

Digital atlas of Mongolian natural environments (1) vegetation, soil, ecosystem and water

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I Introduction

This CD-ROM is a collection of GIS data sets on natural environments in Mongolia, and this first CD-ROM features vegetation, soil, ecology and water. It is intended for use not only by professionals such as teachers, researchers and engineers for their project, education, planning, and writing but also by a general public for their travel planning, self-education, small research project and so on. All data sets have been designed and created for use with any GIS software, since the file format is widely accepted ESRI "shape files". In addition, for users who have access to ArcGIS software such as ArcInfo, ArcEditor, or ArcView, native files of the file extension *.mxd for these software are also included so that users can manipulate these files fairly easily. The files have been created with ArcGIS 8.3. Also, for those users who do not have any GIS software, ArcReader native files of the file extension of *.pmf are also included. ArcReader is "easy-to-use mapping application that allows users to view, explore, and print maps" and "is freely distributable and can be delivered with your data for CD-ROM-based publishing of geographic data." A copy of ArcReader (ver 8.3) is also included in this CD-ROM for your convenience. The latest version can be obtained from ESRI download site.

II CD-ROM structure

The content of the "Digital atlas of Mongolian natural environments (1) vegetation, soil, ecosystem and water" is shown in Fig. 1. The details of each entry will be explained at later part of this document, but briefly, each subdirectory contains the following files.

1. ArcGIS

This subdirectory is further divided into 8 subdirectories of Ecosystem, Soil, Vegetation, NDVI, Precipitation, DEM, Satellite Image, and Miscellaneous. Each subdirectory contain both *.mxd file for use with ArcGIS software, shape files (*.shp) and, legend file (*.csv) which list all the attribute data within the shape files. The content of each subdirectory is as follows:

- 1) Ecosystem: Ecosystem GIS data
- 2) Soil: Soil GIS data
- 3) Vegetation map: Grassy vegetation GIS data (Forest is not included)
- 4) NDVI: Normalized Vegetation Index map averaged over 20 years originally produced from NOAA satellite data

- 5) Precipitation: Average contour map of annual precipitation produced from the routine precipitation data of Institute of Meteorology and Hydrology of Mongolia
- 6) DEM: Elevation contour map of Mongolia produced from GTOPO30 (see below) data set
- 7) Satellite Image: Image of Mongolia, a mosaic of Landsat satellite images originally published by NASA, and modified for this CD-ROM

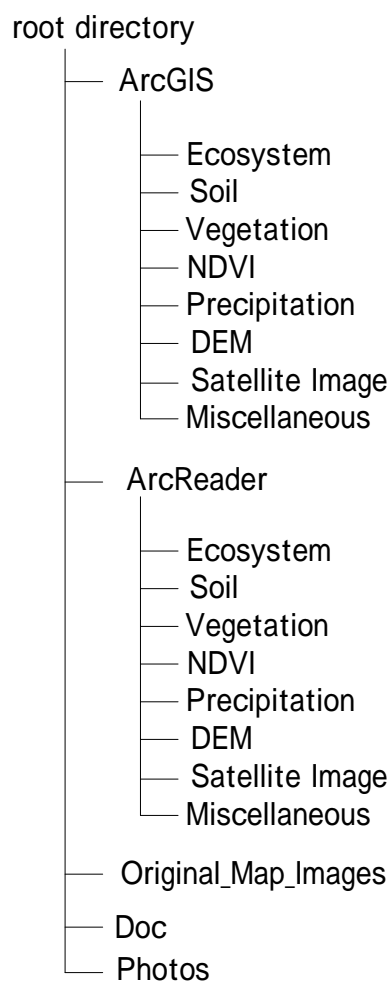


Fig. 1 CD-ROM structure.

2. ArcReader

In this directory, the same GIS data with the ArcReader format (*.pmf) as in ArcGIS subdirectory are included. Also included is "ArcReader.exe" which is a free software of ESDI and can be used to view and print GIS-based map. Please note that these files (*.pmf) work with the shape files and some other files which are stored in ArcGIS subdirectory. Therefore, to use ArcReader files (*.pmf), those files in ArcGIS subdirectory must be there. This is not a problem when you work only with this CD-ROM, but if you use them after you make a copy to your hard disc or some other media, please be careful to keep the original data structure as they are.

3. Original_Map_Images

This folder contained scanned images of the original maps (see below) from which the GIS data have been created. However, due to the technical problem, only the images of the ecosystem map are included in this

CD-ROM.

4. Doc

This contains relevant documentations such as this document. Included in the document is as follows:

- 1) readme_first.doc: this document
- 2) ecosystem.doc: original paper for the ecosystem map by Gunin *et al.* (2001)
- 3) text_for_maps.doc: original paper for the soil, vegetation, groundwater maps by Kashin *et al.* (1981)

5. Photos

This directory contains some photographs of soil and vegetation taken within Kherlen River basin (mainly in Khentii aimag) by Prof Tamura of Unvi.Tsukuba (soil) and Dr Li of Japan Science and Technology Corp (vegetation). They can be used as field guide. The photos can be used freely, as long as sources are adequately indicated.