

寒冷圏データベース

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Cryosphere Data Archive Partnership

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1. Introduction

Asia Eurasian cryosphere is a key area of the global climate system is a big factor in recent years as glacier, frozen ground and frozen glacier fluctuations, have been focused. Changes in the cryosphere, IPCC AR-4 report is described has been greater concern for social impacts in particular. The Snow and Ice Data, NCDC and NSIDC data are being developed worldwide have become a data center, such as the USA. The Snow and Ice data, there are no international data organizations such as WMO, is very weak and data archive to world wide. It is required to share the data of a cryosphere data between large areas, the atmosphere, land, and the water area continuing irrespective of the without border, and closing the information about the cryosphere of a wide area per country. Especially, many countries exist in the Asia Eurasia cryosphere, and in order to understand frozen ground, snow and glacier area change in a wide area, international and systematic data management is needed. The necessity is pointed out also by IPY or IGOS-Cryosphere.

2. Purpose

In this project, in order to clarify the actual condition of the earth environment change in a cryosphere, it started maintenance of the cryosphere database (CrDAP: Cryosphere Data Archive Partnership). It aims at the following.

- 1) Data rescue and catalogue making for cryosphere data in Asia Eurasian cryosphere.
- 2) It clarifies the condition of data set for past and present observation.
- 3) Digitization and archive data to world wide.

Prepare the database server to store the data set of cryosphere research, and the original data is entered into a partnership with a view to conceal foreign policy counterpart, the information just as with the role of metadata catalog that can be published it started operating a Web server (CrDAP : <http://www.jamstec.go.jp/acdap/>, contact to acdap@jamstec.go.jp).

3. Archive Data

The target data are ground observational data including the experimental project and operational organization data in Asia Eurasia cryosphere.

Observational data

- 1) ground meteorological and climate data :air temperature, humidity, wind, pressure, radiation, precipitation, soil moisture, snow (depth, density, coverage, etc.) etc.,
- 2) Frozen ground: ground temperature, melting depth, ice volume,
- 3) Glacier : mass balance, glacier type, velocity, ice depth, ice temperature,
- 4) Hydrology : river discharge, river frozen condition (icing and melting date) water temperature,

- 5) Lake: water level, lake area, lake frozen condition (icing and melting date) water temperature.

Remote sensing product

- 1) Snow distribution, 2) Glacier distribution, Vegetation cover.

Map data

- 1) Frozen ground distribution map, 2) Vegetation map, 3) Glacier map.

Photo and picture data

- 1) Glacier photo, 2) Frozen ground photo, 3) Vegetation photo.

4. Metadata structure

CrDAP the specific data storage cryosphere research, with metadata, which began operating as archive purpose. For maintenance of metadata registration are:

- 1) The description of the fine-grained information can find detailed search
- 2) The metadata can be pre-designed structures that correspond to a wide variety of data types because it is difficult to separate the latter replace the core part and variable part.

5. Conclusion

In this project built the data archive system for acceptance of the observation research data in Japan and Asia cryosphere. We appeal for offer of a data catalog and data to a researcher widely.



Figure 1. CrDAP Web site Main page