METAFOR QUESTONNAIRE

METAFOR Questionnaire

- Way to collect and distribute information about your model and model runs
- Uses a common format – language
- Requires some effort to input information
- Different strategies to input data

METAFOR Questionnaire

- Input section
- Reference section
- Model section
  - Each component - atm, ocean, BGC, etc
  - Major parts of each component – dyn core, advection scheme, time step scheme, etc
- Simulation Section
  - Each simulation for each model

GFDL Experience – Data entry

- 1 person figured out software and oversaw effort
  - We have 4 streams and 6 models to input
  - Ron led 2 streams and 3 models
  - Ron trained 2 others to input other 2 streams
  - Ron trained model runners to input experiment data

GFDL Experience – Data entry

- Had METAFOR remote training session
- Used technical people to fill in model grid info and reference list sections
- Used experts for each section of model part
  - Atm dy core, atm physics, ocean dy core, ocean physics, …
  - In my streams, I sat with expert and helped enter data – about 30 minutes per part
- Used model runners to enter simulation information

Ron's Problems

- Getting started
  - Big task
  - Learn software
  - "Magic" names
- Too many "other" answers
  - Could input lots of details – Hard to know how much to input => Nearly infinite time sink => judgment call
  - Lose usefulness of questionnaire
- Binding input files to model
- Validation

GFDL Experience - Summary

- About 2 person weeks of time (80 hours)
  - Similar to writing a paper!
- Takes a while to get into software
- Issues
  - Hard to know if answers are in “correct” form
  - Lots of “other” answers to drop-down boxes
  - Validation button
    - Did not work at all at times – fixed?
    - Gave misleading results – fixed?
  - Software failed at times – METAFOR folks fast to fix

METAFOR Questionnaire

MOHC Experience

Catherine Senior Mark Elkington, WGCM15 Boulder October 19-21st

Data Entry

- Similar experiences and approach to GFDL – using a single coordinator to undertake the data entry
  - scientists provided input to email requests for information + reviewed final entry
- Jumping backwards and forwards between the various input screens is slow – a planned sequence of data entry helps a lot
  1. platform, grids, references
  2. model component descriptions + parameters
  3. input file definitions
  4. common inputs for each model (which will be copied to each simulation defined)
  5. simulation/ensemble + conformance statements

Effort Required

- MOHC was earliest adopter – so ran into more software problems than other groups
- Timing
  - Grids/platforms/references – 1 day for everything
  - Model description – 13 days for first model (of which scientist time was ~6 days). Subsequent models were 'copied' from first model and were quick to modify (2-3 days).
  - Common Inputs – 3 days (probably the hardest part to gather information for)
  - Simulations – quick to enter (~2 hours each)

MOHC - Summary

- Getting started is the hardest part!
- The job can be broken down into stages and is best tackled by a single person.
- Experts can provide model input via email (use “export text” option to email relevant information to them)
- The METAFOR team continue to make improvements to the interface – they are responsive to requests
- Having comprehensive metadata descriptions of models has already been useful outside of CMIP5.

Summary – METAFOR Questionnaire

- Important way to document model
  - Software to display info dependent on questionnaire
  - Useful *yourselves* and to other scientists
  - First attempt will improve next time
- Will be required (at some point) to have data in CMIP