

## SIMULATION OF ADAPTATION MEASURES TO CLIMATE CHANGE: URBAN DRAINAGE



### PROJECT START DATE AND LENGTH

October 2007 • 24 months

### Information:

[projet@ouranos.ca](mailto:projet@ouranos.ca)

514 282-6464

[www.ouranos.ca](http://www.ouranos.ca)

### CONTEXT

Anticipated climate changes will have an impact on precipitation frequency and intensity. In Southern Quebec, intensity increases of 10% to 20% are predicted for rain events that currently occur on average once every two years. The service level provided by urban-drainage infrastructure, already ageing and often overloaded, could be affected by these new climate data.

### OBJECTIVE

Assess the effectiveness of various climate-change adaptation measures on the urban-drainage network, in particular source control measures aimed essentially at reducing the load on the drainage network.

### EXPECTED RESULTS

- Improved understanding of climate risks for southern Quebec's urban drainage networks, through hydraulic and hydrological simulations on a typical urban drainage basin.
- Assessment and comparison of alternative strategies to more traditional engineering solutions (such as modifying design requirements).
- Validation of a decision-support tool (analyses and methodological approach) to assess the cost/benefit effectiveness of various adaptation measures to climate change.

### PROJECT OVERVIEW

- The project is intended to assess how a segment of the City of Montreal's storm-drainage system reacts in a context of changes in the rainfall regime, by subjecting a pilot basin to forecast rainfalls and simulating adaptation measures (primarily source control measures).
- The project also seeks to characterize and compare adaptation measures, as well as related implementation constraints, performance levels, and setup and maintenance costs.

### PARTNERS

- Ville de Montréal
- Ministère des Affaires municipales et des Régions (MAMR)
- Ouranos
- Institut national de recherche scientifique (INRS) - ETE

### FUNDING

- MAMR / FMIR-2
- Ouranos
- Ville de Montréal

### TEAM

**Project Manager**

*Hervé Logé*

Ville de Montréal

**Researchers**

*Alain Mailhot* and *Sophie Duchesne*  
INRS-ETE

*Mohammed Osseyrane*

Ville de Montréal

*Hamid Baghdadi*, *Claude Desjarlais*  
and *Caroline Larrivée*

Ouranos