Use of linked data in preventing forest fires

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Introduction: The spatial data which is usually applied has greater value than the data which is not used. Except in financial, the data can also be expressed in social context. The social value of the data is more important and is essential when the data is successfully used in managing and preventing disasters. Its results are valued in the number of protected lives, private properties, homes, etc. The connection and sharing of spatial data between the state institutions is ongoing on a daily basis, but the emergence of the national spatial data infrastructure (NSDI) significantly changed the perception of the way the exchange can be realized. Quality and adequate law regulation is an essential prerequisite for implementation of contemporary data sharing. The discovery services is realized on the geo-portal through the national metadata catalogue. The NSDI members can create metadata using metadata editor. For the users, metadata is key element for finding data.

Materials and methods

Results: The key element of successful protection, prevention and risk management, is the connection of geospatial data between institutions, which contributes in making decisions based on real time information.
- hotspots from the satellite SEVIRI on every 15 minutes and have a spatial resolution of 3x3 km.
- hotspots received from the satellite MODIS on every 10 hours with spatial resolution of 1x1 km.
- vegetation dryness map and fire index map on the national geo-portal.

These hotspots are potential sources with the greatest possibility of forest fire, which is important information for preventing it. Listed data from the CCM is linked to the data sets for settlements, hydrographic network, geographical names, and digital model of the terrain, which are published by the AREC. This linked data provides real time information, identifying location, and is good basis for making decision for well-timed intervention.

The geo-portal is based on the concept of “linked data” which is a relatively new concept, specifically in geographical context. The concept of “linked data” is based on using particular identifiers, standardized and defined as a string of symbols which identify abstract or physical source.

Conclusions

The sharing and connection of spatial data through the national geo-portal significantly lowers the time needed to obtain the information. Except of the quick access to the data, the institutions which use the national geo-portal also have these following advantages:
- data is available in any time,
- the data is quickly founded by using metadata,
- data is available from any place,
- simple administrative procedures for using the data sets,
- the data is transparently presented,
- the data is accurate and updated.

Acknowledgements
- Agency for Real Estate Cadastre (AREC)
- Center for Crisis Management (CCM)

Literature cited
- Aspect of preliminary activities in the function of supporting NSDI-FIG Working Week 2011
- Law on National Spatial Data Infrastructure of Republic of Macedonia (Official Gazette 38/14 and 106/16)
- NSDI Strategy for Republic of Macedonia