A Big Earth Data Platform for Three Poles

**Dataset of concentrations of atmospheric and water POPs in Nam Co (2012-2014)**

1、Description

This data set is the concentrations of atmospheric and water POPs in Nam Co, including time series of gas phase OCP, PCBs, PAHs and particulate PAHs in the atmosphere; dissolve and particulate POPs in water. An active air sampler (AAS) was deployed on the roof of Nam Co Monitoring and Research Station for Multisphere Interactions (NCMORS) and the air monitoring was conducted for two consecutive years from September 2012 to September 2014. The flow rate of AAS was 60 L min-1 and the air samples were collected every 2 weeks with a volume of approximately 600 m3 for each sample. The air stream passes first through glass fiber filters (GFFs 0.7 μm, Whatman) to collect the total suspended particulates (TSP) and then through polyurethane foam (PUF, 7.5×6 cm diameter) to retain the POPs in gas phase. Fifteen sites around the Nam Co Lake (surface lake water, 0–1 m depth) were selected to obtain the spatial distribution of POPs in lake water. The water samples (200 L) were filtered with GFFs to obtain the total suspended particulate matter (SPM), and then pumped through an XAD-2 resin column to collect the dissolved phase compounds. All the samples were analyzed at Key Laboratory of Tibetan Environment Changes and Land Surface Processes, Chinese Academy of Sciences. The samples were Soxhlet-extracted, purified on an aluminium/silica column (i.d. 8 mm), a gel permeation chromatography (GPC) column subsequently, and were detected on a gas chromatograph with an ion-trap mass spectrometer (GC-MS, Finnigan Trace GC/PolarisQ) operating under MS–MS mode. A CP-Sil 8CB capillary column (50 m ×0.25 mm, film thickness 0.25 μm) was used for OCPs and PCBs and a DB-5MS column (60 m ×0.25mm, film thickness 0.25 μm) was used for PAHs. Field blanks and procedural blanks were prepared. The recoveries ranged from 64% to 112% for OCPs, and 65% to 92% forPAHs. The reported concentrations were not corrected for recoveries.

2、Keywords

Theme：Division,POPs,River basin regional,Atmospheric Trace Gase
Discipline：Atmosphere,Human-nature Relationship
Places：Nam Co
Time：2012-2014

3、Data details

1.Scale：None

2.Projection：None

3.Filesize：0.04MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：30.78 | - |
| west：90.97 | - | east：90.97 |
| - | south：30.78 | - |

5、Time frame:2012-09-14 00:00:00+00:00--2014-10-13 00:00:00+00:00

6、Reference method

References to data:

WANG Xiaoping. Dataset of concentrations of atmospheric and water POPs in Nam Co (2012-2014). A Big Earth Data Platform for Three Poles, doi:10.11888/Disas.tpdc.2702172019

References to articles:

Ren, J., Wang, X.P., Wang, C.F., Gong, P., &Yao, T.D. (2017). Atmospheric processes of persistent organic pollutants over a remote lake of the central Tibetan Plateau: Implications for regional cycling. Atmospheric Chemistry and Physics, 17(2), 1401-1415.

Ren J., Wang X. P.\*, Wang C. F., Gong P., Wang X. R., Yao T. D. Biomagnification of Persistent Organic Pollutants along a High-Altitude Aquatic Food Chain in the Tibetan Plateau: Processes and Mechanisms. Environmental Pollution, 2017, 220, 636-643.

7、Supporting project information

Pan-Third Pole Environment Study for a Green Silk Road-A CAS Strategic Priority A Program

8、Data resource provider

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