Spatial Data preparation
Spatial Referencing

Spatial Data preparation

Data formats in ArcGis: Shape files

- Point shape files
- Line shape files
- Polygon shape files
- Not part of a geodatabase
- Can be edited in ArcGis

Spatial Data preparation

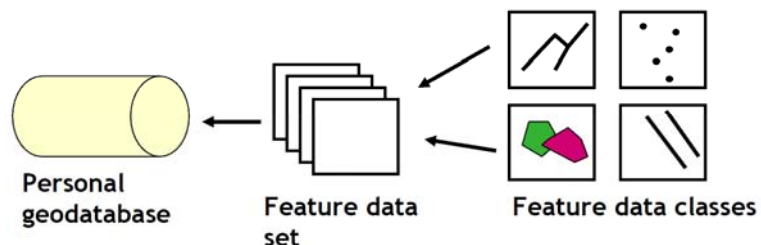**Data formats in ArcGis: Geodatabase**

•Point feature classes
•Line feature classes
•Polygon feature classes
•Part of a geodatabase
•Feature classes with the same extent and projection can be grouped together in a feature data set
•Can be edited in ArcGis

Spatial Data preparation

Data formats in ArcGis: Geodatabase

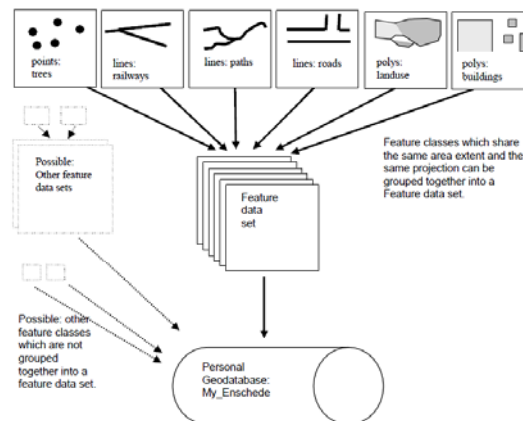Geodatabase feature classes: Overview

Spatial Data preparation

Data formats in ArcGis: Geodatabase
Example of a geodatabase structure

Spatial Data preparation

What is a Geodatabase?

A Geodatabase is a database that stores geographic information. It is a data model that was introduced by ESRI in the ArcGIS software.

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Types of Geodatabases:

Personal Geodatabase, the File Geodatabase and the large (ArcSDE) Geodatabase.

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Types of Geodatabases:

•Personal Geodatabase stores data in MS Access database. Personal Geodatabases can be read by multiple users but only edited by one. Its maximum size is 2GB. A Personal Geodatabase is useful for storing comparatively small data sets.

• The File Database stores data sets a folder of files. File Geodatabases can be used across different users on different platforms.

• The large Geodatabase stores data in a separate Oracle, SQL server, Informix or DB2 database that is connected to ArcGIS via ArcSDE (Spatial data engine).
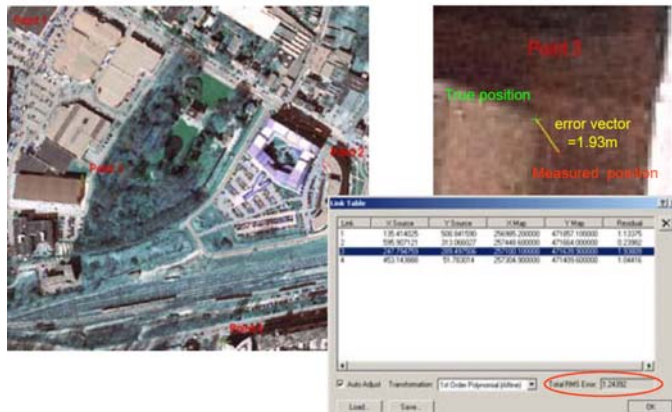

Spatial Data preparation

Create a Geodatabase:

•CREATE A FILE GEODATABASE
• CREATE A FEATURE DATA SET
• CREATE FEATURE CLASSES
• CREATE ATTRIBUTE FIELDS
• LOAD THE FEATURE DATA SET IN ARCMAP
• LOAD FEATURES FROM A SHAPE FILE INTO A FEATURE CLASS

Spatial Referencing

IMAGE RECTIFICATION:

Spatial Referencing

IMAGE RECTIFICATION:

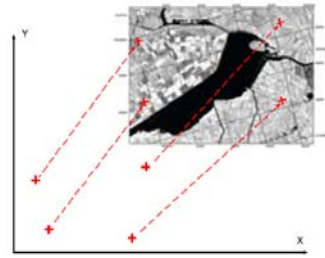**ROOT MEAN SQUARES ERROR (RMSE):**

The Root Mean Squares Error (RMSE) is a statistical measure of accuracy for a coordinate measurement, indicating the average deviation of all the measured positions from their true positions.

The RMSE is used as an independent check of the quality of the Transformation.

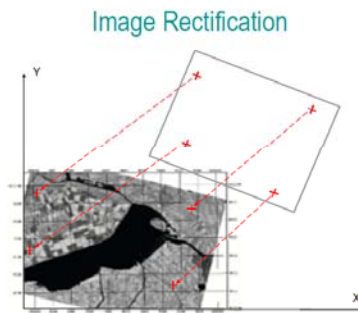# Spatial Referencing

IMAGE RECTIFICATION:

Image Rectification

Georeferencing

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