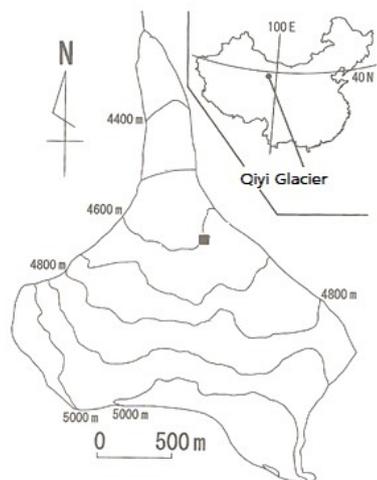


### Supplementary material



**Figure S1. Contour map of Qiyi Glacier and the observation site.**

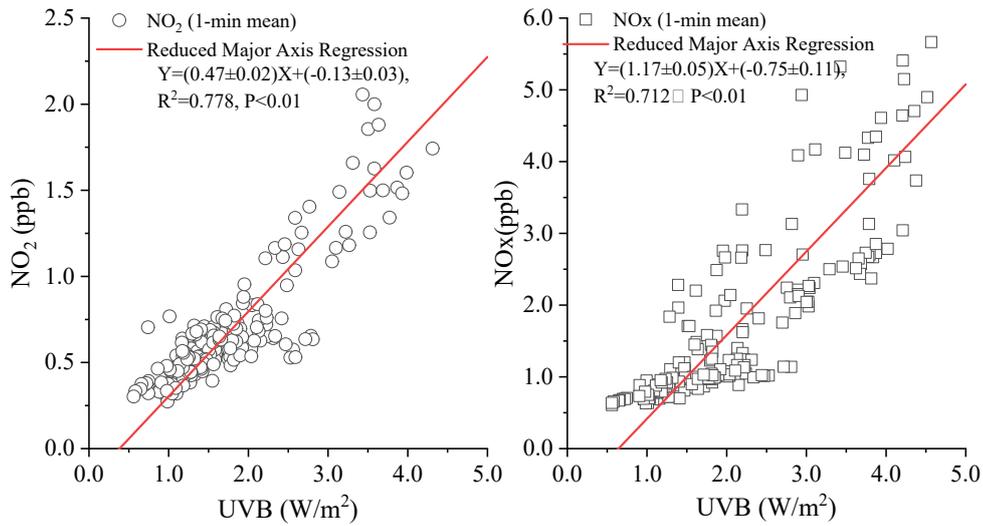
5

10

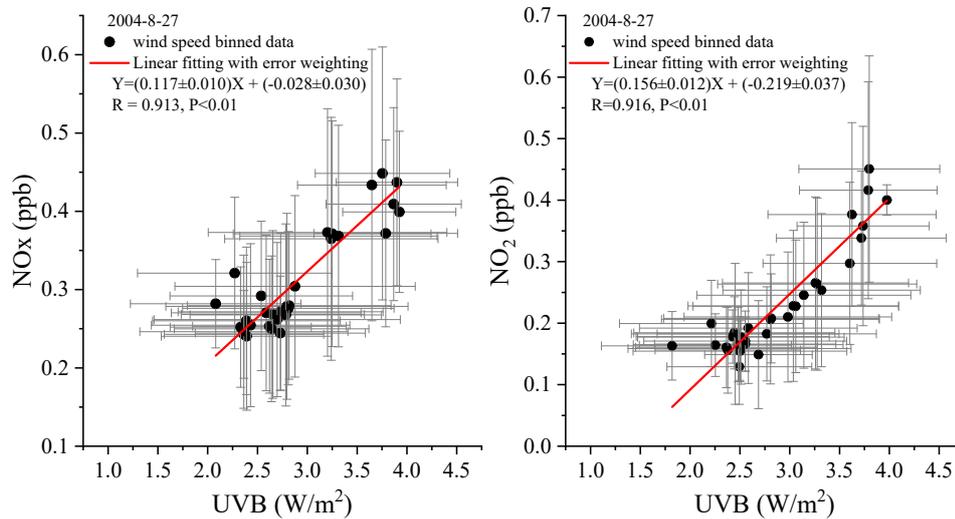


15

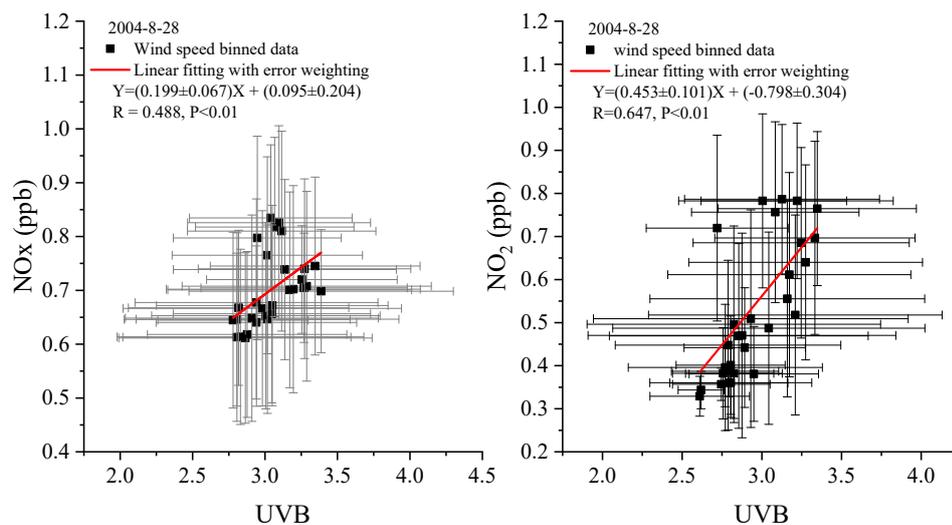
**Figure S2. Sand and dust deposition on the glacier surface and the quick melting of snow and ice during the daytime.**



20 **Figure S3. Correlations between NO<sub>2</sub> (NO<sub>x</sub>) and UVB radiation levels during 12:00-18:00 on 26 August 2004. Reduced major axis regression was used.**



**Figure S4. Correlations between NO<sub>x</sub> (NO<sub>2</sub>) and UVB radiation levels under different wind speed bins (0.5 m/s as an interval) on 27 August 2004.**



25 Figure S5. Correlations between NO<sub>x</sub> (NO<sub>2</sub>) and UVB radiation levels under different wind speed bins (0.5 m/s as an interval) on 28 August 2004.

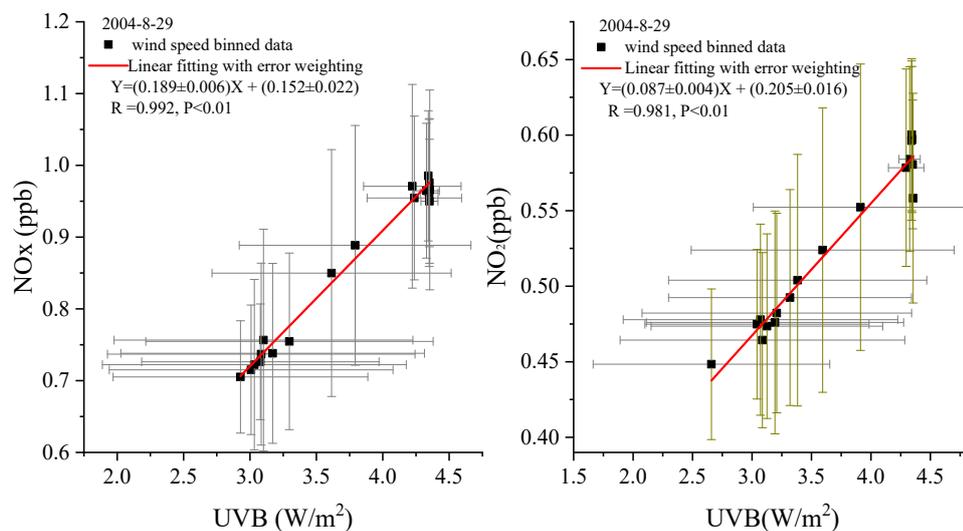
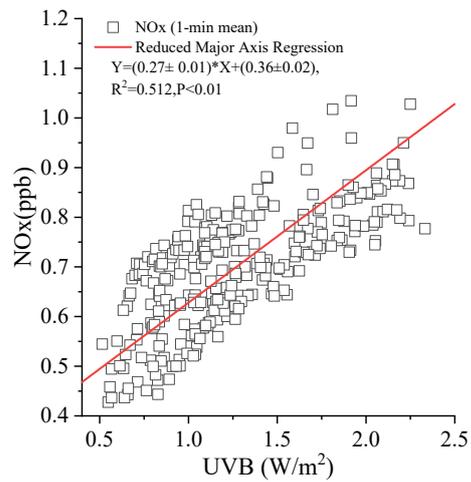
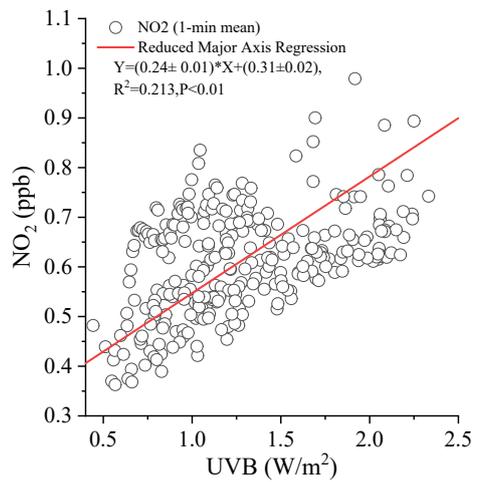


Figure S6. Correlations between NO<sub>x</sub> (NO<sub>2</sub>) and UVB radiation levels under different wind speed bins (0.5 m/s as an interval) on 29 August 2004.



30

**Figure S7. Correlations between NO<sub>x</sub> (NO<sub>2</sub>) and UVB during 12:00-18:00 on 30 August 2004. Reduced major axis regression was used.**