

SANGOMA: Stochastic Assimilation for the Next Generation Ocean Model Applications

EU FP7 SPACE-2011-1 project 283580

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Chapter 1

Content

Note: As in the previous report on our web pages we are not going to include all possible screenshots of the whole Web site of Sangoma <http://www.data-assimilation.net/> but indicate only the overall structure and content emphasising changes with respect to V2. It should also be noted that the Web design was based on the target users which are mostly scientists. Therefore the design was kept functional and clearly structured. The web page content is shared also via SVN so that each partner can easily contribute to the contents which are then updated on the web server.

SANGOMA Stochastic Assimilation for the Next Generation Ocean Model Applications

- Home
- Overview
- Partners
- Science
- Tools
- Benchmarks
- Documents
- Events
- Training
- Jobs
- Links
- Intranet
- Contact and Feedback

SANGOMA - A European project providing new developments in data assimilation for future operational forecasting and monitoring systems

SANGOMA will provide new developments in data assimilation to ensure that future operational systems make use of state-of-the-art data-assimilation and related analysis tools. We are a European network of expert teams in advanced data assimilation. In the project we will extend existing modular data assimilation systems that have high flexibility in type of ocean model and assimilation method. Following specific design rules, new modules can be used in different modular systems. The systems will allow for efficient operational testing of the latest data assimilation methods, and quick comparison of assimilation methods for operational use. Furthermore, we will develop and implement modules that objectively determine the impact of existing and new observation types.

The developments of SANGOMA will also serve costumers of MyOcean products, which is the first European project dedicated to the implementation of the GMES Marine Core Service for ocean monitoring and forecasting. For this purpose, we will concentrate on data-assimilation methods that deliver probabilistic information on the products. To this end, existing ensemble methods will be included and new methods that allow for nonlinear and non-Gaussian systems will be developed.

This dedicated web portal will allow access to validated products, including documented performances on a variety of test cases. Consolidated versions will be made available to the science community and Marine Forecasting Centres with indications on best practise implementation. Workshops and summerschools on advanced assimilation methods and modular systems will ensure fast and efficient training to next generation oceanographers, ensuring world-leading operational oceanographic products for costumers and decision makers.

A European FP7-SPACE-2011 project, Grant 283580

1.1 Overview

Contains the summary of the project and a collection of more detailed slides.

1.2 Partners

Maintains the list of scientists involved in the project.

1.3 Science

It highlights in scientific outcomes of the projects. For the moment it includes the report on state of the art and highlights from the research on new DA techniques and benchmarking.

1.4 Tools

As the tools are developed using sourceforge, we provide the link to the relevant page as well as a link to external resources of interest for data assimilation. Here we highlight V1 of the software for the reporting period and explain to novices how to use versioning with SVN. It also contains educational web applications illustrating DA concepts (this part might get upgraded to an own section 'Training').

1.5 Benchmarks

Provides access to benchmarks definition and codes. It is highlighted how the medium benchmark can be implemented by a novice (both in model use and DA toolbox use) within three month.

1.6 Documents

Includes all deliverables (also updated versions of living documents), list of publications of SANGOMA (collecting automatically information from the OpenAire repository which harvests publications which mention SANGOMA as financing project) and newsletters.

1.7 Events

Shows information on project meetings or workshops (including copies of the presentations), including the second progress meeting.

1.8 Training

This new section on educational material includes the web based DA tools

1.9 Jobs

Used to announce job opportunities at the partners' locations and is actively exploited.

1.10 Links

Maintains a list of links to data bases, data assimilation tools, netCDF relevant tools, DA projects, Verification groups and reference books on DA.

1.11 Intranet

Gives access (with password protection) to confidential deliverables, internal documents, templates etc.

1.12 Contact/Feedback

This section allows feedback from users (either on the web pages themself, our tool design or definition of priorities.



The screenshot shows the SANGOMA website with the following content:

- Navigation Menu:** Home, Overview, Partners, Science, Tools, Benchmarks, Documents, Events, Training, Jobs, Links, Intranet, Contact and Feedback.
- Header:** SANGOMA Stochastic Assimilation for the Next Generation Ocean Model Applications
- Training:** Here you will find educational material useful for teaching or learning Data Assimilation..
- Reference SANGOMA documents:**
 - [sangomaDL6.9](#)
- Reference books on Data Assimilation, Geophysical Fluid Dynamics and Numerical Methods:**
 - [Introduction to Geophysical Fluid Dynamics, Physical and Numerical Aspects](#), Benoit Cushman-Roisin and Jean-Marie Beckers
 - [Data Assimilation, The Ensemble Kalman Filter](#), Geir Evensen
 - [Atmospheric modeling, data assimilation, and predictability](#), Eugenia Kalnay
- Educational web applications:**
 - [Test various assimilation schemes \(Nudging, Optimal Interpolation, Kalman Filter, 4DVar\) with simple models.](#)
 - [Optimally reconstruct a field with variational interpolation \(DIVA\).](#)
- Footer:** A European FP7-SPACE-2011 project, Grant 283580. Logos for Gmes, European Union, and M/Ocean.

Chapter 2

Plans

- The pages will be maintained at ULg after the project ends to include an up-to-date list of SANGOMA publications, job offers and new DA ideas.
- Similarly, the ongoing collaborations between the partners will be facilitated by keeping alive the sourceforge accounts of SANGOMA.