

# PROJECT KICK-OFF CONFERENCE

## Polish-Norwegian Research Programme

Warsaw - 23 April 2014

Title: **Sustainable water strategy by means of tight-knit approach to water cycle in river catchment**

Acronym: **CRIS**

Consortium:

**Institute for Ecology of Industrial Areas,  
Katowice - Project Promoter** (*Instytut Ekologii  
Terenów Uprzemysłowionych w Katowicach*)

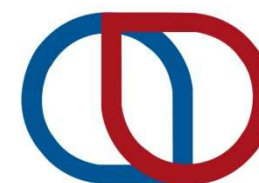
**Institute of Environmental Protection –  
National Research Institute** (*Instytut Ochrony  
Środowiska – Państwowy Instytut Badawczy*)

**Norwegian Institute for Water Research**  
(*Norsk institutt for vannforskning*)



Project duration: **September 2013 – April 2016**

Project budget: **3 949 717 PLN**



**POLISH-NORWEGIAN  
RESEARCH  
PROGRAMME**



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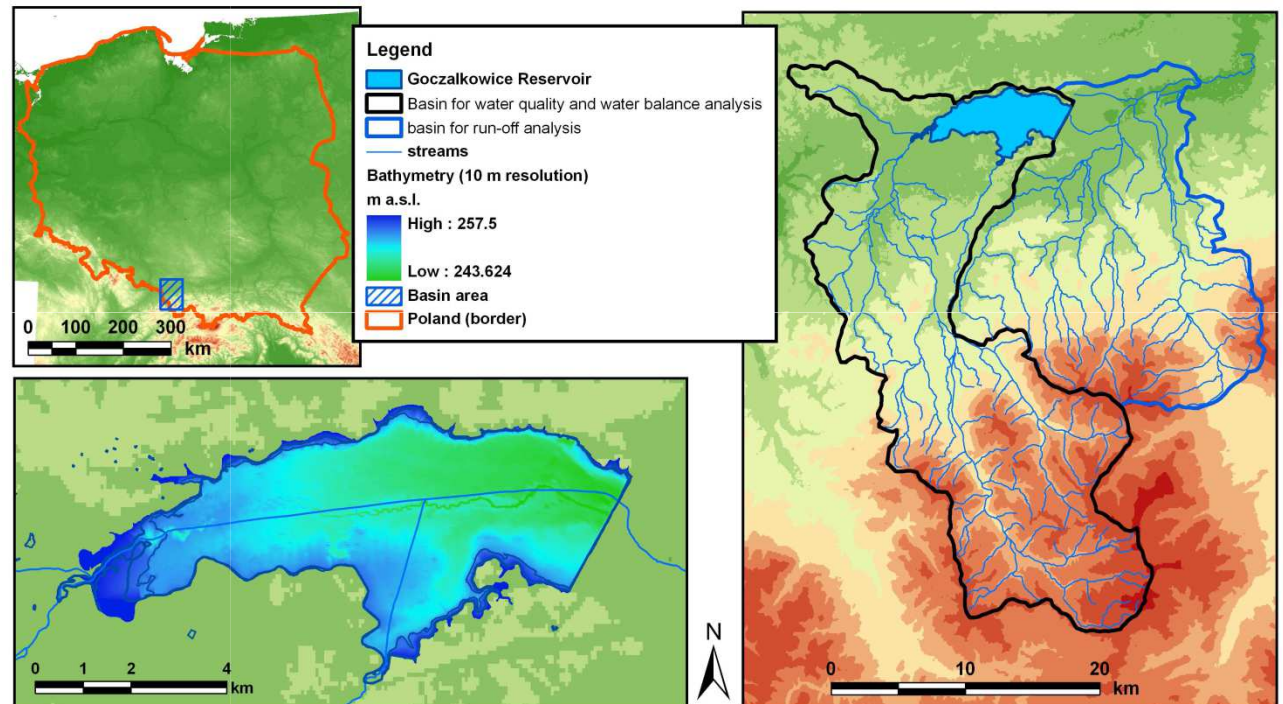


# CRIS - Objectives

**The main objective** is to develop the information service supporting the river basin management in a context of the Water Framework Directive implementation.

CRIS is aimed at identification of data and services needed by end users (units responsible for: water resources management, water supplies and public safety). These Users shall be finally provided by the information on:

- detailed real-time distribution of the precipitation (with short-term forecasts),
- real-time and forecasted flow rate and water level in streams,
- water quality status (with short forecasts),
- threats to the water resources,
- how different river basin scenarios can affect the water balance and water quality.





# CRIS – (expected) Results

## Short-term results:

- Needs for data and for information services identified in the case study river basin.
- Operational information system adjusted to needs of end-users.

## Long-term results:

(indirect outcomes resulting from the use of information system)

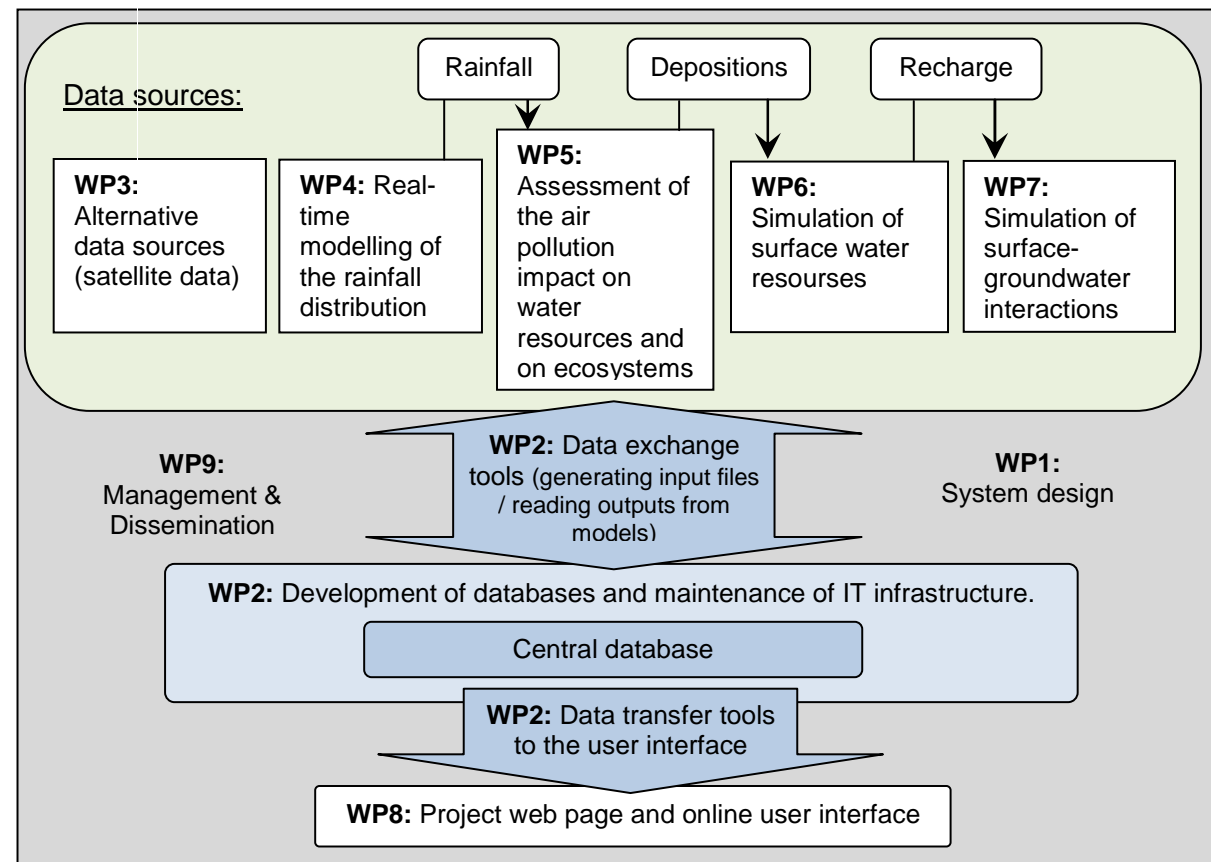
- More effective use of surface water intakes (choosing these not affected by intensive run-off or algal bloom).
- More effective use of groundwater intakes (e.g. as a consequence of the identification of areas affected by polluted recharge).
- Identification of relations between the water quality and basin management practices / land use types / meteorological conditions.
- Increased effectiveness of the flood protection systems (thanks to the flow rate forecasts).



# CRIS - Methods

The information system will be composed of:

- **central database** (storing all possible to collect static and real-time monitoring data including meteorological radar data and satellite based products),
- **set of advanced modeling tools** simulating the real time the status of the whole water cycle (WRF, CALMET-CALPUFF, SWAT, GEMSS, HEC-RAS, MODFLOW)
- **online user interface** accessible using a web browser and providing all project's outcomes in a form of reports or visualisations.



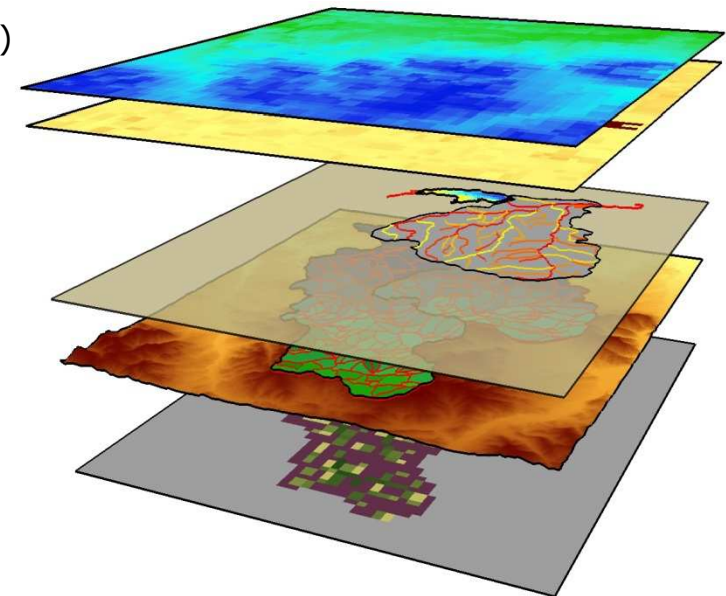
WP4: Rainfall forecasts (WRF model)

WP5: Depositions (CALPUFF model)

WP6: Surface runoff (HEC models)

WP6: Surface water quality and dynamics (SWAT + GEMSS models)

WP7: Groundwater quality and dynamics (MODFLOW model)





# CRIS – More information

[cris.ietu.katowice.pl](http://cris.ietu.katowice.pl)

- More information about the project
- CRIS information system coming soon

**Sustainable water strategy by means of tight-knit approach to water cycle in river catchment**

Project CRIS opening conference Katowice, 20 November 2013

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### Case study area

The developed information system will be tested **in part of the Mała Wisła River basin** starting from its spring, through the Goczałkowicki Dam Reservoir to the estuary of the Biała River. [The Mała Wisła River catchment area](#) is situated in the south of Poland (Śląskie and Małopolskie Voivodeships).

**Legend**

- Goczałkowice Reservoir
- Basin for water quality and water balance analysis
- basin for run-off analysis
- streams
- Bathymetry (10 m resolution) m.a.s.l.
  - High : 257.5
  - Low : 243.624
- Basin area
- Poland (border)

*The analysed part of Mała Wisła river basins*

Logos: IOS-PIB, NIVA, Norway grants, Polish-Norwegian Research Programme, Narodowe Centrum Badań i Rozwoju

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