



Open Data from public Finland

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Finland is going for open data

- **Prerequisites to induce the decisions:**
 - EU open data strategy -> PSI and Inspire directives
 - Open Government Partnership
- **Finland expects efficiency gains for its governance**
- **Principal decision 3.3.2011 in Government program:**
 - Public sector information to be opened for citizens and business as strategic spearhead action
- **Council of State decision 5.10.2011 sets responsible ministries: Finance, Labor and Economics, Transport and Communications and Education**
- **Howto and Budget decisions in August 2012**



Making open data attractive for public sector

- Public sector was in **earlier legislation obliged to charge fees** for providing information they owned
- This income was used to improve the information
- **Now no more fees allowed, but there is budget to compensate** for the lost income
- On top of this there is temporary funds to support the **setup of open data distribution systems**
- **2013-2017** in the branch of transport and communications costs for opening are estimated at 40 m€, while the societal benefit should exceed 100 over the years
- **Licensing model** for finnish open data is under works



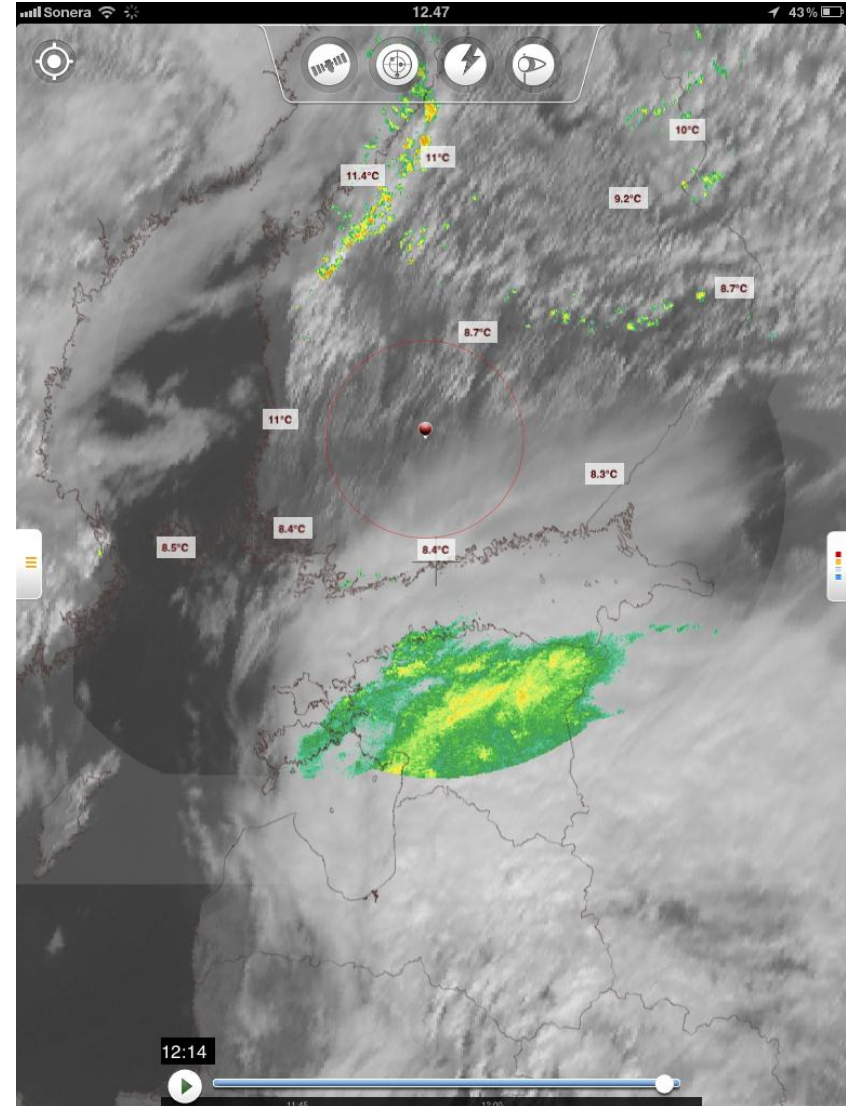
FMI example

Finnish Meteorological Institute is opening weather data it owns:

- Real time observations
- Forecast models
- And more...

Countless opportunities to build new apps and services with weather data.

- Weather impacts each and everyone.
- Many fields and activities are affected by weather
- Pure weather apps or weather integrated into other apps





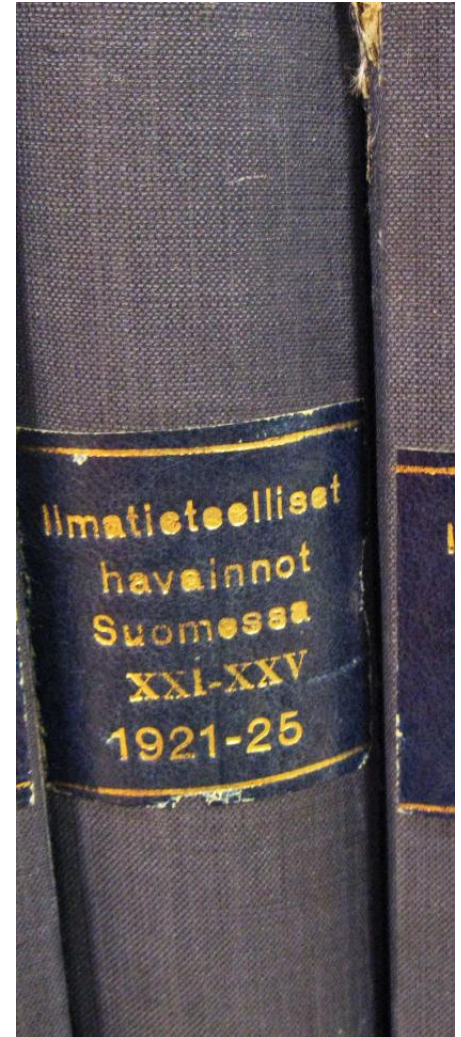
Content

Data is opened in phases:

- First sets available by summer 2013
- New sets will be added during 2013-2014

Data sets can be categorized into three types:

- Weather observation (point)
 - Real-time observations and time series 1 TB,
 - Weather radars 30 TB
- Numerical Model data (grid, 5D)
 - Weather forecast 250 TB, Climate 30 TB
 - Radiation 53 TB, Wind atlas 21 TB, other 300 TB
- Satellite data (image)
 - GLOBSNOW 32 TB
 - Other 50 TB





Example of Data Sets - Real Time Observations

Data set	Description	Time Interval	Estimated publish date
Weather Observations	Temperature, Wind, Humidity, Ground Temperature...	10 min	Summer 2013
Sun Radiation	UV, Short and Long Term Radiation...	1 min	Summer 2013
Marine Observations	Waves, Sea Temperature, Sea Level...	1 h	Summer 2013
Weather Radars	Precipitation Rate, Precipitation Amount...	5 min	Summer 2013
Lightning	Thunder Strikes in Finland	5 min	Summer 2013
Soundings	Temperature, Humidity, Pressure, Wind from ground to 25 km height	2 times a day	2014



Example of Data Sets - Observation Time Series

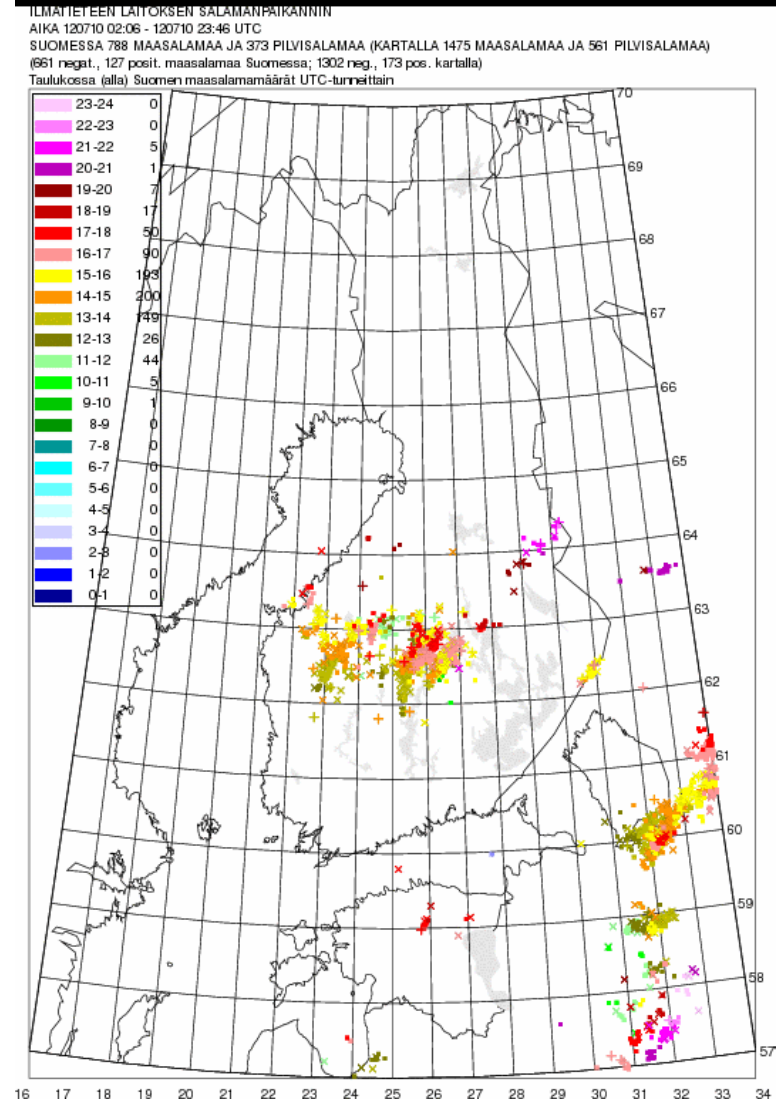
Data set	Description	Time Interval	Estimated publish date
Real Time Observations	Real Time Observations from specific location(s)	AWS 2013 – Soundings 1959 – Flashes 1998 – Sea Level 1971 – Waves 2005 –	Summer 2013
Climatological Observations	Dayly and monthly temperature mean and extreme values from weather stations	1959 -	Summer 2013
Climatological Observations	Monthly temperature and precipitation rate mean values interpolated to grid	1961 -	2013
Climatological Reference	Climatological Reference. Temperature, humidity, pressure, precipitation amount and snow depth.	Reference seasons: 1971-2000 1981-2010	2013
Historical Observations	Long time series of temperature and precipitation	End of 19 th century -	2013



Open Data Interface

FMI open data portal is designed to meet INSPIRE requirements

- **Catalog (CSW)** provides a high level catalog.
- **View Service (WMS)** shows the data as an example.
- **Download Service (WFS 2.0)** provides the data in GML (Geography Markup Language) encoded form.
 - For large data sets as weather forecast model WFS provides a GML envelope with a link to the binary encoded data.

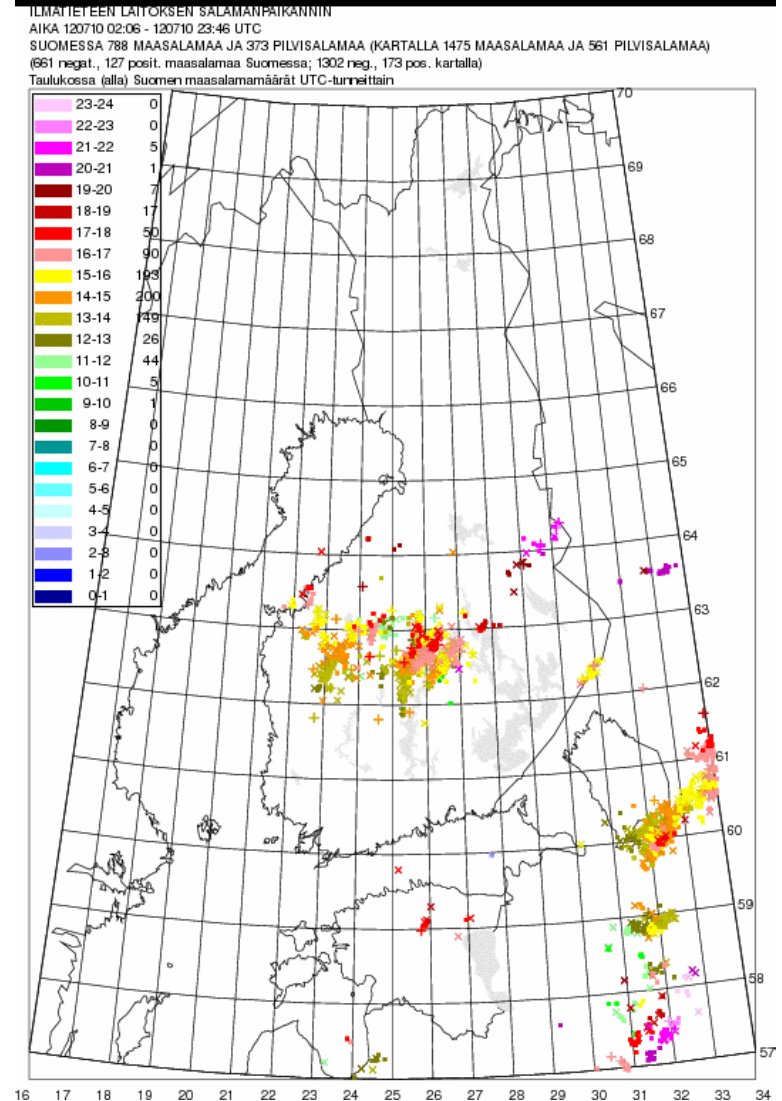




Open Data Interface

- O&M (Observation & Measurement) standard is honored.
- Data format is optimized for data exchange and interoperability.
- Interoperability in INSPIRE means the possibility to combine spatial data and services from different sources across the European Community in a consistent way.
- And there will be a lot of data available over the next few years:

<http://inspire.jrc.ec.europa.eu>

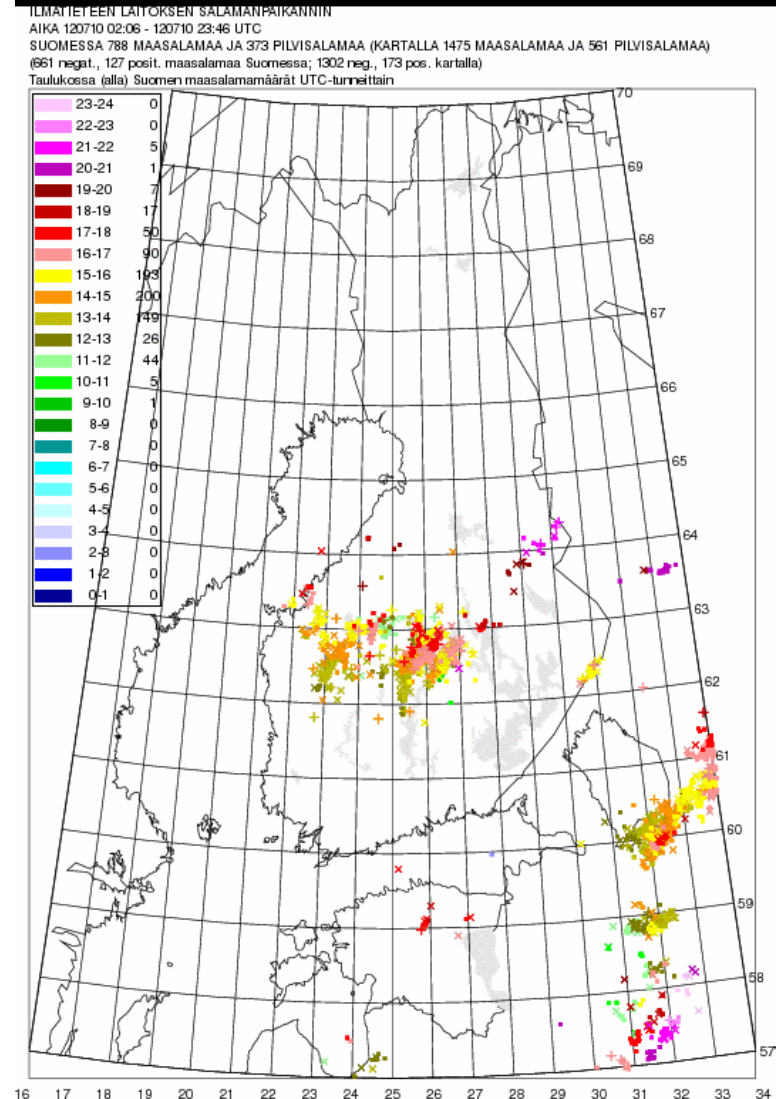




Open Data Interface

Registration will be required for open data portal.

- The user will get an API Key.
- Transactions will be limited based on the API Key.
 - Catalog (CSW) will be open
 - Download Service (WFS) have loose limits
 - View Service (WMS) have quite strict limits





Open Data Interface

So.. WMS is just for browsing the data.

- If you want provide maps in your applications, you have to download the data and create your own WMS.

WFS transaction limits are designed so that

- You should be able to download almost as much data as you want into your server.
- But applications with lots of end users can not rely directly on FMI WFS.

Possibility to purchase unlimited access to the data.

