

Arctic Network Inventory & Monitoring Program

U.S. Department of the Interior

Data Management
Standard Operating Procedure
NPS/ARCN/DMSOP-2007-03



Project File Management

Guidelines for keeping Arctic Network project files organized, secure and accessible

Summary

The Arctic Network shared drive (the O:\ drive) is a networked directory available to each Arctic Network staff member to help meet data stewardship needs. This document describes the Arctic Network shared drive, standard project directory structures and guidelines for use.

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Introduction

Enterprise file management is difficult. A simple glance at any of the NPS shared drives will unveil the file management chaos that inevitably afflicts most communal file systems. Such systems are systemically plagued with organizational problems, backup and security issues, and general lack of maintenance. Many, though not all, of these problems can be circumvented or minimized with training and guidelines on good file management practices. In order to minimize these problems the Arctic Network has built a shared network drive (the O:\ drive) and developed these guidelines for its use. The O:\ drive will make file resources available to all network personnel in an organized and secure manner.

Major Functions

The shared drive has two major functions:

1. **Research project work area** (i.e., the /Projects directory): All project files, whether finished or working, should be stored in the project directories. See ‘/Projects Directory’ for details.
2. **Network file archive** (i.e., all directories other than /Projects) All directories other than the /Project directory, are for finished documents and products related to the Arctic Network mission. No temporary, draft or unrelated documents. See ‘File Management Policies and Good Practices’.

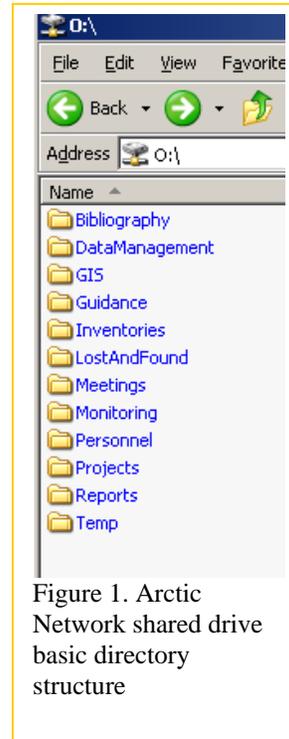


Figure 1. Arctic Network shared drive basic directory structure

Connecting to the O:\ drive

The O:\ drive is available to Arctic Network personnel. Access to the drive is by permission from the network coordinator. The drive mapping can be set up by the IT staff at the Fairbanks Administrative Center.

Shared Drive Directory Structure

The O:\ drive has a basic directory structure that is both flexible in some subdirectories and rigidly structured in others. The basic structure is shown in Figure 1. Certain files, such as project data files, study plans and reports require strict structure. Other file types need a more flexible directory structure to accommodate rapidly changing content. It may not be possible to predict what kinds of files will need to be stored in the future and flexibility must be built into such directories. The directories on the O:\ drive will likely change as our program evolves and our needs change. Most directories only require Arctic Network staff to use common sense and basic file management skills to maintain. An overview of the directory structure appears below.

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/Bibliography

This directory contains a copy of the Arctic Network bibliography in Procite format. Information is periodically downloaded from NatureBib and exported into Procite format and stored here.

/Data Management

The data management directory is a flexible directory for storing and serving files related to standard operating procedures, software and hardware, training materials and presentations on technical issue. This is also the repository for national Inventory and Monitoring Program databases such as NPSpecies, NatureBib, the Natural Resources Database Template and others.

/GIS

The GIS folder is a flexible directory for network specific GIS products such as the Arctic Network atlas, pre-printed topographical maps and other self-service GIS and cartographic items. It is not a general repository for all things GIS related (Unless broadly applicable to the network operations, GIS products should be generated and stored in the appropriate project directory under the /Projects folder. Final products belong in the NPS Data Store or the permanent data stack in Anchorage). Ask the data manager for assistance with this directory. **GIS products related to a project should not be stored here, but in the appropriate project directory.**

/Guidance

The /Guidance directory is for general Inventory and Monitoring Program standard operating procedures, technical information and guidance documentation. Specific project protocols should not be stored here but in the appropriate project directory under protocols.

/Inventories

This directory contains information related to past biological inventories. Each biological inventory is now being treated as an individual project and there is a corresponding project directory for each inventory under the /Projects folder. Material from the /Inventories directory is being migrated to the appropriate project directory and may be deleted in the future.

/LostAndFound

Files and directories not adhering to the guidelines presented in this SOP will be reviewed and dragged to the /LostAndFound directory until the owner can be found and a new home given.

/Meetings

Self-explanatory

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/Monitoring

Currently contains some files related to vital signs development. In the next year we will treat each vital sign as a project and assign a project directory under the /Projects directory. At that point this folder may be removed.

/Personnel

Contact information and other information related to personnel issues. Flexible directory structure.

/Projects Directory

Project Directory Structure

The /Projects directory adheres to a rigid directory structure as shown in Figure 2. The directories should be fairly self-explanatory. The structure may seem cumbersome at first glance, but please familiarize yourself with it and try to adhere to it. You may alter the structure, if needed, but try to maintain a semblance of the original structure, if possible.

Project Directory Naming Scheme

Each project folder follows a naming convention. The example in Figure 2 follows this convention, with the prefix 'ARCN00099' followed by a short title. The prefix is the project's ID in the Arctic Network data bank. The short name is a condensed version of the full title entered into the data bank.

Registering a New Project and Building a Project Directory

Directory structures do not have to be built by hand for each new project. The PI should register the project with the data manager who will assign the project ID and build an empty project directory structure using software. See NPS/ARCN/DMSOP2007-01 for a checklist of tasks for initiating a new Arctic Network project.



Figure 2. Example project directory structure

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/Reports

The /Reports directory is for finished or publication quality documents such as the Arctic Network Annual Report and Workplan, newsletters, technical reports and phase reports.

Reports related to a project should not be stored here, but in the appropriate project directory.

/Temp

The vast majority of the files we generate are temporary in nature. While the O:\ drive is not the place for temporary documents (except for project related products being developed in the appropriate project directory) it is human nature to want to occasionally store temporary documents where others can find them. If you must do this, and you must do it on the O:\ drive, then put them here. This directory may be emptied periodically without notice; it is a true temporary directory.

File Management Policies and Good Practices

Use the O:\ drive for Project Files

Policy

All Arctic Network project documents, in draft or finished form, must be maintained on the O:\ drive according to the project directory structure described above.

Personal Files

Policy

Personal files do not belong on the O:\ drive.

Good practices

Use the U:\ drive. Only you have access to your files on the U:\ drive and they are backed up regularly. You can access the U:\ drive from any NPS computer. Directories and files deemed personal will be moved to the \Lost and Found directory and the creator notified.

Handling Temporary and Draft documents

Policy

Clearly separate and designate draft and temporary files from finished documents. Except for project documents in the /Projects directory, the O:\ drive is primarily a repository for finished documents.

Good practices

The vast majority of files we use are temporary or draft documents. Unchecked, these files bloat network drives and parasitically drain computing resources and support staff time. Stagnant files tend to propagate rapidly, are rarely deleted, and are carried forward with each disk expansion.

- Work on your own machine. Use your 'My Documents' directory, or the U:\ drive. If you know your files will be temporary, create a temporary directory such as 'C:\temp'. Only copy finished documents to their appropriate place. Delete temporary documents frequently.

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- Create \DRAFT folders, when needed. If, for collaborative purposes, you want to work in a certain directory, create a \DRAFT folder and work in that until you have a final product. Copy the final product to the parent directory and clean out or copy to disk the draft directory when you are done.
- Create \Temp directories. These make periodic disk clean-ups easy since the disposition of such materials is obvious. Always notify the group before deleting temp directories or write them to media instead of deleting.

If you need to share files with someone, work on the K:\ drive by creating a temporary directory that clearly indicates its nature, K:\temp\joeblow_temp_files. Delete the files after you have shared them.

Irrelevant Files

Policy

The O:\ drive is for finished, archive quality documents. The only exception is the /Project directory where draft and in-progress files may be stored. Store files unrelated to the Arctic Network mission elsewhere than the O:\ drive. Directories and files deemed personal will be moved to the \Lost and Found directory and the creator notified, if possible.

Why You Should Use the O:\ drive (Horror Scenarios)

There are numerous advantages to using a small, private drive such as the Arctic Network's O:\ drive. By doing so you avoid numerous problems associated with large communal file servers. These problems may include

- **Unstructured or uninformative top level directory naming** (i.e. 'P:\Canada' or 'K:\2007' and 'K:\stuff').
- **Duplication** (i.e. 'K:\Photos', 'K:\06_Xmas_Office_Party', 'K:\04_Xmas_Office_Party', 'K:\BBQ pics' and the ever-informative 'K:\MyPhotos').
- **Preventing universal access to private files** (i.e. 'K:\JoeBlow\MyPasswords.doc', [*This is no joke. A quick search of the K:\ drive for the term 'password' betrayed two unencrypted personal password files in all their naked glory!*]).
- **Excess exposure to file corruption or loss.** Real scenario: Joe Blow, a fictitious seasonal maintenance worker possessing universal permissions on Fairbanks Administrative Center drives accidentally deletes the entire 'K:\Inventory and Monitoring' folder in a single keystroke. One weakness of communal drives is that anyone, through accident, malice or ignorance, could blow away an entire drive.
- **Bloat**, such as the long term storage of outdated files, temporary files, or files of individuals long gone.
- **Personal directories in in random places** instead of on designated drives (i.e. 'K:\JoeBlow' appearing on the K:\ drive instead of the U:\drive designated for personal files.

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- **Small universe of trusted users.** Have you ever accidentally dragged a folder somewhere? Things like this happen. It's more likely to happen on a WANShare with thousands of users than on a private drive with a small community of users who number in the dozens at the most.

About This Standard Operating Procedure

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Revision History

Version	Version Date	Revised By	Changes
1.0	20071029	S. Miller	Original

This table reflects changes to this document. Version numbers will be incremented by one (e.g., Version 1.3 to Version 2.0) each time there is a significant change in the process and/or changes are made that affect the interpretation of the data. Version numbers will be incremented after the decimal (e.g., Version 1.6 to Version 1.7...1.10....1.21) when there are changes to grammar, spelling, or formatting, or minor modifications in the process that do not affect the interpretation of data.