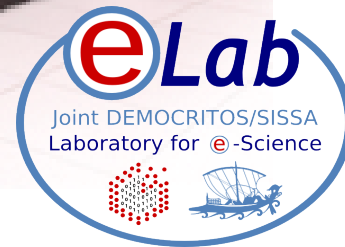


Introducing RegCM-4.1

Stefano Cozzini, Graziano Giuliani, Martin Scarcia

Democritos and SISSA/eLAB – Trieste



Outline

-
- The New Features of Regcm4.1
 - Where is Regcm4 ?
 - The package
 - Installing
 - Using
 - Modifying
 - Future Activities

Goals of hands-on sessions of the workshop

- For the audience
 - Learn how to use the latest version (released 13/05)
 - Understand what is different from previous versions
- For us
 - Receive feedback from audience about the work done so far
 - Get suggestions for future activities
 -

Why Regcm4 ?

- Need of simple and more user friendly package
 - For users
 - For developers
- Enhancement in the physics of the model:
 - Insert new features to allow better simulation
- Need of integrated environment for managing the software project
 - Revision system
 - Bug tracking etc..

RegCM4: a software reengineering project

- Refactoring of Model Code in F90 ANSI standard to use new Fortran features (modules, types and dynamic allocation mostly)
 - Get rid of commons.
 - Isolate access to data and use automatic memory allocation.
 - Avoid need of a model recompile from code for just a dimension change.
- Repackaging of the whole project
- Use state of the art Software engineering Tools

Where is the RegCm4 package ?

- <http://eforge.escience-lab.org/gf/project/regcm/>
- eforge portal:
 - This forge is an integrated set of tools or components that facilitates collaboration on software project. It provides tools for version control, bug tracking, task management, and tools for communication (newsgroups, web pages, wiki, mailing lists, etc.). A forge makes scientific technical and scientific collaboration easier. **The objective is to provide an infrastructure for scientific-technical collaborations on software project**



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>> Search

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Regcm on eforge

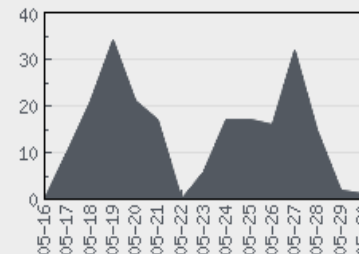
Stefano Cozzini

2010-02-14

Regcm is now testing the new features of the eforge portal

Time	Activity Type	By
2010-May-30		
08:35:08	Commit: DAY_MONTH in version 884 has bugs, try this	Xunqiang Bi
2010-May-29		
14:07:16	Commit: DAY_MONTH files (except bin2nc.f90) are ready, Programs/ICBC has been deleted	Xunqiang Bi
09:43:42	Commit: Added html browsable code, changed naming convention for output files from PostNc	Graziano Giuliani
2010-May-28		
18:54:40	Commit: sigma2p.f90 is added, I'll add average & regrid the pressure level fields in the weekends	Xunqiang Bi
18:46:22	Commit: sigma2p.f90 is added, I'll add average & regrid the pressure level fields in the weekends	Xunqiang Bi
18:13:03	Commit: Fixed bibliography	Graziano Giuliani
17:18:09	Commit: Modified README.namelist with Fabien input from Wiki. Note that namelist is tricky, and not all compilers allow clean definitions in stanza's as it was suggested by the Wiki. Documented a more complex but conservative and (hopefully) generally working s...	Graziano Giuliani
15:58:01	Commit: added regcm.in.TRS : the basic example to be run at workshop	Stefano Cozzini
15:54:25	Commit: Added Makefile for Documentation.	Graziano Giuliani
15:41:15	Commit: Added basic readme for releasing without CLM code, changed init to allow a SAV file to be found starting as for ICBC even before days of calculations instead of months	Graziano Giuliani
15:35:04	Commit: backported makefile changes	Martin

Activity



Request to join project

Description

The ICTP Regional Climate Model (RegCM).
eLab is proud to host such project

Developer Info

GForge Admin User
 Stefano Cozzini
 Alberto Giuseppe Campagnari
 Graziano Giuliani
 Martin Scarcia
 Erika Coppola
 Laura Mariotti
 Ahmed Tawfik
 Fabien Solmon
 Xunqiang Bi
 Ashraf Zaakey
 Gulilat Tefera Diro
 Mouhamadou Bamba Sylla
 Nellie Elquindi
 Travis O'Brien

Trove Categorization

- Development Status: 4 - Beta

Bug tracking and reporting..

GForge > Projects > RegCM ICTP Regional Climate Model > Browse Tracker

http://eforge.escience-lab.org/gf/project/regcm/tracker/

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Tracker

- Support
- Patches
- To-Do
- Bugs
- Feature Requests
- Admin

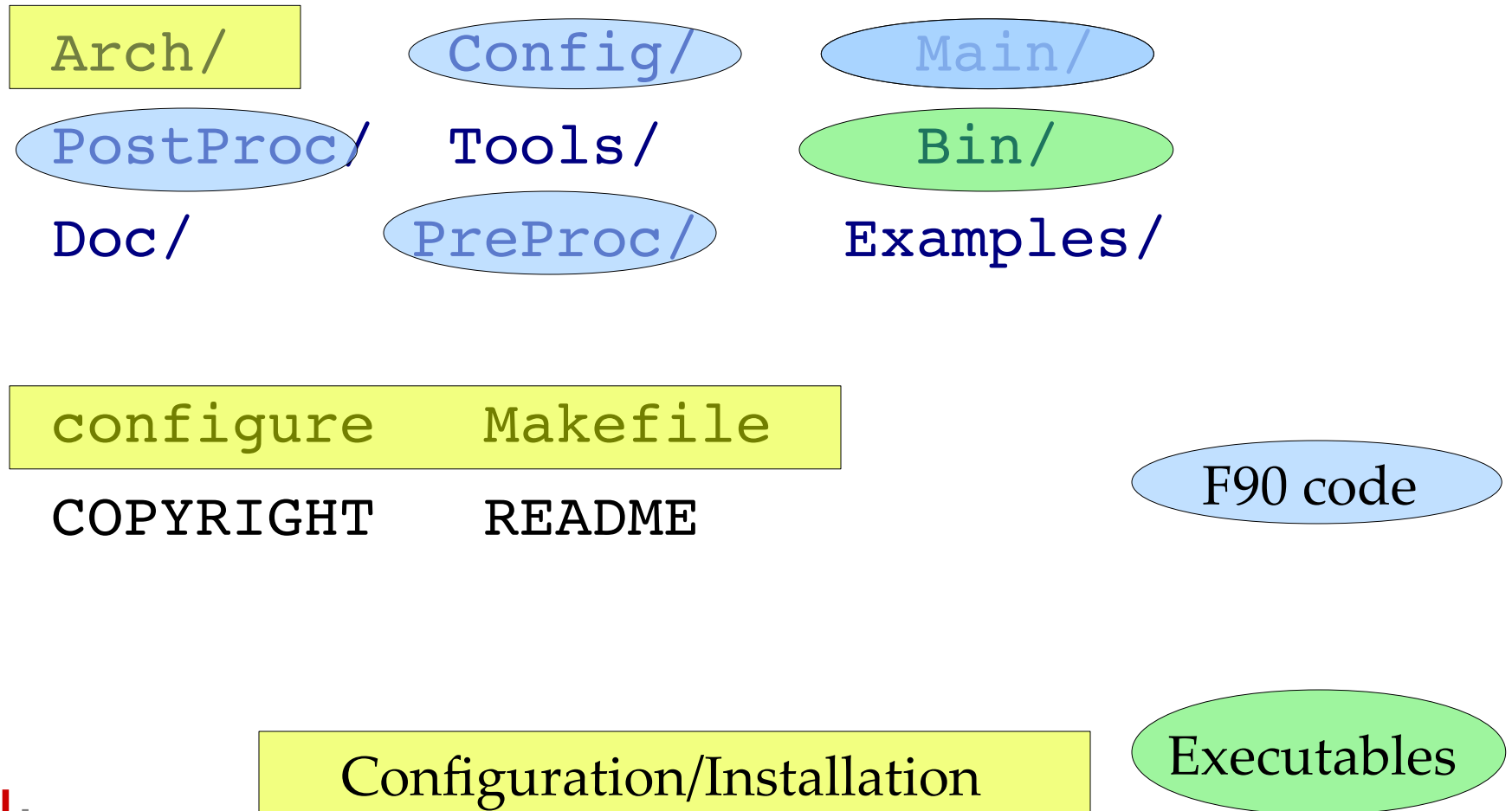
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Tracker Type	Tracker Name	Description	Item Total	Open Count
Tasks	To-Do	To-Do tasks for this project	8	6
Issues	Support	Tech Support Tracking System	0	0
	Patches	Patch Tracking System	0	0
	Bugs	Bug Tracking System	23	2
	Feature Requests	Feature Request Tracking System	3	2

[Manage Trackers](#)

FORGE
Advanced Server

How is the package organized ?



New features on code side

- (4.0) Dynamic allocation
 - COMPILE ONCE RUN FOR ALL THE DOMAIN
 - SIMULATION ARE INDEPENDENT FROM EXECUTABLES
- (4.0) ONE configuration namelist to rule all the executables and steps
- (4.1) Output format in NetCDF CF-1.4 compliant format
- (4.1) support for data compression added (but producing substantial model slowdown)

New Physical Features

- SST : added (4.0)
- SEA ICE (4.0)
- CLM coupling (4.0)
- Lake mode (4.1)
- Band option (4.1)

Future activities from computational side

- Insert new MPI parallel coding (2D decomposition)
- Complete clean-up of the code and distribution
- Complete modularizing the regmc code (Main directory)
- Add data types in the code
- Project a new I/O layer for the Model
- Increase performance (see tomorrow)