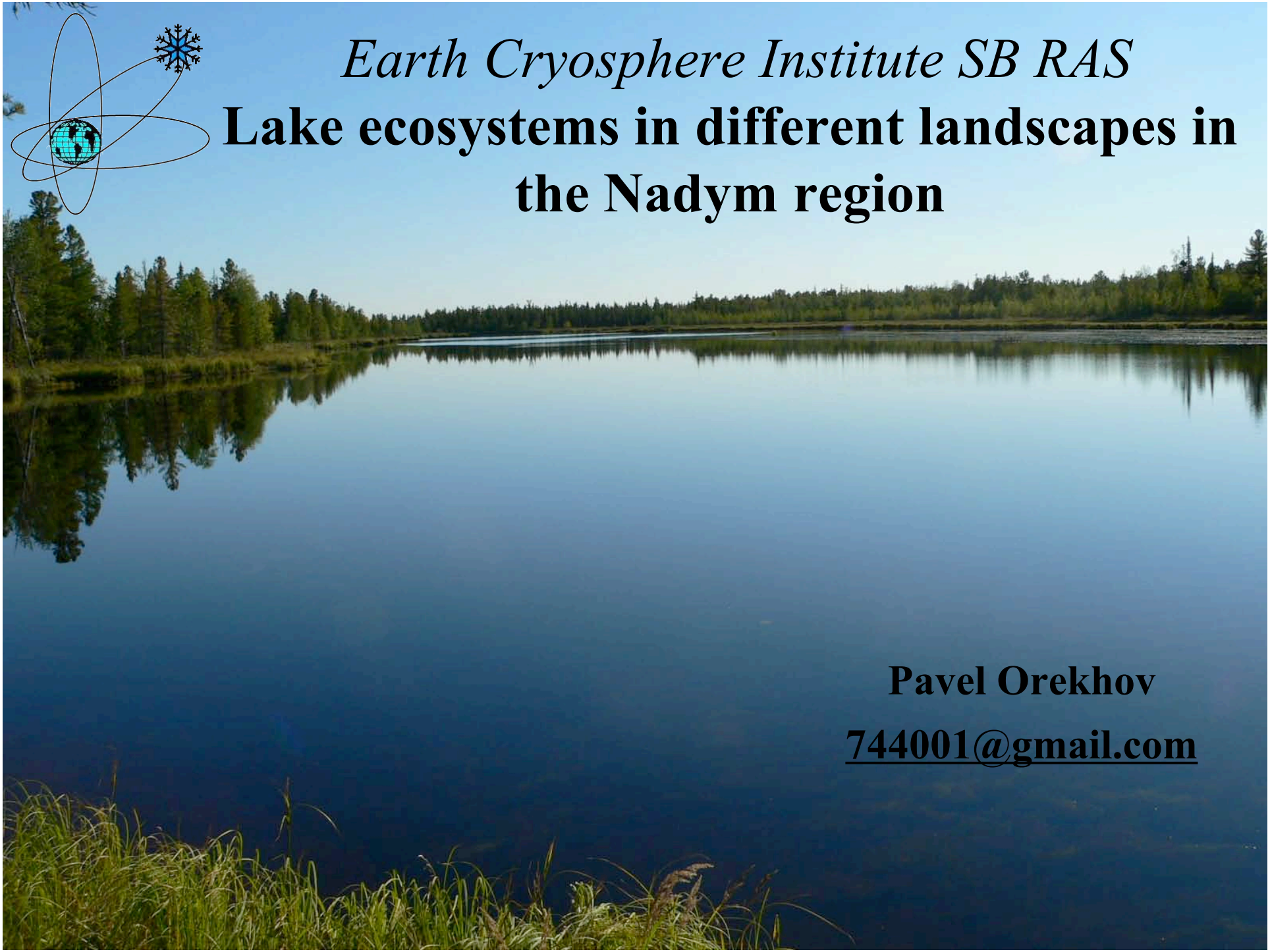

Earth Cryosphere Institute SB RAS

Lake ecosystems in different landscapes in the Nadym region

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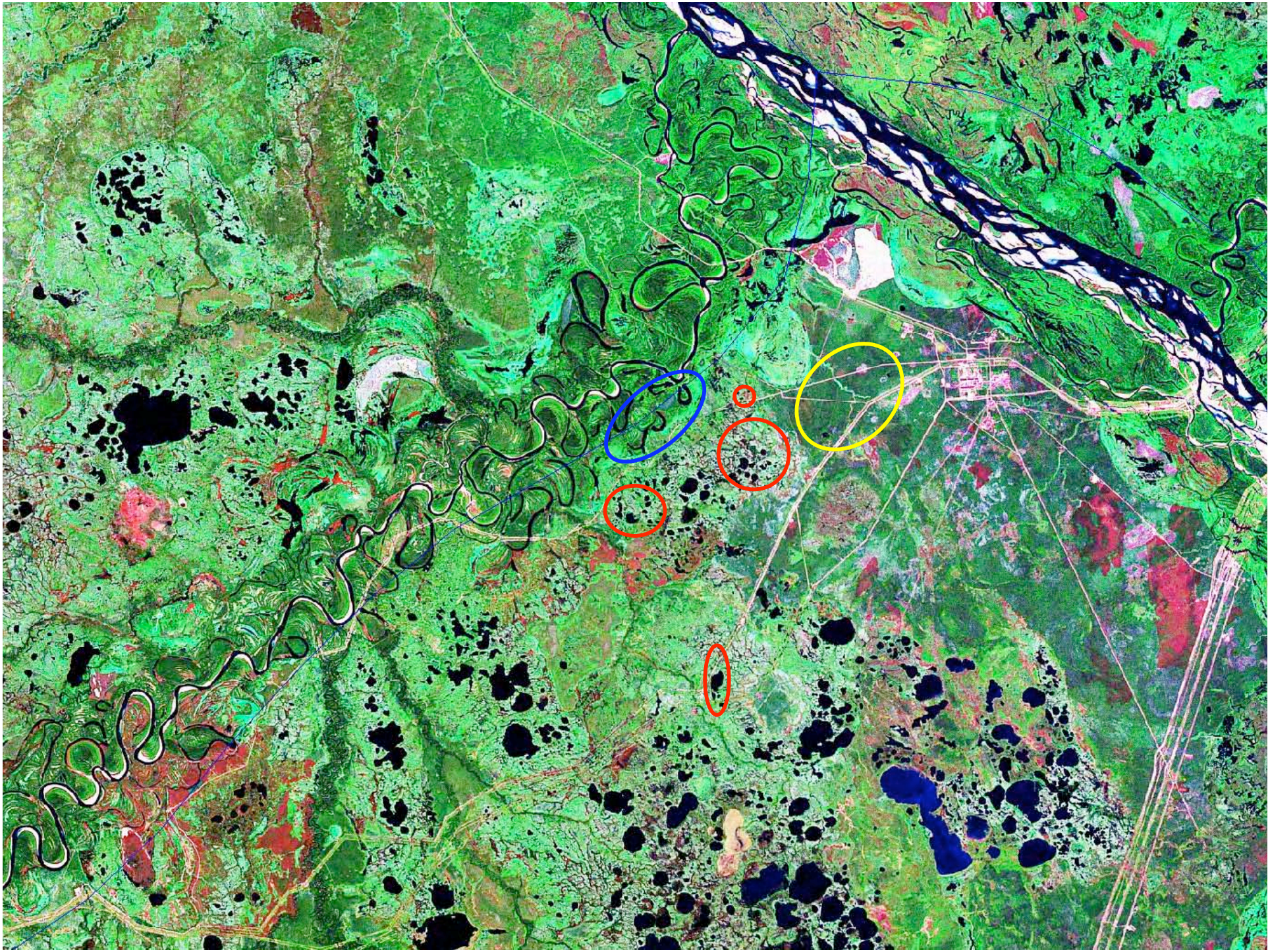
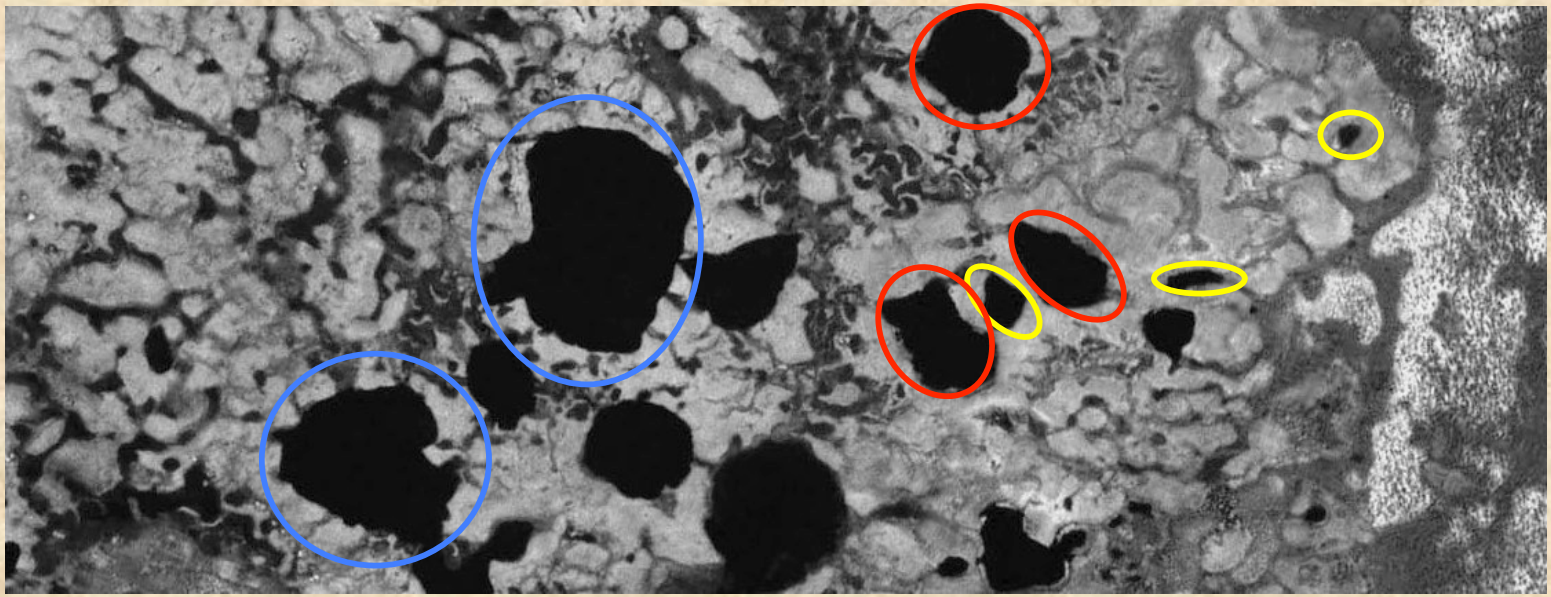


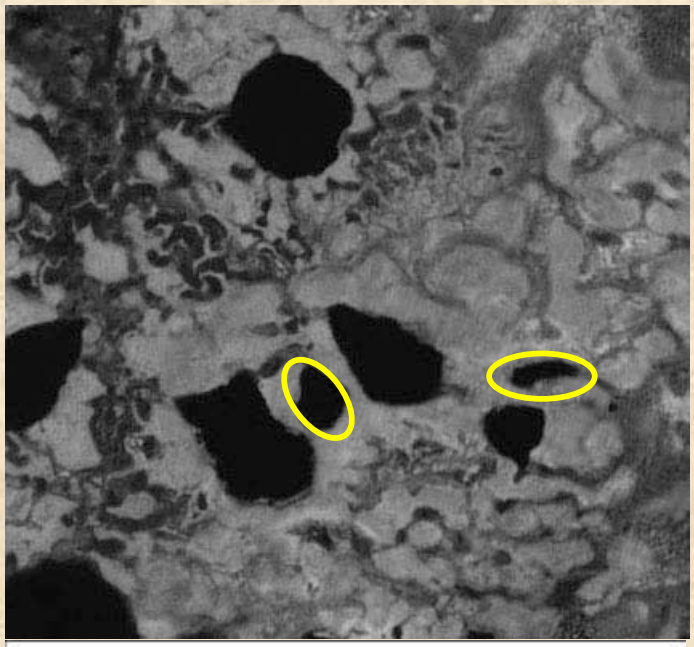
III lacustrine-alluvial plain

Depending on their size and geocriological conditions, lakes basins on this geomorphological level are classified as small-basin, medium-basin and large-basin types

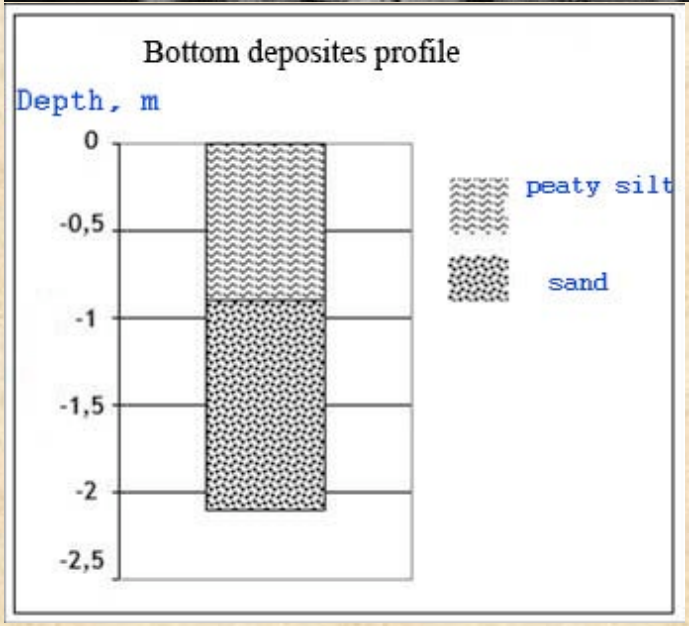


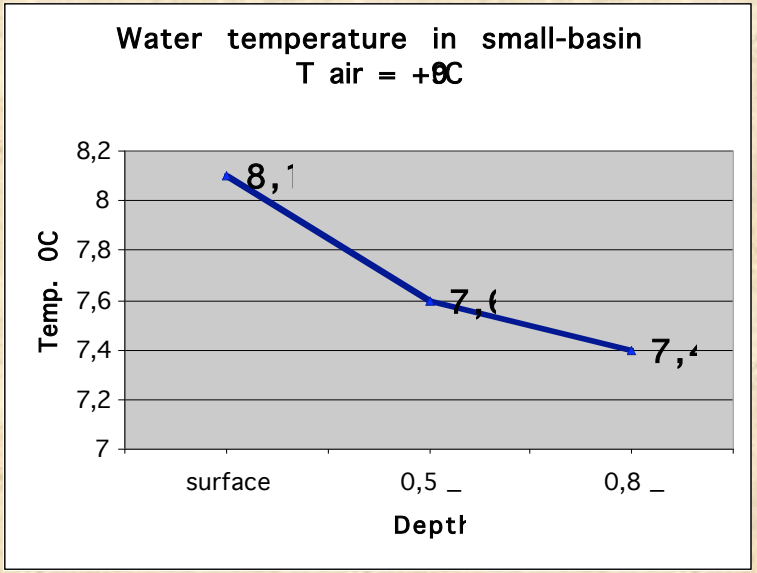
Small-basin type	Medium-basin type	Large-basin type

Small-basin lakes



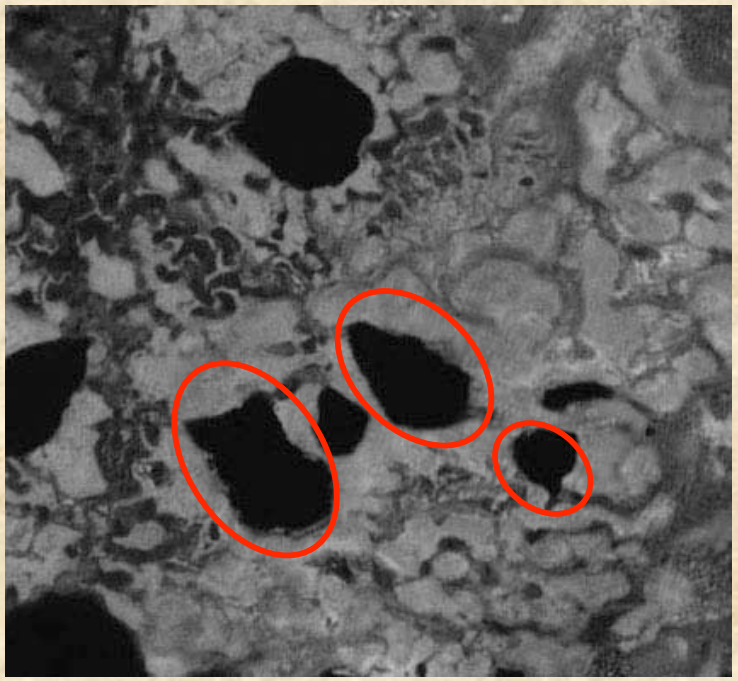
- **Small-basin lakes are those referred to subsidence lake basins having a diameter up to 0.1 km in the plane with either round or elongated shape.**
- **Depth: 0.1-0.8m**
- **Bottom deposites: peaty silts**



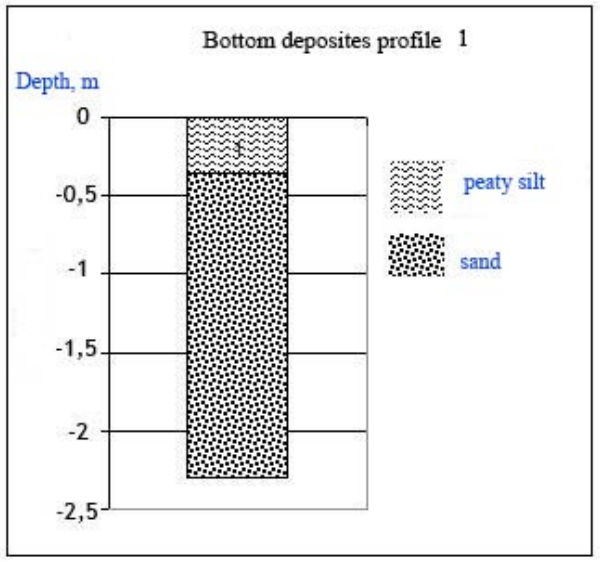


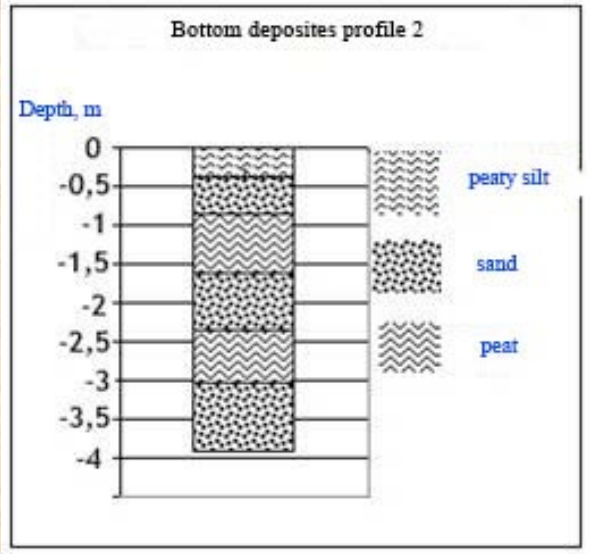
In the lake coastal area along the water-edge line sedge and sphagnum colonies will be formed with their further penetration into the floating mat of cloudberries and dwarf shrubs grown.

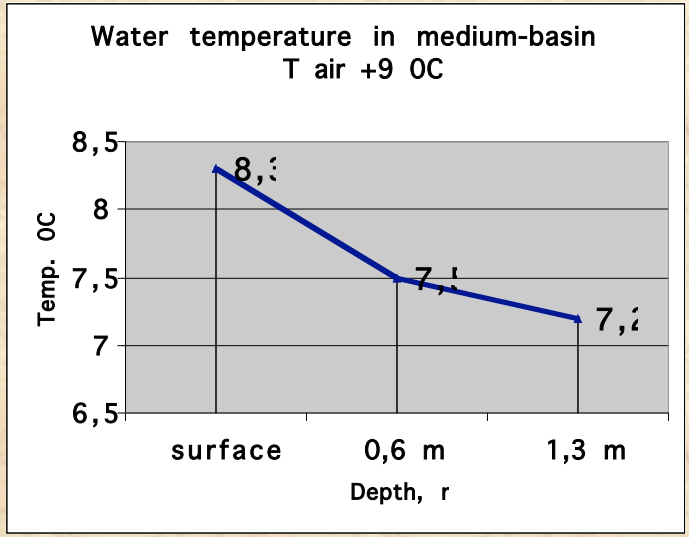
Medium-basin lakes

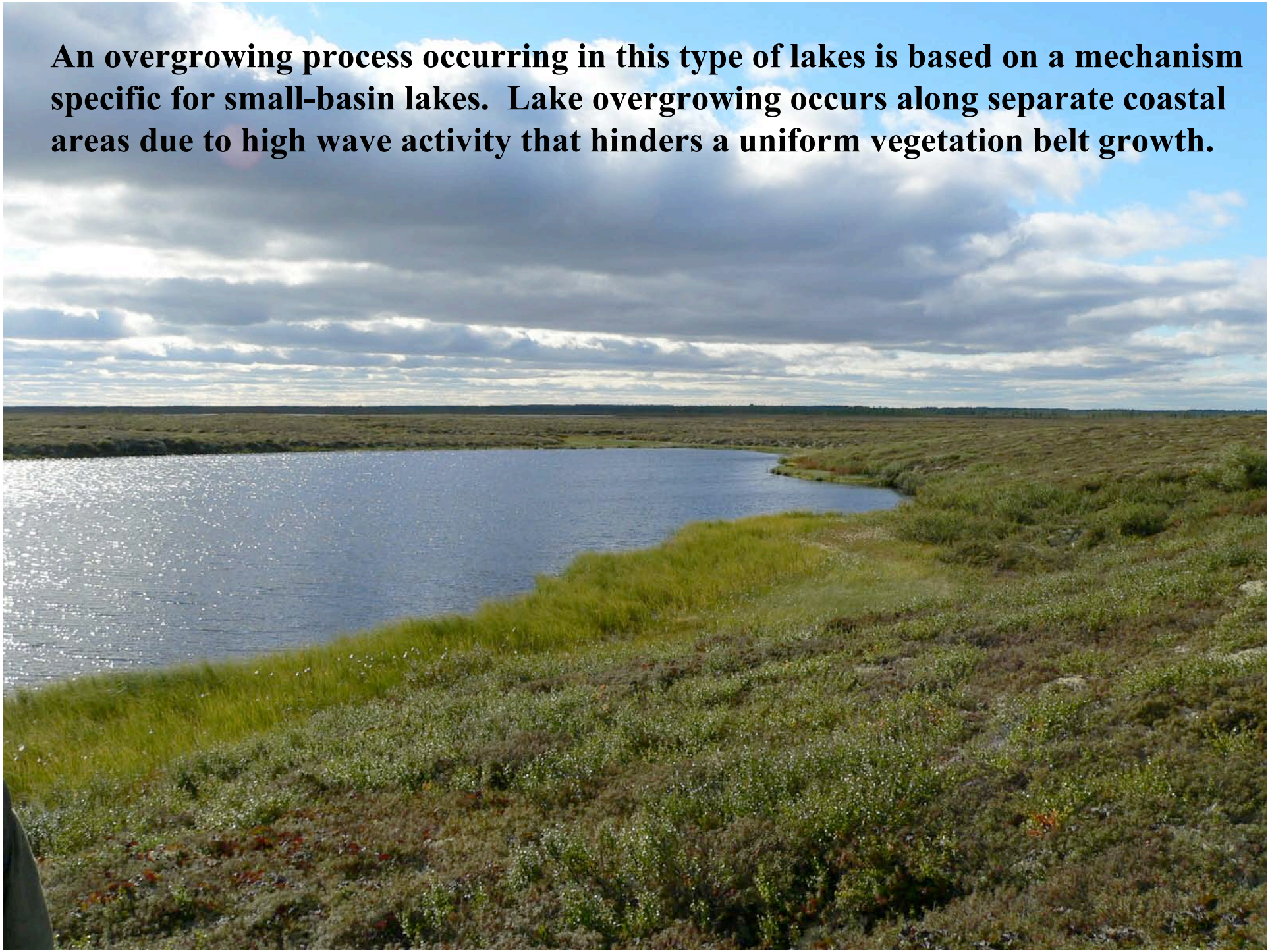


- **Medium-basin lakes are those referred to subsidence lake basins having a diameter of 0.1-1 km and various shape – from elongated to roundly shaped lakes**
- **Depth: 0.5-1.4 m The lake bottom is flat with multiple local minor depressions and recesses**
- **Bottom deposites: peaty silts and sands**

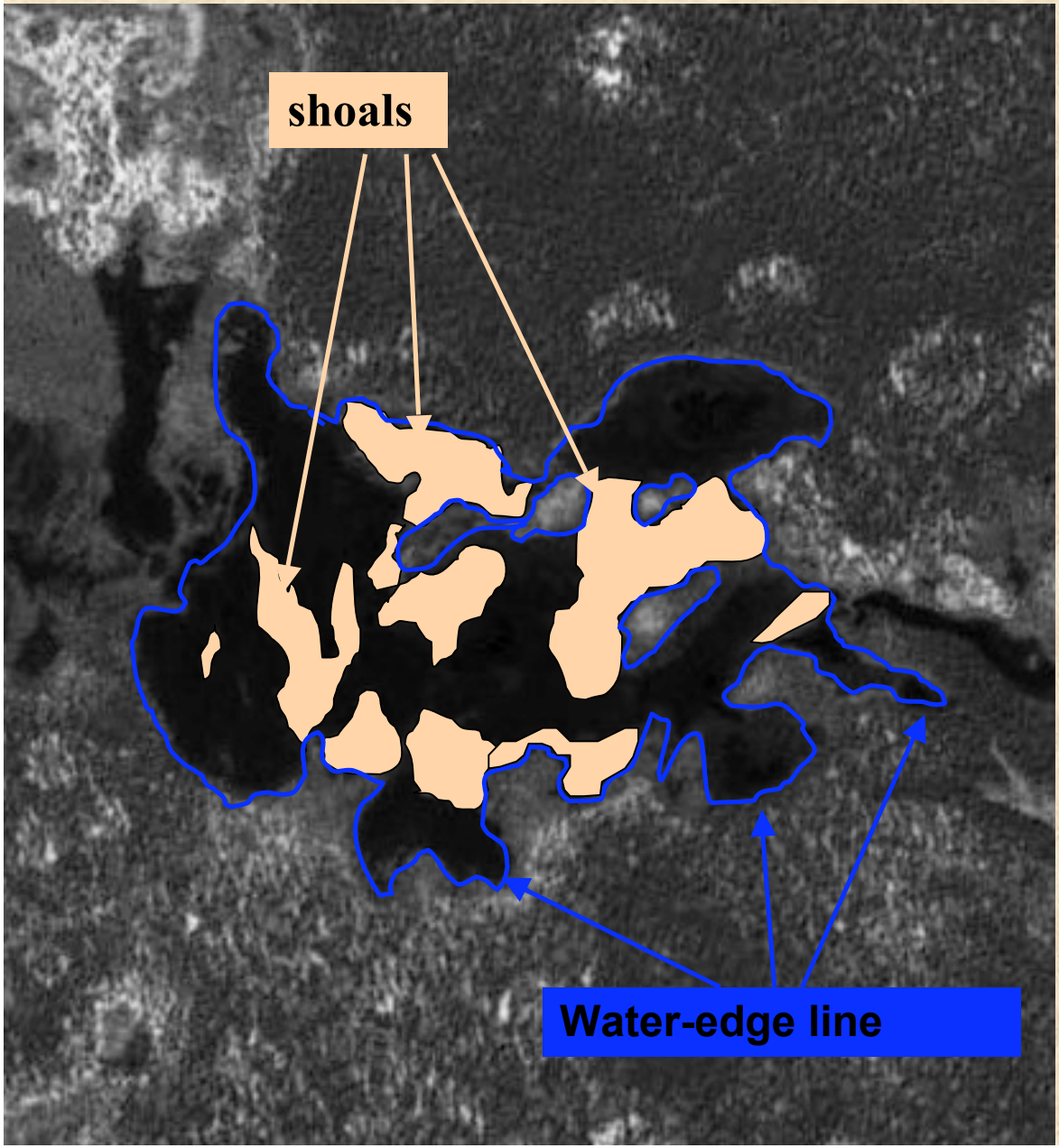






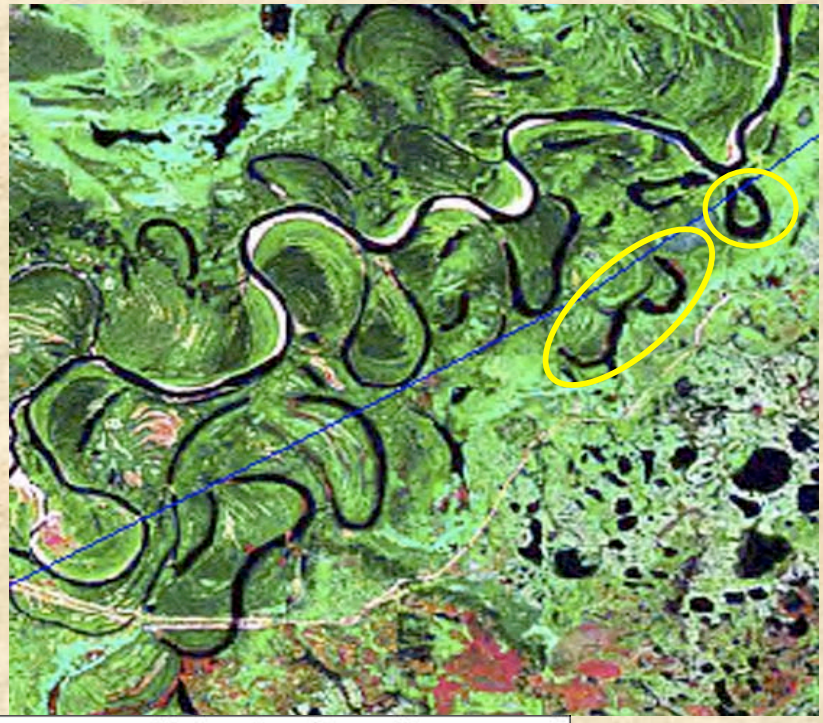

An overgrowing process occurring in this type of lakes is based on a mechanism specific for small-basin lakes. Lake overgrowing occurs along separate coastal areas due to high wave activity that hinders a uniform vegetation belt growth.

Large-basin lakes

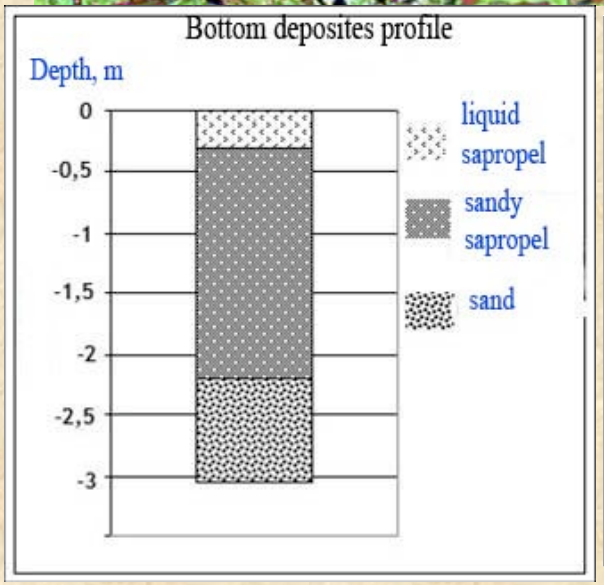


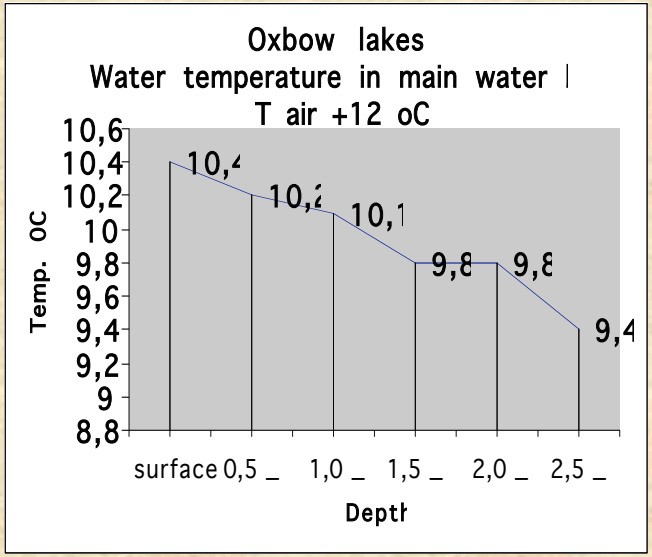
There were no field studies done in 2007 for large-basin lakes, still based on the results of materials of satellite imagery translations many large-basin lakes might be assumed to originate as a result of junction of several small lakes. The above might be proved by an irregular shape of these lakes having an abundance of shoals jutting out into the lake from the coastal side and numerous narrow coves running deep inland and separated from the main water body by spits and shallows; they are detectable with the use of satellite imagery interpretations.

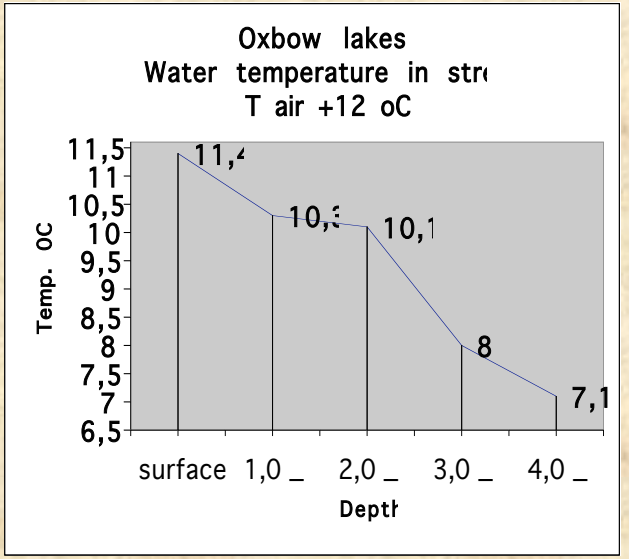
Oxbow lakes on the flood-plaine of the Kheigiyakha river



- These lakes are crescent-shaped
- Depth: 0.3-6.5 m
- Bottom deposites: are composed of reddish-brown silts (sapropel) with flaky structure at the surface and viscous and oily by touch at a depth of 0.4 meter. A thickness of bottom mud deposits in the near-the-floating mat area is 2.2 meters



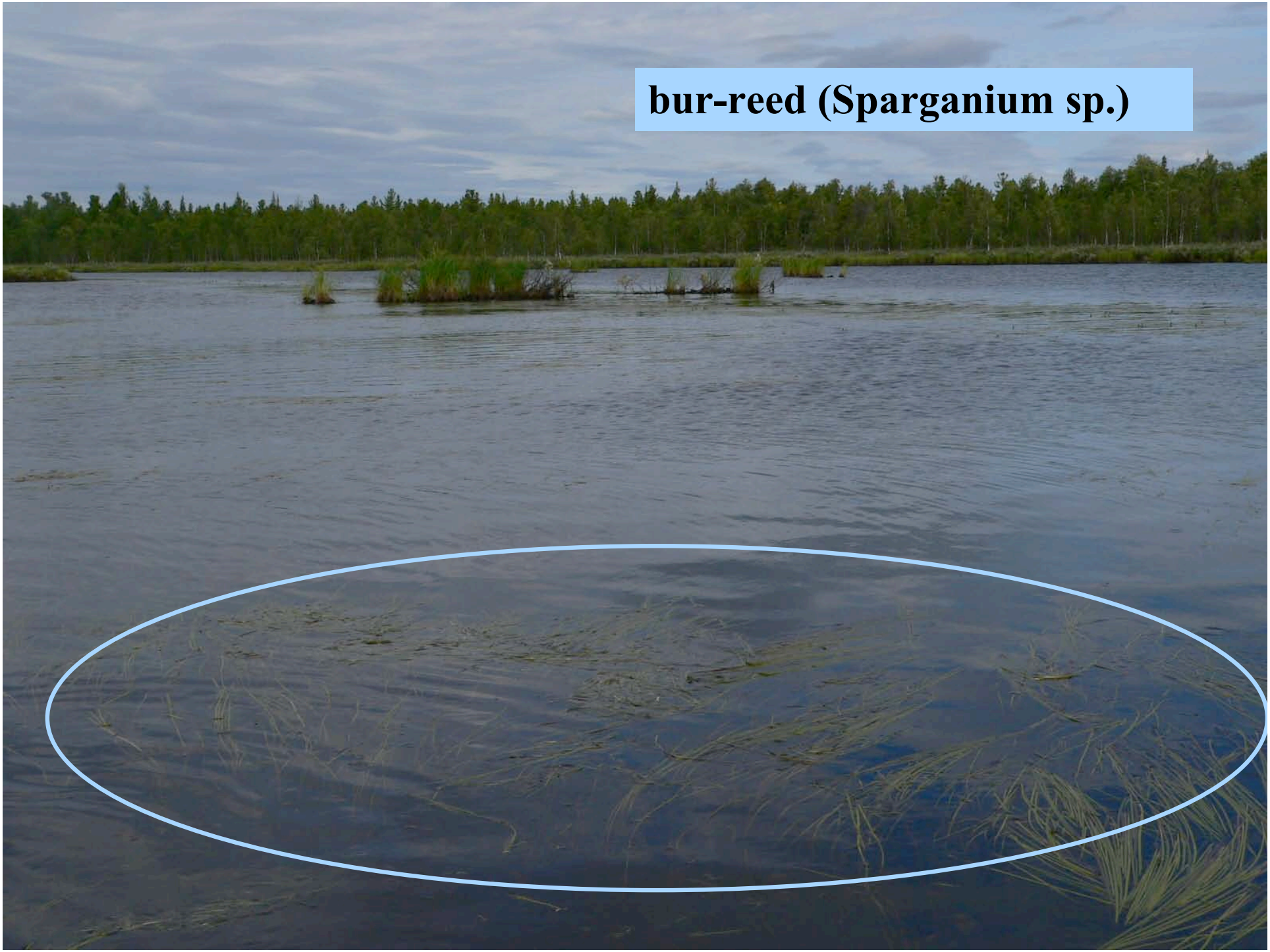




The lakesides undergo a process of intense growth of a floating mat consisting of cowberry (Comarum palustre), willow, sedge and moss with the silt serving as a growth medium.

As for streams, wild calla (Calla palustris) has an evident impact on the process of floating mat formation.


bottlebrush (Hippuris vulgaris)


bur-reed (Sparganium sp.)


bladderwort (Utricularia sp.)

Small yellow pond-lily (Nuphar pumila) has been found to grow in one of the lakes, the species that is not common for this sub-zone

II alluvial terrace of the Nadym river

- **Lakes on this geomorfological level are presented by round-shaped subsidence basins. A diameter of this type of lakes is 0.1 to 0.2 km.**
- **Depth:**

a. < 2 m

b. >2 m (to 9m)

- **Different lake overgrowing patterns have been found in the course of lake investigation of II alluvial terrace**

An overgrowing process in shallow lakes is the one described by A.P. Tirtikov, with the succession of stages as follows: buckbean (Menyanthes trifoliata); buckbean and sphagnum; cotton-grass and sphagnum; sedge and sphagnum; and dwarf shrub and sphagnum bogs (the current stage)

In deep lakes an overgrowing process is limited by poorly developed belt composed of sedge (Carex) and bur-reeds (Sparganum).

Thanks for your attention