Sustainable Urban Development Planner for Climate Change Adaptation

Contribution to FP7 Call Objective

- Call objective ICT-2009-6.4: ”ICT for environmental services and climate change adaptation”
- Target Outcome: ”ICT for a better adaptation to climate change”

Partners & Resources

- 9 partners (2 environmental and 4 IT plus 3 authorities)
- Duration 36 months starting January 2010, overall resources ~300 MM

Why SUDPLAN?

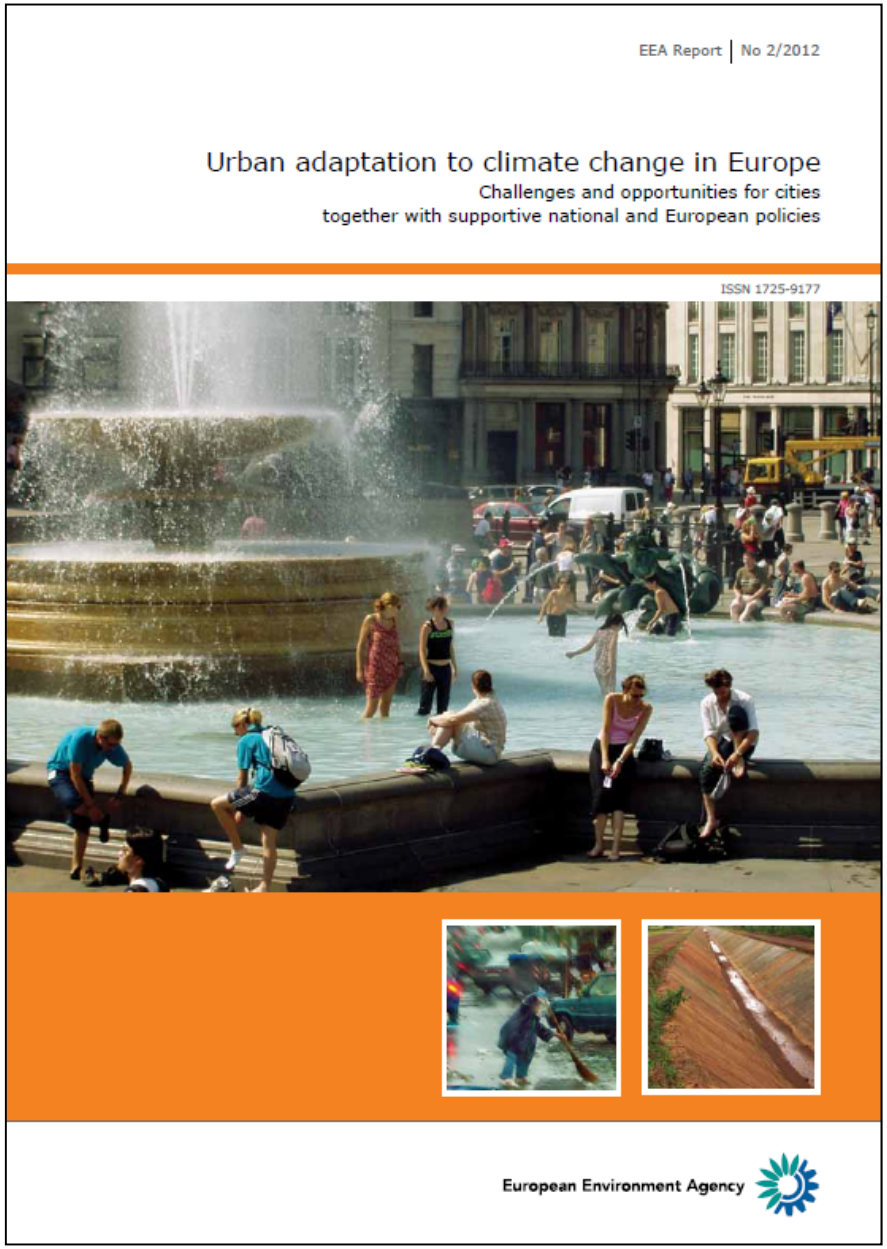
SUDPLAN

- Climate is changing more rapidly than mankind has experienced before and Europe will be warmer. There will be regional differences with extended drought-affected areas, but also an increased frequency of heavy precipitation events and flooding.

- The negative effects of climate change can be limited by adaptation procedures. Urban infrastructure and residential environments should be planned with the climate change impact taking into consideration. SUDPLAN supports the urban planning towards more sustainable cities.

More voices….

SUDPLAN



Quotations from EEA report:

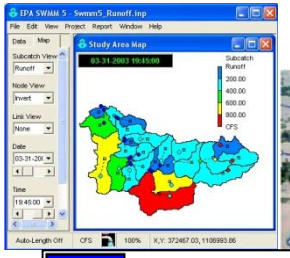
- Around three quarters of Europe's population live in urban areas
- Differences in urban design and management make cities vulnerable in different ways, even those situated in the same geographic region
- Acting now ensures adaptation in time and at lower cost

SUDPLAN concept: To seamlessly integrate into one tool…

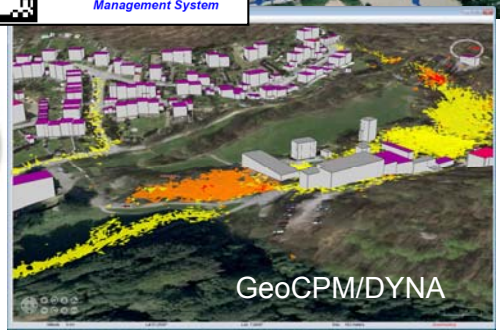
SUDPLAN

- An urban planner suggests a new infrastructure project

- It's design and impact is evaluated by running local models under present climate and environmental conditions



Airviro



- Through consultation of publically available climate projections, in reports or as part of climate services offerred, the planner has to deduce how the local model results will be modified by a change in climate and environmental conditions

InfraStructure for the European Network for Earth System Modelling
is-enes

CIRCLE 2
CLIMATE IMPACT RESEARCH
& RESPONSE COORDINATION
FOR A LARGER EUROPE
EU FP7 ERA-NET

- Support for integration of user's local models into the SUDPLAN tool

- A series of climate scenarios for Europe accessible for people outside the climate modeling community

- A set of statistical and dynamical models offering downscaling ("locally improved information") of future:
  - precipitation
  - water runoff, CSO discharge, river discharge
  - air quality

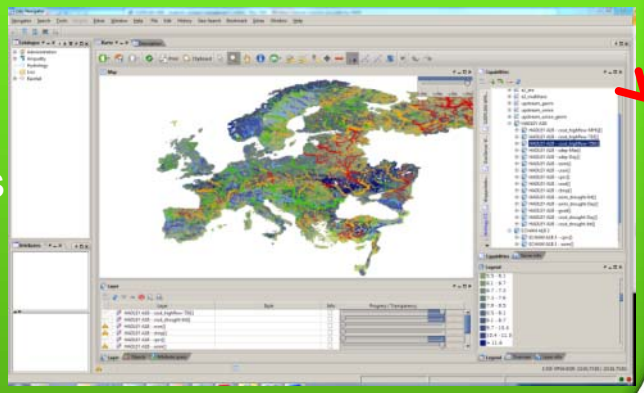
- Advanced visualisation tools

SUDPLAN system overview

SUDPLAN

Scenario Management System

Scenarios
Execute models
Visualisation



Common Services

- Climate Scenarios
- Rainfall Downscaling
- Hydrological Downscaling
- Air Quality Downscaling

City user (*Stockholm*)

City user (*Prague region*)

City user (*Wuppertal*)

City user (*Linz*)

New cities using SUDPLAN

Partners

1. Swedish Meteorological and Hydrological Institute
2. Austrian Institute of Technology
3. cismet GmbH
4. Czech Environmental Information Agency
5. Apertum IT AB
6. Deutsches Forschungszentrum für Künstliche Intelligenz
7. Stockholm Uppsala Air Quality Management Association
8. City of Wuppertal
9. Technische Universität Graz