

East coast marine fog chemistry

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Recent data indicates that fog and cloud water can be ten times more acidic than rain in eastern North America. In coastal regions with relatively high fog frequencies, fog water can be an important pathway for the transport and deposition of acidic substances. Cape Race, Newfoundland, is exposed to 164 days/year of fog on average. Fog chemistry monitored near Cape Race, indicated that fog is acidic (median 4.0). Excess sulphate and nitrate account for most of the

acidity, with sulphate being the more important contributor. Comparison with other monitoring sites indicated that land use and distance from source regions were important factors in determining fog acidity. Trace metal concentrations were low in fog samples. Deposition estimates indicate that fog is an important pathway for hydrologic and chemical input to coastal ecosystems.