



Climate change effect on the seasonality of nutrients

Hypothesis

Climate change had no effect on the phosphate, nitrate, total phosphorus and total nitrogen concentrations in Lake Erken

Climate change affected the seasonality of phosphate, nitrate, total phosphorus and total nitrogen concentrations in Lake Erken

Introduction

Nitrogen and phosphorus are important and often limiting nutrients to the aquatic life. These nutrients occur in a variety of forms but most frequently as NO_3 and PO_4 . Thus, the concentrations of these nutrients have been investigated in this project.

Method

Samples from Lake Erken have been taken and the concentrations of phosphorus, nitrogen, phosphate and nitrate were measured. Then the time period of 40 years was taken and divided into 5 year intervals. The average value of total phosphorus, total nitrogen, nitrate and phosphate concentrations in different seasons during five year intervals were calculated.

Season Year	Winter	Spring	Summer	Autumn
1972-1976	109	45	78	103
1977-1981	137	39	90	92
1982-1986	104	48	94	82
1987-1991	114	84	70	89
1992-1996	105	48	105	108
1997-2001	94	72	84	113
2002-2006	108	61	100	96
2007-2011	82	82	87	133

Average length of seasons in Lake Erken during 40 years

Conclusion

From the results it is seen that the seasonality of nutrients in Lake Erken has been affected. However, this change can be caused not only by the climate change but also by different factors such as agriculture and bad sewage systems in lake's drainage area.

PO_4 and Total Phosphorus concentrations in different seasons

