Working group 3
Meteorological visualisation applications

Web-based meteorological workstation

- ***Is the time right to develop web-based meteorological workstations?***
- ***What are the current limits of web applications?***

Interactive file formats

- ***How much use are interactive formats for the web?***
- ***Should one use formats such as SVG, Flash or animated GIFs, or are static formats using JavaScript better for interactivity?***
- ***How can overlapping layers be best displayed?***

What has changed?

- **Web 2.0 with its (new) emerging technologies opens possibilities to implement new interactivities**
- **More demands on visualisation on the web**
  - **→ Scalable plots → vector graphics**
  - **→ Interaction →select further information**
  - **→ Operational → High availability**
- **Fast changing world with high expectation through successful services (e.g. Google, Yahoo)**
- **Cheap hardware might solve the availability issue**
- **Role of forecaster and demands of end-user changed: Information from different fields of science are required**

Meteorological user interface

Classical desktop

- Many advanced toolkits (e.g. GTK, Qt)
- Lots of tested and optimised code → mature development tools
- Make use of all system resources
- Platform dependent

Java?

- Established on desktop
- Deployment problem
- Is not seen as new and exciting

Web applications

- New emerging user interface APIs (e.g. jQuery, YUI)
- Lots of new developments and experience needed
- Different opinions on how heavy/rich the applications should be
- Can not use full advantage of local computer resources

→ Adobe *AIR (FLEX)*, Mozilla *PRISM*, Microsoft *Silverlight* could change this in future

Meteorological rich internet applications (RIA)

- **Time for meteorological RIA not ready yet**
  - ➔ **Calculations performed using lots of local resources still required in meteorology**
  - ➔ **User interface toolkits not mature enough – fast changing and not future safe yet**
  - ➔ **Download of (initial) application can be a challenge**
- **Many open questions:**
  - ? **Scalability**
  - ? **Availability (weather dependent)**
  - ? **Development tools (debugging & profiling)**
  - ? **Maintainability**
  - ? **Licences / legal issues**
  - ? **Security**
- **First step: Restructuring into services (WFS & WMS)**

Mash-up of services

- **Standardised services (from OGC) such as WFS (geo features), WMS (maps) and WCS (coverage)**
  - **➔These can be used to “mash-up” thin web applications**
- **To enable exchange of services between meteorological institutions standards should be agreed**
  - **➔Co-ordination is required**
- **The big idea: a user in one organisation can overlay own products with products from other inter-disciplinary organisations independent of which software packages were used to produce these products**

Summary

- **It is too early (if desired at all) to develop web-based rich meteorological workstations**
- **Not to forget: Desktop is successful → do we need to change?**
- **BUT the recent developments on the web (new technologies and standards) should allow to develop interactive web services which can improve the communication to the end-user**
- **One way might be to follow standards from the GIS world to enable exchange information**