CROCO Program Basic Week 13-17 November:

9:30 —> 1PM ; 2PM —> 5PM

Subject to last minute modifications

Monday Morning:

Foreword and housekeeping by Jennifer Veitch

Class: "Introduction to regional ocean modeling", followed by a round-table discussion during which attendees will present their scientific objectives and their expectations for this class (Serena Illig)

Hands-on session: First connection on the Lengau cluster, and test Matlab (Serena Illig with support from other lecturers)

Monday Afternoon:

Class: Let's make our first CROCO grid (Serena Illig)

Hands-on session: Presentation of CROCO and CROCO_tools environment; Quick Linux and NetCDF; First preprocessing steps: model grid and work on the vertical sigma parameters (Serena Illig with support from other lecturers)

Tuesday Morning:

Class: "Numerical aspects I", Finite differences: Spatial and temporal discretization (Serena Illig)

Hands-on session: Finite differences - Solving a simple case, the 1-D Diffusion equation (Serena Illig with support from other lecturers)

Tuesday Afternoon:

Class: Forcing and Open Lateral Boundary conditions (Serena Illig)

Hands-on session: Creation of all CROCO forcing inputs (climatological forcing); Launch of the model (climatological configuration) (Serena Illig with support from other lecturers)

Wednesday Morning:

Class: "Numerical aspects II " - Consistency and stability of a numerical scheme; Introduction to CFL condition; Quick overview of Sigma coordinates and truncation error (Serena Illig)

Hands-on session: Model outputs analysis with CROCO_gui (Serena Illig with support from other lecturers)

Wednesday Afternoon:

Class: Introduction to the online nesting with AGRIF (Serena Illig)

Hands-on session: Creation of all CROCO Forcings inputs (climatological forcing) for a zoom (with nestgui); Launch of the model (climatological configuration) with a zoom

Thursday Morning:

Role game in order to give a complete understanding of the model input files, with an emphasis on how the model handles the time (Serena Illig)

Hands-on session: Model outputs analysis with CROCO_gui (Serena Illig with support from other lecturers)

Thursday Afternoon:

Class: Running an inter-annual simulation (Guillaume Morvan)

Hands-on session: Preparation of an inter-annual simulation input files; Launch of the inter-annual simulation

Notions of optimization of the I/O (Guillaume Morvan with support from other lecturers)

Friday Morning:

Class: Modeling around Africa, demo, tips, and advice (Pierrick Penven)

Class: Parallelization (Rachid Benshila)

Demonstration: Let's put a river in one of your configurations (Rachid Benshila)
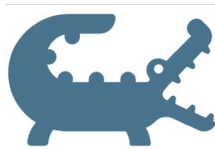
Discussion: Notion of model validation

Friday Afternoon:

Hands-on session: Model outputs analysis (all lecturers supporting)

Student presentations to get their certificates

Lecturers: Serena Illig, Rachid Benshila, Guillaume Morvan, Pierrick Penven

Hands-on support: Lionel Renault, Fabien Desbiolles, Swen Julien, Jennifer Veitch, Christian Ethe, Renaud Person, Gildas Cambon