# B05-O11

## THE EXPERIENCE OF UAV'S USE FOR ECOSYSTEM MONITORING ON THE SOLOVETSKY ISLAND (WHITE SEA)

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Currently, unmanned aerial vehicles (UAVs) have begun to firmly occupy a niche in various spheres of human activity. The successful use of UAVs in military areas contributed to their widespread use for civilian purposes. They find their application in urban planning, environmental monitoring, oil and gas pipelines remote control and etc.

Many years of experience in the use of remote sensing data allowed to quickly adjust the data that can be obtained by the UAV in geographical research. Especially important are the tasks of environmental monitoring. In the Arctic region we focused on the studies of island ecosystems, the main objective of which is the conservation their of biological and landscape diversity.

In the Arctic from the standpoint of large-scale mapping, the use of unmanned aerial vehicles is the most effective tool for monitoring and remote data collection on the state of ecosystems. Despite the large number of problems solved with the help of UAVs, their scientific application in Russia lags far behind international experience.

The aim of this work is to explore the possibility of unmanned aerial vehicles for monitoring island ecosystems on the example of the Solovki archipelago in the White Sea.

We focused on the following tasks:
- Monitoring of the coastline;
- Mapping of the fire situation;
- Analysis of landfill location and the impact of household waste on the environment;
- Monitoring and bird count in ornithological studies.

For the above tasks the use of satellite images with high and very high spatial resolution gives poor results comparing to the data obtained with UAV's.

Results of research on the above areas are presented as ultrahigh spatial resolution data, analytical maps of ecosystems and a methodology for the research with UAVs.