Does Lake and Stream Connectivity Control Phosphorus Retention in Lakes?

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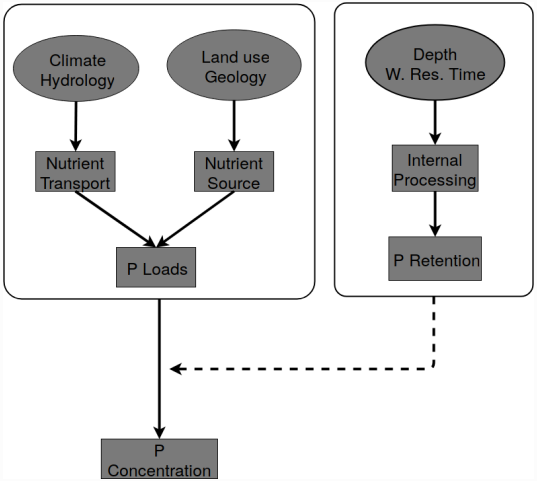
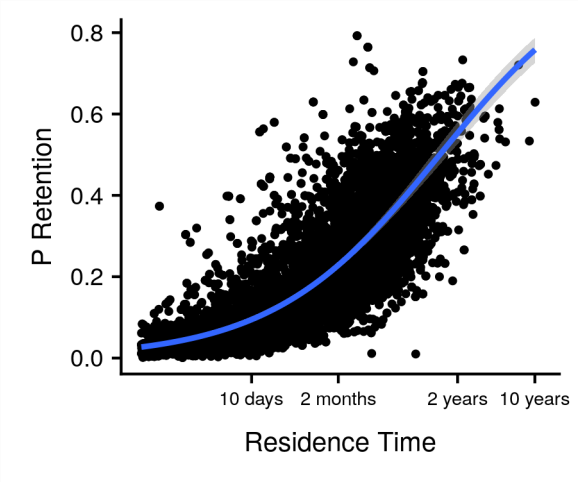
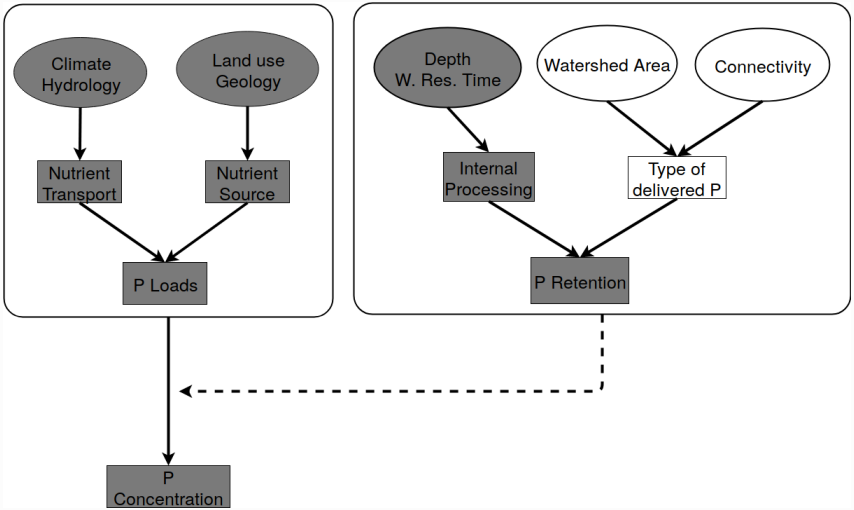
P RETENTION IS JUST ABOUT WATER RESIDENCE TIME





WHAT ARE SOME OTHER POTENTIAL CONTROLS ON P RETENTION?

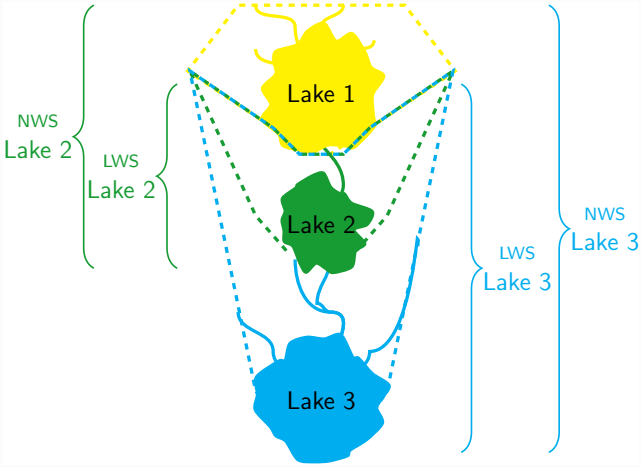


CONNECTIVITY IS A CATCHALL TERM

Closest Lake Distance: Network distance to the closest upstream lake.

Average Link Length: Sum of the total length of stream reaches between junctions divided by the total number of reaches.

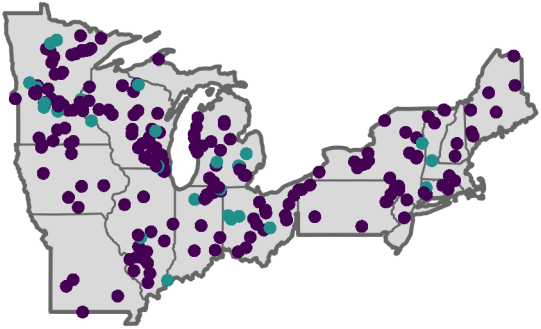
SCALE EXPLANATION

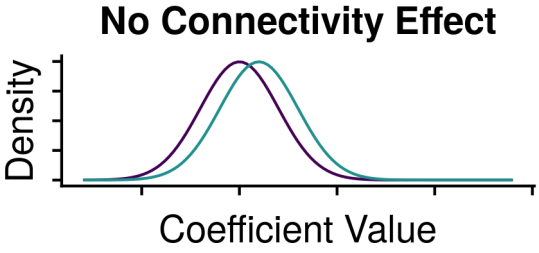


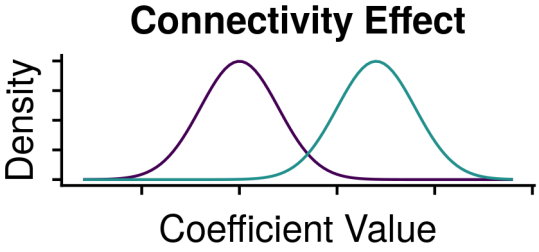
DOES CONNECTIVITY OF LAKES AND THEIR WATERSHEDS INFLUENCE LAKE PHOSPHORUS RETENTION?

What is the relative importance of different connectivity types in determining lake P retention and what spatial extents are most important for connectivity and P retention?

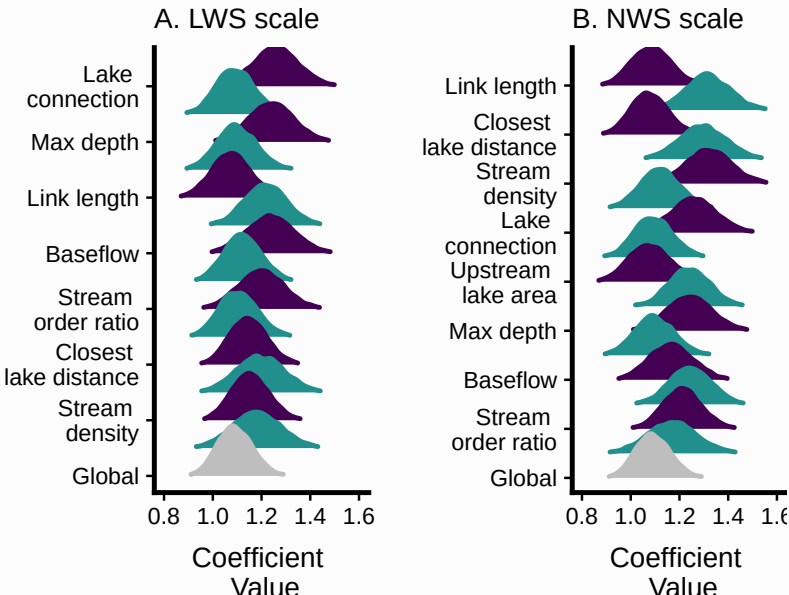
METHODS


connectivity
High
Low


No Connectivity Effect
Density
Coefficient Value

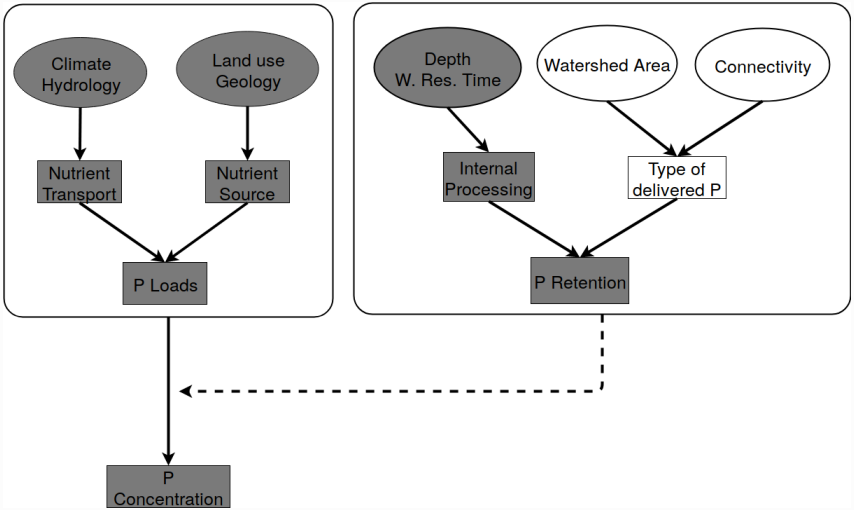

Connectivity Effect
Density
Coefficient Value

FINDING 1


A. LWS scale
Lake connection
Max depth
Link length
Baseflow
Stream order ratio
Closest lake distance
Stream density
Global
0.8
1.0
1.2
1.4
1.6
Coefficient Value
B. NWS scale
Link length
Closest lake distance
Stream density
Lake connection
Upstream lake area
Max depth
Baseflow
Stream order ratio
Global
0.8
1.0
1.2
1.4
Coefficient Value

FINDING 2

CONCLUSION


Climate
Hydrology
Land use
Geology
Nutrient
Transport
Nutrient
Source
P Loads
Depth
W. Res. Time
Watershed Area
Connectivity
Internal
Processing
Type of
delivered P
P Retention
P
Concentration

IMPLICATIONS

- Watershed controls on P delivery to lakes
- WS:LA ratio

FONTS AND SPACING

The document uses the Google Crosscore family

Main body Tinos or Arimo

Maths Tinos

Code `Cousine`

The linespread value has been increased to about 1.3

SERIF FONT THEME

The default font theme is sans serif. You can change the `template/pl.tex` first line to:

```
@@ -1,4 +1,4 @@
-\documentclass[11pt, compress, aspectratio=1610]{beamer}
+\documentclass[11pt, compress, aspectratio=1610, serif]{beamer}

\usetheme{pl}
```

The structure elements are in green, inline code is in `blue`, and alerted text in orange.

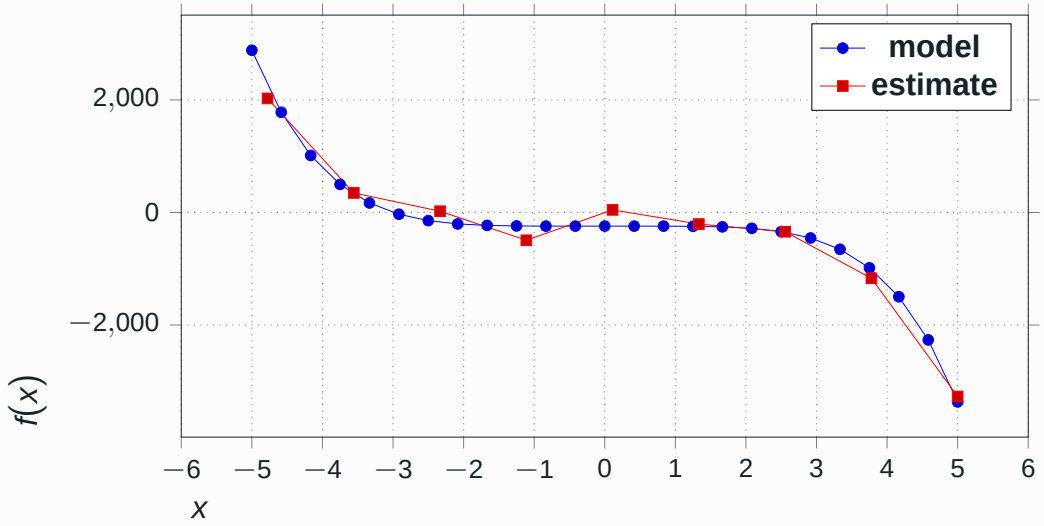
The background is off-white: it will *look* like it's white, but with less eyestrain.

The foreground is not-quite-black either.

TABLES

PID	COMMAND	%CPU	TIME	#TH
25645	top	16.3	00:02.03	1/1
25642	bash	0.0	00:00.01	1
25641	login	0.0	00:00.02	2
25634	mdworker	0.0	00:00.07	3
25624	mdworker	0.0	00:00.14	4
25591	mdworker	0.0	00:00.14	3
25571	com.apple.iC	0.0	00:00.31	5
25414	installd	0.0	00:00.52	2
25366	com.apple.We	0.0	00:00.07	4

PGF PLOTS



The Input family of fonts has some support for Greek and mathematical symbols:

$$\frac{1}{N}\frac{\mathrm{d}}{\mathrm{d}t}N = N\left(r - \alpha N\right)$$

You can use `\alert` within math blocks.

CODE HIGHLIGHTING

There is a customized color scheme for code highlighting.

```
α = 2.0
b, c = ”abc”, 'c'
# This code does nothing (useful)
for i in 1:10
  rand()
  @elapsed println(”i:\t$i”)
end
```

We can also use unicode characters.

BACKGROUND IMAGE

The background image is generated from the `makebackground.jl` file. It's the k-nearest neighbour graph of a series of random points.

The file is `background.png` – it can be replaced by any file as long as the replacement file is in the 16:10 format (for example, a 1600 × 1000 image).

§ 1

Specific commands

CROPPED IMAGES

The `roundpicture` command will display a picture, resized to fit into a circle:

```
\roundpicture{images/nb.png}{Optional text}
```

Note that the image must be a square.