cGENIE ClimaTea 2014 version: README

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1. To get an exact (read-only) copy of the ('muffin' development branch) *c*GENIE source code used for the ClimaTea presentation – in linux, (ideally from your home directory) type:
   `svn co https://svn.ggy.bris.ac.uk/subversion/genie/tags/cgenie.Harvard2014 --username=genie-user cgenie.muffin`
   NOTE: All this must be typed continuously on ONE LINE, with a S P A C E before '`--username`', and before '`cgenie`'. You will be asked for a password – it is `g3n1e-user`.

2. You need to set a couple of environment variables – the compiler name, netCDF library name, and netCDF path. These are specified in the file `user.mak` (`genie-main` directory). If the *c*genie code tree (`cgenie.muffin`) and output directory (`cgenie_output`) are installed anywhere other than in your account HOME directory, paths specifying this will have to be edited in: `user.mak` and `user.sh` (`genie-main` directory). Installing the model code under the default directory name (cgenie.muffin) in your HOME directory is hence by far the simplest and avoids incurring additional/unnecessary pain (configuration complexity) ...
   You will also need to have installed or linked to an appropriate FORTRAN compiler and netCDF library (built with the same FORTRAN compiler). The GNU FORTRAN compiler (gfort) **version 4.4.4** or later is recommended. The netCDF version needs to be **4.0** (more recent versions require a little work-around, not documented here ...).

3. To test the code installation – change directory to `cgenie.muffin/genie-main` and type:
   `make testbiogem`
   This compiles a carbon cycle enabled configuration of *c*GENIE and runs a short test, comparing the results against those of a pre-run experiment (also downloaded alongside the model source code). It serves to check that you have the software environment correctly configured. If you are unsuccessful here ... double-check the software and directory environment settings in `user.mak` (or `user.sh`) and for a netCDF error, check the value of the `NETCDF_DIR` environment variable. (Refer to the User Manual for addition fault-finding tips.) If environment variables are changed: before re-trying the test, you will need to type:
   `make cleanall`

That is is for the basic installation. To run the model it is a simple matter of calling the '`runmuffin.sh`' shell script from `genie-main` and supplying a couple of parameter values, e.g.:

`./runmuffin.sh cgenie.eb_go_gs_ac_bg.worjh2.ANTH / EXAMPLE.worjh2.Caoetal2009.SPIN 10000`

Refer to the *c*GENIE `User_manual` for more information regarding installing, running, and analyzing model output, and *c*GENIE `Examples` for more information on this specific example.[1] Also read the *c*GENIE `README`.

Highly recommended ... is in order to have a working appreciation of the structure of the model and output, plus the format of the model output and how to visualize it – to read through:

`http://www.seao2.info/cgenie/labs/EC4.2013/GEOGM1110andM1404.2013-14.cGENIE_LAB.0000.pdf`

(which serves as a basic introduction to the model and how to use it).

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[1] latex source for all the documents can be found in the `genie-docs` directory, with recent PDF versions at www.seao2.info/mycgenie.html.