

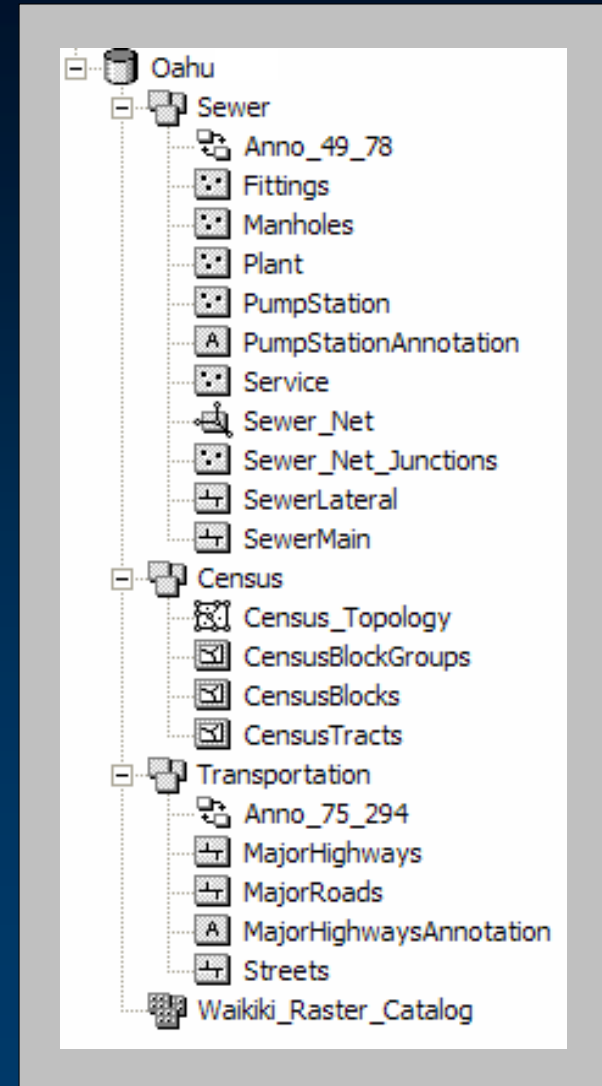
# Exploring the File Geodatabase

Kerri Manorek



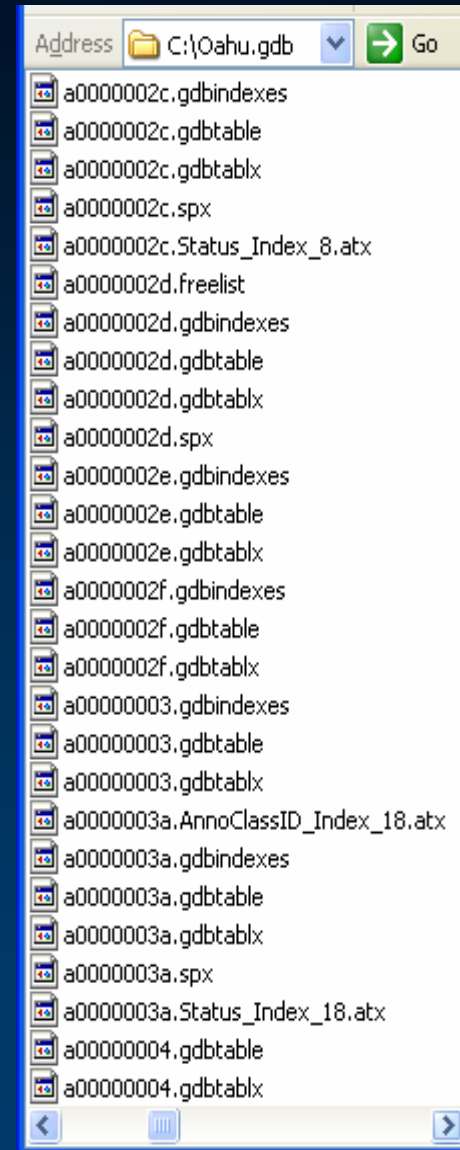
# What is the Geodatabase?

- **Repository of all geographic data**
  - **Feature classes, Raster datasets, Tables, Annotation, Relationships, Networks, Topology**
- **Core ArcGIS data model**
- **Until now, single-user geodatabases in ArcGIS have been personal geodatabases stored in Microsoft Access.**





# What is the File Geodatabase?

- New at 9.2, file geodatabase stores datasets as a folder of files on disk
- It is a scalable, cross-platform geodatabase storage solution
- Supports full geodatabase model
- Single editor (per table), multiple readers
- Supports check out/check in replication
  - (known as disconnected editing at 9.1)



# How do Personal and File Geodatabases Compare?

	 Personal- Access	 File
<b>Functionality</b>	Original Desktop format	Improved Desktop format
<b>Storage Mechanism</b>	Microsoft Access database (.mdb)	File folder; Displays .gdb extension in ArcCatalog
<b>Storage Limit</b>	2 GB per geodatabase; effective limit ~500 MB	1 TB per dataset; configurable up to 256 TB
<b>Platform</b>	Windows	Any

# File Geodatabase – Storage Limits

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- **No database size limit**
- **Per table limit 1000 GB**
  - Access database 2 GB per file
- **Per table limit can be extended to 256 TB**
  - Available as a configuration keyword
  - Provided for large raster datasets
- **Same data in a file geodatabase takes up less disk space than access geodatabases, shapefiles**
  - Storage generally reduced 50 - 75%
  - Storage can drop to around 1/5<sup>th</sup> the size

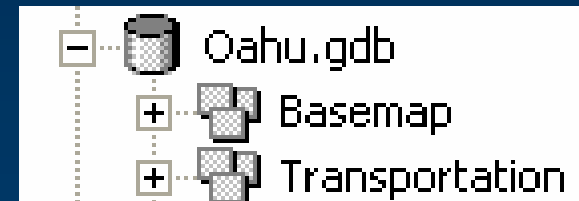
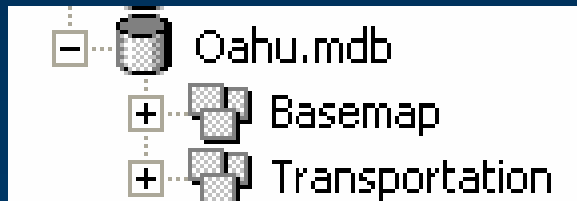
# Migrating to the File Geodatabase

- **Reasons to migrate from personal gdfs**

- no database size limit
- improved performance
- reduce storage requirements
- to work on UNIX platforms

- **Reasons not to migrate**

- very small datasets only, no advantage to moving
- require ability to leverage Access



# Migrating to the File Geodatabase

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- **Use ArcCatalog to convert data**
  - From another geodatabase: Copy/Paste
  - From coverage or shapefile: Import/Export
    - \* or use existing GP conversion tools
- **Considerations**
  - Customizations can only be made with ArcGIS tools
    - no MS Access forms, reports, etc.
  - Spatial Query Language (SQL) syntax differences

***DEMONSTRATION***

# Migrating to the File Geodatabase

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SQL in personal mdb	SQL in file gdb
[ <i>field_name</i> ]	<i>"field_name"</i>
wildcards ? and *	wildcards _ and %
string searches: NOT case sensitive	case sensitive
UCASE, LCASE	UPPER, LOWER
#06-13-2001 19:30:00#	date '2001-06-13 19:30:00'

# File Geodatabase Compression

- **Compress**
  - applies lossless compression to file geodatabase feature classes and tables
  - different from ArcSDE compress (versioning)
- **Compress / Uncompress tools**
  - Right-click context commands
  - GP tools
- **What you can compress**
  - Geodatabase
  - Feature dataset
  - Standalone feature class, table
- **Editing, changing properties not allowed (read only)**



# Using the File Geodatabase

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- **User experience very similar to personal for Access**
  - All geoprocessing tools support file geodatabase
  - Editing behavior similar to personal for Access database
    - Versioning is not supported (single user)
- **Locks apply to feature dataset, standalone feature class, table**
  - No database-wide lock
  - More than one editor at a time is possible, for different datasets

# Summary

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- **Alternative to the personal geodatabase**
  - Work with it the same way
  - Personal geodatabases continue to be supported
- **Advantages**
  - Performance
  - No database size limit + uses less disk space
  - Compression
- **Migration**
  - Some SQL syntax differences vs. personal geodatabases
  - Use existing tools to migrate
- **Compression**
  - Reduce storage size
  - Read-only

# Geodatabase Training Options

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- **Instructor Led Training**
  - Introduction to ArcGIS II
  - Building Geodatabases
  - Geodatabase Design Concepts
  
- **Web Based Training**
  - What's new in the Geodatabase at 9.2 Training Seminar
  - Creating, Editing, and Managing Geodatabases for ArcGIS Desktop Web Class
  - Creating and Editing Geodatabase Features with ArcGIS Desktop Web Class

# *Thank You*

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