

Environmental Public Health Information Management System

The system is gathering, acquiring and analysing environmental public health data for Porsgrunn municipality, which is represented in a website and a mobile app.

The website can be found at environmentalpublichealth.azurewebsites.net or by scanning the QR-code.



Access to measured data
Investigate trends
Generate reports
Administrate the system
Measurement statuses



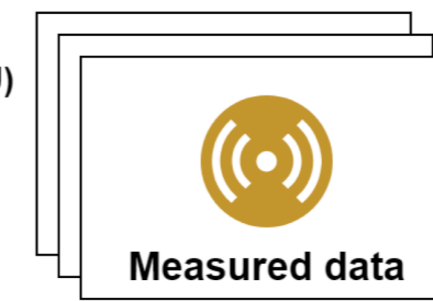
Web browser



Smartphone

Access to measured data
Investigate trends
Push Notifications
Measurement statuses

Air pollution(NILU)
Yr data
Etc..



Measured data



Server

Background

It is important for the government and companies to take measures for reducing emissions both locally and globally. The decision makers, for instance the government, need to be provided with good information regarding the topic. Citizens may also be interested in everyday pollution in their local environment, which for example will be helpful for asthmatic people who want to stay inside on days with problematic pollution levels. Today there are a lot of environmental data available, but they are typically spread around on different websites. By gathering available data into one solution, it would be easier to get an overview and read the available data. Therefore, USN has collaborated with Tel-Tek, Porsgrunn municipality and Telemark hospital-Department of Occupational Medicin to develop a prototype to make environmental data publicly available at Grenland area.

To solve the problem a website and a mobile app was made to display different pollution data. The system is designed to automatically gather data from external sources, but currently only air pollution data from NILU(Norwegian Institute for Air Research) is used.

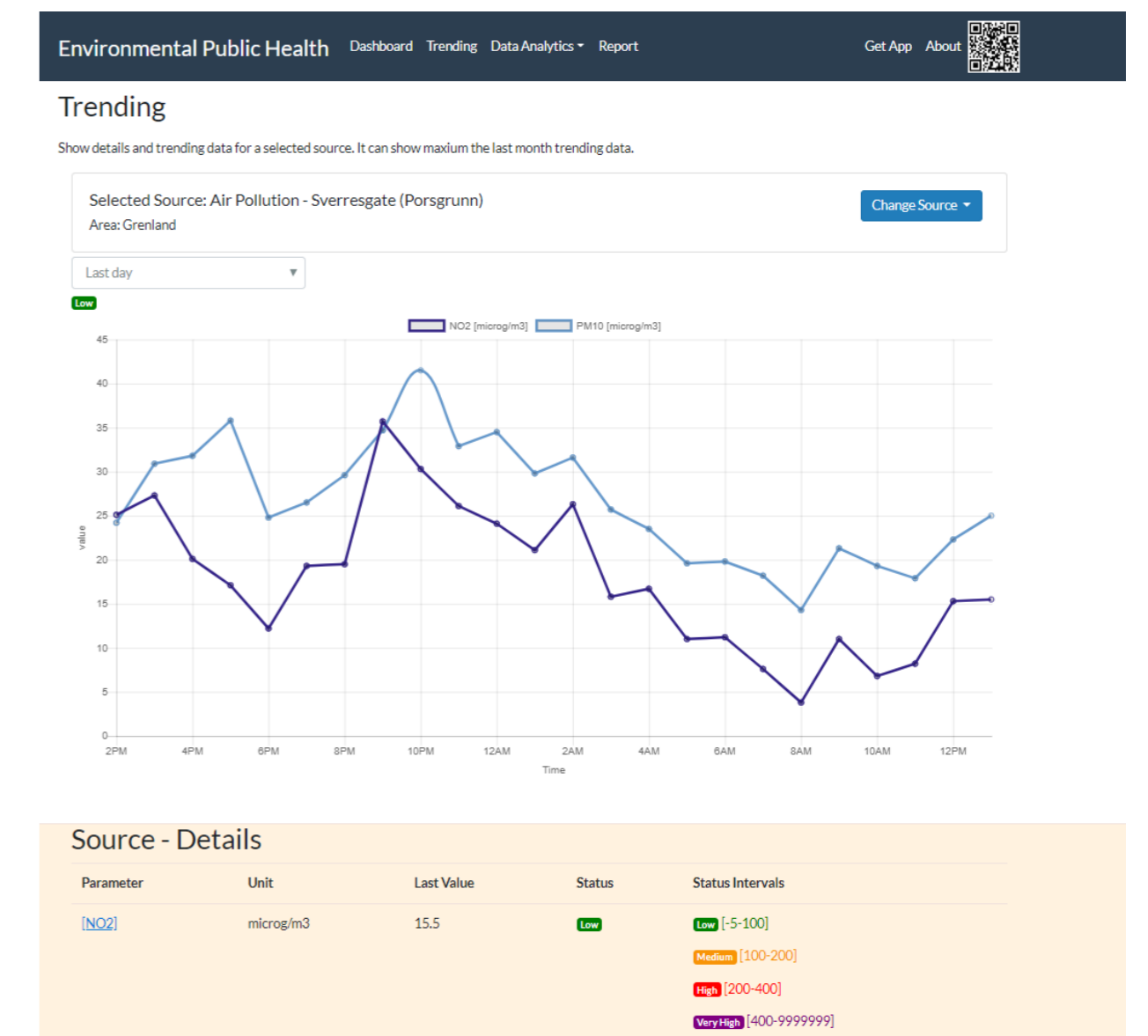
Dashboard

The most important information is displayed in the dashboard page, which act as the home page for the website. Each plot display the last day historical data for a source and corresponding parameters with associated measurements. The sources have a status field indicating the health of the measurements. In terms of air pollution this status will tell the users how polluted the air is, for instance "low", which indicates low air pollution.



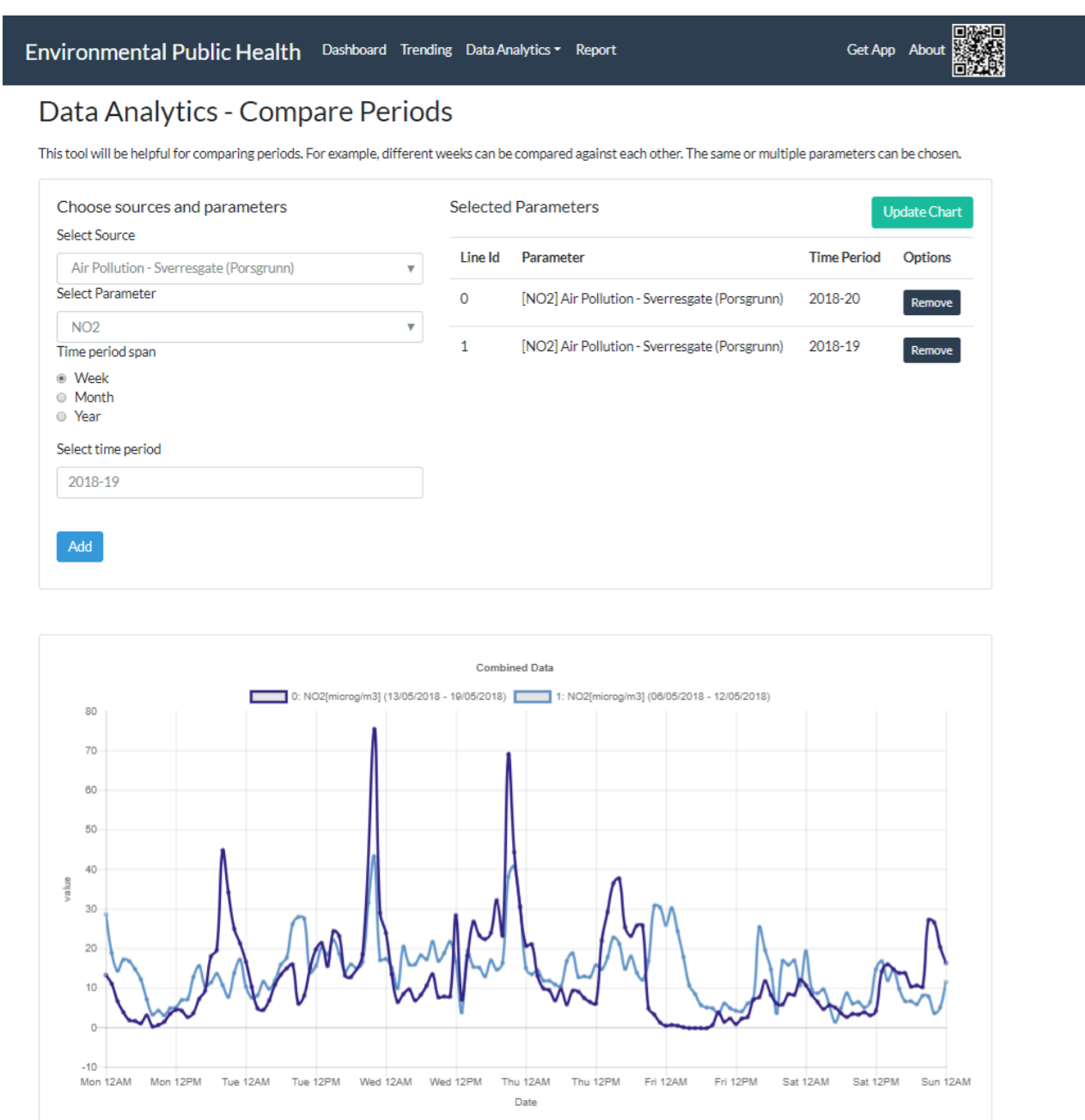
Trending/Details

A dedicated trending/details page was made to give more information about the sources and associated parameters. The plot is made bigger, and unlike in the dashboard page, it is possible to select fixed time periods for the last historical data.



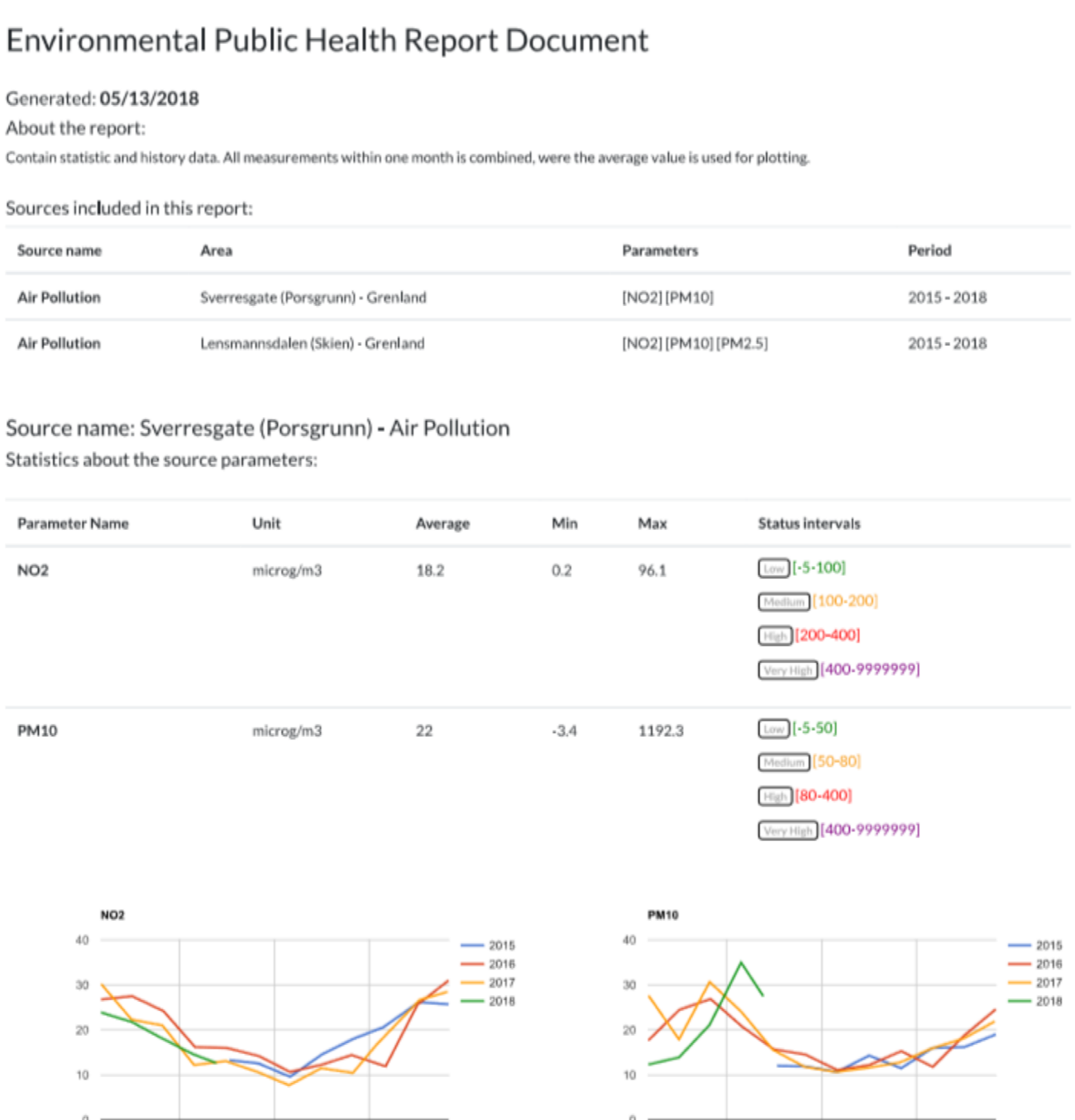
Analytic functionality

Further analysis of the data within the system is possible by a page that allow parameters to be freely chosen at any time period, and then combined into one large plot. It is also possible to compare time periods by week, month and year. This allow different time periods from the same parameter to be compared.



Report Generation

It is possible to generate reports based on selected years and sources. The reports are intended to be printed or saved as pdf files and used as base for taking measures for reducing emissions and improve the environment.



Android App

An Android app was made mainly to allow push notifications when source statuses changes, which eliminate the need of checking the website to detect pollutions like air pollution. The users can subscribe/unsubscribe on the sources they feel is relevant.

The mobile app provide dashboard and trending/details functionality like the website.

