Stormwater Management: European Research Projects

with contributions from IPS

Heiko Sieker
IPS: Actual Research Projects

• European Research Framework-Programme
  • 5th FP: DAYWATER
  • 6th FP: SWITCH

• Interreg-projects
  • NORIS - No Rain in Sewers
  • UWC - Urban Water Cycle
  • Raindrop
• Daywater: schwedish „dagwaten“ = Storm water
• Objective: Development of an Adaptive Decision Support System (ADSS) for Stormwater Pollution Control
• Period Dez. 2003- Nov. 2005
• Budget: ~ 2.5 Mill. €
Daywater-Partner

Technical University of Denmark

Middlesex University, Großbritannien

TAUW, Niederlande

ENPC, Frankreich

Laboratoire Central des Ponts et Chaussées, Frankreich

Lulea Univ. of Technology, Schweden

Chalmers University of Technology, Schweden

Ing.-ges. Prof. Sieker, Deutschland

DHI Hydroinform Tschechische Republik

National Technical University Athens, Griechenland
The EU-Project Daywater aims at developing an adaptive decision support system (ADSS) for use by stakeholders involved in urban water management. The ADSS is a combination of simulation models, assessment tools, databases, guidance documents, road maps, etc.. presented and operating together on a web site or CD-ROM. Starting from an analysis of end-user’s experience on decision making in stormwater source control, the research will focus on the functional behaviour of structural and non structural best management practices (BMPs). Models will be developed for simulating pollution fluxes and assessing their possible control and fate within BMPs, and for assessing risks and impacts related to urban stormwater. The project is carried out by a multi-disciplinary research team and includes 14 end-users corresponding to European cities presenting various climates and organisation, where ADSS will be developed and tested.
Daywater – More information

• Website  www.daywater.org
• ADSS-prototype  www.daywater.cz
• Final Daywater-Conference  November 3-4th, Paris
SWITCH

EU-FP6th-Project
SWITCH

• SWITCH: Sustainable Water management Improves Tomorrow's Cities Health
• Status: Projekt is selected!
• Application
  • Period  5 Jahre (Evaluation after 18 month)
  • Start  in 2005
  • Budget  24.7 Millionen €
  • Partner  34
SWITCH-Partner

- Netherlands
  - UNESCO-IHE Institute for Water Education, Delft (Lead Partner)
  - IRC International Water and Sanitation Centre, Delft
  - Wageningen University
  - ETC Foundation, Leusden
- UK
  - Middlesex University, London
  - University of Birmingham
  - Ove Arup Environment
  - Natural Resources Institute
  - Water, Engineering and Development Centre, Loughborough University
- Germany
  - Technical University of Hamburg-Harburg
  - ICLEI (Europe) – Local Governments for Sustainability, Freiburg
  - Technical University of Berlin
  - Ingenieurgesellschaft Prof. Dr. Sieker mbH, Hoppegarten
- Ayuntamiento de Zaragoza, Spanien (EXPO 2008)
  - University of Lodz, Polen
  - Ecole Polytechnique Fédérale de Lausanne, Schweiz
SWITCH-Partner (2)

- Near East
  - Mekorot Water Company, Tel Aviv,
  - Hebrew University, Jerusalem
  - House of Water and Environment, Palestine
  - Institute of Graduate Studies and Research, Alexandria, Egypt
- China
  - Ministry of Construction, Beijing
  - Institute of Geographical Sciences and Natural Resources Research, Beijing
- Africa
  - United Nations Human Settlements Programm, Nairobi, Kenia
  - IWMI International Water Management Institute, Accra, Ghana
  - Kwame Nkrumah University of Science and Technology, Ghana
- South-America
  - Prefeitura Municipal de Belo Horizonte, Brasilien
  - Universidade Federal de Minas Gerais, Belo Horizonte
  - Centro Inter-Regional de Abastecimiento y Remoción de Agua, Colombia
  - Universidad Nacional [UNAL], Bogota
  - IPES – Promoción del Desarrollo Sostenible, Lima, Peru
The SWITCH Integrated Project aims at the development, application and demonstration of a range of tested scientific, technological and socio-economic solutions and approaches that contribute to the achievement of sustainable and effective urban water management schemes in ‘The City of the future’ (projection 30-50 years from now).
SWITCH: Project-idea

Towards sustainable and effective integrated Urban Water Management in the City of the Future

RTD: Research & Technological Development
SWITCH: Work Packages

- WP1: Overall activities
- WP2: Urban Water paradigm shift
- WP3: Urban water supply & use
- WP4: Storm Water Management
- WP5: Water use in sanitation and waste management
- WP6: Urban water environments and planning
- WP7: Governance and institutional change
### SWITCH: Demonstration and study sites

<table>
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<th>Demonstration Cities</th>
<th>The major Global change indicators per demonstration city</th>
<th>City characterisation</th>
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<td>Demonstration Cities</td>
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<td>Zaragoza, Spain</td>
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<td>Tel Aviv, Israel</td>
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| Beijing, China P.R. | ● ● ● ●  |         |         |         |         | ● ● ● ● |
| Alexandria, Egypt   | ● ● ● ●  |         |         |         |         | ● ● ● ● |
| Accra, Ghana        | ● ● ● ●  |         |         |         |         | ● ● ● ● |
| Belo Horizonte, Brasil | ● ● ● ●  |         |         |         |         | ● ● ● ● |

| Study sites         |         |         |         |         |         |         |
| ‘Ruhrgebiet’, Germany | ● ● ● ●  |         |         |         |         | ● ● ● ● |
| Bogota, Colombia    | ● ● ● ●  |         |         |         |         | ● ● ● ● |
| Cali, Colombia      | ● ● ● ●  |         |         |         |         | ● ● ● ● |
| Lima, Peru          | ● ● ● ●  |         |         |         |         | ● ● ● ● |
| Nanjing, China      | ● ● ● ●  |         |         |         |         | ● ● ● ● |

| Bogota, Colombia    | Low     | Low     | TropicaL |
| Cali, Colombia      | Low     | Medium  | Tropical |
| Lima, Peru          | Low     | Low/Medium | Arid |
| Nanjing, China      | Medium  | Medium  | Land     |
Interreg

- Programme for sustainable development in the European regions
- Application phase 2000 – 2006
- Projects have to be finished until 2008
- Budget 5 Billion €

3 Parts
- Interreg A: cross-border cooperation
- Interreg B: transnational cooperation
- Interreg C: interregional cooperation
NORIS

- Interreg IIIB NorthSeaRegion
- Lead partner: Skövde community, Sweden
- Partners: Hannover (D), Iper (B), Bradford (UK), Wieringer Meer (NL), Chalmers University (S)
- No Rain in Sewers
- Innovative technologies for reducing storm water runoff in sewer systems
- Start 2005 – 2007
Urban Water Cycle

- Lead-Partner: Waterschap Regge & Dinkel, Niederlande
- Partner: Hansestadt Hamburg (IPS Consultant)
- Goal: Optimization of urban water cycle
• Interreg III B Cadses (2005-2007)
• Lead-Partner: Karvina, Czech Republic
• Partner: Kupferzell, Acharnai (Athens), Trencin (SK)
• Goal: Optimized master planning for storm water