



Rocky Mountain Mapping Center

Analyzing Watersheds With GIS - Answer Key

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- 1) [Cheyenne River]
- 2) [2,801,789.8]
- 3) [Fourth]
- 4) [917,648.1]
- 5) [Sort table on field “acres” descending. Could have queried on “Indian Reservation first , but wasn’t necessary since the desired data appears near the top of the table]
- 6) [5]
- 7) [Lower White, Middle White, Little White, Keya Paha, Middle Niobrara]
- 8) [5]
- 9) [5 records were selected in the intersection above and used to create 5 polygons
when converted to a new shapefile]
- 10) [Middle White]
- 11) [Little White]
- 12) [147 rivers and creeks]
- 13) [Most water flows into the White River]
[White River flows from West to East – Middle White to Lower White]
[In the SouthEast of the Study Area, water flows into the Keya Paha River]
- 14) [Lower White River]
- 15) [No, since it displays as a much wider river on the map]
- 16) [90 cubic feet per second]

- 17) [20 minutes]
- 18) [They show equal acreage]
- 19) [The two values are very different now, and reflect the true acreage.]
- 20) [Rosebud Indian Reservation]
- 21) [Tertiary (silt, sandstone, clay) and Upper Cretaceous (shale, chalk)]
- 22) [17 cities]
- 23) [Rosebud CDP with population = 1538]
- 24) [11,781]
- 25) [In the table, highlight field "Pop100". Bring up Field --> Statistics]
- 26) [2 whole counties]
- 27) [8 partial counties]
- 28) [Rosebud cities]
- 29) [unit]
- 30) [Keya Paha]
- 31) [Little White]
- 32) [No]
- 33) [visual examination of the map after selection of cities from the table]
- 34) [In the next window,
 - 1) Select theme to assign data to = RosebudCities.shp
 - 2) Select theme to assign data from = RosebudWatersheds.shp
 - 3) Finish.]
- 35) [This operation appended to each RosebudCities record, the watershed fields for the watershed that contained that city]
- 36) [3 cities]
- 37) [Little White contains 8 cities]

38) [2.47 km]

39) [Gregory county= 053]

40) [RosebudAgri table]

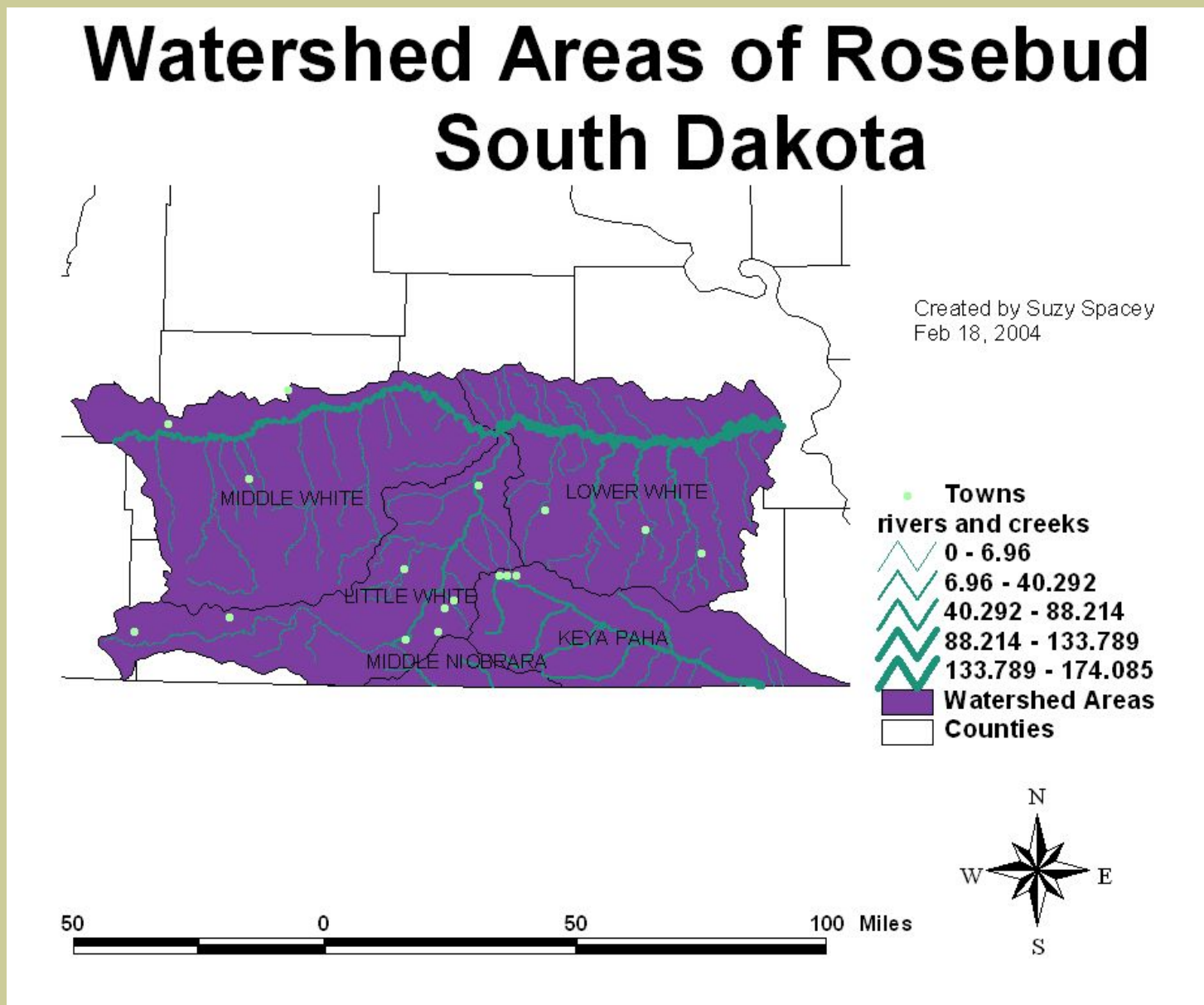
41) [Jackson County]

42) [There is a lot of missing data (indicated by value = -99) and some duplicate entries.]

43) [Recalculate based on shape.returnarea again, as above.]

44) [Theme Agriculture.shp has the same problem since the above table was created from this table]

Layout example:



45) [Watersheds cut across political boundaries and are key to the health of the region; they are

affected by urban areas, climate, agriculture, and other factors.]

46) [GIS can be used to study watershed areas and their relationships to populated areas, agriculture, geology, and land ownership. I learned how to Intersect and clip data themes to a specific shapefile using the Geoprocessing Wizard.]

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Maintainer: webmaster@rockyweb.cr.usgs.gov

URL: http://rockyweb.cr.usgs.gov/public/outreach/sgu/watershedssdlesson_answers.html

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