

EVALUATING DISCHARGE PATTERNS IN RIVERS ACROSS NEW ENGLAND

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In the Mohawk River basin, we have seen a discernable shift in the distribution of flow through the hydrological year over the last century (Kern, 2008). Records show more water and an earlier peak in flow across the Mohawk Watershed. This shift to earlier peaks and higher discharge volumes presents unique challenges to natural systems as well as to those who work in water systems management. Furthermore, models predict more precipitation for the region and a higher portion of this precipitation to fall as rain rather than snow (Frumhoff et al., 2007). Looking beyond the Mohawk into other watersheds across New England, similar patterns of change to the distribution of flow, as well as a trend towards earlier peak flow. This study discusses the trends in discharge across northern New England as an indicator of long-term and on-going shift in discharge as a function of climate change and/or possible shifts in the position of the North Atlantic Oscillation.

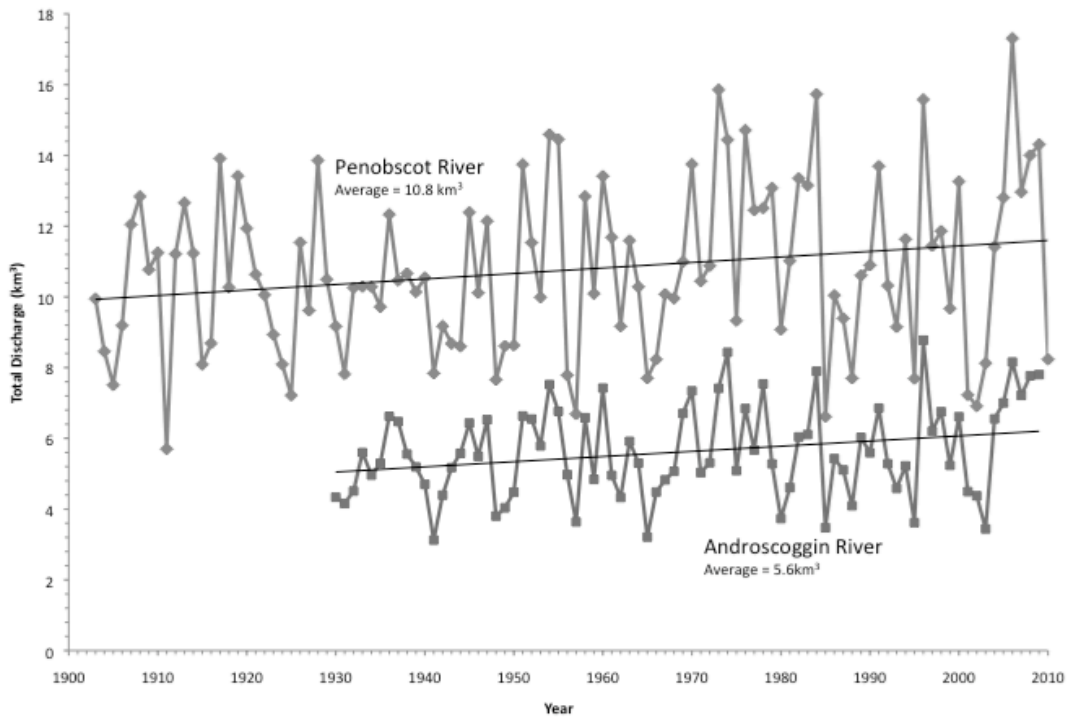


Figure 1: Annual discharge through the 20th Century for Penobscot and Androscoggin River in Maine. Variability has persisted throughout these records, but there is a notable increase throughout.

Frumhoff, P.C., J.J. McCarthy, J.M. Melillo, S.C. Moser, and D.J. Wuebbles. 2007. *Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions*. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, MA: Union of Concerned Scientists (UCS).

Kern, A.L., 2008. Study of 20th Century trends in stream flow for West Canada and Schoharie Creeks of the Mohawk-Hudson Rivers watershed. Senior Thesis, Department of Geology, Union College, Schenectady NY, 73 p.