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Hydrol. Earth Syst. Sci., 12, 363-370, 2008  
www.hydrol-earth-syst-sci.net/12/363/2008/

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## Recovery from episodic acidification delayed by drought and high sea salt deposition

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**Abstract.** For the prediction of episodic acidification large uncertainties are connected to climatic variability and its effect on drought conditions and sea-salt episodes. In this study data on 342 hydrological episodes in 25 Swedish streams, sampled over 10 years, have been analyzed using a recently developed episode model. The results demonstrate that drought is the most important factor modulating the magnitude of the anthropogenic influence on pH and ANC during episodes. These modulating effects are especially pronounced in southern and central Sweden, where the historically high acid deposition has resulted in significant S pools in catchment soils. The results also suggest that the effects of episodic acidification are becoming less severe in many streams, but this amelioration is less clear in coastal streams subject to high levels of sea-salt deposition. Concurrently with the amelioration of the effects of episodic acidification, regional climate models predict that temperatures will increase in Sweden during the coming decades, accompanied by reductions in summer precipitation and more frequent storms during fall and winter in large areas of the country. If these predictions are realized delays in streams' recovery from episodic acidification events can be expected.

- [Final Revised Paper](#) (PDF, 783 KB)
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Citation: Laudon, H.: Recovery from episodic acidification delayed by drought and high sea salt deposition, Hydrol. Earth Syst. Sci., 12, 363-370, 2008. [Bibtex](#) [EndNote](#) [Reference Manager](#)



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