

Kennis voor Klimaat
Knowledge for Climate



Hotspot Mainport Schiphol (HSMS)

Introduction by hotspot coordinator Peter van den Brink

Midterm Review October 4th, 2012

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Hotspot Mainport Schiphol

AAS: Amsterdam Airport Schiphol (AAS).

LVNL: Air Traffic Control the Netherlands.

KDC: Resources for co-financing from LVNL come from the Knowledge Development Centre Mainport Schiphol (KDC). Representatives of KDC (e.g. KLM) are involved in some of the research activities in Hotspot Mainport Schiphol as well.

KNMI: Royal Netherlands Meteorological Institute

WUR: Wageningen University & Research Centre

TU Delft: Delft University of Technology



Why did Schiphol participate in KfC?

The airport is situated 4–6 m below sea level in the Haarlemmermeer, one of the most complex and vulnerable urban areas of the world. The airport and the surrounding area are vulnerable to changes in our climate. An accelerated sea level rise together with continuous land subsidence, periods of intense precipitation and drought and extreme weather conditions, forces Schiphol to investigate which adaptations are necessary to make the airport, its operation and the whole Schiphol region “Climate Proof”.



What are the important issues ?

Climate proofing Schiphol, now and in the future, requires knowledge on various issues that may be affected by climate change:

- On regional issues such as land-use, infrastructure, housing, air pollution, water management.
- On the local weather conditions at the airport which have a direct influence not only on the airport operation but also on the capacity, which is of vital importance for the position of Schiphol and is a limiting factor for a possible future expansion of the airport.

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Objectives Hotspot Mainport Schiphol

a. Regional issues

(HSRS01) 'Climate scan Schiphol region', exploratory study in 2009 coordinated by Province Noord-Holland.

After this quick scan to the most important consequences of climate change for the region, the province of Noord-Holland and water boards felt no urgency to participate in the KfC programme in addition to their existing activities and investments related to climate change adaptation.

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Objectives Hotspot Mainport Schiphol

Since the regional partners decided to continue their work on climate adaptation outside the Knowledge for Climate program, HSMS decided to focus further research in the hotspot on the impact of climate change on the operational system of Schiphol airport.

b. Operational system of Schiphol airport

A safe and sustainable operation of the airport in a future climate, requires the identification and quantification of changes in the frequency and intensity at which critical weather conditions at the airport will occur with sufficient accuracy.

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Objectives Hotspot Mainport Schiphol

Focus of research in Hotspot Schiphol Mainport is to optimize the contribution of meteorological services to a sustainable operation and reliable operation of Schiphol airport by 3 projects.

- **"WindVisions"** HSMS01: a monitoring system for cross-wind and visibility in the landing and take off course of airplanes ranging from the surface to about 300m height along the runway.
- **"Climatology and Climate Scenario's"** HSMS02: tailored information about the current local climate at the airport and the perceived changes in climate in the past decennia
- **"IMPACT"** HSMS03: new innovative model tools to improve with accuracy the effect that climate change has on the local critical weather conditions at the airport and to improve the quality of present and future weather forecasts (with high resolution).

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To be continued

The projects WindVisions (HSMS01) and IMPACT (HSMS03) were too elaborated to be completed in the 1st tranche of KfC. Therefore, the execution of these projects was divided in two phases. The second phase will be executed in tranche 2 of KfC by the consortium 'High-quality climate projections' (Theme 6).

In the next 2 presentations the project leaders of these two project, Albert Jacobs and Oscar Hartogensis, will tell you the results until now (tranche 1).

And finally Jan Sondij will give in his presentation a preview of the expected results of these projects in Thema 6

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