



CATHERINE M. PRINGLE

UNITED STATES

Distinguished research professor at the Odun School of Ecology at the University of Georgia (United States).

Her research focuses on the interface between hydrogeochemical processes, community ecology and conservation; and involves studying the impact of global change on neotropical streams.

Catherine was awarded by her first National Science Foundation Long Term Research in Environmental Biology (LTERB) in Costa Rica in 1985 and has continued to collect data ever since.

HERSTORY

In 2019, Catherine earned a Fellow of the Ecological Society of America for her contribution to stream ecosystems and her innovation in education and mentoring. Check her environmental outreach program “Water for Life”!

NEOTROPICAL STREAMS

Neotropical streams of Central America are drained by regional groundwater with high concentrations of phosphorous (P).

High P concentration affects ecosystem processes and trophic interactions:

- Stimulate microbial activity
- Alter stoichiometric relationships throughout stream food webs.
- Seasonal acidification



One of the expeditions to Costa Rica performed by the Pringle lab members (retrieved from: pringlelab.ecology.uga.edu).

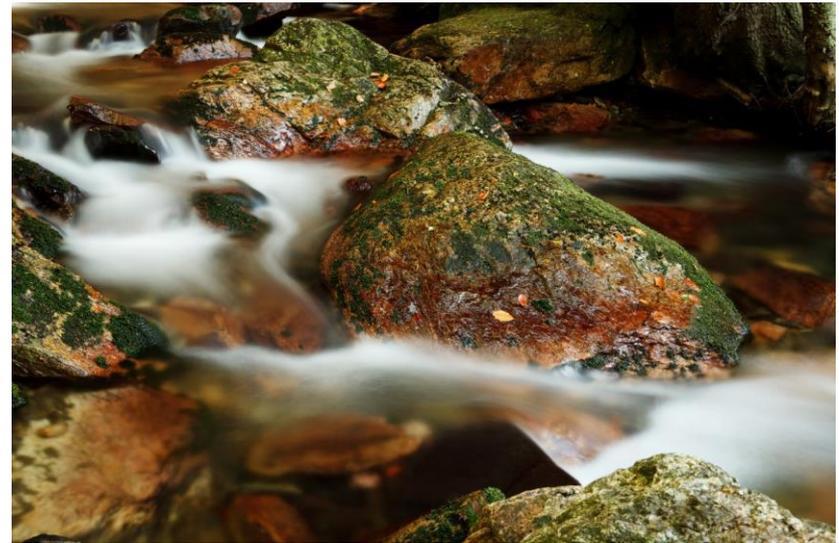
THE PATCH-DYNAMICS CONCEPT

Spatial and temporal heterogeneity are inherent to freshwater ecosystems. Incorporating it into concepts is key in order to have a complete understanding of ecosystems' structure and function.

Patch-dynamics concept: the structure, function and dynamics of a given ecosystem at a given scale can be understood through studying its interactive patches (which exist at smaller scales).

Catherine M. Pringle (1998) applied this concept as a tool to improve and enhance the predictive power of unifying concepts in freshwaters, such as nutrient spiraling.

Her ideas constitute a solid base for the growing interest and acknowledgement to the key role of scale and cross-scale interactions in freshwater ecology.



Catherine M. Pringle, et al. (1998). *Journal of the North American benthological society*.

RELEVANT CONTRIBUTIONS

Pringle, C. M., Naiman, R. J., Bretschko, G. et al. (1988). Patch dynamics in lotic systems: the stream as a mosaic. *Journal of the North American Benthological Society*, 7, 503-524.

Pringle, C. M. (2001). Hydrologic connectivity and the management of biological reserves: a global perspective. *Ecological Applications*, 11, 981-998.

Small, G. E., Ardón, M., Duff, J. H., Jackman, A. P., Ramírez, A., Triska, F. J., **Pringle, C. M.** (2016). Phosphorus retention in a lowland Neotropical stream following an eight-year enrichment experiment. *Freshwater Science*, 35, 1-11.

Gutiérrez-Fonseca, P. E., Ramírez, A., **Pringle, C. M.** (2018). Large-scale climatic phenomena drive fluctuations in macroinvertebrate assemblages in lowland tropical streams, Costa Rica: The importance of ENSO events in determining long-term (15y) patterns. *PloS one*, 13, e0191781.

LOOKING
FOR MORE?

You can find more information about her story and research at:

<https://pringlelab.ecology.uga.edu/>