

The world of DART: Data Assimilation Research Testbed

Douglas Nychka,

www.image.ucar.edu/~nychka

- Background
- Framework/Tutorial
- Running DART what you need
- Getting DART



Supported by the National Science Foundation DMS

Background

Jeff Anderson, Joe Tribbia and Chris Snyder at NCAR proposed DART as an system

- Data assimilation for many different models and methods
- Light software that is easy to use by students
- Can tackle large models but is not "state-of-art" in speed for the biggest problems

DART has incorporated the NCAR atmosphere models (CAM, WRF) and provides analysis that are comparable in skill to the NCEP reanalysis.

Framework/Tutorial

- Models and DA methods have to be written in a standard form (DART compliant). But this is not very demanding requirements.
- DART can handle many different kinds of observation types. But works by assimilating an observation sequence with the updates happening with scalar observations.
- DART has a complicated system of creating the right executables by automatically writing makefiles. The options in the executables are controlled by easily modified files with options (namelists).
- All output written in a simple netcdf format
- A tutorial in PDF will lead a student/scientist through the details of DART including exercises.

Running DART

- Download tar.gz file 50 Mb
- Need F90 compiler, netcdf libraries and matlab.
- DART needs UNIX for shell and makefiles

Even I understand how to use DART!

Well , sort of ...

Getting DART

Search on DART NCAR

Look for regular DART tutorials at NCAR!

