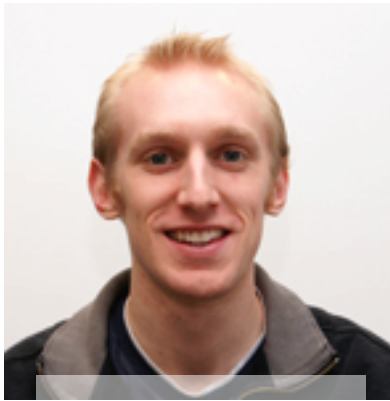


The Dynamical Core Model Intercomparison (DCMIP) Discussion

Christiane Jablonowski and all
organizers

DCMIP Organizers and Architects of the DCMIP Test Case Suite



James Kent



Paul Ullrich



Christiane Jablonowski



Kevin Reed



Peter Lauritzen



Ram Nair



Mark Taylor

The DCMIP-2012 Participants



The 5 Cornerstones of DCMIP-2012

- to establish an open-access database via the Earth System Grid that hosts DCMIP simulations for community use
- to host about 15 dynamical core modeling groups at NCAR for the hands-on student-run DCMIP model intercomparison project
- to establish dynamical core test cases in the community that also include simple moisture processes and tests of non-hydrostatic processes
- to teach a group of about 40 multi-disciplinary students, postdocs and other young researchers how today's and future atmospheric models are or need to be built
- To learn from expert speakers who give lectures on modern GCM modeling and evaluation techniques

Some Thoughts

- DCMIP-2012 is the result of a long planning process that started many years ago
- The end of the DCMIP-2012 Summer School is the start of a community-wide DCMIP as a long-term resource
- DCMIP is a forum for new science:
 - Objective evaluation of dynamical cores and their interactions with moisture
 - An effort towards a standard test suite that follows a hierarchical approach
 - Establish new cyberinfrastructure as a scientific tool for our community

Some Observations

- What happened over the last few months and especially over the last 2 weeks was remarkable:
 - the model preparations by the mentors, thank you!
 - students who had neither knew the DCMIP models, not the NCAR computing architectures were up and running within days, helped create a data base (thank you)
 - the momentum and interest that DCMIP has created in the community
 - the energy level during the hands-on afternoon sessions
- Time flew by, and we probably could have used more time to dig deeper into our results

Some Observations

- We see both very interesting agreements and spread in our simulations, let us learn from them
- We anticipate that the spread will give us insight into the uncertainty of simulations, and most prominently into the characteristics of our numerical schemes
- We might find bugs in our codes
- DCMIP-2012 is not a ‘beauty contest’: our goal is to expose the pros and cons of all dynamical core modeling approaches via objective evaluations, there are no ‘best model’ awards

Some Observations

- Some model results we saw today are incorrect:
 - Incorrect setup of the experiment
 - Problems / bugs in the code
 - Problems in the plots
 - Problems with output data sets, e.g. missing data, metadata
- We ask the DCMIP modeling mentors to continue working with us to correct incorrect data and plots, to update the DCMIP data base and thereby establish a trusted and high-quality resource
- Suggestion: Follow-up meeting with the mentors and students that will come to PDEs on the Sphere in about 6 weeks in Cambridge, U.K.

Some Observations

- Based on our observations during DCMIP-2012 and the feedback from the mentors we will fine-tune our suggestions for the test cases
- We value your continued suggestions and involvement
- We hope that DCMIP-2012 was fun and a tremendous learning experience for both the mentors and the students
- We hope that many of you (students) will stay in the field, and become our scientific colleagues in the years to come

Some Observations

- We were all so busy with
 - teaching students
 - running experiments
 - fixing metadata
 - learning some NCL
 - posting results to the DCMIP web pagethat we had hardly any time left to talk to other modeling groups and discuss and intercompare our results

Let us start this now: Here are a few snapshots

We thank the DCMIP Sponsors ...



NCAR



We thank the local NCAR Host and Administrative Team



We thank in particular:

- [Richard Loft](#) (Director of NCAR CISL's Technology Development Division (TDD))
- David Hart (NCAR CISL User Services Manager)
- Jennifer Williamson (NCAR CISL administrator)
- Michelle Smart and the NCAR CISL data base services team
- Davide Del Vento, Sidd Gosh, Si Liu ([CISL Help Desk and Consulting Services](#))
- Jay Alipit (NCAR Multimedia Services)
- Nick Wehrheim and WSST team (NCAR's Workstation Support Services Team)
- Barb Lupi (University of Michigan Administrator)

DCMIP-2012 Evaluations

- We would like to hear from you what you think about DCMIP-2012
- We have an evaluation form that we will hand out at about 4:15pm. Please fill it out and give it back to us.
- Let's celebrate our achievements: The bus takes us up to the Mesa Lab at 5pm for our farewell BBQ event this evening.