About IP-Wetter

- Geo-meteo is a Product of IP-Wetter
- IP-Wetter is a start-up, funded by the ESA Business incubation initiative since 1 year
  - Core competences:
    - Communication design,
    - Web-Gis
    - Weatherdata
- Geo-meteo is a prototype, which is going to be validated by ESA

Why Geo-meteo ?

- The resolution of Weather data are getting better and better
  - Nowcast 1 km/15 min, NWP less than 3 km/1 hr
- Traditional communication channels and styles are not able to transport this resolution
  - Not the channels: tv, radio, newspapers
  - Not the traditional style: weather symbols and lists
- Only with Geo-Meteo high resolution Weather data can be communicated
  - Using the internet with
  - new mapping technologies

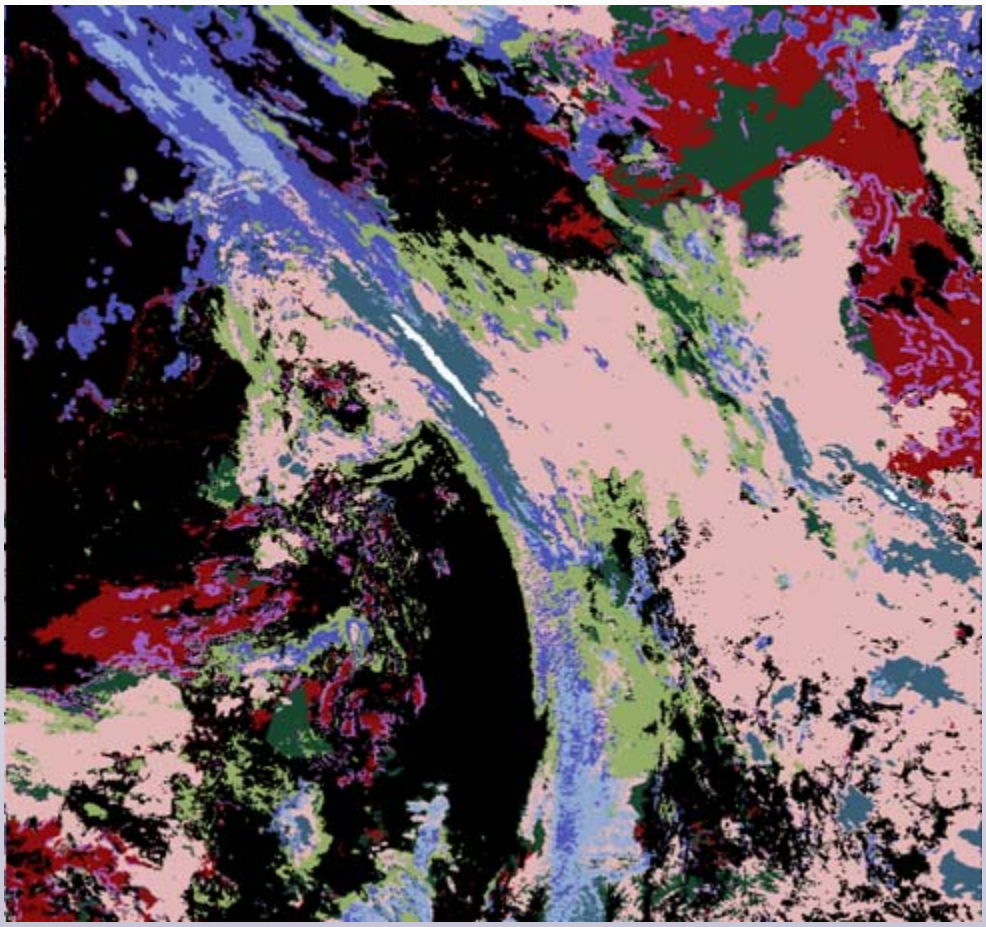
Communicate NWC Saf directly to the End User

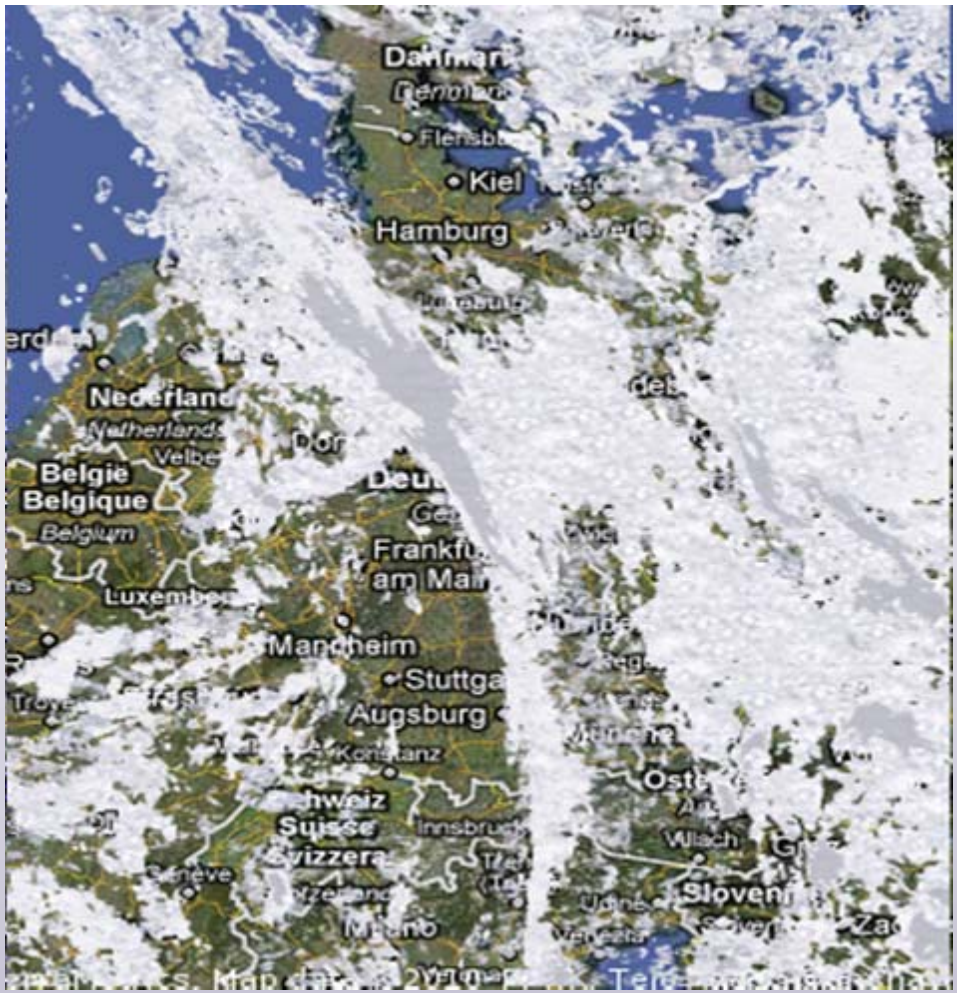
- The adressee of the NWC Saf-products
  - NWP models
  - The forecaster
- But how does the forecaster communicate the Nowcast?
  - This conception remains in traditional communication channels
- With Geo-meteo Nowcast-Saf products are directly communicated to the enduser
  - starting with cloud type
  - may be RDT and others

Zoomable Satellite Pictures enabled by “cloud type”

- The technique:
  - The different types of clouds are masked out and in this masks the portrayed cloud types are filled in
  - Changing the zoomlevel the filled in cloud pictures are changed
    - zooming in > the clouds are also zoomed staying in good quality
- http://www.geo-meteo.de

The technique

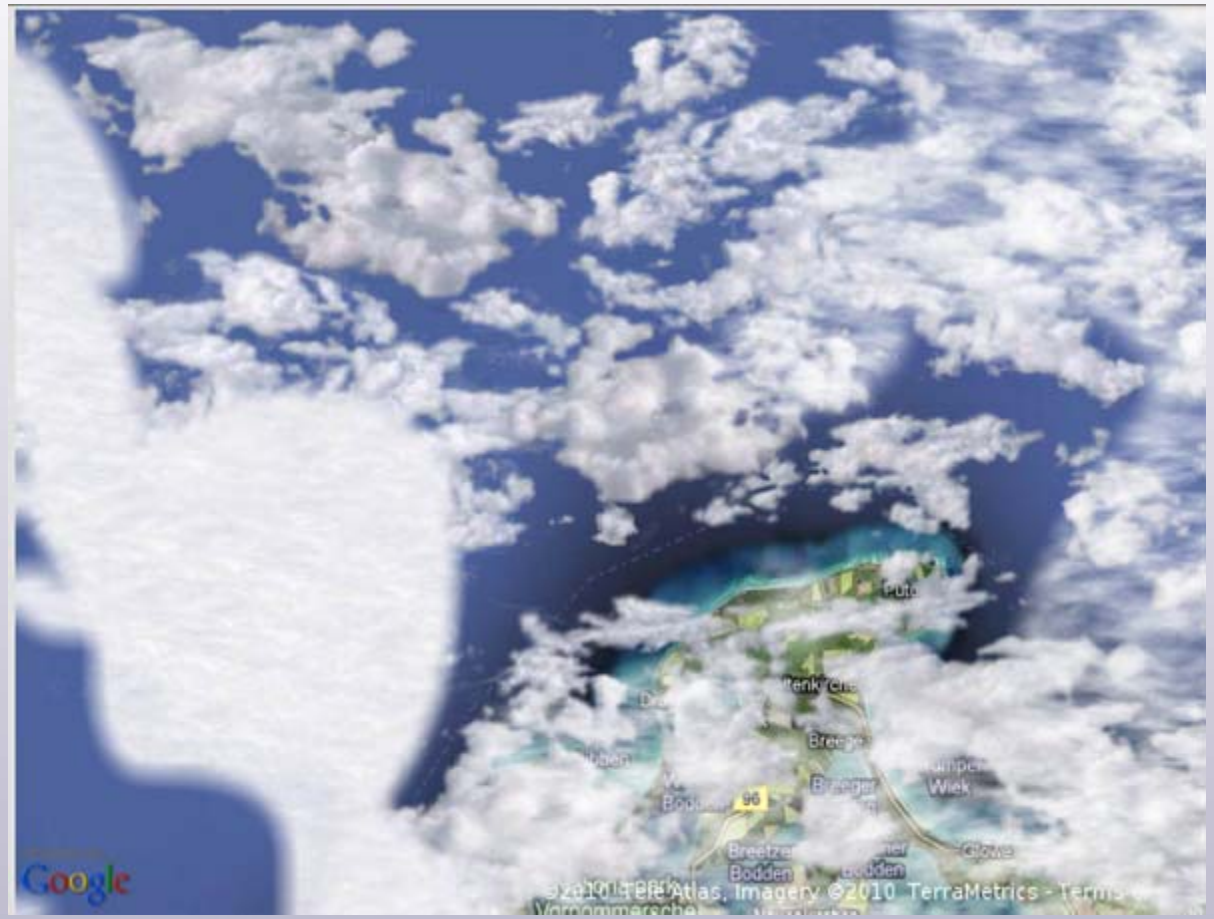




- With a slider you can regulate the opacity for local orientation

The demo: Old trial data (2004) distinguishing between stratiform and cumuliform

- Six classes of the cloudtypes, ignoring different heights (2D)
  - Stratiform opaque
  - cumuli opaque
    - stratiform fractional
  - cumuli fractional
  - Transparent
    - Precipitating clouds



- Stratiform fractional
- Cumuli opaque
- Pricipitating clouds

What means fractional clouds ?

- How much coverage ?
- What about this pixel ?

User groups and standards

- The Geo-meteo application provides different data models for different usergroups, keeping the backend the same for all groups because of using OGC Standards
- The main classes of usergroups are:
  - scientific
  - professionals (e.g. civil protection)
  - normal web users (the actual demo using the flash-player)
    - Cloud type is for the normal web user
    - RDT is also for civil protection (without flash)

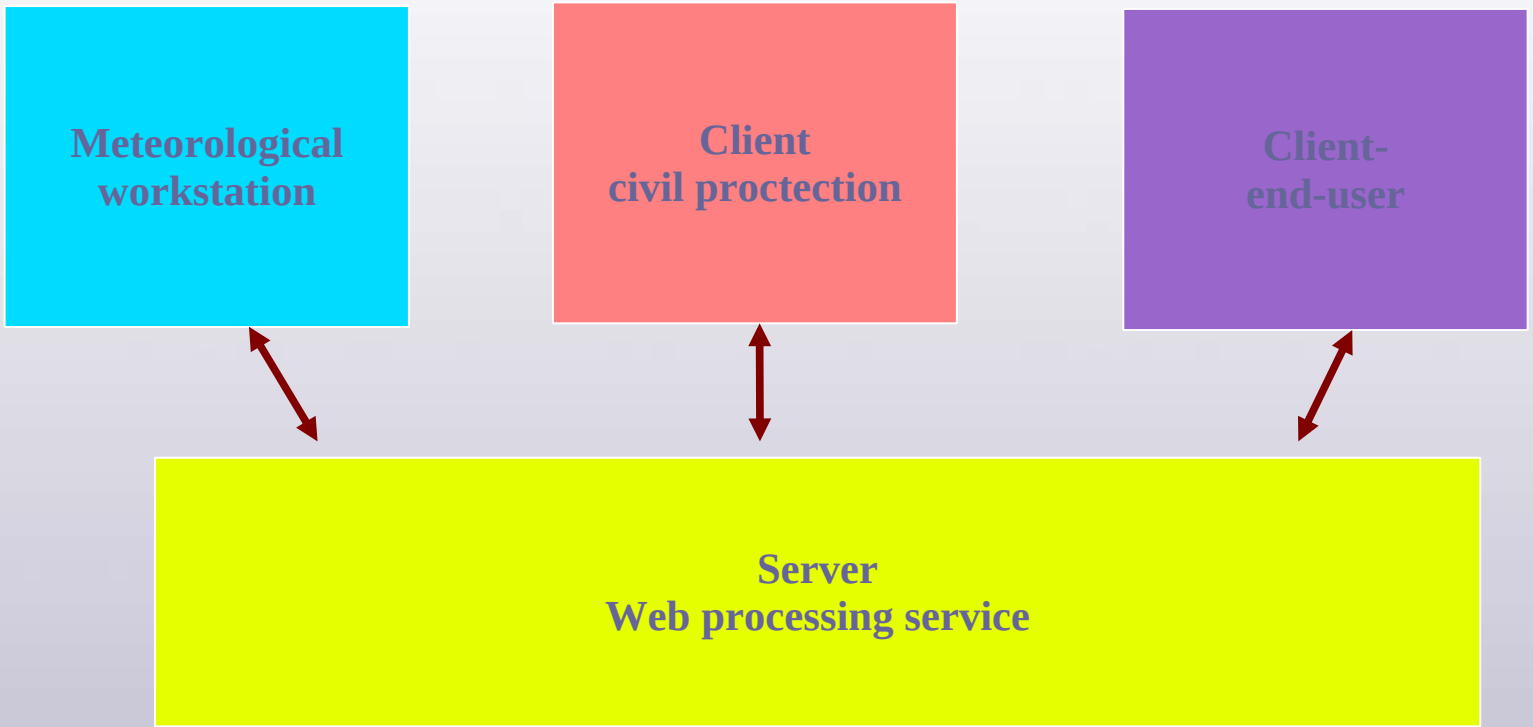
Geo-meteo and OGC Standards

- OGC Standards enable Interoberability e.g. severe weather warnings directly as a layer on the Gis-station of civil protection
- IP-Wetter plans to use the RDT product to process it together with other nowcast warnings
- Web processing service (WPS)
  - To process Nowcast as an OGC webservice has the advantage to calculate only dynamic , free definable cutouts and to dynamicly intitialise this processings at that time, when it is required by the user

Cooperation with NMS

- Severe weather warnings as WPS
  - IP-Wetter is looking for cooperation with interested NMS
- IP-Wetter uses and further develops Open Source tools
  - Postgis
  - UNM-Mapserver
  - Geo-django (Python)
  - It is planned to transform the time-dimension viewer to Open-Layers
- Some NMS are using this tools also

Possible system architecture using Open Source tools



Future Developments

- General Nowcast using the Conceptual Models detected in the ASII, ASII NWP Product

Thank you