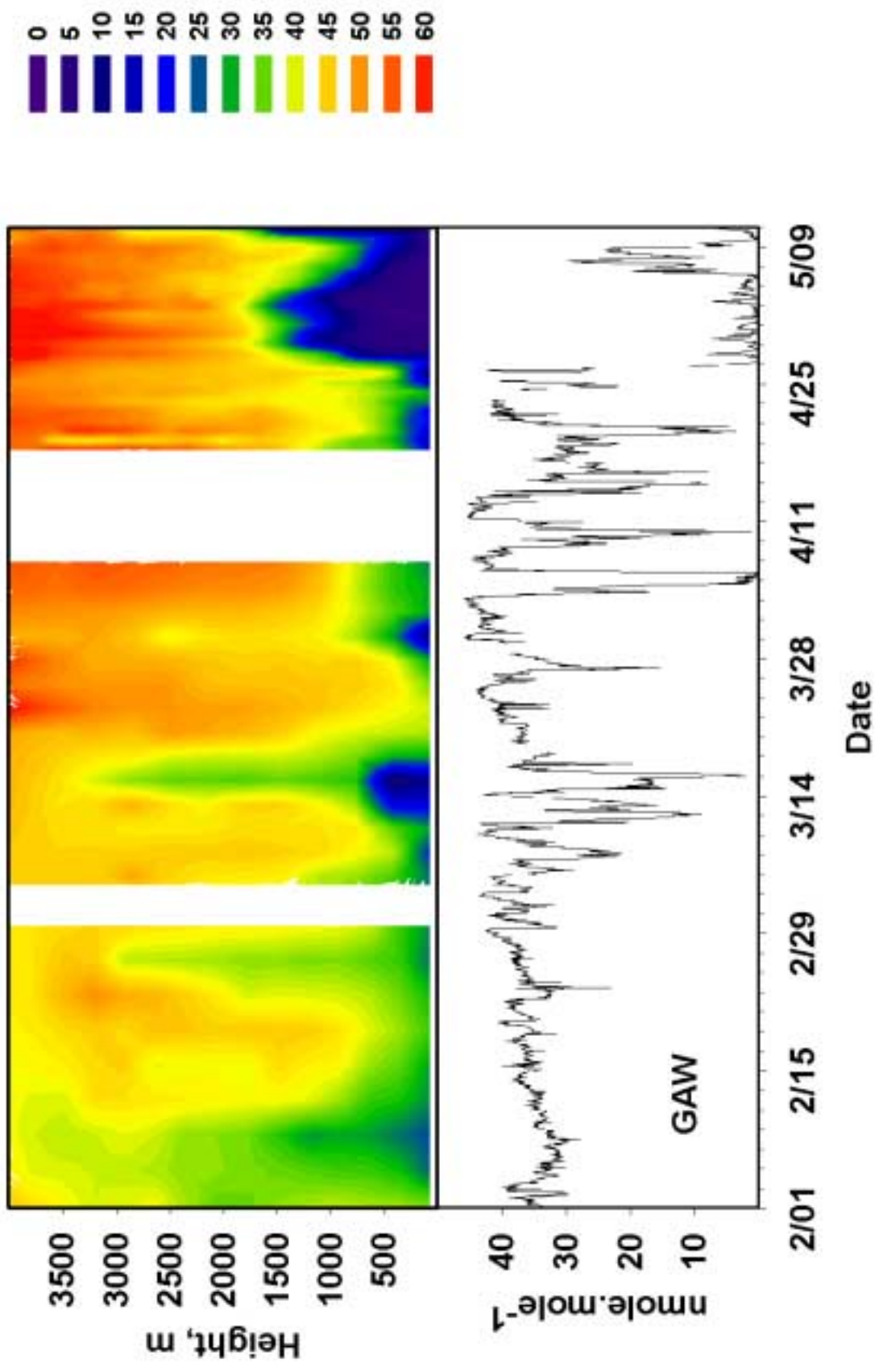
Photo © 2000 P. C. Brückell

Alert Ozone 1992–1998

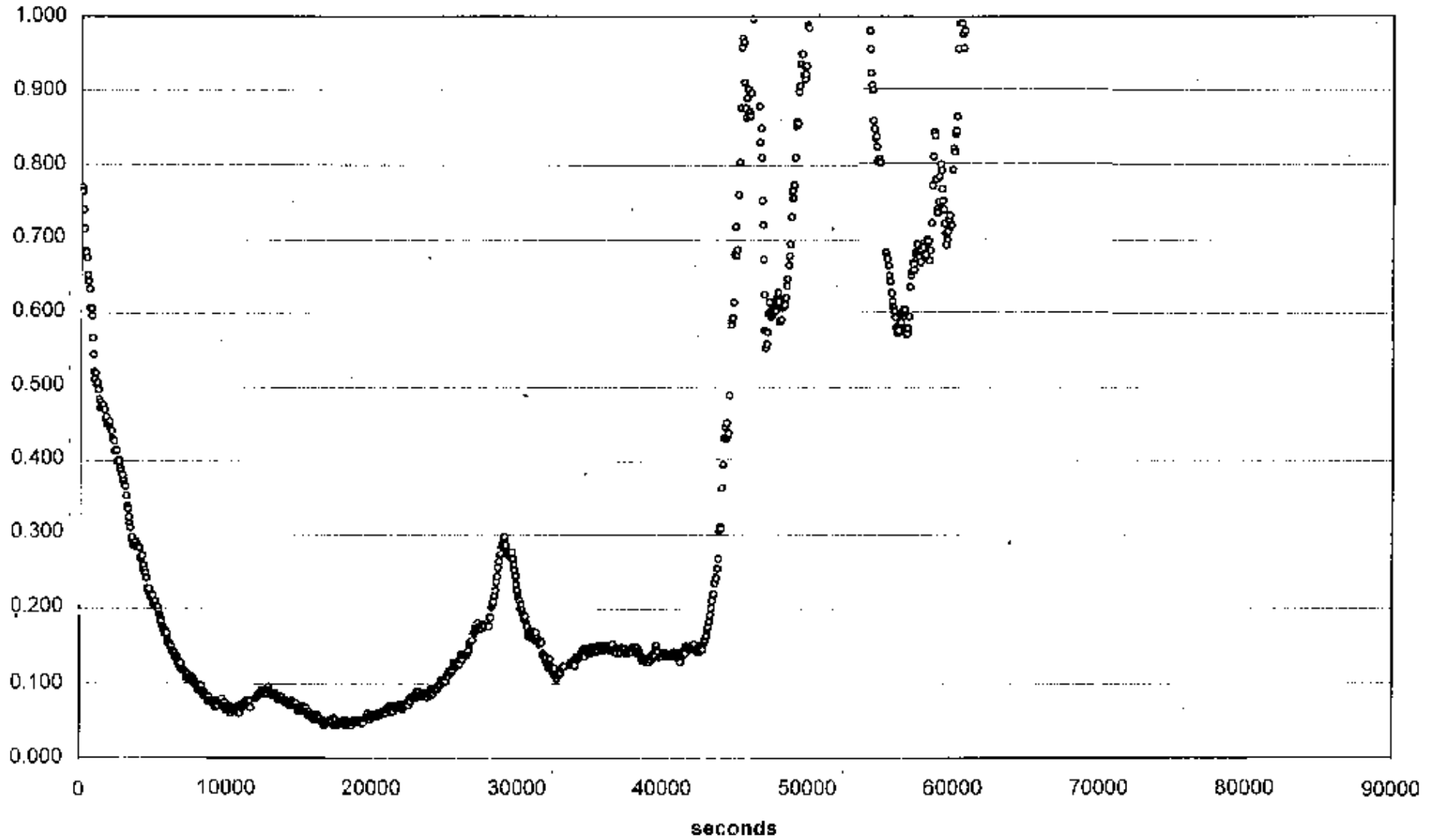
Bars: 5th and 95th, Box: 25th and 75th percentiles, Line: Monthly Medians



Courtesy: Kurt Anlauf, AES



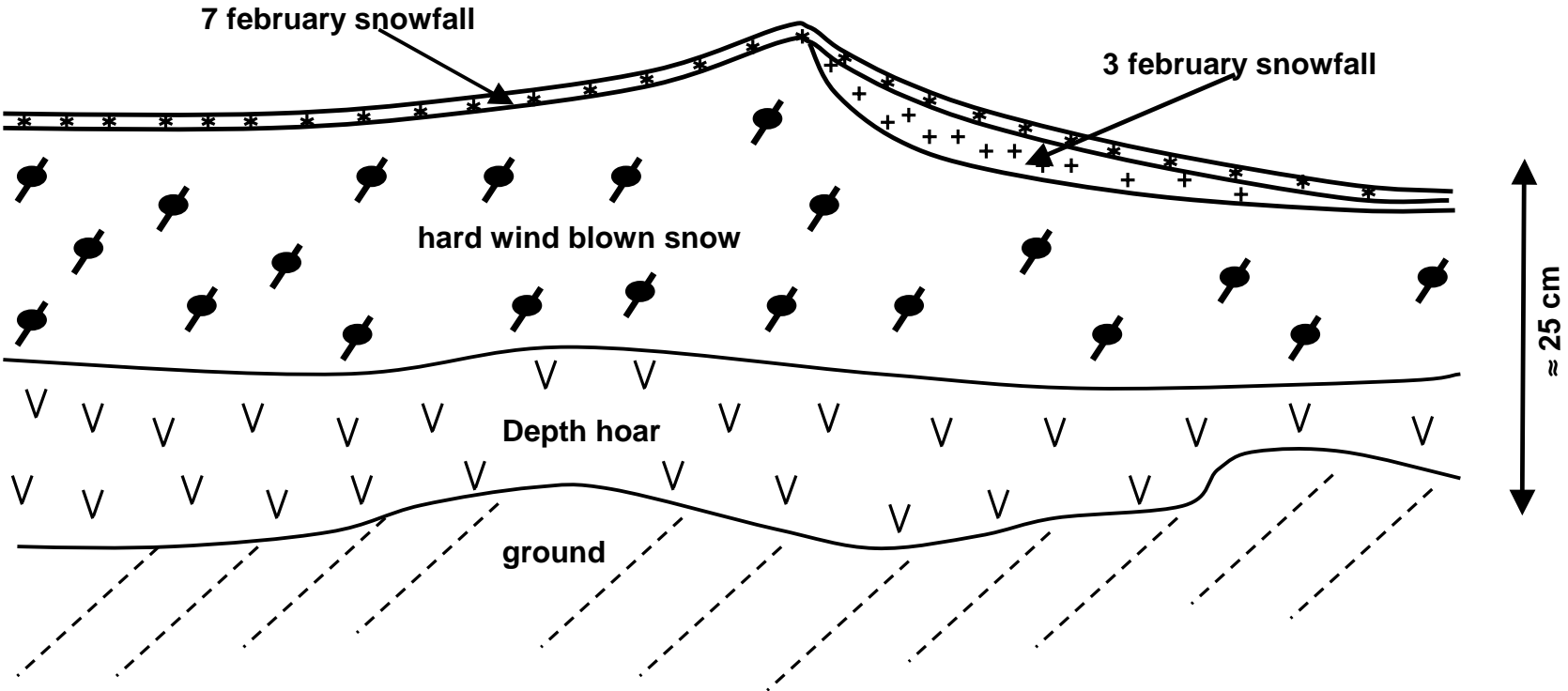
0427_60sec



Anlauf (MSC), Carroll (UM)



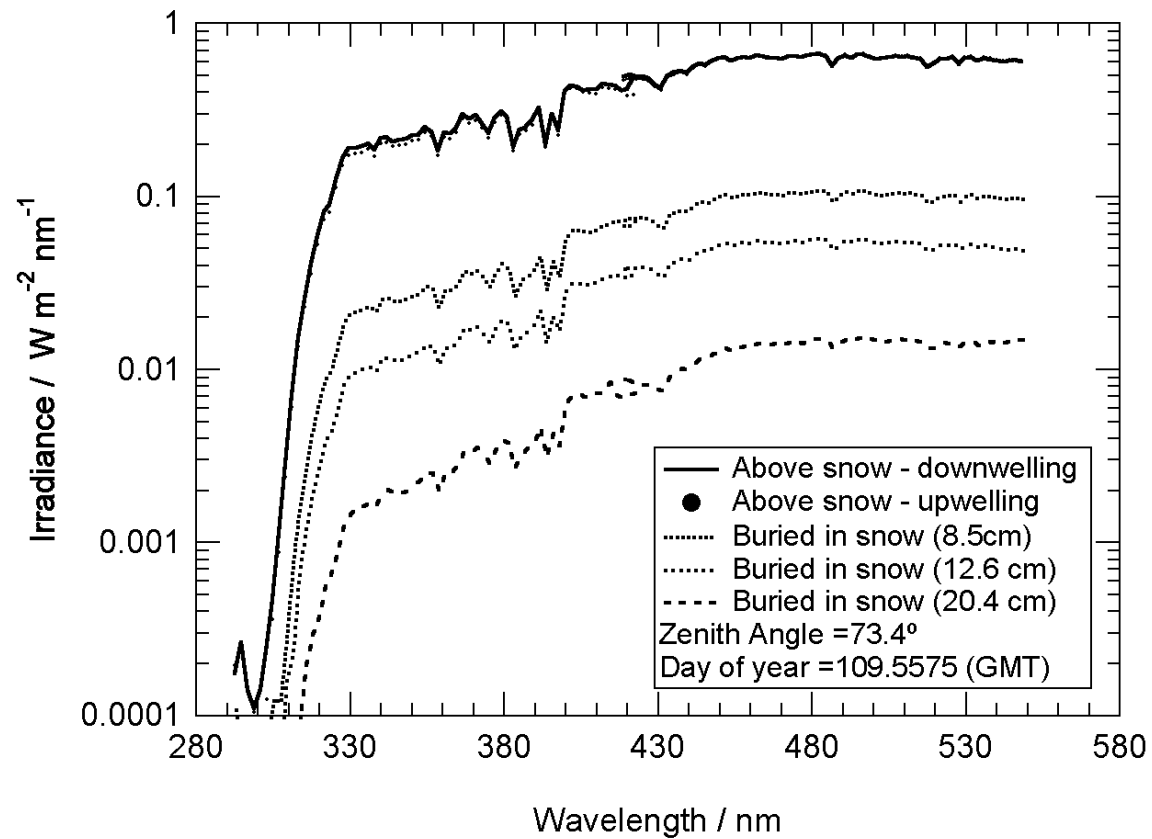
Figure 1. Stratigraphy of site A, 300 m SE of FTX



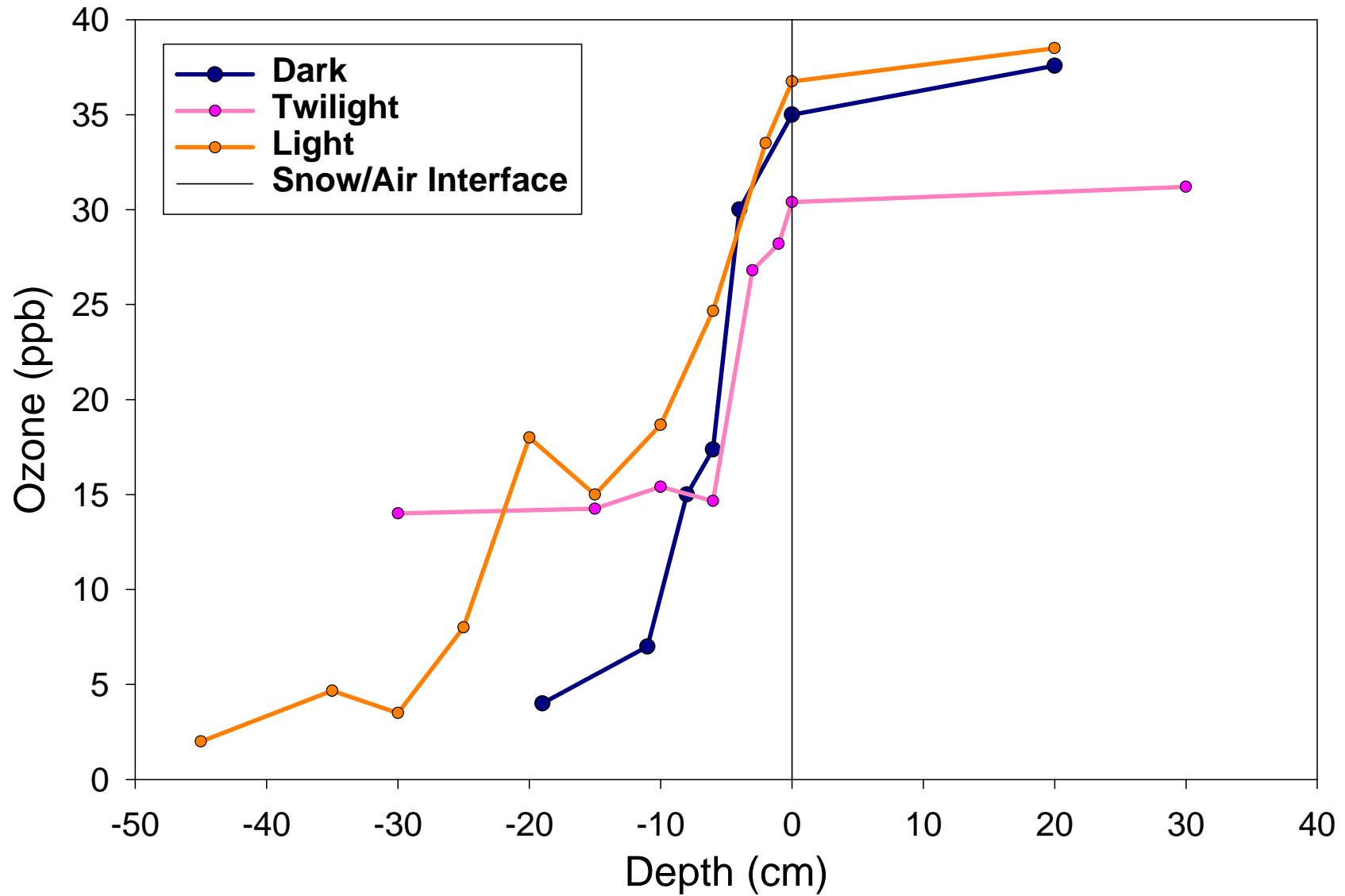


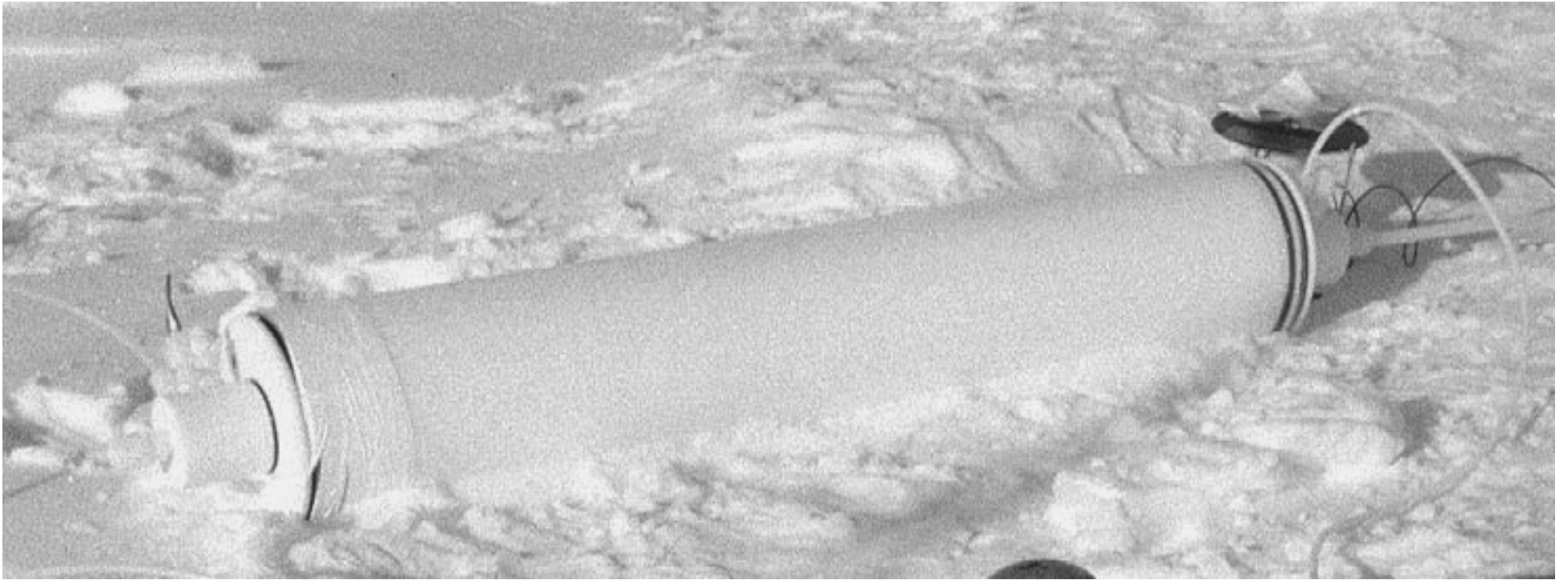


Irradiance spectra



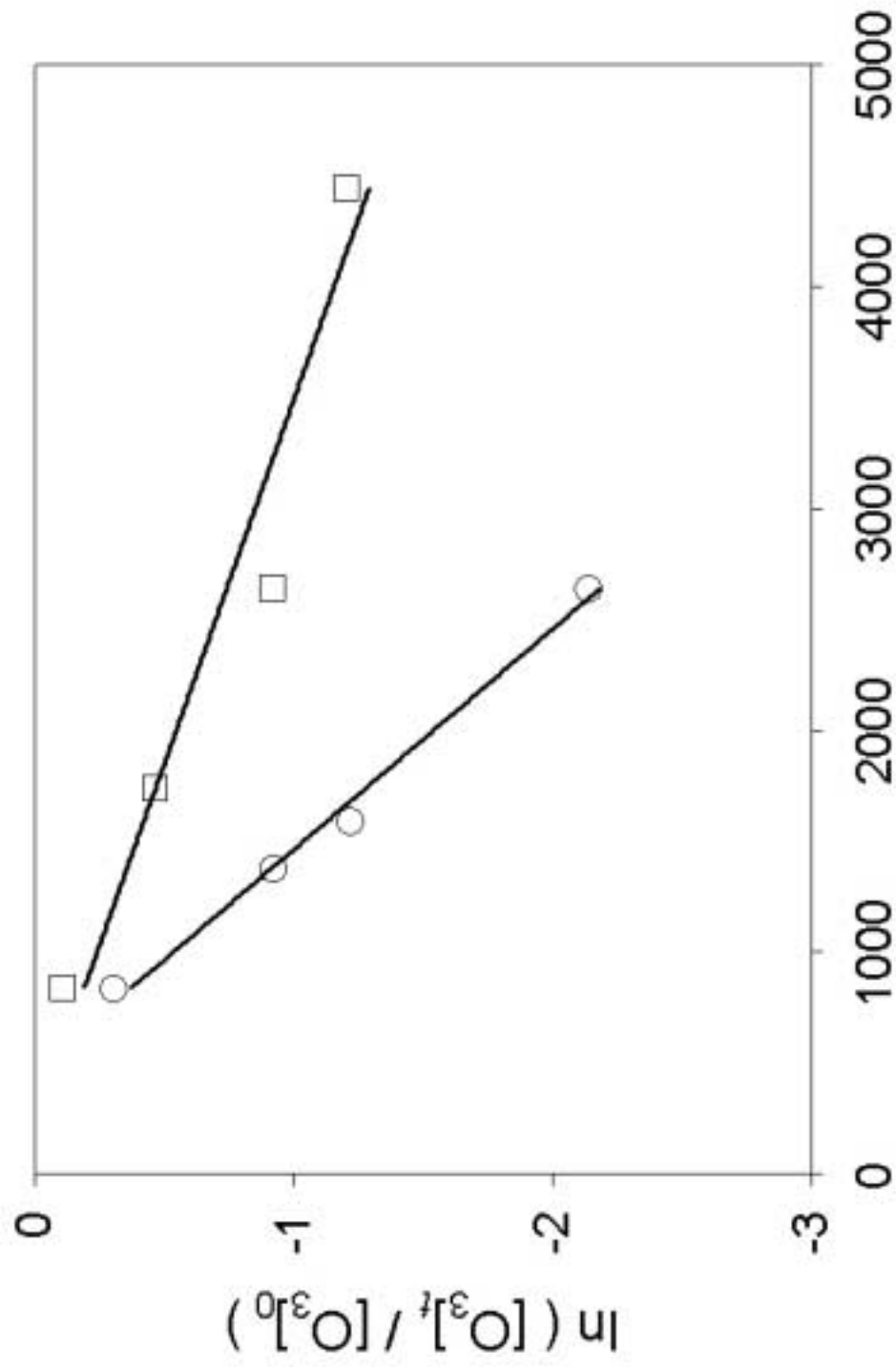
Average Ozone Depth Profiles: ALERT2000





Quartz snow chamber

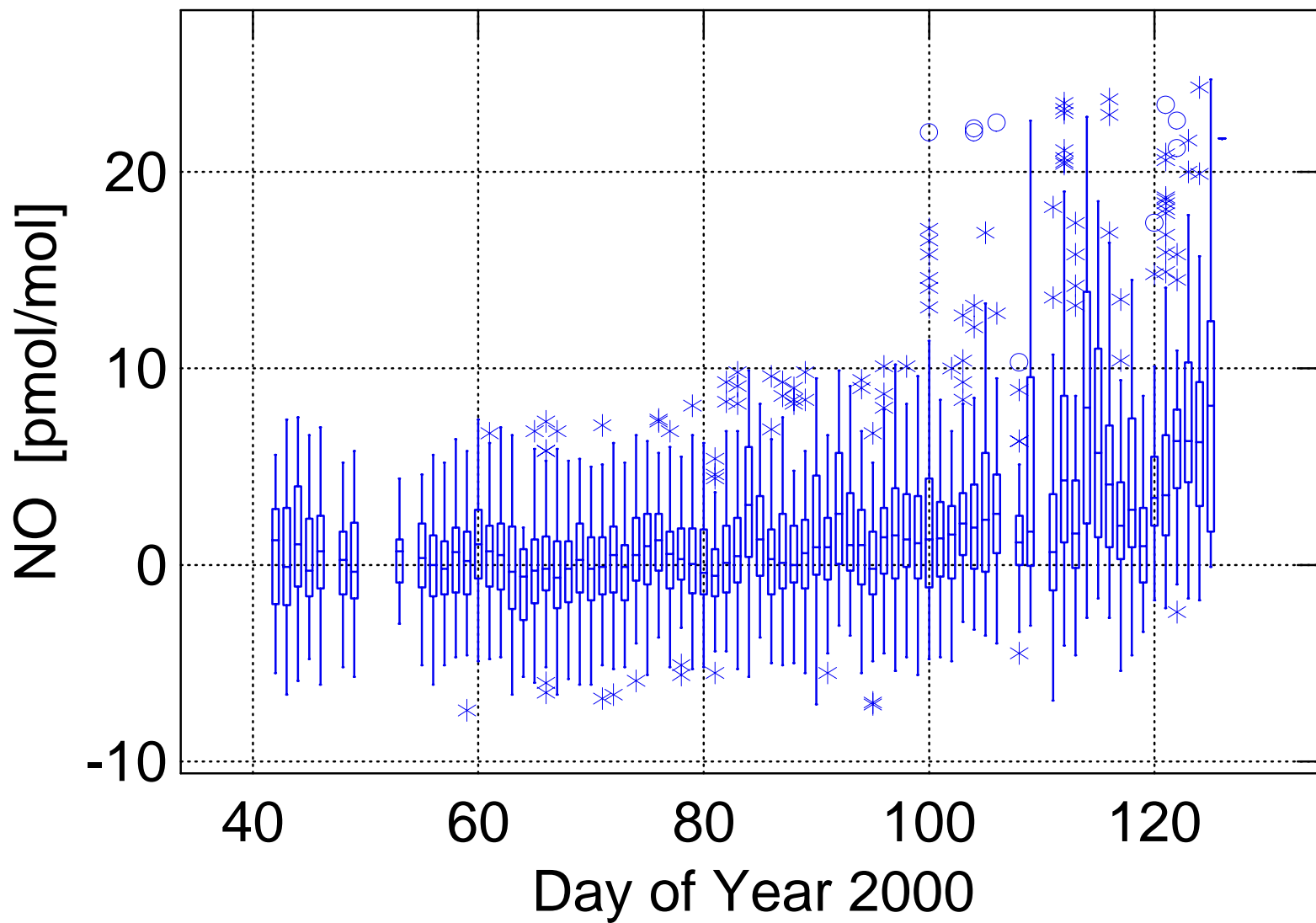
Snow chamber kinetic experiment

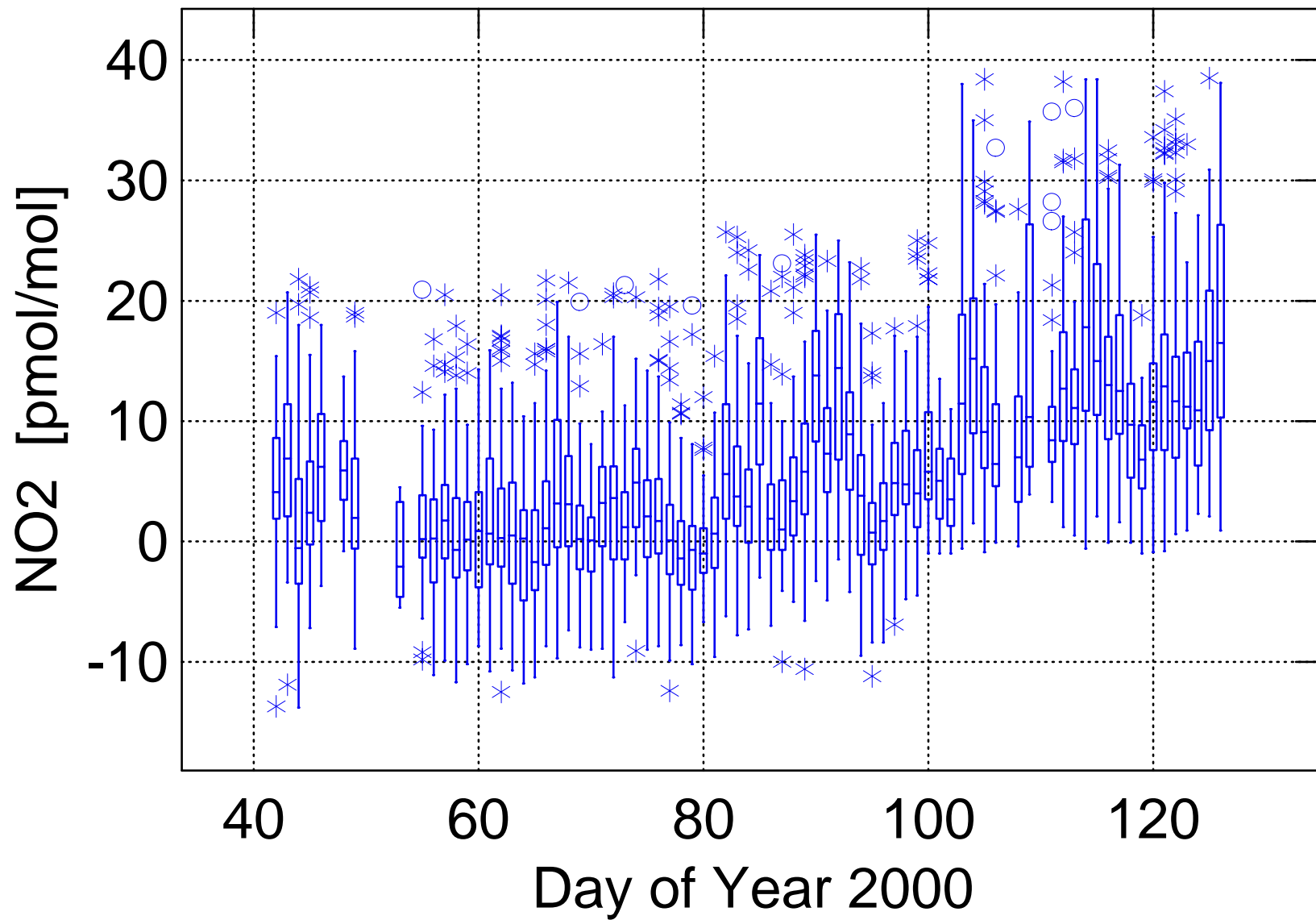


Exposure time, sec

- sunlit experiment, slope = $1.01 \times 10^{-3} \text{ s}^{-1}$
- dark experiment, slope = $3.05 \times 10^{-4} \text{ s}^{-1}$

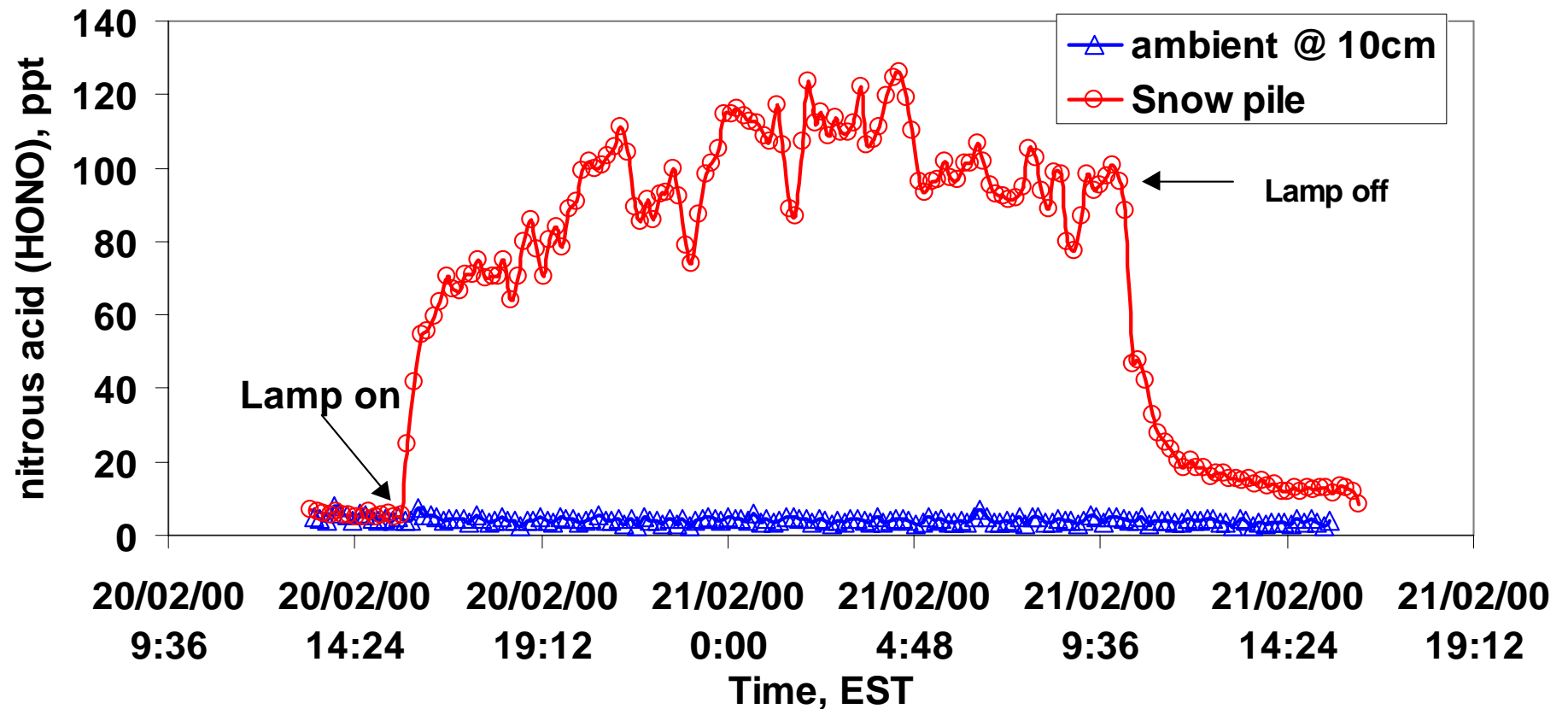






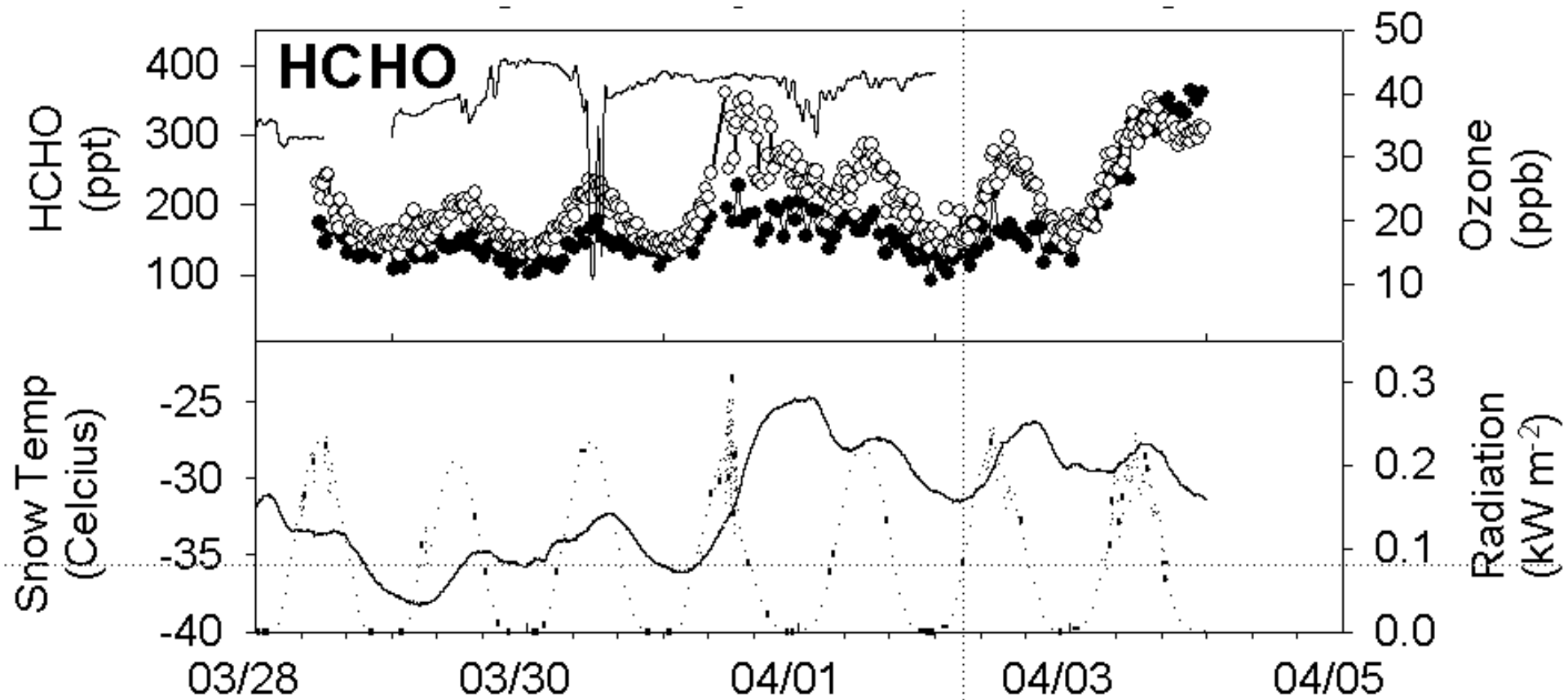


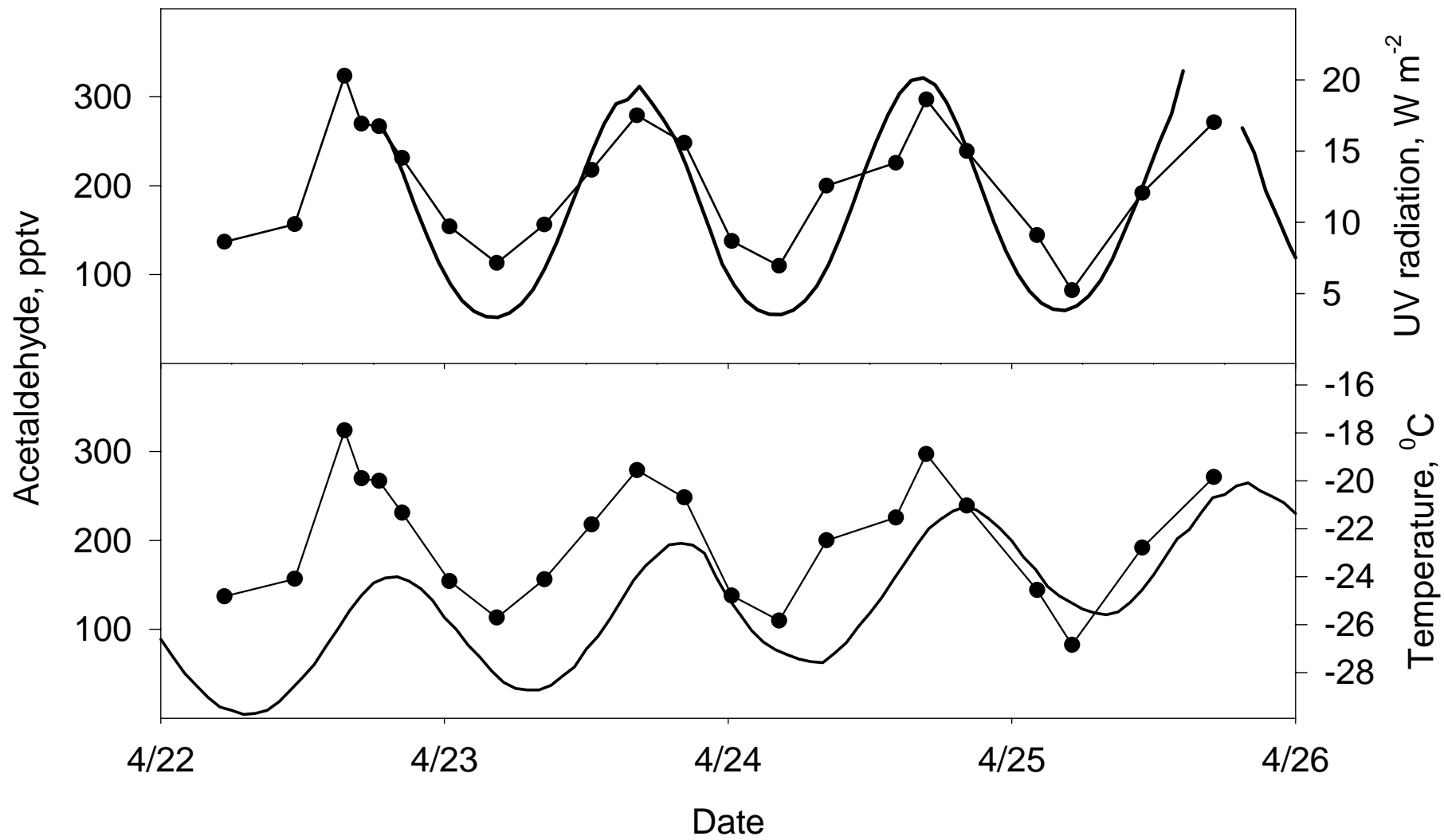
ARTIFICIAL SUNLIGHT PRODUCES NITROUS ACID (HONO) IN SNOW



Zhou, SUNYA



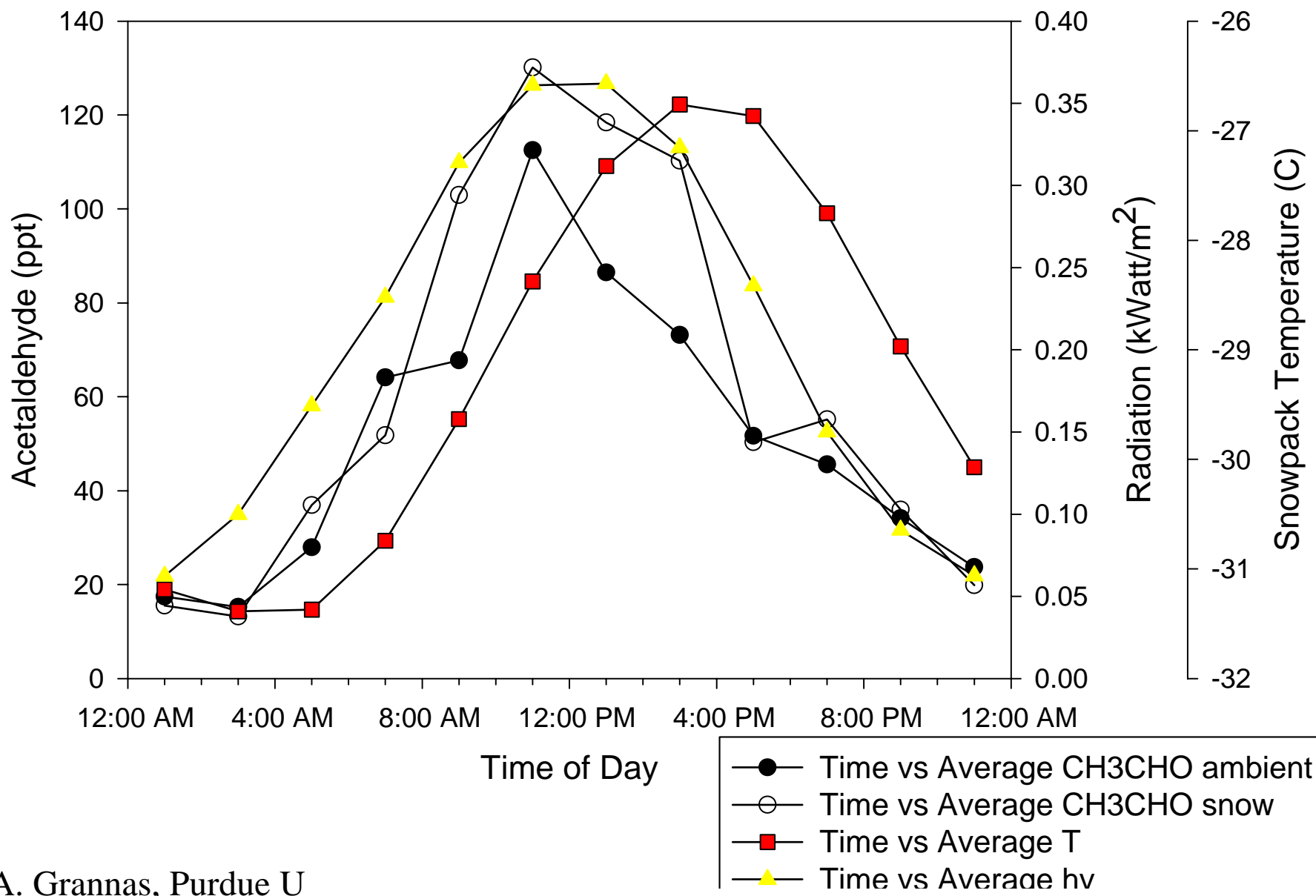




H. Boudries, MSC

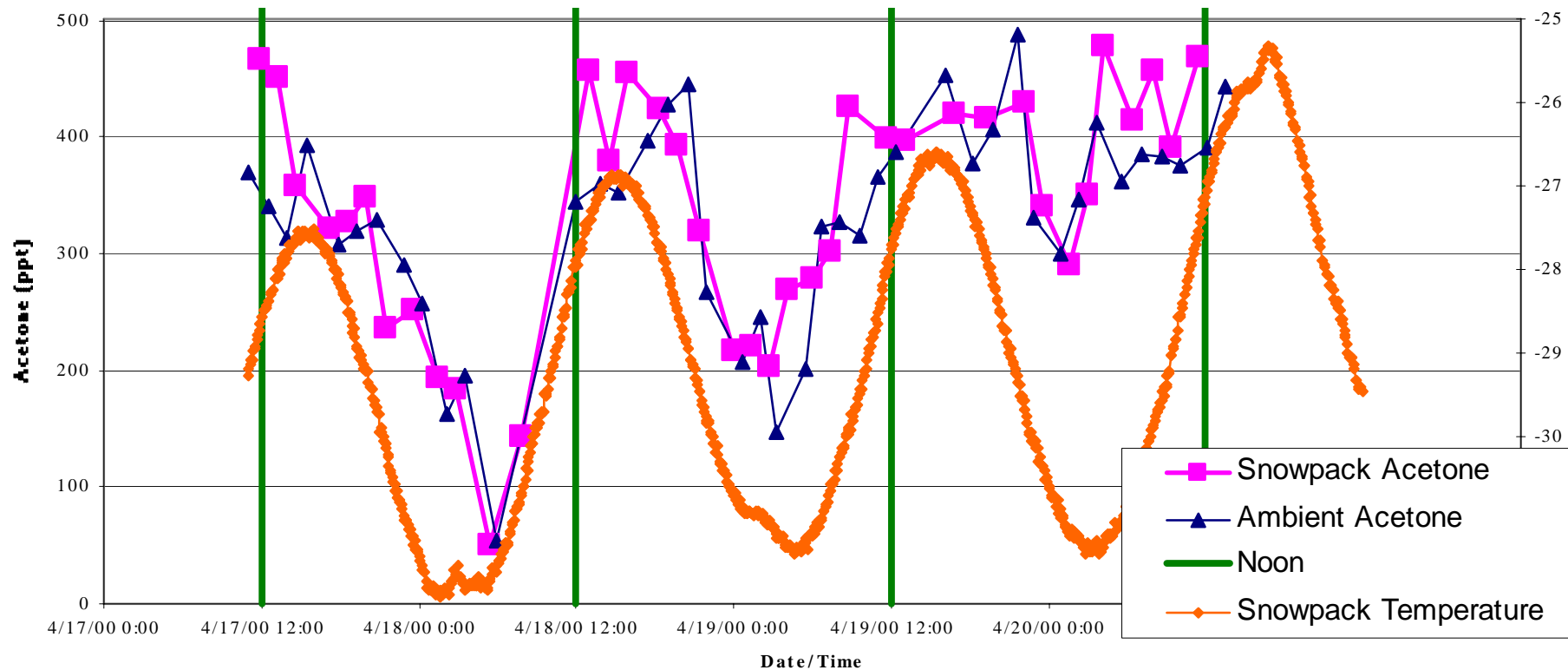
Ambient and Snowpack CH₃CHO with Temperature and Radiation

ALERT 2000: April 17-20, 2000



A. Grannas, Purdue U

Acetone Diel Cycle - Ambient vs Snowpack



Acetone is too long lived for gas phase chemistry, even involving Cl, to have an impact on its conc., on these time scales.

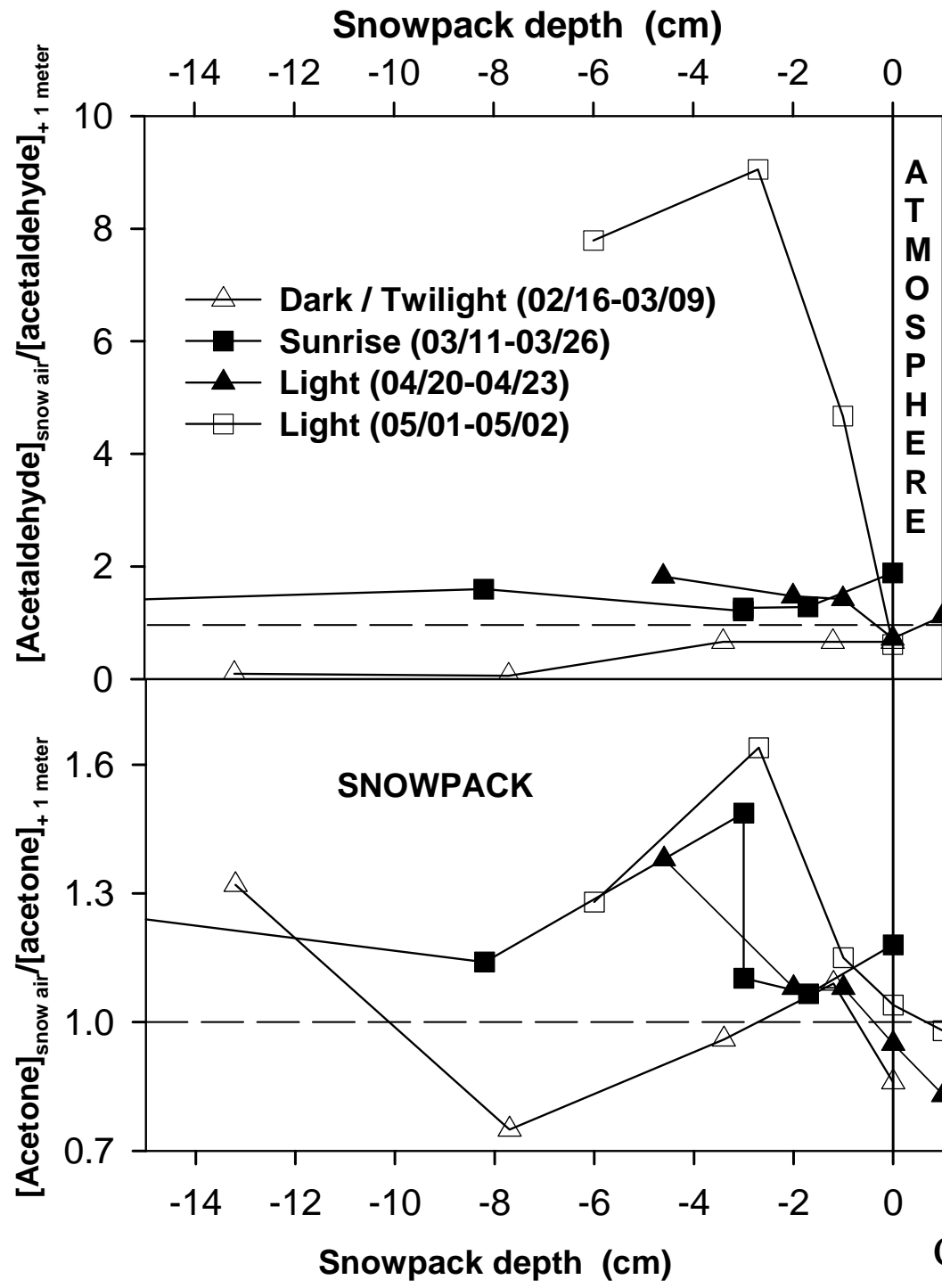
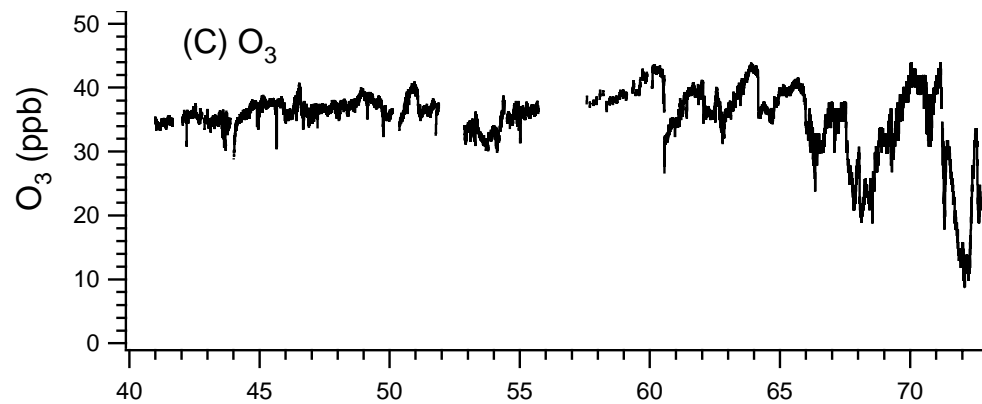
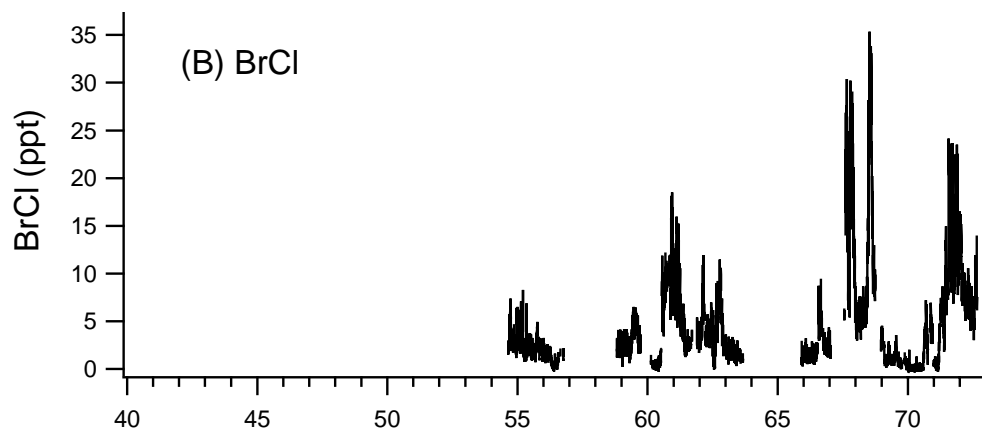
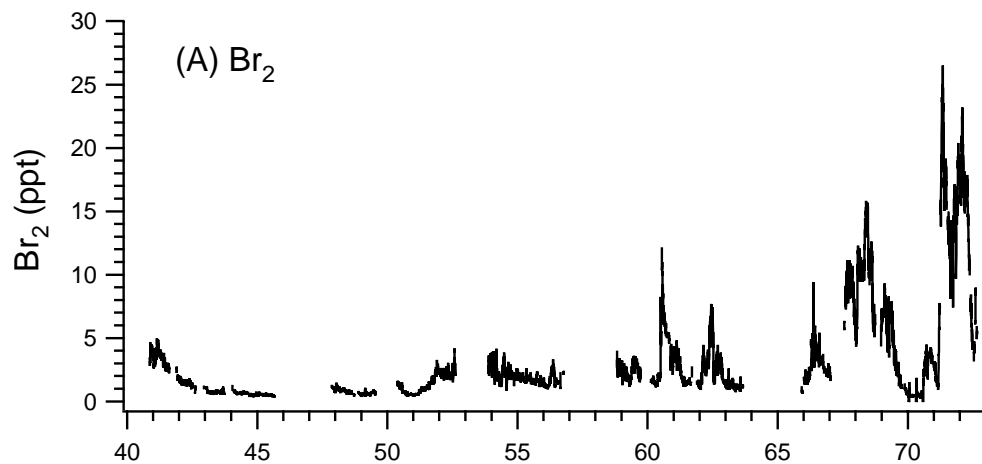
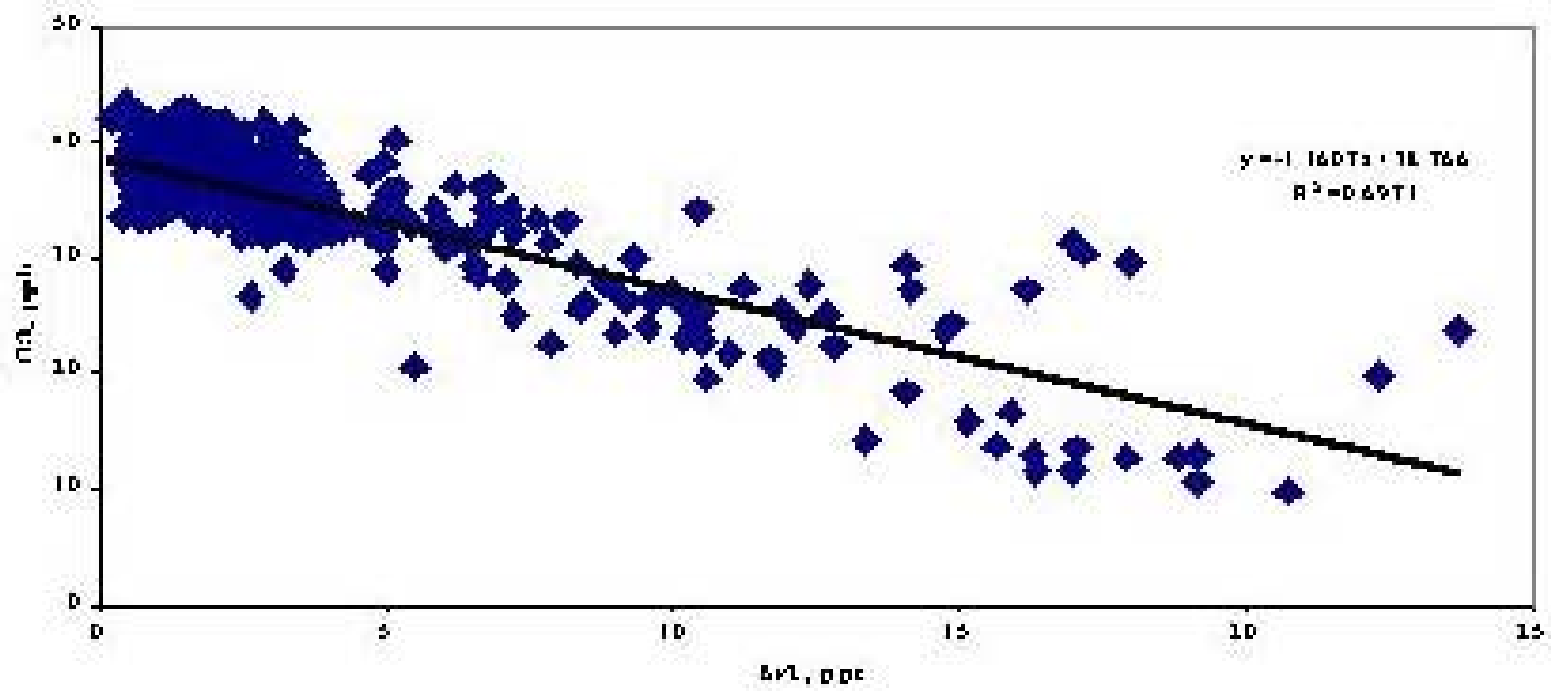
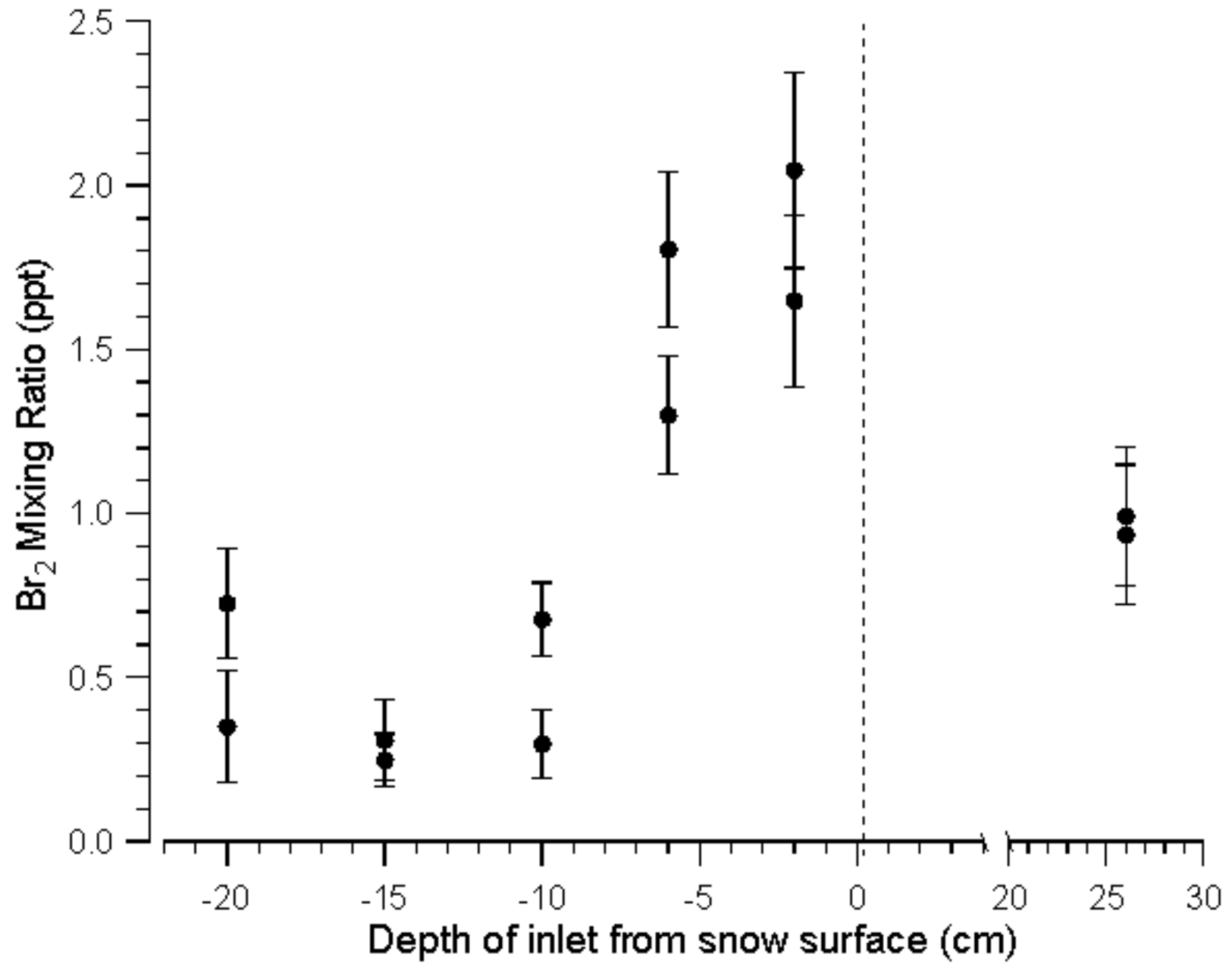


Figure 2.

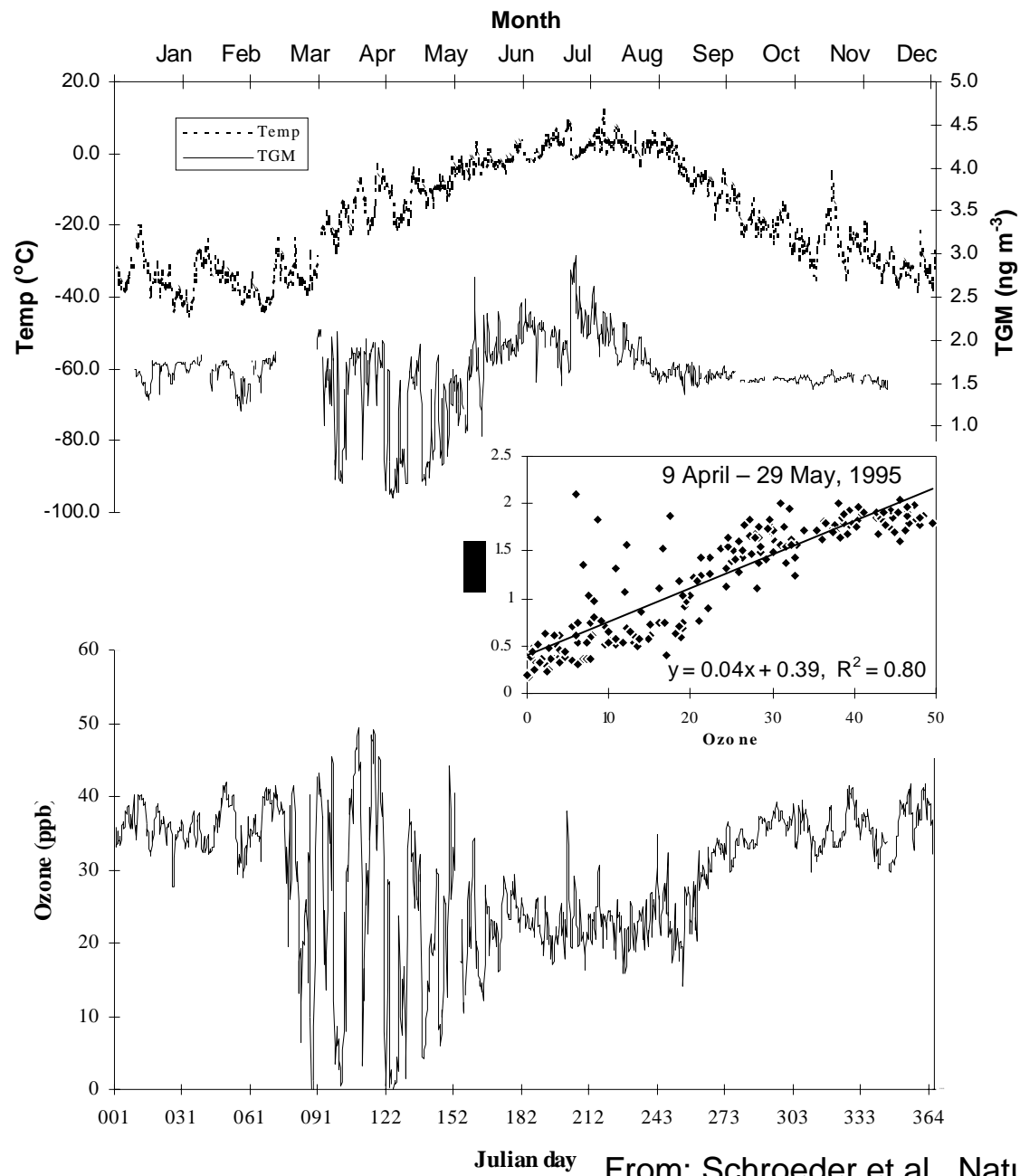
Ambient Air Mixing Ratio



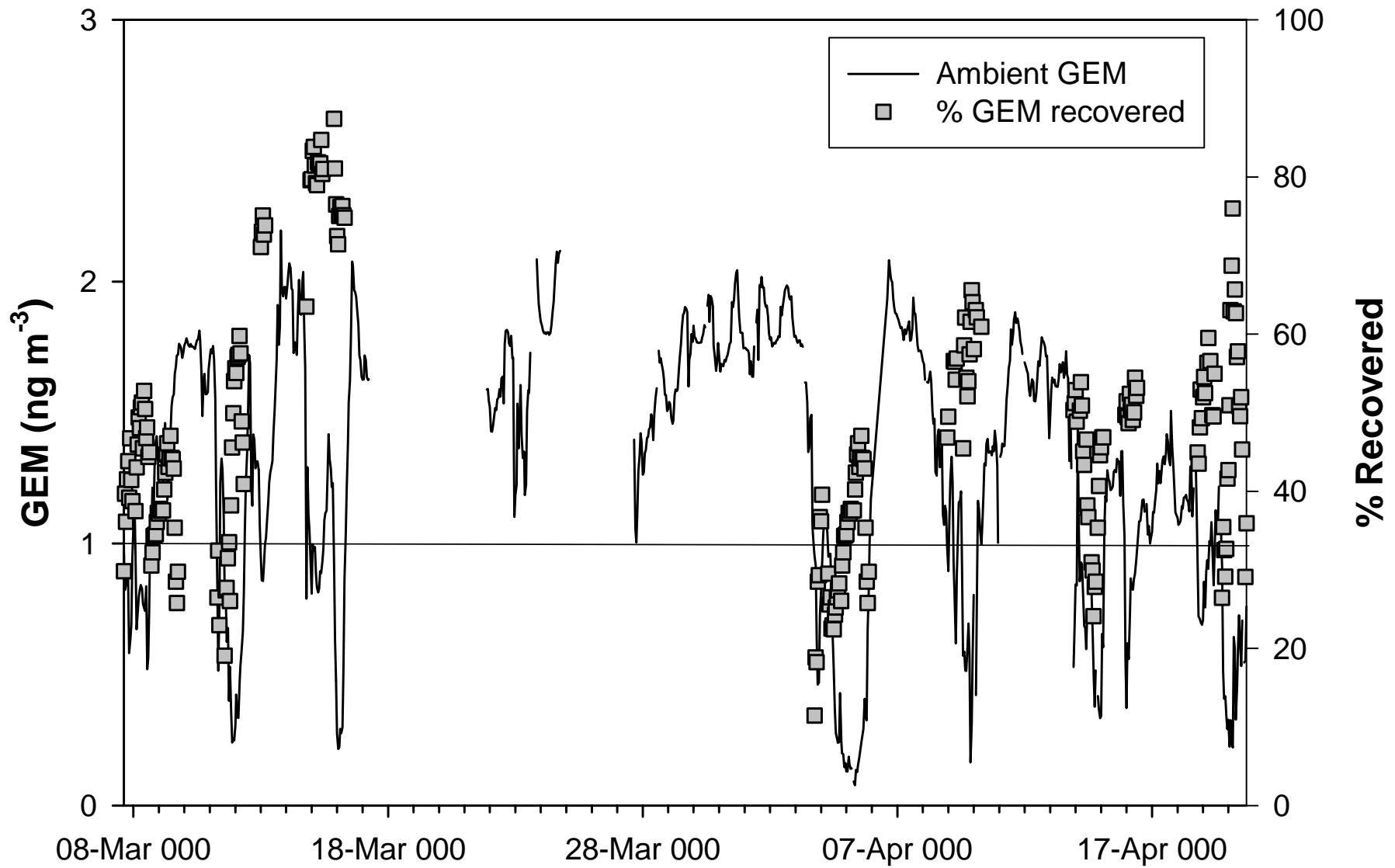




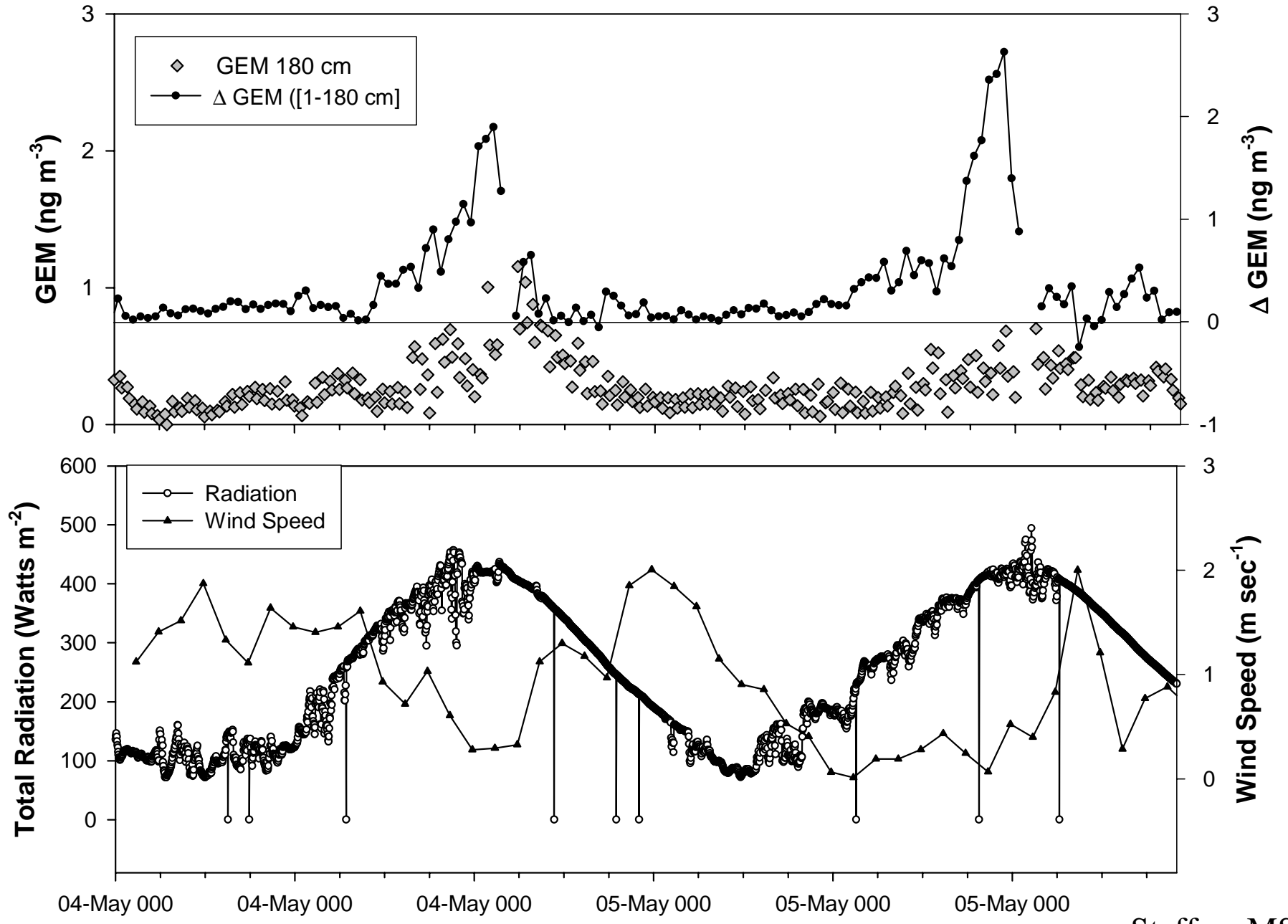
Total gaseous mercury during 1995 at Alert, Canada



From: Schroeder et al., Nature 394: 331-332, 1998



Steffen, MSC



Steffen, MSC

