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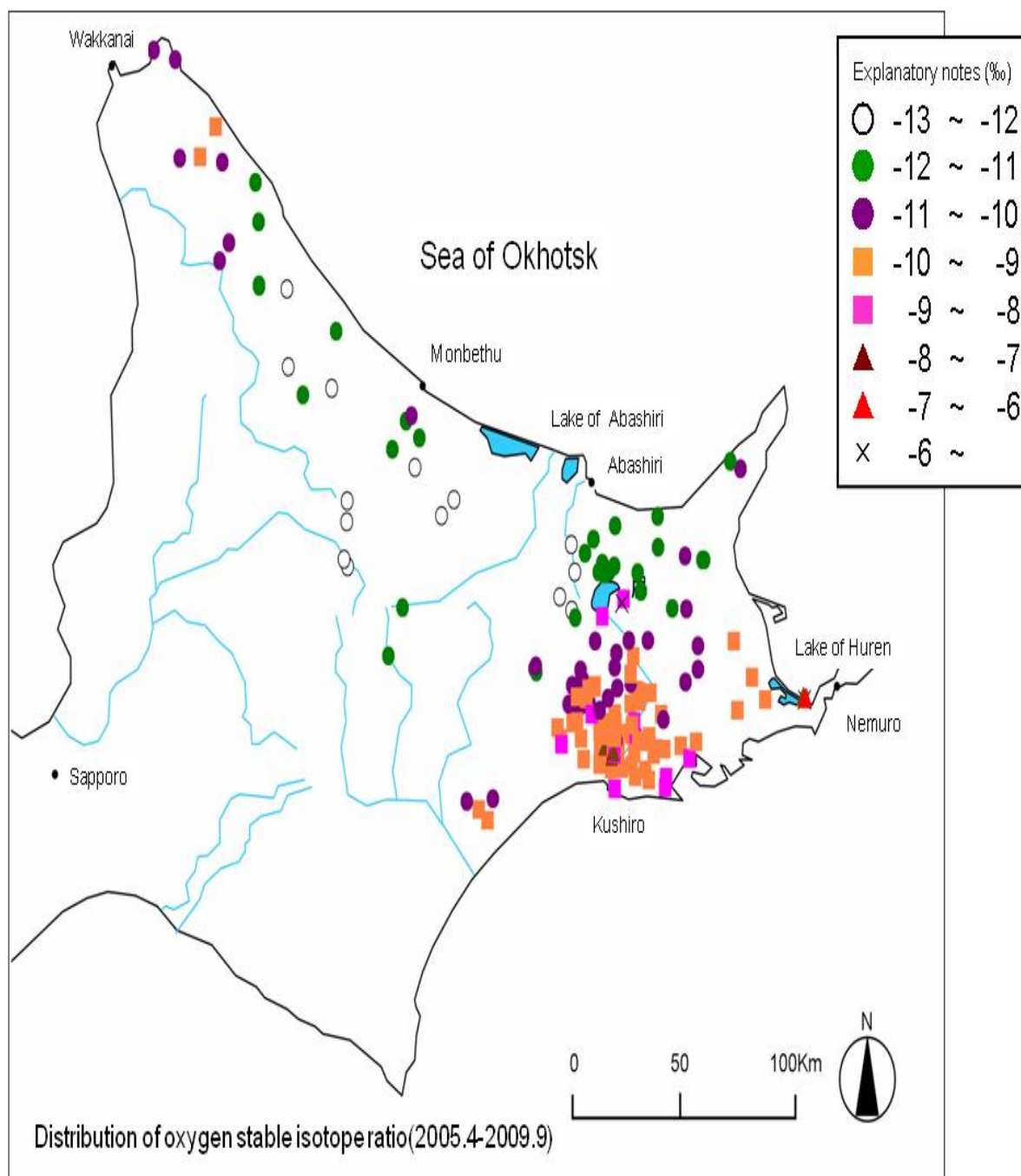
Room: Function Room B

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Distribution of oxygen and hydrogen stable isotope ratios and phytoplankton in the east of Hokkaido

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From water chemistry and oxygen and hydrogen stable isotopes, recharge area of spring water within the Kushiro Moor was estimated. Isotope map for rain and stream water is effective to estimate recharge area of spring and groundwater comparing isotope values between spring water and groundwater and recharge area rain and river water. Then, in this study, at the east of Hokkaido, oxygen and hydrogen stable isotopes were studied. From the figure, oxygen stable isotope values decrease to center or inland. There are two kinds of spring classified from isotopes in the Kushiro Moor. Low stable isotope spring waters (-10 per mil) were thought to be derived from the mountain slope at the north of the Kushiro Moor. As high stable isotope spring waters (-7 to -8 per mil) were on the meteoric line, evaporation process was not thought to increase isotope values. As EC values of high stable isotope spring waters were low, a contamination of sea water is not thought to occur. In the hills at the sea side and east side of the Kushiro Moor, high isotope river waters (-8 per mil) were found and then high stable isotope spring waters was thought to derive from the hills.

Total numbers of phytoplankton were less than 100/ml in the river water and 500 to 1000/ml in the pond and the lake. Most of phytoplankton was diatom. Total number of phytoplankton of the river waters in the Kushiro Moor was more than those of the rivers out side of the Kushiro Moor. Cocconeis, Navicula, and Melosira were popular in the river water. Stephanodiscus was popular in the ponds.

Keywords: oxygen and hydrogen stable isotope ratios, spring water, water chemistry, kushiro moor