# Nitrogen and Phosphorous in the Mississippi Watershed Source and Sink

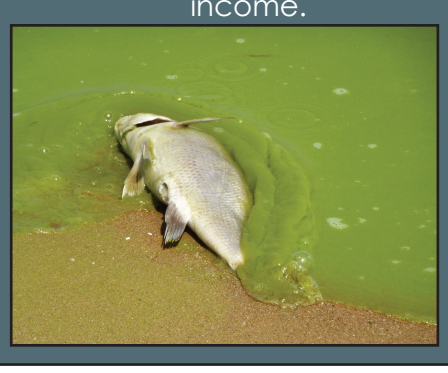
The Mississippi watershed is significant because of how much of the countrie's fertilizers use it as a conduit to the Gulf of Mexico.

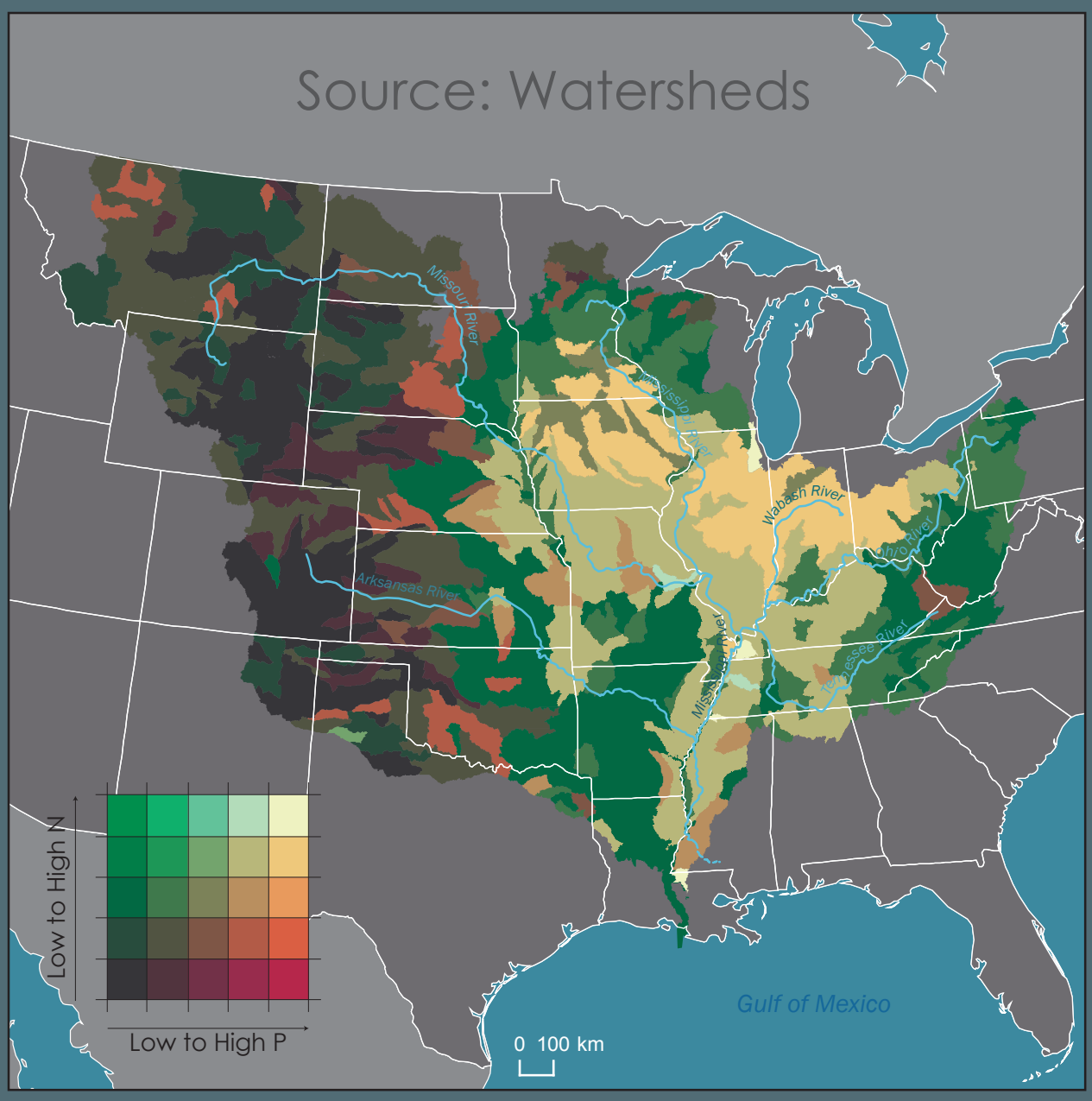
**Nitrogen** and **phosphorous** pollution is significant in the Midwestern United States due to the abundance of agriculturally productive soils in the region.

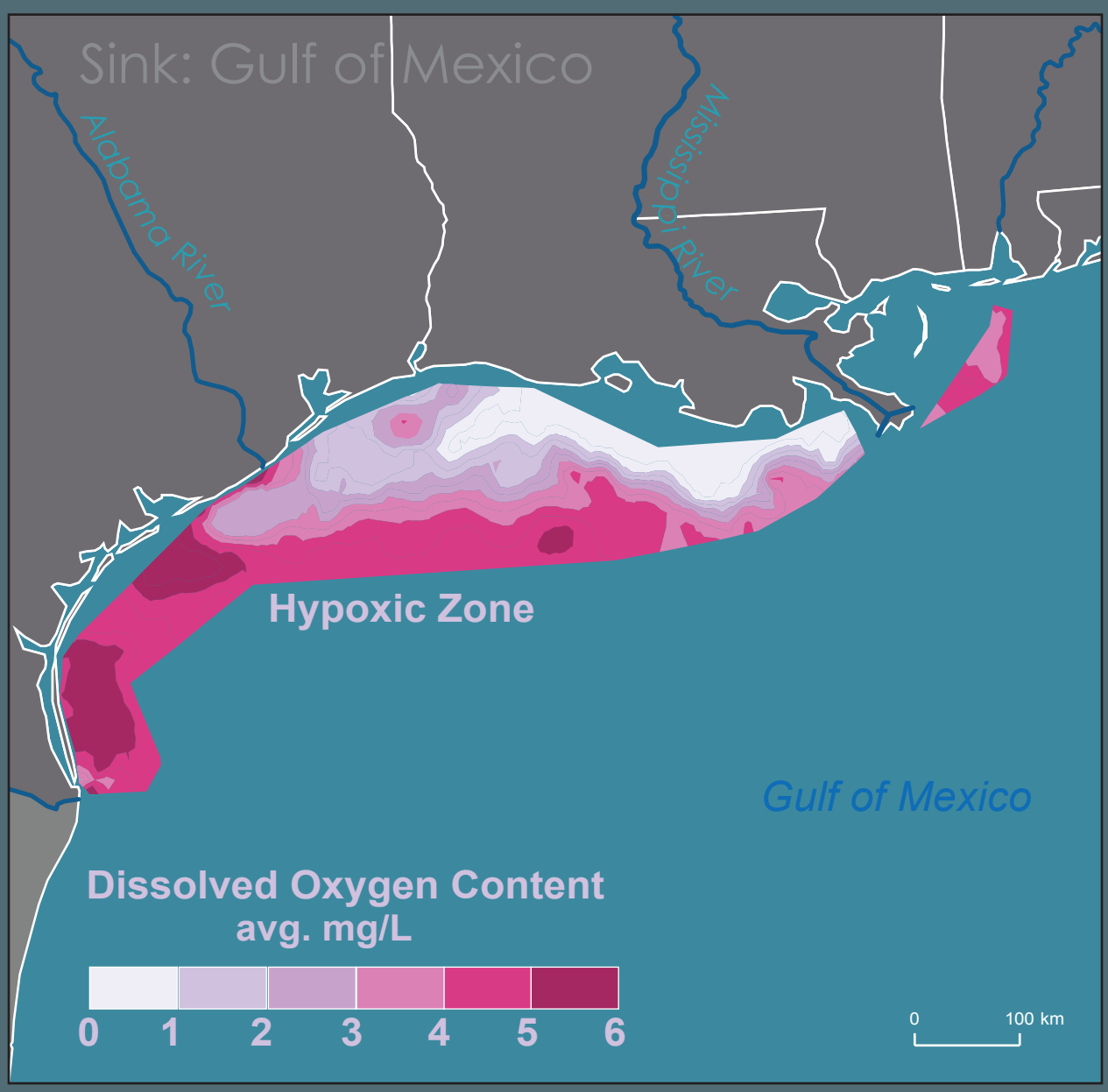
**Dairy farms**, like those in Wisconsin, provide a significant amount of the phosphorous pollution. **Manure** is a large source of nitrogen pollution in ground water in the form of **nitrate** and is actually spread according to its phosphorous content.

All of these nutrients must go somewhere. When the soil is saturated with fertilizers or manure, or a significant runoff event occurs, nitrogen and phosphorous can make its way through the watersheds where its ultimate destination is the Gulf of Mexico.


There are significant **envionmental concerns** with this kind of nutrient loading to the Gulf. The consequences include **large algae blooms**, zones with **depleted oxygen**, and ultimately **fish kills.** This also has an economic impact on those who rely on the Gulf for income.






Cody Calkins -- Geography 370

Data Sources: EPA -- Nitrogen & Phosphorous Pollution Data Access Tool 2002, and Natural Earth Data and EPA HUC8 2002

Projection: NAD 1983 2011 Contiguous USA Albers

Programs Used: ArcMap 10.3, Excel 2013, Adobe Illustrator CS6, ColorBrewer

Special Thanks: Josh Stevens -- "Bivariate Chorpleth Maps: A How-to Guide"