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Tool	**Description**
Append	Append combines information from separate layers into one layer. In the lab, we appended the primary and secondary roads onto the county roads layer. This resulted in one combined layer for all roads.
Clip	Clip takes a portion of a polygon layer and makes it into a new layer. In the lab, we clipped the roads from Oktibbeha county for just all of Starkville using the Select by Attributes tool.
Join (Table)	Joining tables is very similar to using join operations in MySQL for databases. Joining allows a link to be made between to different tables by identifying a common factor. For a database about people, a unique, common factor could be Social Security Number. In this lab, the MUSYM column was the common factor between SOILS_TABLE data table and the clip_soils attribute table.
Dissolve	Dissolve removes the shared border between equal values so that the image is simplified. In the lab, this was done with the hydrological type of the soil in addition to the shrink-swell trait of the soil. The resulting image in both cases was drastically decluttered.
Intersect	Intersect joins two vector files into one vector file. In the lab, the intersection of the clip_roads and dissolve_shkswl identified portions of roads that were in a particular shrink-swell region. For example, as a road enters a region of Very High, the enter/exit point is represented in the attribute table.
Buffer	Buffer is typically used to depict a distance away from an object or region that is determined to be safe. For example, the radioactive region near the Chernobyl site is in a buffer. In the lab, this was done for any roads that were in a Very High shrink-well potential to increase the visibility of those roads by adding a buffer of 100 meters.

Table 1: A table describing different ArcMap tools used during Lab 8.

On my honor, as a Mississippi State Student, I have neither given nor received unauthorized assistance on this academic work.

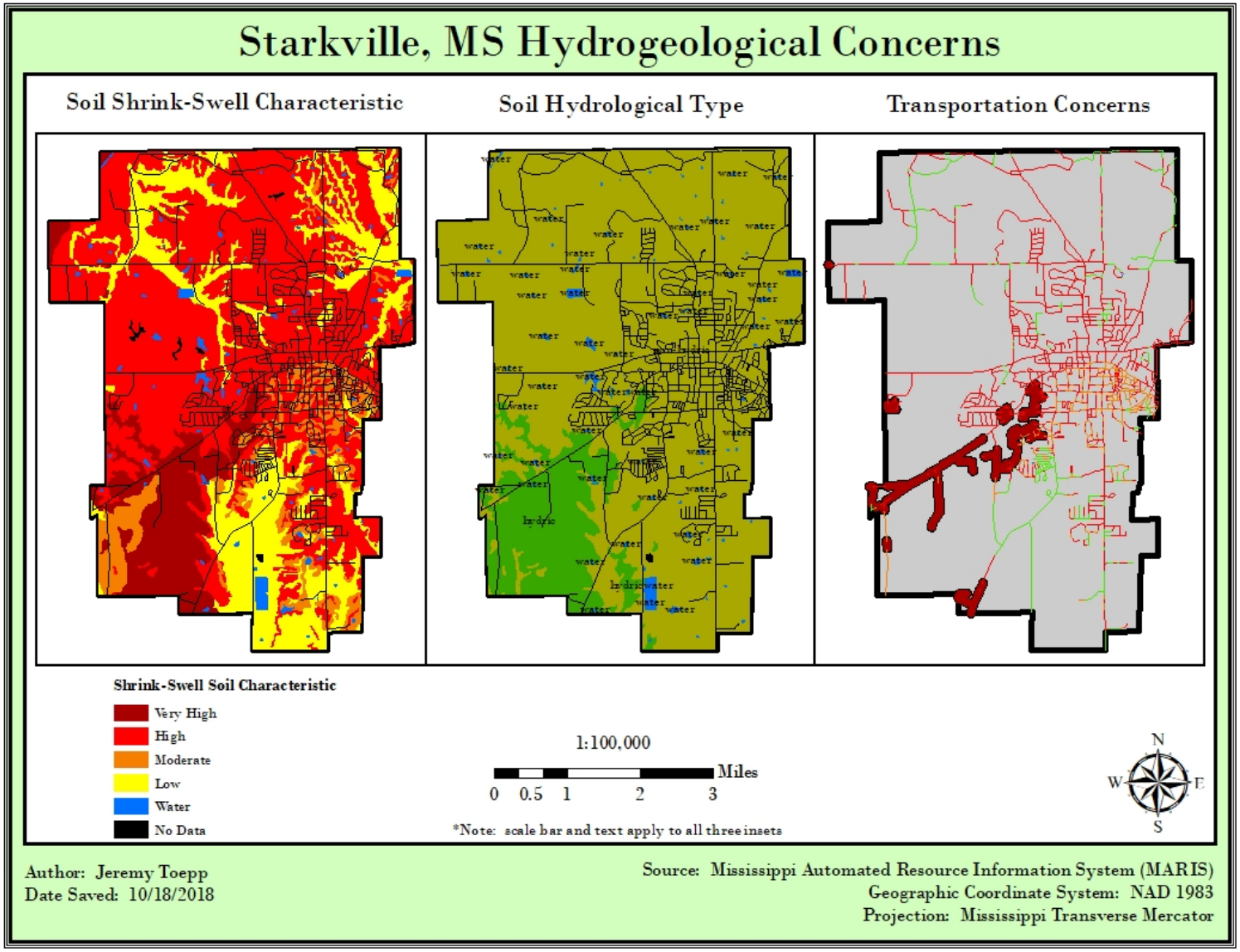

Figure 1: Starkville, MS Hydrogeological Concerns. A map of Starkville, Mississippi, USA, that depicts transportation concerns due to the reaction of soil type to water.

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