

## BMP's models for drought risk reduction and drought risk pricing

Development of drought monitoring model was the base element for further research and testing the best solutions as Best Management Practices (BMP's) for each of sectors (agriculture, water supply, water management, energy). All models were developed through implementation of results of *drought monitoring model development and fusion of satellite and in-situ & WRF data based models*. Also including drought prognosis module and conclusions from user needs assessment and from process of dissemination.

Within the Project the objective was to develop 2 types of models of drought risk:

### **REDUCTION** and **PRICING.**

**The first type drought risk reduction models assumption was to create:**

- fast and reliable service for drought hazard assessment for reduction of drought risk on water system and water resources management;
- support energy production, including system cooling in case of appearance drought risk;
- monitoring model, which will support estimates of yield decrease of agricultural crops and impact on forest industry.

**The drought risk pricing model was dedicated to insurance sector in order to:**

- calculate insurance rate and testing assumptions for index insurance due to drought;
- analysis of the results of relations between water deficit and yield reduction;
- estimate of crop damage due to drought conditions and correct pricing of insurance rate.

Both types of models were successfully developed and its implementation and analysis provide very optimistic possibilities for further dissemination and implementation for each of developed models. Two of models risk reduction models and also pricing model are successfully implemented by stakeholders:

model of crop yield reduction for the Central Statistical Office

model of drought risk reduction for the State Water Holding Company "Polish Waters"

risk pricing model for the one of the polish insurance company

And two models are in focused on the current monitoring of drought results and individual assessment within each enterprise (BMP's):

BMP's for drought risk reduction in water supply services

BMP's for energy sector - comparative analysis of energy production and drought intensity

The next bookmarks describe the BMP's models.

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