Weather has a large impact on aviation. Airport authorities, air traffic control and aircraft operators at Mainport Schiphol need relevant climate information for future operational, infrastructural and spatial planning and sustainability.

Questions regarding changes in temperature, wind direction and speed, gust, precipitation, heavy showers, winter-events, low clouds and reduced visibility have to be answered in a detailed and tailored level.

The relevant period should cover the years 1970 - 2040 with detailed climatological information and consistent climate change scenarios.

Improved application of climate information for future operational planning and long term spatial plans on Mainport Schiphol are answers to questions regarding the impact of climate change on Mainport Schiphol.

Mainport Schiphol and surrounding area are vulnerable to climate change. The airport is situated below sea-level in a complex and fragile urban area where fundamental changes take place in design and use of the region. To maintain its competitive position mainport Schiphol starts to anticipate on changes in weather and climate by formulating adaptation strategies, based on tailored climate information.

The project ‘Climatology and Climate Scenarios Mainport Schiphol’ will start early 2009. At first defining and producing of tailored climatological data on several parameters will form basic information for Mainport Schiphol. Consistent tailored climate scenarios will be ready in 2010.

The project will assess and publish expected (range of) changes in tailored climate scenarios with direct application of KNMI-06 scenarios (transformation tools).

Furthermore, expanded regional climate research and ongoing general research of global climate change will be applied.

In the process of detailing general climate scenarios to the mainport, several parameters will be combined. Combination of parameters requires expanding knowledge of changes in combined variability and trends in tailored weather parameters on a local scale.

Examples of relevant climate information are (average and extremes) parameters like temperature, wind, precipitation, heavy showers, winter-events, combinations of low clouds and reduced visibility.

In an increasing warmer climate rising temperatures reduce maximum take-off-weight of airplanes or lead to the need of increased runway-length.

Decreasing cold episodes are projections in KNMI-06 scenarios, changes in snow-cleaning-operations and de-icing needs are of significant importance implanting.

Increased heavy (thunder) showers activity like in August 2006 has direct negative impact on airport capacity, runway-safety and maintenance. KNMI research indicates a relation in a north-westerly airflow with warmer seawater along the Dutch west coast.

Changes in the general wind pattern are relevant for the runway-planning in the yearly user-plans. On longer term changes in the wind-climate might be significant for the airport-development of runways, its impact on the environment and on the spatial and infrastructural planning of the region.