



Free Training Transcript:  
Spatial Joins

Welcome to this video on joining spatial files. You can download the Exercise workbook and data sets to follow along in your own copy of Tableau Desktop.

## The context for spatial joins

A common need when working with location data is to work with data that falls inside a given boundary. For example, looking at oil well production within a certain drilling zone, or contaminated products in a distribution area during a recall. However, this data is often captured and stored differently—point data, identifying the specific well production or contaminated product, and polygon data, identifying the drilling zone or distribution area.

In order to perform analysis of this sort of spatial aggregation, the spatial files must be joined.

## Joining spatial files

Here we have two data sets. The first is watershed basins in Japan. This is our polygon data. Second, we have sightings of waterfowl as point data. There's no shared field between these data sets—the watershed basin is not recorded in the waterfowl sightings. However, they're both spatial files, so we know the geographic outline of the basins, and the geographic information for each bird sighting.

We want to be able to analyze the number of birds seen in each watershed. To do this, we'll join the data.

First, we'll connect to the Watershed data (here, we're adding a net new data source, by going to the Data tab and selecting New Data Source). We'll choose spatial file, and connect to the Basins data. Because they're in the same folder, the Waterfowl sites is also available under the Files area in the Connections Pane. We'll drag this to the canvas, and now we're able to set up our cross database join.

In the join area, we see Tableau has identified the two Geometry fields—the only information that is shared between these data sets. To establish the spatial join, we need to verify that the join condition is INTERSECTS.

An intersect join clause matches when a point is inside the polygon. Note that only point-polygon spatial joins are supported in Tableau at this time. Finally, so as to keep all the watershed basin polygons regardless of bird sightings, we'll change this to a left join.

# Working with joined spatial data

We've just recreated the data set that's used in this Joined Data dashboard. And we can proceed with our analysis as with any data. It's easy to work at either level of geometry—polygon or point—and see how they're related.

## Conclusion

Thank you for watching this spatial joins training video. We invite you to continue with the Free Training videos to learn more about using Tableau.