



Fecal Bacteria Transport in Ozark Streams

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The overall goal of this project is to evaluate the transport of fecal bacteria in several streams draining the Illinois River Basin:

- **(Task 1)** Download available data on fecal bacteria from the US Geological Survey NWIS database for the Illinois River.
- **(Task 2)** Evaluate fecal bacteria numbers in relation to various factors, including discharge, season and decimal time, and other physico-chemical parameters measured in the water column.
- **(Task 3)** Develop synthetic approach to predicting fecal bacteria numbers at multiple sites with the Illinois River Basin.
- **(Task 4)** Integrate information attained from this proposal with known literature to properly discuss the results of this investigation.

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The 'Real' first task was to identify a graduate student to work on this project, and the student was recently hired as a Graduate Research Assistant:

Morgan David

MS Environmental Engineering Program

Biological and Agricultural Engineering Department

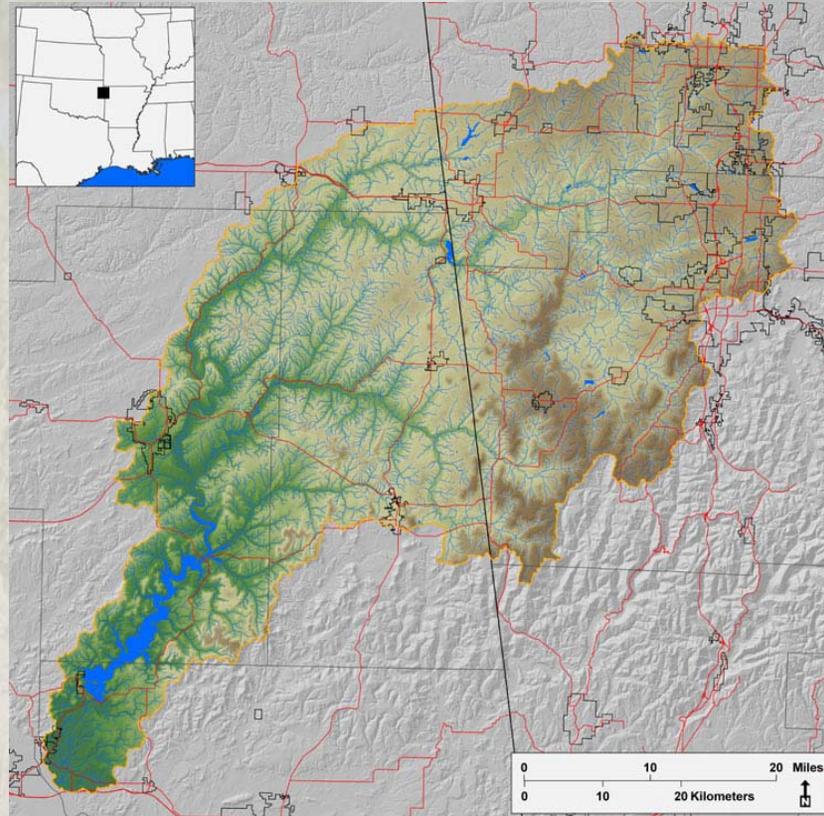
This is what has been accomplished to date, but it is extremely important to identify the 'right' student.

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(Task 1) Download available data on fecal bacteria numbers in streams from the US Geological Survey NWIS database for the Illinois River Basin:

http://ar.water.usgs.gov/sun/illinois_basin/

**FOCUS ON DATA
1995 THRU 2003**



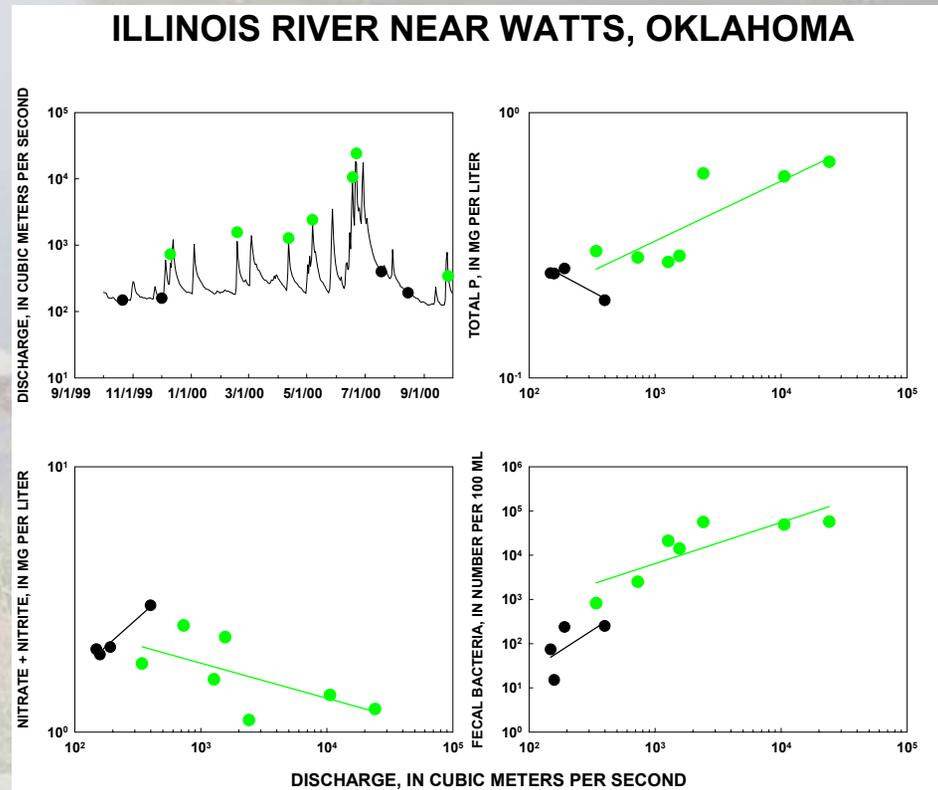
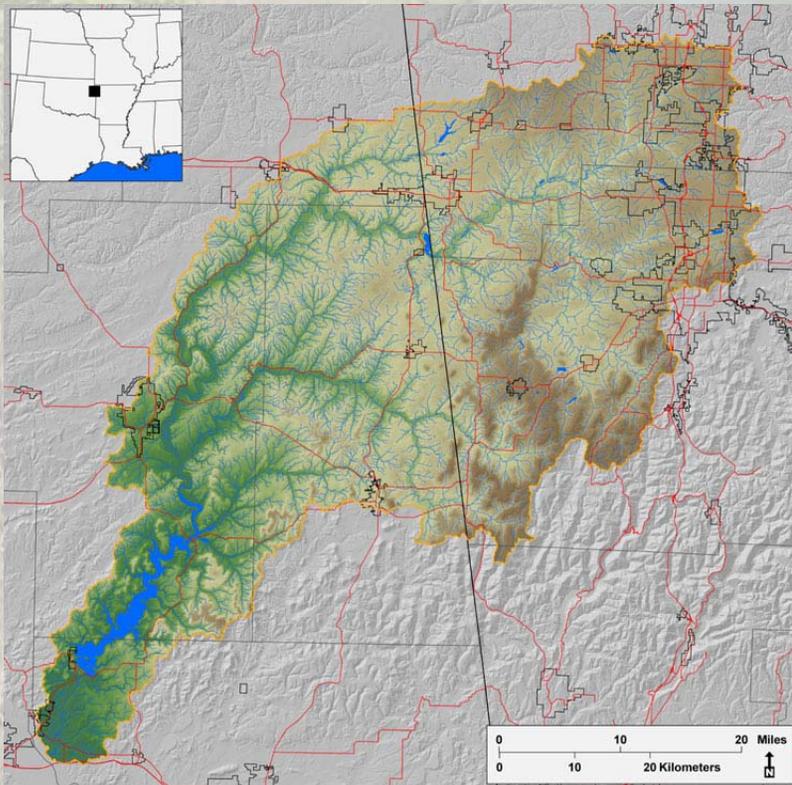
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(Task 2) Evaluate fecal bacteria numbers in relation to various factors, including discharge, season and decimal time, and other physico-chemical parameters measured in the water column:

This effort will be modeled after other projects in the region that have used continuous water quality monitoring to predict 'real-time' fecal bacteria numbers. While we unfortunately do not have access to continuous data from data-sondes, we can investigate the relation between fecal bacteria numbers and multiple parameters found in the USGS NWIS Database.

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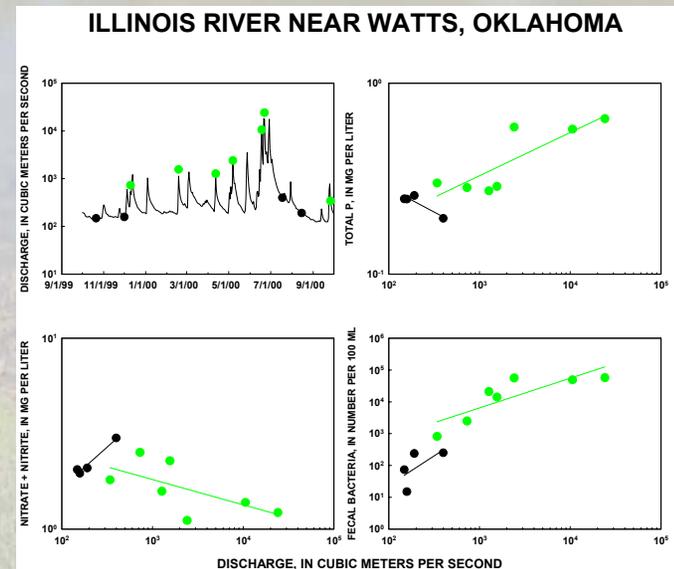
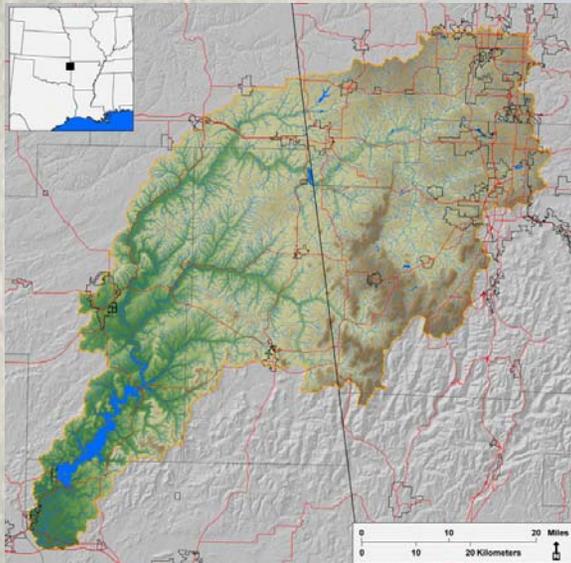
(Task 2) Evaluate fecal bacteria numbers in relation to various factors, including discharge, season and decimal time, and other physico-chemical parameters measured in the water column:



Fecal Bacteria Transport in Ozark Streams

(Task 3) Develop synthetic approach to predicting fecal bacteria numbers at multiple sites with the Illinois River Basin.

This task, or objective, will focus at two spatial levels: *individual site* synthetic approach (n=7) and *watershed based* synthetic approach.



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(Task 4) Integrate information attained from this proposal with known literature to properly discuss the results of this investigation.

This area is somewhat new to me (and especially the MS graduate student), so we will have to dive into the literature. The MS graduate student will complete an in-depth review of the literature for her thesis.

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(Project Completion) The project period is from Summer 2006 through Summer 2008, which fits in perfectly with the expected graduation date of the MS graduate student [May 2008].

This project does not require the collection of new data, but the analyses of existing data so meeting the project time frame will be dependent upon the progress of the MS graduate student under my supervision.