

The SANGOMA Tools for Data Assimilation

LARS NERGER¹, UMER ALTAF², ALEXANDER BARTH³, LAURENT BERTINO⁴, JEAN-MICHEL BRANKART⁵, PIERRE BRASSEUR⁵, GUILLEM CANDILLE⁵, PIERRE DE MEY⁶, ALISON FOWLER⁷, PAUL KIRCHGESSNER¹, PETER JAN VAN LEEUWEN⁷, NILS VAN VELZEN², MARTIN VERLAAN², SANITA VETRA-CARVALHO⁷, JEAN-MARIE BECKERS³

¹ *Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany*

² *TU Delft, Delft, Netherlands*

³ *University of Liège, Liège, Belgium*

⁴ *Nansen Environmental and Remote Sensing Center, Bergen, Norway*

⁵ *CNRS/LGGE, Grenoble, France*

⁶ *CNRS/LEGOS, Toulouse, France*

⁷ *Department of Meteorology, University of Reading, UK*

The EU-funded project SANGOMA – Stochastic Assimilation of the Next Generation Ocean Model Applications – provides new developments in data assimilation to ensure that future operational systems can make use of state-of-the-art data-assimilation methods and related analysis tools. One task of SANGOMA is to develop a collection of common tools for data assimilation with a uniform interface so that the tools are usable from different data assimilation systems. The tool developments mainly aim at tools that support ensemble-based data assimilation applications like for the generation of perturbations, to perform transformations, to compute diagnostics, as well as further utilities. In addition, a selection of ensemble filter analysis steps is included. The tools are implemented in Fortran and as scripts for Matlab or Octave. They are provided as free open-source programs via the project web site [<http://www.data-assimilation.net>]. This contribution provides an overview of the tools that are available in the latest release V1 of the SANGOMA tools as well as the plans for the next release.