

## **A Quick Report on the LAPAN-CRYO-SOWER 2015 Biak Campaign**

Yoichi Inai<sup>1</sup>, Fumio Hasebe<sup>1</sup>, Shuji Aoki<sup>2</sup>, and the LAPAN-CRYO-SOWER science team

<sup>1</sup>*Hokkaido University, Sapporo, Japan*

<sup>2</sup>*Tohoku University, Sendai, Japan*

To investigate dehydration processes in the tropical tropopause layer (TTL) and the stratosphere-troposphere exchange (STE) processes over the western Pacific, balloon-borne observational campaign was conducted at Biak Indonesia in February – March 2015 as a collaborative project among LAPAN, Indonesia, Cryogenic Air Sampling Group and SOWER Group of Japan. The greatest attempt of this campaign was stratospheric whole air samplings by using compact cryogenic samplers with plastic balloons. Eight atmospheric samples were collected at eight different altitudes from 17 km to 30 km. In addition, five sets of Cryogenic Frostpoint Hygrometer, ECC ozonesonde, and Cloud Particle Sensor, four sets of CO<sub>2</sub> sonde, two sets of aerosol sampler, one set of Optical Particle Counter, and ten sets of GPS radiosonde were launched by rubber balloons.

While detailed analyses await to be done in the future, the data have a significant benefit for understanding interannual variation of the TTL/LS because this campaign was carried out one year after the western Pacific mission of the ATTREX/CONTRAST/CAST campaigns. It means our cryogenic samplers must have collected atmospheric samples upwelling in the tropical LS previously observed by ATTREX campaign one year ago giving us an opportunity to investigate how atmospheric composition changed during this one year. Collaborative analyses of those dataset will provide novel findings and improve our understanding about dynamical and chemical process in the TTL and UT/LS. This paper will present an overview of this campaign.