

System Aspects Review

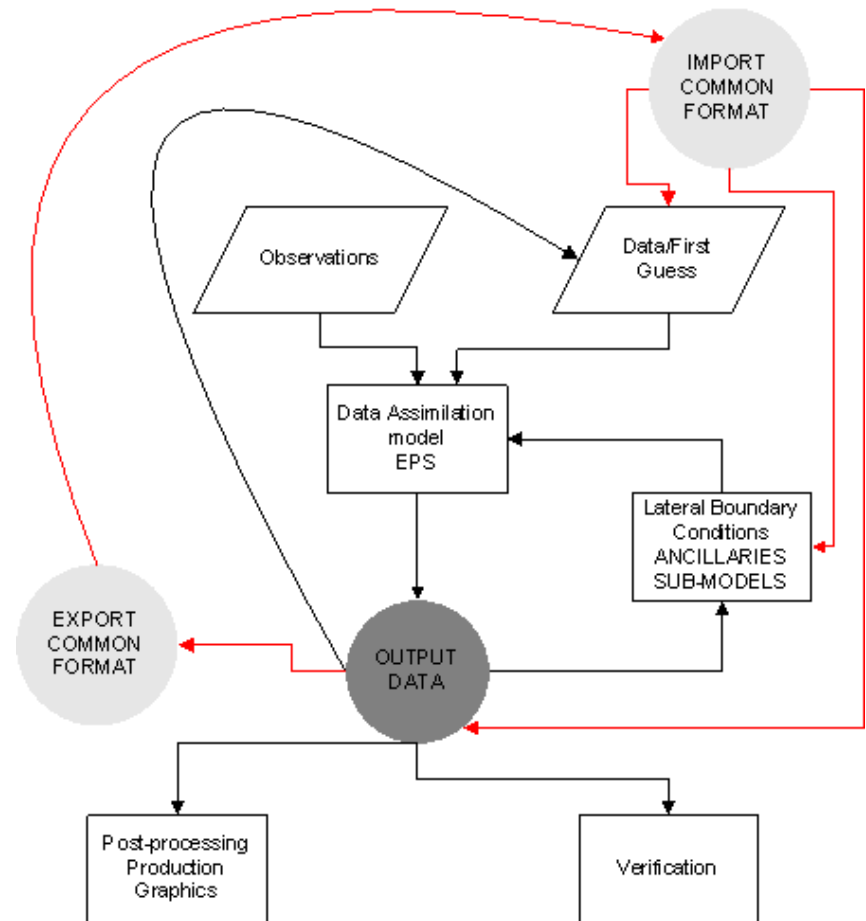
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SRNWP System Aspects Expert Team
EWGLAM/SRNWP, Madrid, 2008

System Aspects Expert Team

- created to focus on:
 - Data pre- and post-processing, code aspects
 - Interoperability Programme submitted to the EUMETNET Council, May 2008

SRNWP Interoperability

- 3 year programme
 - 22 participating members
- 5 deliverables
 - 1. Define a standard output format
 - 2. Document the 'adaptor' software specification
 - 3. Provide 2-way adaptors from each consortium
 - 4. Enable LAMs to use boundary and initial conditions from another model
 - 5. Provide a sustainability plan for the outputs



SRNWP Interoperability

- **NOT IN SCOPE**
 - To provide a central data server for data exchange
 - To make necessary changes to each NMHS operational system to allow 'real-time' use
- Additional benefit?
 - Facilitate collaboration with academic community

SRNWP Interoperability

- Deliverables are:
 - D1: A **report** documenting the **standard output format** and including a **list of parameters** for which the output format is to be applied. An **initial plan** for ongoing maintenance of the standard will be provided.

SRNWP Interoperability

- This requires consideration of:
 - Preferred output level type
 - Underlying data format to use
 - Horizontal grid details
 - Vertical grid details
 - To agree a list(/lists) of necessary parameters
- Meeting soon to discuss these issues

SRNWP Interoperability

- Deliverables are:
 - D2: **Documentation describing** the requirements and **specification for the adaptor software**. This document will include identification of the **methods** that can be used **for implementing the adaptors and for maintenance of the software** in connection with the consortia. The UK Met Office will coordinate the work in consultation with the global model providers.

SRNWP Interoperability

- Deliverables are:
 - D3: **Four 2-way adaptors** that transform the **output from every LAM to the standard output format and vice versa.**
Documentation will also be provided.

SRNWP Interoperability

- Deliverables are:
 - D4: **Enhancements to existing software** tools that **enable all LAMs to process data from the four Global Model providers**. This **includes** the **documentation** as well as the software.

SRNWP Interoperability

- Deliverables are:
 - D5: Provide a **plan** for the **long-term sustainability** of the project **outputs**

SRNWP Interoperability

- Adaptor software to exist as *freeware*
- Standard output format maintenance

Existing Software in the Consortia

- ALADIN:
 - 'Configuration 901' of Arpege/Aladin : to convert IFS Grib file to Arpege file
 - FullPos: internal Arpege/Aladin post-processing software used as well for :
 - (Arpege or Aladin) to (Aladin) file transformation (various geometries)
 - 'traditionnal' back-end post-processing (various levels & geometries)
- HIRLAM:
 - traditional tools for IFS \Rightarrow HIRLAM
 - INTVER: developed by Juan Simarro and colleagues for the spanish SREPS project
 - GL: comprehensive HIRLAM / ALADIN Grib handling tool with possibility of interpolate / project / rotate between several projections on different grids

Existing Software in the Consortias

- COSMO:
 - INT2LM: reads data from various models (GME, IFS, COSMO) and interpolates to a rotated lat-lon COSMO grid. Can handle Grib and NetCDF.
 - FIELDEXTRA: a toolbox to manipulate COSMO-Model data and gridded observations, including a generalized horizontal interpolation algorithm
- UK Met Office:
 - RECONFIGURATION module: read data in either ECMWF GRIB1 format or 'dump' format output from UM model runs. Can interpolate to any lat-lon (or rotated) grid. Can interpolate vertically. Configures file to contain only those fields needed for model run.
 - MakeBC: produces lateral boundary condition files for use with the UM.
 - UM Utilities: contain functions which can manipulate fields/files in UM model output.
 - *e.g.* perform simple mathematical functions on a field
 - Add specific fields to a file (assuming correct format)
 - Summarise file contents

Progress

- Programme started on 1st September
 - subject to conditions imposed by EUMETNET council
 - Decision document is on the agenda of the 34th Council meeting next week
- Workshop to discuss D1 planned for next month

System Aspects Expert Team Work Plan 2008-09

- Accepted that we will Focus on SRNWP Interoperability
 - Year 1: To define a ‘standard output format’ for limited area model output
 - Year 1: To define a list of required meteorological parameters for this format

Conclusions

- System Aspects Expert Team to focus immediately on delivering the SRNWP Interoperability project