OpenEarth tutorials

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Collective memory, a wiki for tools

Core of the OpenEarth philosophy on tools is that by systematically storing, maintaining and disseminating data routines, I/O routines, engines, applications and programs at a central location, slowly but surely a toolbox emerges that acts as a **collective memory** to which analysts and end users naturally gravitate regarding their basic information needs. The long term focus of the approach promotes collaboration and the exchange of ideas across the artificial boundaries of projects - and even companies - which is beneficial for the coastal/marine/hydraulic and environmental research and engineering community as a whole.

History

The idea to collect, maintain and disseminate data, models and tools used by and developed at Delft Hydraulics was first put forward in 2003 by Mark van Koningsveld as quantitative support for, and in fact as an extension of, the Frame of reference method he developed during his PhD research. The initiative quickly merged with similar intiatives by Gerben de Boer and Fedor Baart that emerged at roughly that same time. Thir combination formed OpenEarthTools, that has since grown to accomodate contributions from over 150 user-developers, as is shown in this activity visualisation:

OpenEarth and other web-hosted tools collections

Related initiatives, which OpenEarth does not intend to compete with, come in a number of flavours: *general purpose*: Sourceforge, github (https://github.com/), *dedicated to specific analysis languages*: R-forge, Matlab Central, Python Package Index. In contrast to these initiatives, openearthtools is a collection *dedicated to the application area of marine and coastal science and engineering*. OET currently mainly hosts Matlab and python code.

Getting the OpenEarth tools

All openearthtools are stored in-the-cloud at the Deltares open source svn server svn.oss.deltares.nl that also host the open source numerical models Deft3 and Xbeach. Access is free but requires registration at the associated OSS (Open Source SoftWare) portal first: oss.deltares.nl. Here is some documentation on Joining OpenEarth or Getting started with the OpenEarthTools svn tools collection.

- SubVersion repository tutorial
- SubVersion migration manual
- More SVN tutorials

Documentation, tutorials and tech notes

A huge collection of tools need proper discovery and documentation facilities. The remainder of this page links to the various sources of documentation on OpenEarth and its tools. There are separate tech notes for the three analysis languages that OpenEarth fosters and supports: MATLAB, Python and R.

General OpenEarth documentation

Various presentations and lectures on (the use of) OpenEarth. Also see our agenda

Tech Notes and Data tutorials

Dedicated solutions for specific issues, focused on 3 languages and one GUI can be found using the links below.

- MATLAB
- Python
- R
    - R Shiny server - coming soon
- QGIS Tutorials
    - add filtered WFS to QGIS
    - Video module 1 the interface
    - Video module 2 creating a basic map
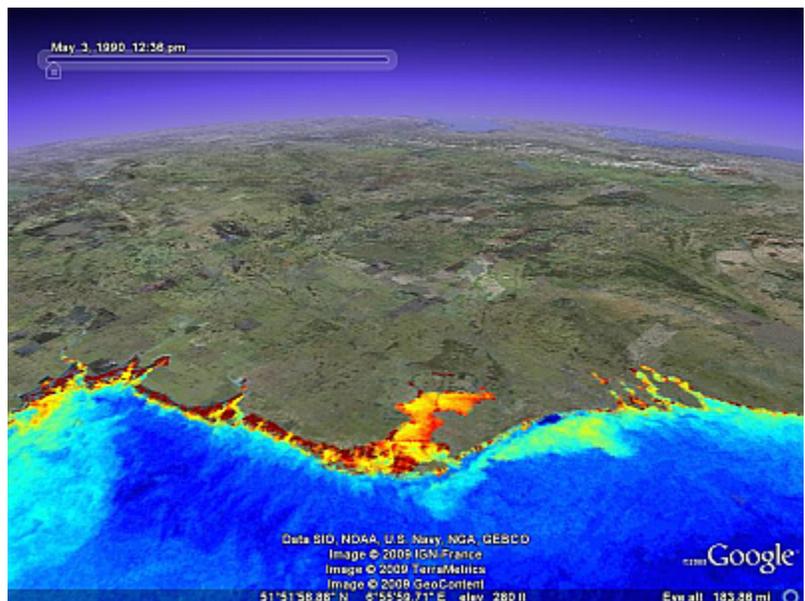
- - - Video moduel 3 labels and legends
    - Video module 4 Printing maps
    - Video module 5 creating Vector data
  - PostgreSQL
    - - PostgreSQL/PostGIS/QGIS
      - PostgreSQL/Python tutorial (external)
  - netCDF-CF-OPeNDAP
  - Geoserver
    - - Add GeoTIFF to GeoServer
      - Add Shaded Relief to GeoServer
      - Geoserver tutorials
      - Geoserver Advanced Training Modules
  - Geonetwork
    - for dummies
  - ArcGIS 10.x:
    - - Add Basemaps
      - Apply symbology to multiple layers
  - OpenDataKit observation form for Android
  - Add filtered Open Street Map to PostGIS and serve as OGC service

Wiki tutorials

Tutorials and presentations explaining how to use the OpenEarth wiki

Web application tutorials

- How to set-up your own web application (with HERON for instance)?
- Web application infrastructure
- Create ISO/CF compatible netCDF files in a whoosh: netCDF kickstarter

Sign-up
and get the tools

Tech Notes
OpenEarth Tech Notes

OpenEarthTools repository
Store your tools here

XBeach repository
Access the XBeach software
+ documentation

Repository Tests
An overview of the test results

Tool standards
OpenEarth tools protocol

Tutorials
OpenEarth Tutorials