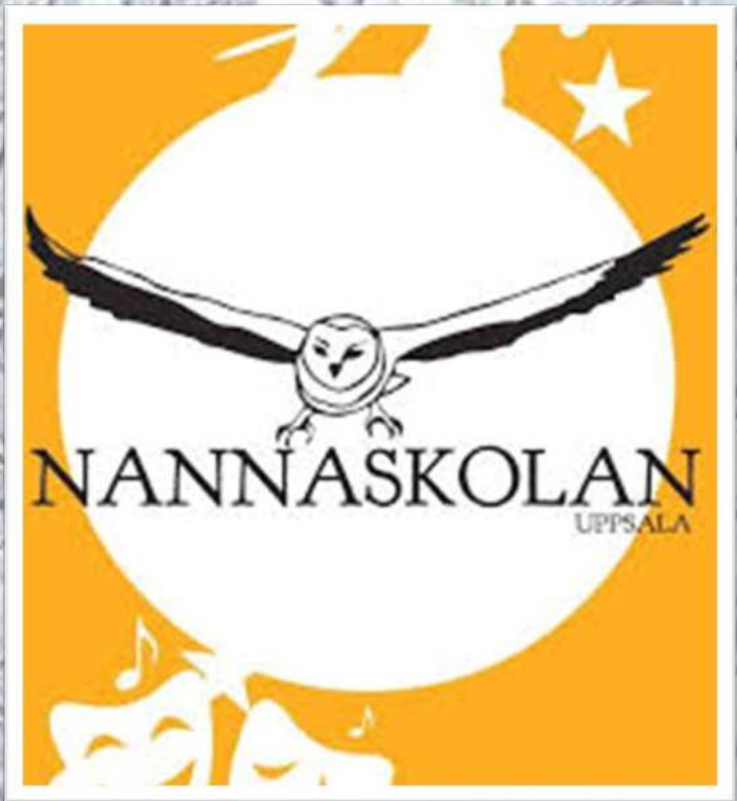


Does human activity affect snow quality?



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Introduction

It is known that human activities affect both water and air quality in a negative way. Sweden is well-known for its nature and green, renounced areas, but there are as well more concentrated cities like Uppsala, where we live. Our aim was to analyze the effect of this population on air and snow quality. For this we tested the pH and conductivity in new fallen snow, to get an idea of the amount of CO₂ and amount of salt in Swedish precipitation.



Fig 2. Material used to collect and analyze the samples.

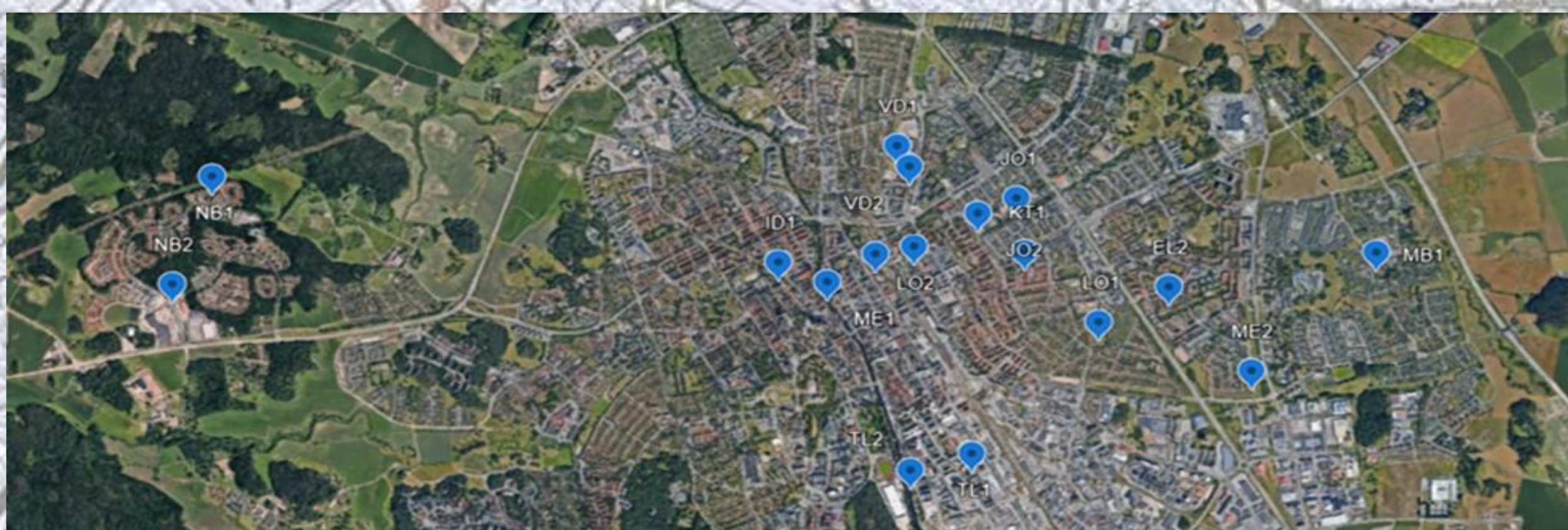
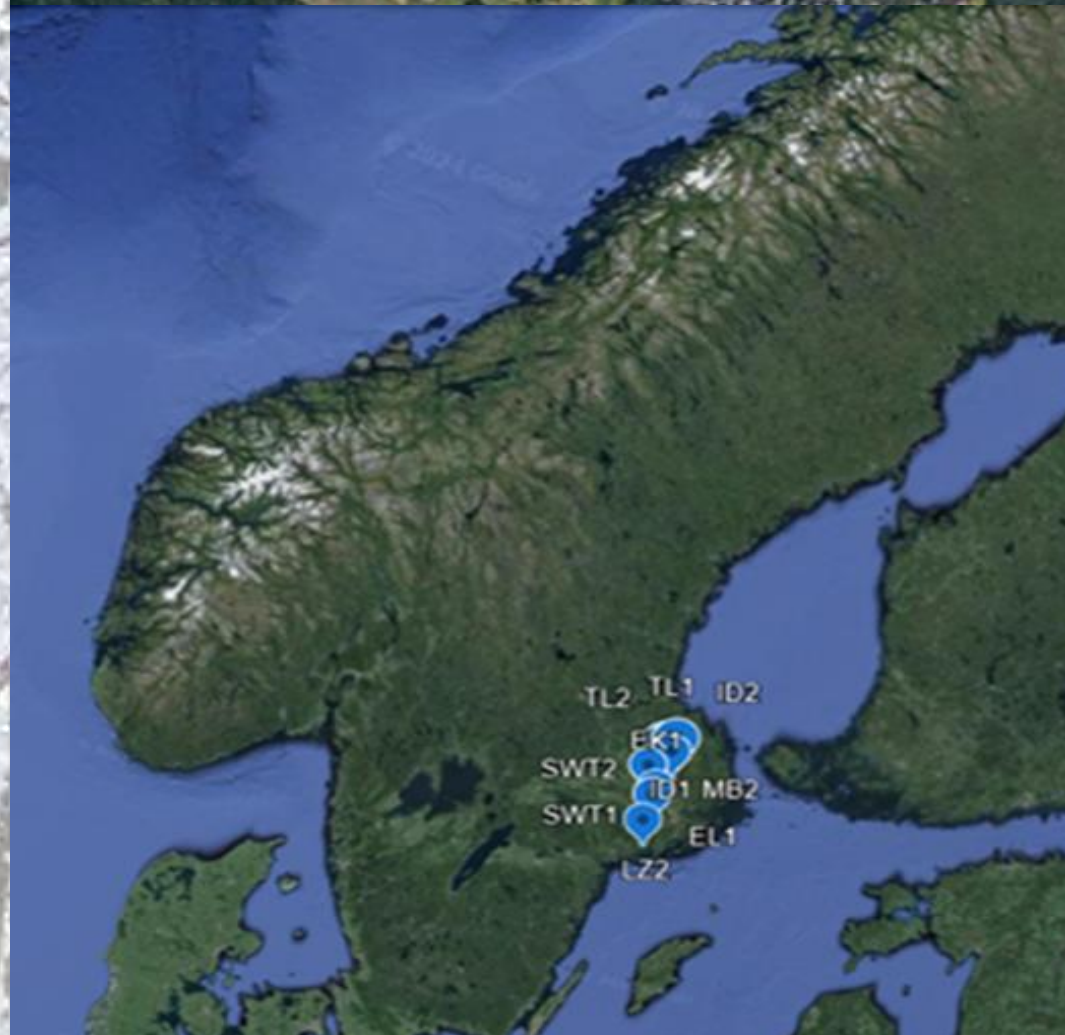


Fig 1. Places where the snow tests were taken.



Method

28 samples of new fallen snow were taken in Uppsala area (Fig 1.). Sterile plastic jars were used and after melting, pH and conductivity were tested (Fig 2.).

To test the salt concentration, we used a TDS meter 3 - water quality tester to analyze the conductivity in ppm. To test the pH we used Ezodo PH-5011 Digital Pocket pH Meter.

As control we use both distilled water and tap water.

Results

In our results we can see that the pH level of the snow tests are similar but more acid than the distilled water. The salt concentrations are also similar to each other. Even our highest salt value had 10 times lower salt concentration than the regular tap water.

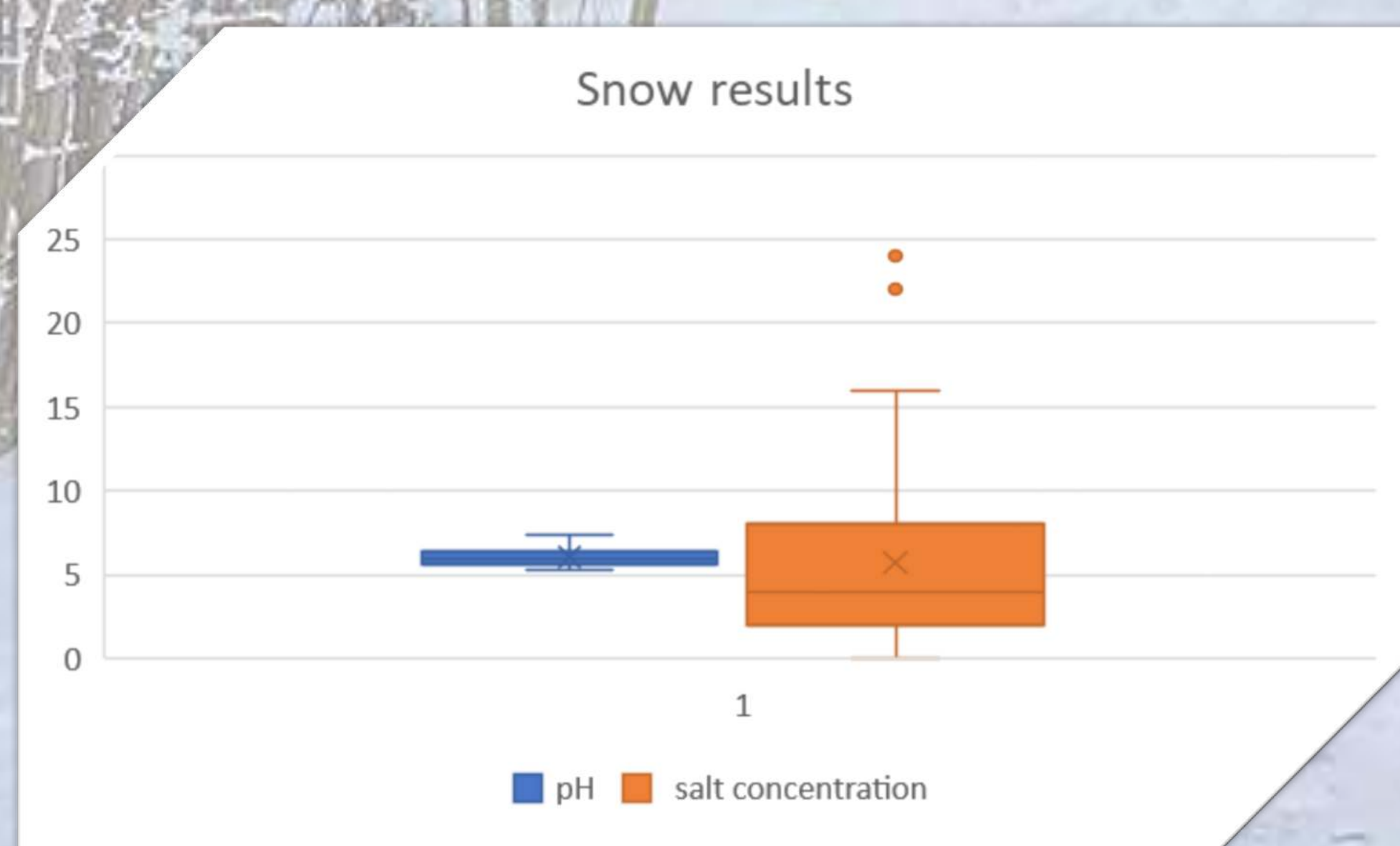


Fig 3. Result. pH value and conductivity in ppm.

Conclusion

Our results shows that the snow tested is relatively clean, and we can not find differences in the measured parameter between the places that we tested.

We can conclude that the effect of CO₂ is similar in both densely and scarcely populated areas.

The low salt concentration results could be an effect of a high rain the day before the samples were taken.

If you don't have clean water, it is a good alternative to drink melted snow.

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