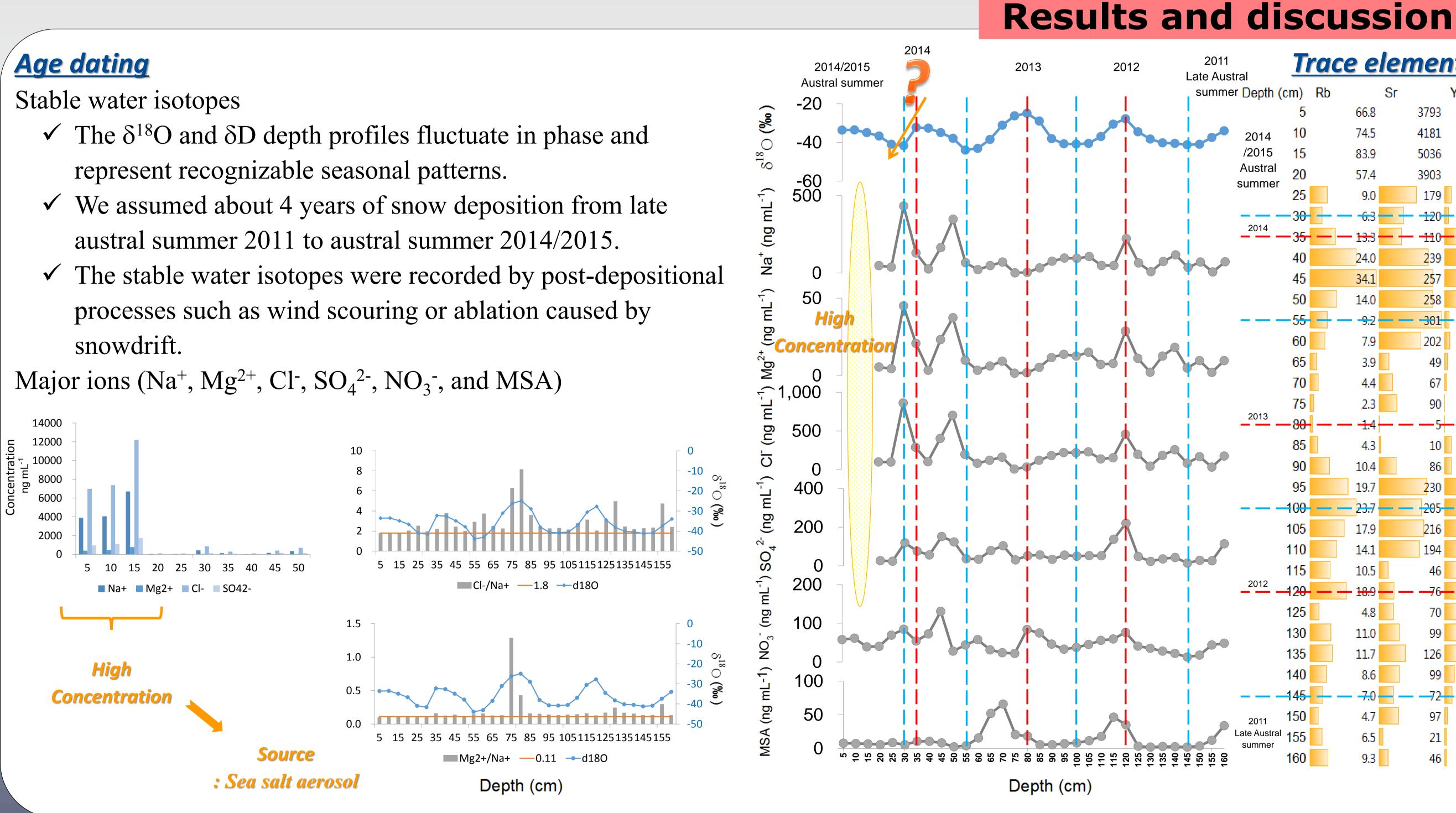
PP31B-2228 Heejin Hwang, heejin@kopri.re.kr Korea Polar Research Institute (KOPRI)

ABSTRACT

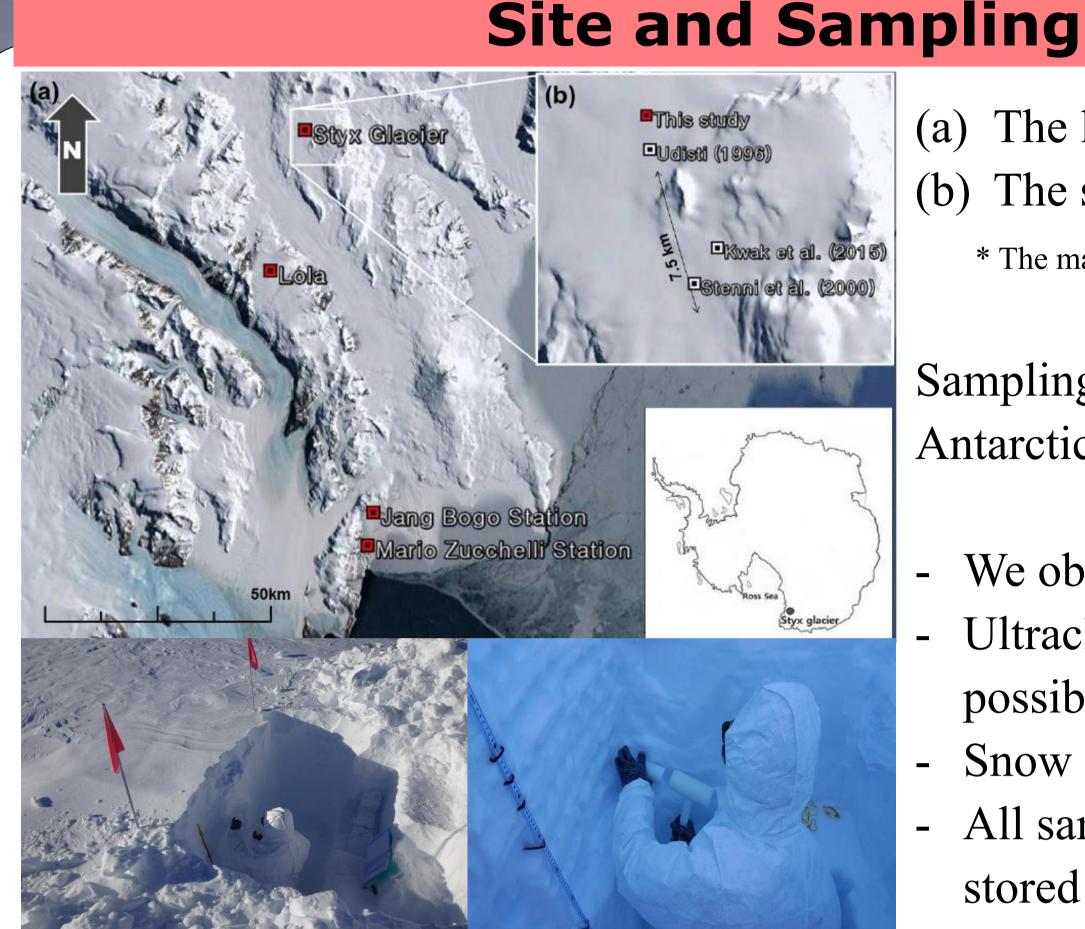
Snow samples were collected from the wall of a 1.6 m snow pit at Styx Glacier plateau (73°51.10′S, 163°41.22′E) in Victoria Land, Antarctica, during 2014/2015 austral summer season. Here we present the data record for various chemical components such as stable water isotopes $(\delta^{18}O, \delta D)$, major ions (Na⁺, Mg²⁺, Ca²⁺, NH₄⁺, Cl⁻, SO₄²⁻, MSA), and trace elements from the snow samples. Trace elements were determined by inductively coupled plasma-sector field mass spectrometer (ICP-SFMS) coupled to a high-efficiency sample introduction system (Apex-HF/ACM). Sample preparations and analytical operations were carried out under ultraclean conditions; class 10 clean benches in class 1000 clean room at Korea Polar Research Institute, due to their extremely low concentrations of trace element in Antarctic snow. Seasonal variations in δ^{18} O, δ D, and major ion values were observed. The snow pit contained 4 austral winters and summers, from late austral summer 2011 to austral summer 2014/2015.

- represent recognizable seasonal patterns.
- austral summer 2011 to austral summer 2014/2015.
- snowdrift.



Seasonal variation on geochemical characteristics in the snow pit at Styx Glacier plateau, Antarctica

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(a) The location of Styx glacier 85 km north of Jang Bogo Station and Mario Zucchelli Station. (b) The snow pit sampling site for previous studies and this study within the Styx glacier area. * The map was modified from a Google Earth image.

Sampling: a 1.6 m snow pit at Styx Glacier plateau (73°51.10'S, 163°41.22'E) in Victoria Land, Antarctica, during 2014/2015 austral summer season.

- We obtained 32 snow samples using an PTFE tube and hammer.
- Ultraclean procedures and great precaution were taken during all the sampling steps to prevent the possibility of snow contamination.
- Snow samples were collected in pre-cleaned 1L LDPE bottles.
- All sample bottles were double sealed and transported back to KOPRI clean laboratory, which were stored at -20 °C until analysis.

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