

MODELING OF CHLOROPHYLL CONCENTRATION FOR NOVOSIBIRSK RESERVOIR (SOUTH OF THE WEST SIBERIA)

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ABSTRACT:

In the recent decades, concerns regarding the state of the environment have increased as human induced pollution affects not only the functioning of ecosystems, but also the quality of life. Clean water is essential to sustain human life, but it is in danger of contamination from various pollutants. Indeed, lakes and rivers are large ecosystems containing a large diversity of flora and fauna that need to be protected. In this paper, in situ data from the Novosibirsk reservoir on Southwest Siberia (180 km long, 1070 km² water area) are used to evaluate the water constituent estimations. The reservoir was designed in 1957 mainly as a source of hydropower but it also serves as a source of drinking water. Excessive algal blooms in summer limits the intake of reservoir water for the water supply system; hence, real-time data about the algal development in this reservoir is vital. The objective of the study is to validate MERIS lake water processors, that allow the retrieval of water quality parameters, using in situ data from Novosibirsk reservoir. Interpretation of MERIS/Envisat data is done in conjunction with a survey of chlorophyll concentration that serves as indicator of phytoplankton development. Due to the significant heterogeneity of observed biological elements, a more detailed zoning of the reservoir is required; the research is planned to be continued along this line.

TOPIC: Remote sensing applications

ALTERNATIVE TOPIC: Remote sensing applications