



# Working with Map Projections

Margaret M. Maher

Author of “Lining Up Data in ArcGIS: a guide to map projections”

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# My data doesn't line up!

Data doesn't have a projection defined.

- How do I identify the projection?

Data has a projection defined, but the data draws in the wrong place.

The XY data brought into ArcMap does not show up where it is supposed to.

What projection should I use for my project?

# Here are some techniques to identify projections for data.

**Examine the coordinate system for city polygons in Germany**

**First find the polygons!**

**Compare the coordinates with the provinces layer**

**Examine the coordinate system for city points in Germany**

**First find the points!**

**Compare with the provinces and countries layers**

# When adding XY data from a table to ArcMap

Here are things to watch out for:

- The data must be in the proper format:
  - XLS, XLSX, PRN, CSV, DBF, TXT formats can all be used .
- The field names must not be over 10 characters long, cannot contain spaces, cannot contain special characters, and field names cannot begin with a number.
- Fields containing coordinates must be formatted as Double. Fields formatted as General will drop decimals when brought into ArcMap.
- For coordinates in decimal degrees, set the field properties to a minimum of 6 decimal places.

# How to add the XY data table to ArcMap:

- Click on the Add Data button, navigate to the file, and add to the map.
- Right click on the name of the table, and Open.
- Examine the coordinates, and note the names of the fields that contain the X (Longitude) and Y (Latitude) values.
- Right click on the name of the table, and select Display XY Data.
- ***WARNING: If the ArcMap Data Frame already has a projection assigned, that will need to be corrected in the Display XY Data dialog!***

# What projection should I use for my project?

There are four major considerations:

1] Objective – what do you need to preserve?

- Distance      Area      Shape      Direction

2] How much area does the data cover?

A city, a province, a small country, a continent, the whole earth?

3] Where is the data located on the earth's surface?

Is it polar, at the Equator, at the midlatitudes?

4] What is the shape of the data?

Is it larger north to south, or is the larger extent east to west?

Knowledge Base article 24646 is linked to a list of supported map projections that includes properties of each map projection, and normal applications for each projection.

QUESTIONS





Understanding our world.