Summary

An operational capability has been added to the database lately, with the introduction of near-real time data. Currently Envisat FDMAR, Jason-1 NRT, and Jason-2 OGDR data are being inserted twice a day, extending the more precise GDR-Envisat FDMAR, Jason-1 NRT, and Jason-2 OGDR data are lately, with the introduction of near-real time data. Currently An operational capability has been added to the database

Database

- Geosat. Both Geodetic and ERM mission. All up-to-date models and Goddard orbit based on GDR-C standards. Updated SBM models. Data of Geodetic mission retracted. ERM data to follow.
- ERS-1 and ERS-2. New orbits from REAPER project and up-to-date models. Corrected radiometer drift and gain loss and applied neural network algorithm. Fixed varying sigma bias. Updated SBM models. Removed scaling error in ECMWF wet tropo correction.
- Jason-1. GDR-C with Goddard GDR-C orbits. Adjusted sigma for bias with TOPEX and use (Collard) windspeed model. Moved all JMRI data by one second and apply enhanced JMRI Product (coastal). Reducing sigma noise using Quartly algorithm.

The software interface to the database has also been redesigned, from the ground up, using Fortran 95. The code is parallelized, so the processing can take advantage of the multiple processors currently available in most desktop computers.

On the server side in Delft, an rsync server has been added to better serve the growing number of expert users who now mirror the database in its entirety.

Processing and data access

- Twice daily processing of fast-deployment (near real time) and interim GDR products of Jason-1, Envisat, and Jason-2.
- Continuous and consistent datasets from start of mission to a maximum of 15 hours old data.
- Downloadable in ASCII form (for small projects) through web interface: rads.deos.tudelft.nl
- Rsync server for netCDF data. Easy mirroring of all or parts of the data set. rsync://rads.deos.tudelft.nl (password protected)
- To be deployed end 2011: OpenDAP server
- Software tools for data extraction, statistics, collinear track analysis, crossover generation.

New in RADS 4

- New and updated utilities. Mostly compatible with RADS 3. rads2asc, rads2nc, RADS data selection and conversion to ASCII or netCDF. radscolin. Collinear track stacking program.
- radsstat. Averages of data fields per pass, day, or cycle.
- radsxog, radsxolist. RADS crossover generator and lister.
- rads2grid. Grids data on grid against two other.
- Variables by name. Addressing variables will no longer be by field number by name, similar to the variables in the Jason netCDF GDRs. Numbers will be allowed for backward compatibility.
- Settings per variable. Each data field will be allowed its own editing criteria, instead of a single edit criterion for all variables of the same type (i.e. all ionospheric corrections).

XML configuration

For backwards compatibility

Directly from netCDF data

Self-defined variable

Interpolated on the fly from external grid

"Alias" is a shortcut

Editing limits

XML "quality flag" web page

SLA is computed on the fly using RPN math

Program sample

use rads
type(rads_dat) = 5
structure that contains all mission information
type(rads_pass) = 5
structure for pass information
type(real(float64)), allocatable = 1, 1, 1, 1
alias = "0", "0", "0", "0", "0"
integer :: cycle, pass
real :: lat, lon
! Initialize RADS. Select ERS-1. No mission needed!  
do cycle = 1, 10, 2
   do pass = 1, 10, 2
      call rads_open_pass (0, 5, cycle, pass)
      call rads_get_var (rads_dat, '0', '0', '0', '0', '0', '0', '0', '0', '0')
      do cycle = 1, 30
         call rads_get_var (rads_dat, '0', '0', '0', '0', '0', '0', '0', '0', '0')
      enddo
      ! Deallocate memory
      deallocate (latt, lat, lon, lon)
      call rads_close_pass (0, 5)
   enddo
enddo
end program