



Institute for Technology and Life Sciences

**Attempt to application of SWAT model
in lack of exact data situation in southern Poland**

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Content

- Introduction
- Materials and methods
- Results
- Conclusions



Attempt to application of SWAT model in lack of exact data situation in southern Poland



- Include remote sensing data
- Take place in boundry region
- Help solving local problems

Problem – water management

- Poland is in Europe one of the countries with smallest water resources
- WFD – need to be implemented
- Low amount of data
- Problems with good management
- Modeling as a solution?



Modeling

- in Poland still not so popular
- relatively quick results
- money savings
- helps in decision process

but:

- problems with getting the data
- accuracy of results





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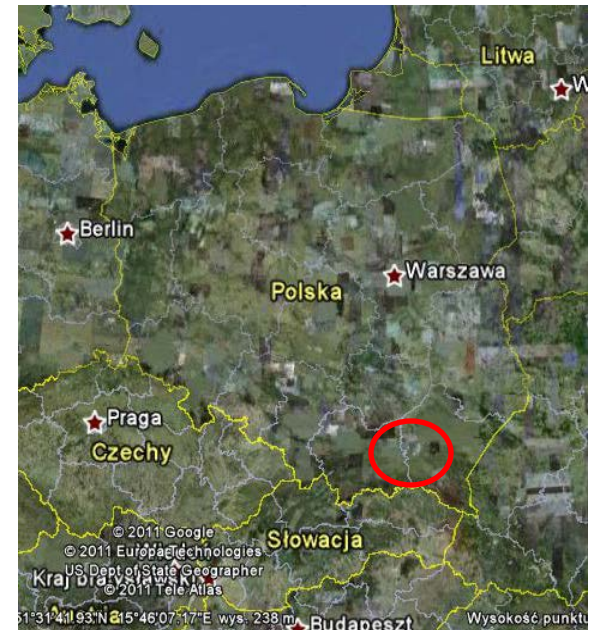


Objective

Test accuracy of the results with low resolution
data on relatively small catchment

Test watershed

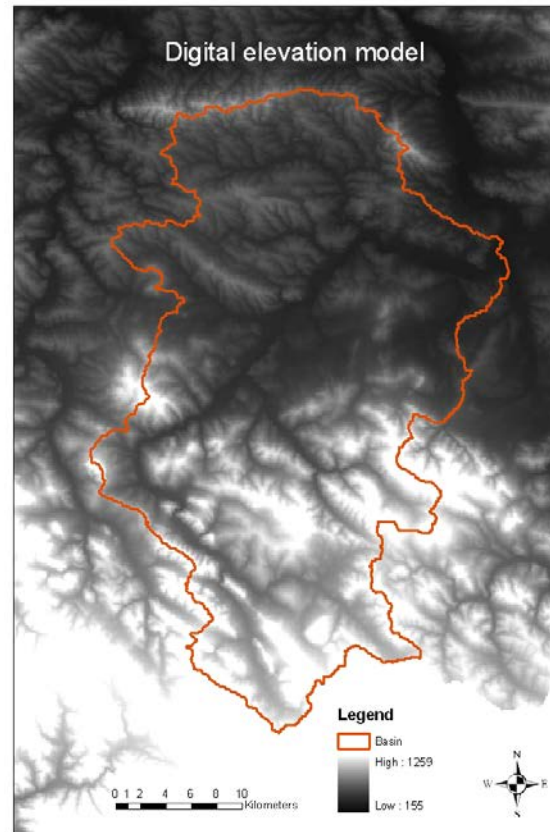
- Ropa river catchment
- southern Poland, close to Slovakia border
- about 1000 km²
- upper part is a part of Natura 2000



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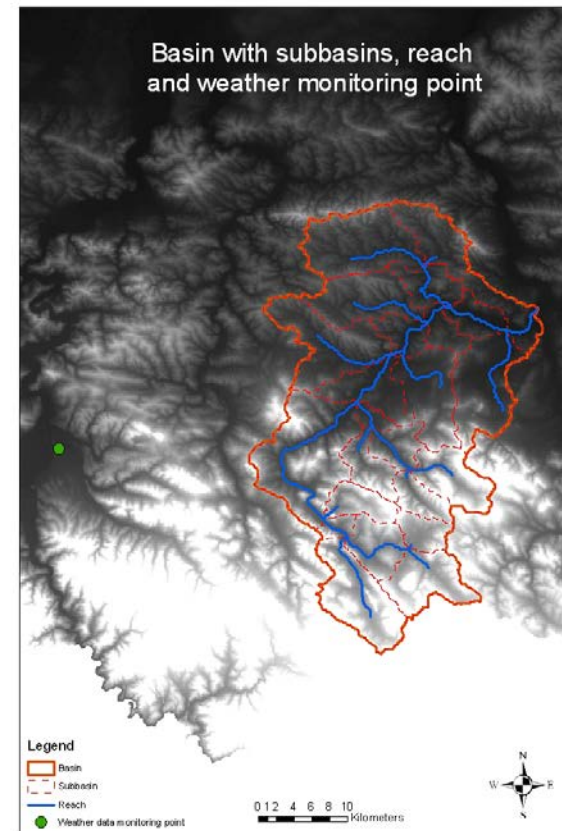


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Data

- remote sensing – DEM, land use,
- soils – recalculated properties to fit american classification
- meteorology – free data from outside of watershed

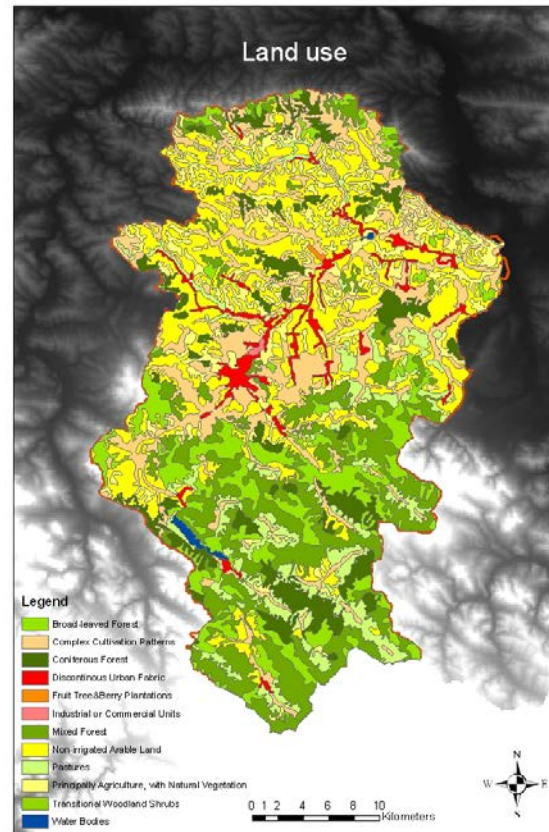




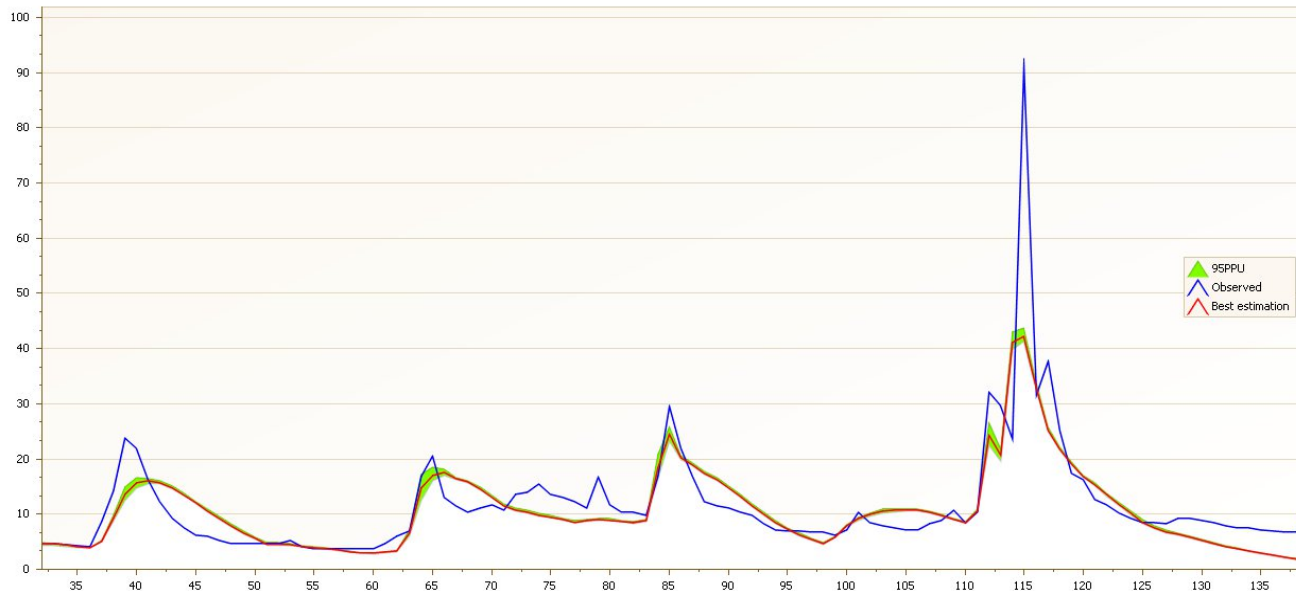
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Calibration results – quantity of water



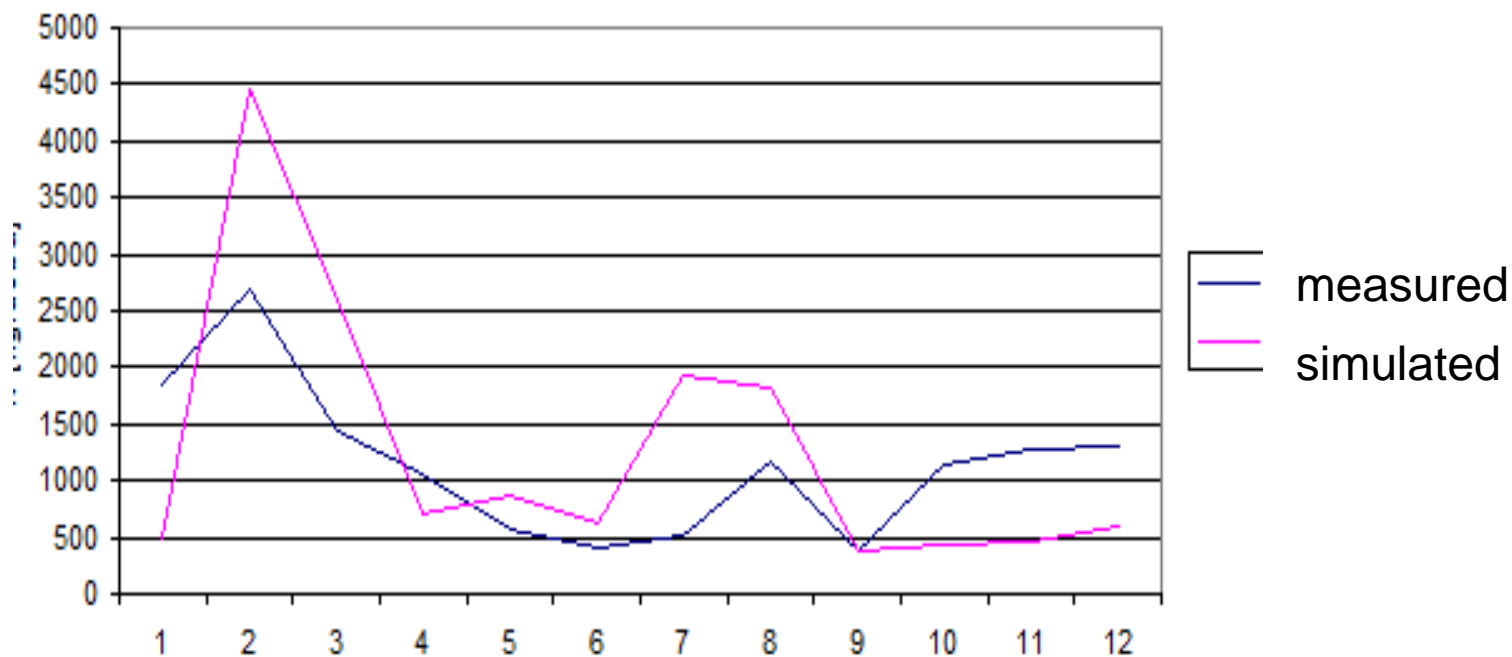
- some water rising are missing (lack of meteorological data from catchment area)



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Calibration results – quality of water Nitrogen load



Conclusions

- Correct water balance
- Model suitable for quantity analyses
- Quality analysys on reliable level
- Shows potential as a tool for water management
- Cautious approach to the final results



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Thank you for attention

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