

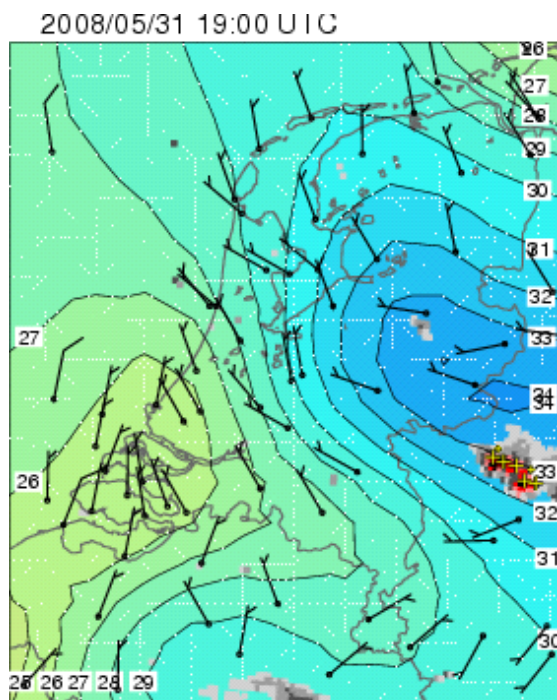
Theme: GNSS

Water vapor estimation with GPS at KNMI

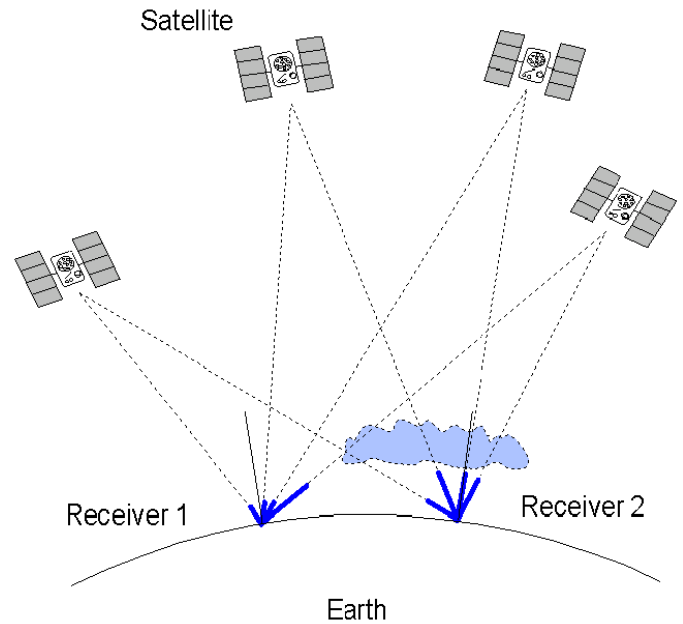
Background

The signal delay due to the Earth's atmosphere, estimated at a large number of permanent GPS stations, holds important information on the atmospheric water vapor content. The Royal Dutch Meteorological Institute (KNMI), together with the TU Delft, is using this information to improve numerical weather forecasting.

In particular the use of GPS data will improve short term forecasts of precipitation. A recent innovation is the estimation of slant delays from GPS data to derive the 2D and 3D water vapor field.



Map of Integrated Water Vapor content [kg m^{-2}] from KNMI



Objectives

During this project the student could stay at KNMI and use the GPS processing facilities at KNMI to study various aspects of the analysis procedures, compare GPS results with other meteorological instrumentation, and where possible make improvements in the data reduction procedure. The development of tools to present 2D water vapor fields to forecasters is another aspect of this work.

Obligatory committee members:

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