

## Peer-reviewed Publications

1. Cronan, C.S. 1978. A soil column tension lysimeter that minimizes experimental edge effects. **Soil Science** 125: 306-309.
2. Cronan, C.S., W.A. Reiners, R.C. Reynolds, Jr., and G.E. Lang. 1978. Forest floor leaching: contributions from mineral, organic, and carbonic acids in New Hampshire subalpine forests. **Science** 200:309-311.
3. Cronan, C.S. 1979. Determination of sulfate in organically colored water samples. **Analytical Chemistry** 51:1333-1335.
4. Cronan, C.S. and C.L. Schofield. 1979. Aluminum leaching response to acid precipitation: effects on high elevation watersheds in the Northeast. **Science** 204:304-306.
5. Cronan, C.S. 1980. Solution chemistry of a New Hampshire subalpine ecosystem: a biogeochemical analysis. **Oikos** 34:272-281.
6. Cronan, C.S. 1980. Controls on leaching from coniferous forest floor microcosms. **Plant and Soil** 56:301-322.
7. Cronan, C.S. 1980. Consequences of sulfuric acid inputs to a forest soil. Chapter 35 in D.S. Shriner et al. (eds) Atmospheric Sulfur Deposition-Environmental Impact and Health Effects. Ann Arbor Science Publishers.
8. Lang, G.E., C.S. Cronan, and W.A. Reiners. 1981. Organic matter and major elements of the forest floors and soils in subalpine balsam fir forests. **Canadian Journal of Forest Research** 11:388-399.
9. Olson, R.K., W.A. Reiners, C.S. Cronan, and G.E. Lang. 1981. The chemistry and flux of throughfall and stemflow in subalpine balsam fir forests. **Holarctic Ecology** 4:291-300.
10. McFee, W.W. and C.S. Cronan. 1982. The action of wet and dry deposition components of acid precipitation on litter and soil. Chapter 19 in F.M. D'itri (ed) Acid Precipitation-Effects on Ecological Systems. Ann Arbor Science Publishers.
11. Cronan, C.S. and W.A. Reiners. 1983. Canopy processing of acid precipitation by coniferous and hardwood forests in New England. **Oecologia** 59:216-223.
12. Cronan, C.S. 1984. Biogeochemical responses of forest canopies to acid precipitation. pp. 65-79 In R.A. Linthurst (ed) Direct and Indirect Effects of Acidic Deposition on Vegetation. Butterworth Publishers, Boston.
13. Cronan, C.S. 1985. Comparative effects of precipitation acidity on three forest soils: carbon cycling responses. **Plant and Soil** 88:101-112.
14. Cronan, C.S. 1985. Chemistry and movement of dissolved humic substances in three forested Adirondack watersheds. **Organic Geochemistry** 8:105.
15. Cronan, C.S. and G.R. Aiken. 1985. Chemistry and transport of soluble humic substances in forested watersheds of the Adirondack Park, New York. **Geochimica Cosmochimica Acta** 49:1697-1705.
16. Cronan, C.S. 1985. Biogeochemical influence of vegetation and soils in the ILWAS watersheds. **Water, Air, and Soil Pollution** 26:355-371.
17. Cronan, C.S. and M.R. DesMeules. 1985. A comparison of vegetative cover and tree community structure in three forested Adirondack watersheds. **Canadian Journal of Forest Research** 15:881-889.

18. Cronan, C.S. 1985. Chemical weathering and solution chemistry in acid forest soils. pp. 175-196 in J.I. Drever (ed) *The Chemistry of Weathering*. D. Reidel Publishing Co., Boston.
19. Cronan, C.S., J.C. Conlan, and S.D. Skibinski. 1986. Forest vegetation in relation to surface water chemistry in the North Branch of the Moose River, Adirondack Park, N.Y. **Biogeochemistry** 3:121-128.
20. Plankey, B.J., H.H. Patterson, and C.S. Cronan. 1986. Kinetics of aluminum fluoride complexation in acidic waters. **Environmental Science and Technology** 20:160-165.
21. Cronan, C.S., W.J. Walker, and P.R. Bloom. 1986. Predicting aqueous aluminum concentrations in natural waters. **Nature** 324:140-143.
22. Cronan, C.S., J.M. Kelly, C.L. Schofield, and R.A. Goldstein. 1987. Aluminum geochemistry and tree toxicity in forests exposed to acidic deposition. pp. 649-656 in R. Perry et al. (eds) *Acid Rain: Scientific and Technical Advances*. Selper Ltd., London.
23. Walker, W.J., C.S. Cronan, and H.H. Patterson. 1988. A kinetic study of aluminum adsorption by aluminosilicate clay minerals. **Geochimica Cosmochimica Acta** 52:55-62.
24. Rustad, L.E. and C.S. Cronan. 1988. Element loss and retention during litter decay in a red spruce stand in Maine. **Canadian Journal of Forest Research** 18:947-953.
25. Rustad, L.E. and C.S. Cronan. 1989. Cycling of aluminum and nutrients in litterfall of a red spruce *Picea rubens* Sarg. stand in Maine. **Canadian Journal of Forest Research** 19:18-23.
26. Cronan, C.S., R. April, R. Bartlett, P. Bloom, C. Driscoll, S. Gherini, G. Henderson, J. Joslin, J.M. Kelly, R. Newton, R. Parnell, H. Patterson, D. Raynal, M. Schaedle, C. Schofield, E. Sucoff, H. Tepper, and F. Thornton. 1989. Aluminum toxicity in forests exposed to acidic deposition : the ALBIOS results. **Water, Air, and Soil Pollution** 48: 181-192.
27. Cronan, C.S. and R.A. Goldstein. 1989. ALBIOS: a comparison of aluminum biogeochemistry in forested watersheds exposed to acidic deposition. pp. 113-135 In D.C. Adriano and M. Havas (eds) *Advances in Environmental Science Acid Precipitation Series Vol 1*. Springer-Verlag.
28. Walker, W.J., C.S. Cronan, and P.R. Bloom. 1990. Aluminum solubility in organic soil horizons from northern and southern forested watersheds. **Soil Science Society of America Journal** 54:369-374.
29. Cronan, C.S. and C.L. Schofield. 1990. Relationships between aqueous aluminum and acidic deposition in forested watersheds of North America and northern Europe. **Environmental Science and Technology** 24:1100-1105.
30. Cronan, C.S., C.T. Driscoll, R.M. Newton, J.M. Kelly, C.L. Schofield, R.J. Bartlett, and R. April. 1990. A comparative analysis of aluminum biogeochemistry in a northeastern and a southeastern forested watershed. **Water Resources Research** 26:1413-1430.
31. Cronan, C.S. 1990. Patterns of organic acid transport from forested watersheds to aquatic ecosystems. pp. 245-260 In E.M. Perdue and E.T. Gjessing (eds) *Organic Acids in Aquatic Ecosystems*. John Wiley and Sons, N.Y.
32. Cronan, C.S. 1991. Differential adsorption of Al, Ca, and Mg by roots of red spruce (*Picea rubens* Sarg.). **Tree Physiology** 8:227-237.
33. Cronan, C.S. 1991. Review of Acidic Precipitation Volume 4: Aquatic Processes and Lake Acidification, S.A. Norton et al. (eds), Springer-Verlag, NY. **Journal of Environmental Quality** 20:705-706.

34. Kahl, J.S., S.A. Norton, C.S. Cronan, I.J. Fernandez, L.C. Bacon, and T.A. Haines. 1991. Chemical Relationships of Surface Water Chemistry and Acidic Deposition in Maine. pp. 203-235 In D.F. Charles (ed) *Acidic Deposition and Aquatic Ecosystems: Regional Case Studies*. Springer-Verlag, N.Y. 747 p.
35. Patterson, H.H., C.S. Cronan, S. Lakshman, B.J. Plankey, and T.A. Taylor. 1992. Comparison of soil fulvic acids using synchronous scan fluorescence spectroscopy, FTIR, titration, and metal complexation kinetics. **Science of the Total Environment** 113:179-196.
36. Cronan, C.S., S. Lakshman, and H.H. Patterson. 1992. Effects of disturbance and soil amendments on DOC and organic acidity in red pine forest floors. **Journal of Environmental Quality** 21:457-463.
37. Taylor, T.A., H.H. Patterson, C.S. Cronan, and C.L. Schofield. 1993. Determination of aqueous aluminum with the fluorescent chelating ligand, 2-hydroxy-1-carbazole-carboxylate: Part II. Application of ratio fluorescence spectroscopy. **Analytica Chimica Acta** 278:259-268.
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39. Cronan, C.S. 1994. Aluminum biogeochemistry in the ALBIOS forest ecosystems: the role of acidic deposition in aluminum cycling. pp. 51-81 In Godbold, D.L. and Huttermann, A. (eds) *Effects of Acid Rain on Forest Processes*. Wiley-Liss Inc., NY.
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41. Cronan, C.S. and D.F. Grigal. 1995. Use of Ca/Al ratios as indicators of stress in forest ecosystems. **Journal of Environmental Quality** 24:209-226.
42. Rustad, L.E. and C.S. Cronan. 1995. Biogeochemical cycling of aluminum in a red spruce (*Picea rubens* Sarg.) stand in central Maine, USA. **Biogeochemistry** 29:107-129.
43. Lakshman, S., R. Mills, F. Fang, H. Patterson, and C. Cronan. 1996. Use of fluorescence polarization to probe the structure and aluminum complexation of three molecular weight fractions of a soil fulvic acid. **Analytica Chimica Acta** 321:113-119.
44. Patterson, H.H., B. MacDonald, F. Fang, and C. Cronan. 1996. Enhancement of the water solubility of organic pollutants such as pyrene by dissolved organic matter. pp. 288-298 in J.S. Gaffney et al. (eds) *Humic and Fulvic Acids: Isolation, Structure, and Environmental Role*. **ACS Symposium Series 651**, American Chemical Society, Washington, DC.
45. Ohno, T. and C.S. Cronan. 1997. Comparative effects of ionic- and nonionic resin purification treatments on the chemistry of dissolved organic matter. **International J. Environmental Anal. Chemistry** 66:119-136.
46. Lytle, D.E. and C.S. Cronan. 1998. Comparative soil carbon dioxide evolution, litter decay, and root dynamics in clearcut and uncut spruce-fir forest. **Forest Ecology & Management** 103:123-130.
47. Fang, F., S. Kanan, H.H. Patterson, and C.S. Cronan. 1998. A spectrofluorometric study of the binding of carbofuran, carbaryl, and aldicarb with dissolved organic matter. **Analytica Chimica Acta** 373: 139-151.
48. Cronan, C.S., D. Lytle, and J. Piampiano. 1998. Influence of seasonal drought on water-table levels and hydrochemistry in two forested wetlands, Maine. **Northeastern Naturalist** 5: 313-322.
49. Cronan, C.S., J.T. Piampiano, and H.H. Patterson. 1999. Influence of land use and hydrology on exports of carbon and nitrogen in a Maine river basin. **Journal of Environmental Quality** 28: 953-961.

50. Alomary, A., T. Solouki, H.H. Patterson, and C.S. Cronan. 2000. Elucidation of aluminum-fulvic acid interactions by gas-phase hydrogen-deuterium (H/D) exchange and electrospray Fourier transform ion cyclotron resonance mass spectrometry (ESI FT-ICR). **Environmental Science & Technology** 34(13): 2830-2838.
51. Driscoll, C.T., G. Lawrence, A. Bulger, T. Butler, C. S. Cronan, C. Eager, K. F. Lambert, G.E. Likens, J. Stoddard, and K. Weathers. 2001. Acidic deposition in the Northeastern U.S.: sources and inputs, ecosystem effects, and management strategies. **BioScience** 51: 180-198.
52. Cronan, C.S. 2002. Carbon cycle. in Robinson, R. (ed) *Biology for Students - An Encyclopedia*. Macmillan Reference USA, Gale Group, Farmington Hills, MI.
53. Morse, C.C., A.D. Huryn, and C.S. Cronan. 2003. Impervious surface area as a predictor of the effects of urbanization on stream insect communities in Maine, USA. **Environmental Monitoring and Assessment** 89: 95-127.
54. Cronan, C.S. 2003. Belowground biomass, production, and carbon cycling in mature Norway spruce, Maine, USA. **Canadian Journal of Forest Research** 33: 339-350.
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59. Cronan, C.S., R.J. Lillieholm, J. Tremblay, and T. Glidden. 2010. An assessment of land conservation patterns in Maine based on spatial analysis of ecological and socioeconomic indicators. **Environmental Management** 45: 1076-1095. DOI 10.1007/s00267-010-9481-7
60. Cronan, C.S. 2010. Major cations (Ca, Mg, Na, K, Al). pp. 354 – 360 in Gene E. Likens (ed) **Biogeochemistry of Inland Waters**. Academic Press, San Diego, CA.
61. McCloskey, J.T., R.J. Lillieholm, and C.S. Cronan. 2011. Using Bayesian belief networks to identify potential compatibilities and conflicts between development and landscape conservation. **Landscape and Urban Planning**: 101: 190-203.
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63. Lillieholm, R.J., S.R. Meyer, M.L. Johnson, and C.S. Cronan. 2013. Land conservation in the Northeastern United States: an assessment of historical trends and current conditions. **Environment**: 55(4):3-14. DOI 10.1080/00139157.2013.803882.

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65. Parr, T.B., T. Ohno, C.S. Cronan, and K.S. Simon. 2014. comPARAFAC: a library and tools for rapid and quantitative comparison of dissolved organic matter components resolved by Parallel Factor Analysis. **Limnology and Oceanography: Methods** 12: 114-125.
66. Meyer, S.R., M.L. Johnson, R.J. Lillieholm, and C.S. Cronan. 2014. Development of a stakeholder-driven spatial modeling framework for strategic landscape planning using Bayesian networks across two urban-rural gradients in Maine, USA. **Ecological Modelling** 291:42-57.
67. Parr, T.B., C.S. Cronan, T. Ohno, S.E.G. Findlay, S.M.C. Smith, and K.S. Simon. 2015. Urbanization changes the composition and bioavailability of DOM in headwater streams. **Limnology & Oceanography** 60: 885-900. doi:10.1002/lno.10060.
68. Meyer, S.R., M.K. Beard, C.S. Cronan, and R.J. Lillieholm. 2015. An analysis of spatio-temporal landscape patterns for protected areas in northern New England: 1900-2010. **Landscape Ecology** 30: 1291-1305. doi: 10.1007/s10980-015-0184-6.
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#### **Textbooks:**

- Cronan, C.S. 1996. **Introduction to Ecology and Ecosystems Analysis**. Shaw-Ferguson Environmental Publications. 256 p.
- Cronan, C.S. 2016. **Elements of Technical Writing for Students in the Sciences**. Shaw-Ferguson Environmental Publications. 77 p.
- Cronan, C.S. 2018. **Ecosystem Biogeochemistry – Element Cycling in the Forest Landscape**. Springer Nature. 203 p.

#### **Documentary Film**

**Preserving Paradise** – a documentary video focused on the conservation planning and alternative futures research conducted by Lillieholm, Cronan, Meyer, Johnson, Parr, and Owen. October 2013. Maine Public Broadcasting Network. 30 minutes.