

GMES operational capacity workshop
25 – 26 March, 2010, Sofia, Bulgaria



EO for watershed management in FYRO Macedonia - case study

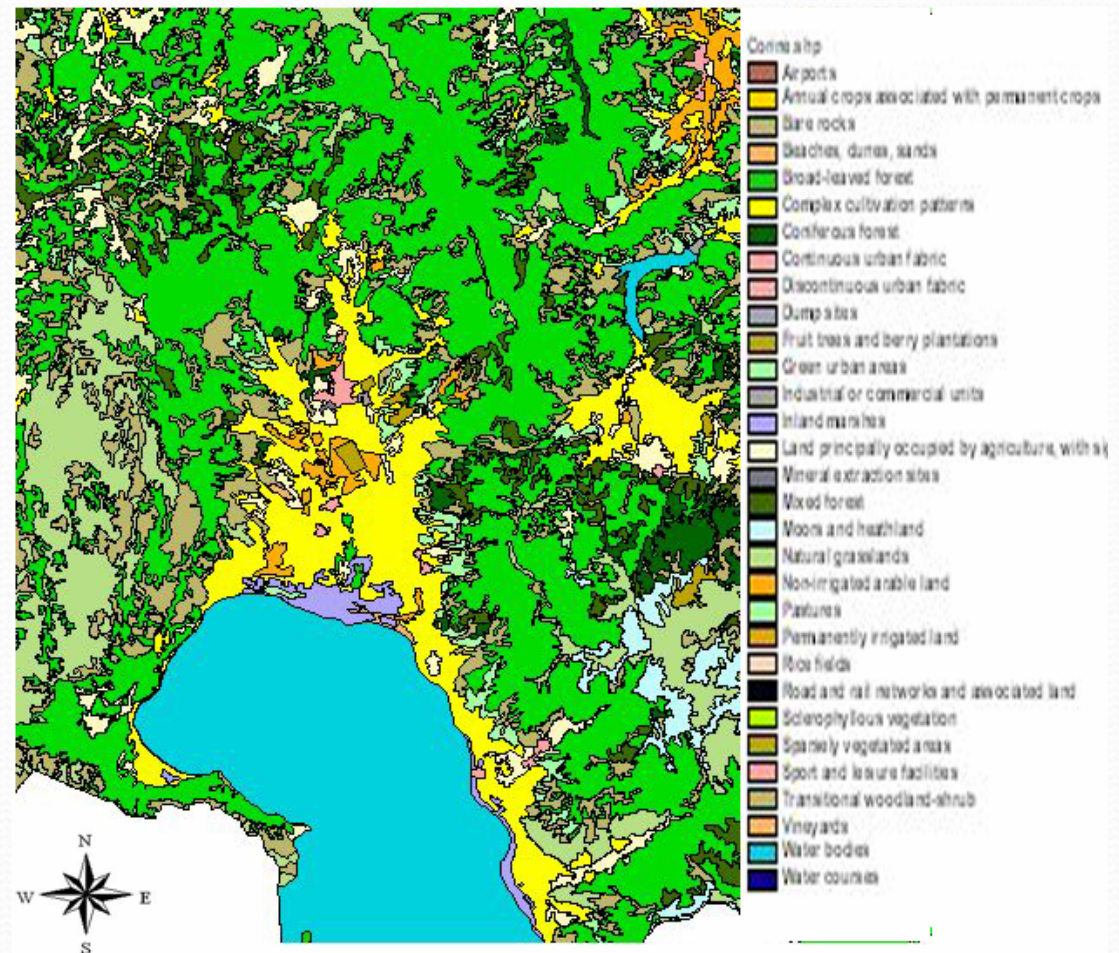
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Project: Development of Prespa Lake Watershed
Management Plan,
RF. 50/2009, Contract No. 31/2009

- The transboundary Prespa Lake basin is considered to be an ecosystem of global significance and has been identified as one of Europe's major trans-boundary “ecological bricks”. The entire Prespa region hosts unique habitats and species that are important from both European and global conservation perspective.



- The region is also a huge agriculture center for production of apples. Therefore, the pressures on the environment are immense.



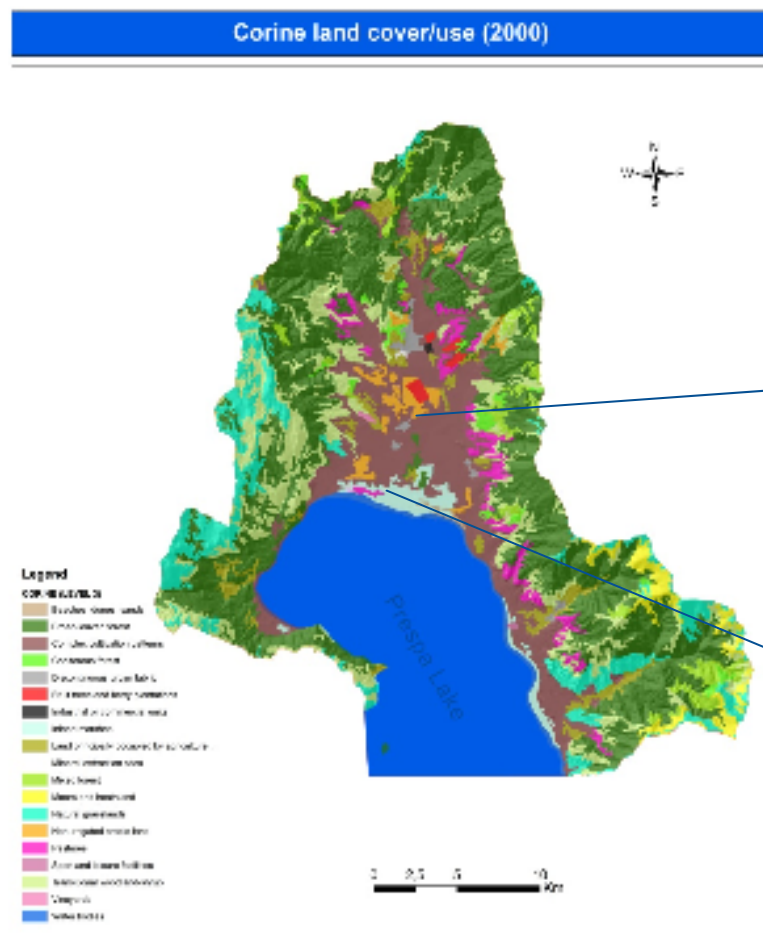
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- In order to assess the current situation the establishment of good monitoring system is essential. The use of Earth Observation is the best for assessment of the situation on the field. Several aspects are inspected in order to perceive the interdisciplinary aspect of the problem.



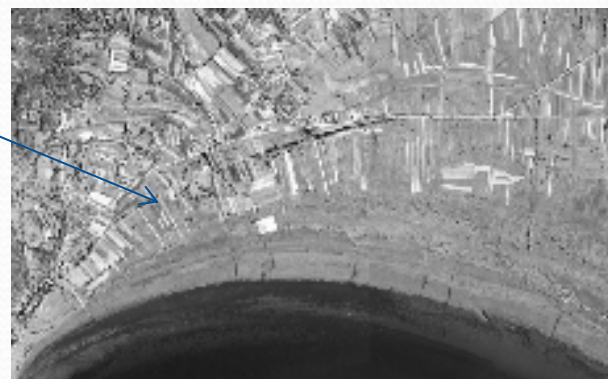
Assessment of the basic environmental and relief parameters

- land cover
- river network
- irrigation infrastructure

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- For the land cover the existing Corine land cover map is used as starting point. Next the most critical land cover classes are inspected in larger detail using aerial and satellite imagery; here as very important land cover class is the identification of the non-point source pollutants (apple orchards). This is also very important because of the establishment of the water consumption needs.

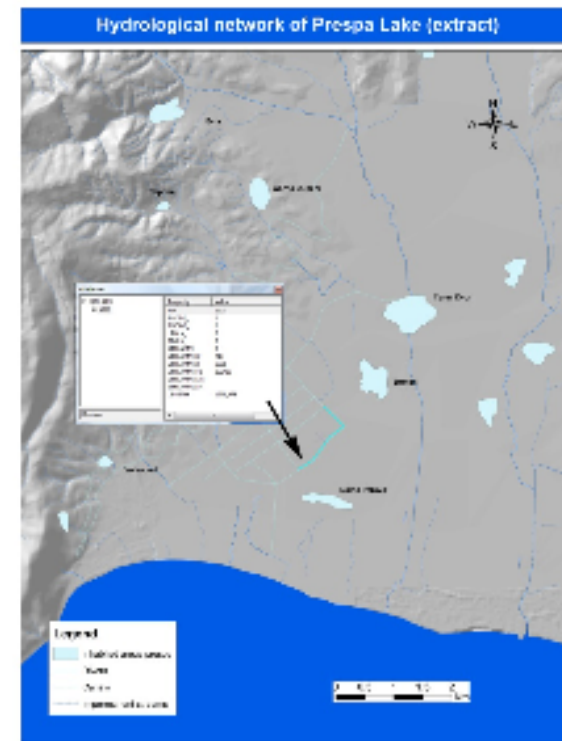
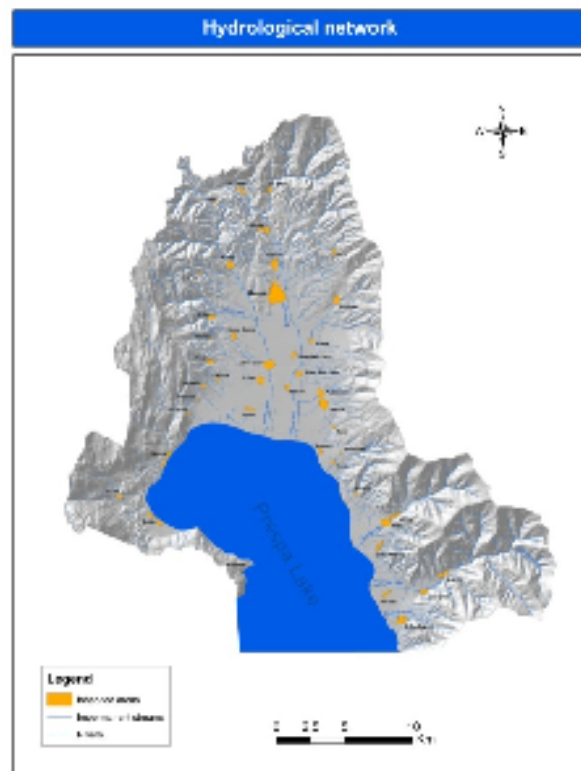


Landsat



Aerial imagery
(resolution 0,5 m)

- The irrigation infrastructure was mapped from the aerial images and the quality of the network is assessed. This is not important only for the irrigation but also in case of floods for drainage of the water.



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- At the end an in-situ monitoring network is established in order to assess the quality of the water of the lake and the main tributaries.

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- The recent increase in the availability of different imageries brings the EO based methodologies in main view. The future of the land cover mapping and environmental feature extraction in general is also going in this direction. With the advent of the new programs of the EU, like GMES, is going to increase the demand for different imagery and this demand is going to improve the quality of the imageries on one hand and decrease the cost on the other hand.