MAPPING OF CATASTROPHIC EVENTS IN FOREST WITH THE USE OF REMOTE SENSING

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Abstract

Remote sensing is a tool which may be used for monitoring and mapping of different phenomena observed within forest. Satellite images are especially useful when catastrophic events appear.

In Polish condition remote sensing have been used for monitoring and mapping of:

- forest fires,
- defoliation caused by insects,
- forest decline due to acid rains.

The use of satellite data in forest fire management may be useful for:

- assessing forest fire risk and hazard,
- monitoring of fires,
- evaluation of damage and losses,
- monitoring of recultivation, regeneration and reforestation.

Images taken by NOAA-AVHRR, Landsat, SPOT, ERS and Cosmos have been found to be useful for these purposes.

Damage caused by acid rains manifested widely in mountain regions have been monitored with the use of satellite data since mid 70. Heavy polluted and declined forest in the Sudety Mountains have been mapped several times with the use of Landsat MSS, TM and SPOT images.

Pine forests infested by insects in north and central parts of Poland have been monitored and mapped with the use of Landsat, SPOT and Ikonos data.

Different satellite images together with GIS facilities proved to be the efficient tool of mapping of forest catastrophic events.