

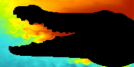
Réunion développeurs CROCO

Développement au Chili

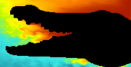
Andrés Sepúlveda

Contact: hectorsepulveda@udec.cl

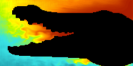
03 Juillet 2024



- Education
 - Summer Schools
 - Virtual Machine LiveCROCO 2.0.0
 - Tutorials for Virtual Machines
 - Promotional Videos
- Code: GLACIER module



- 2021/2022/2023 Virtual
- 2024 Hybrid (Online and in person)
- Two weeks in January:
 - Basic: (make_grid, make_bulk, make_bry, make_ini, jobcomp ...) 90% local teachers (Chile, Perú, Colombia, México,...)
 - Advanced: A topic (BGQ, Coupling) 1/3 locals and Gildas Cambon, Rachid Benshila, Swen Jullien, Vincent Echevin, Lionel Renault, Patrick Marchesiello, Laurent Roblou, Guillaume Morvan, Fabien Desbiolles
 - 2025: Basic + Advanced - Ocean Forecasting



- Focus on Spanish speaking community / France for French / South Africa for English
- YouTube channel

https://www.youtube.com/@modelacion_oceano

522 subscribers – 196 videos

- Website for the material

<http://mosa.dgeo.udec.cl/CROCO2021/>

<http://mosa.dgeo.udec.cl/CROCO2022/>

<http://mosa.dgeo.udec.cl/CROCO2023/>

<http://mosa.dgeo.udec.cl/CROCO2024/>

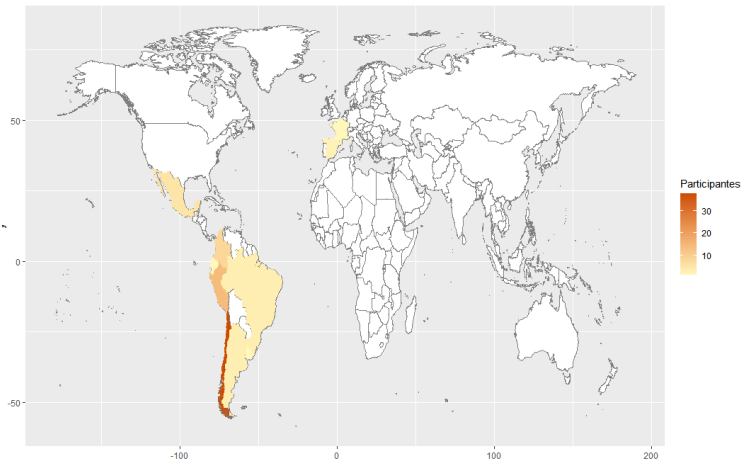
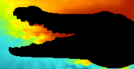


Figure: Participants 2022



Coastal and Regional Ocean Community model

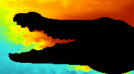
CROCO
Sud



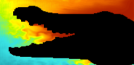
Universidad de Concepción



Figure: Institutions 2023



- Invitations for 1 week courses in Colombia, México, Colombia, Perú (self organized)...
- Most material on Overleaf, ready to be adapted



- Self contained environment where things just work
- Virtual Machine based on VirtualBox

Sepúlveda, H. H., Artal, O. E., & Torregrosa, C. (2011). LiveROMS: A virtual environment for ocean numerical simulations. *Environmental Modelling & Software*, 26(11), 1372-1373.

- Based on Ubuntu + Octave & OctCDF (ABarth)
- OcdfCDF is no longer available
- V2.0.0: Ubuntu + CROCO_PYTOOLS (or octave-netcdf?)
- Good for teaching, self study
- Tutorials in English and Spanish

<http://mosa.dgeo.udec.cl/LiveCROCO/>

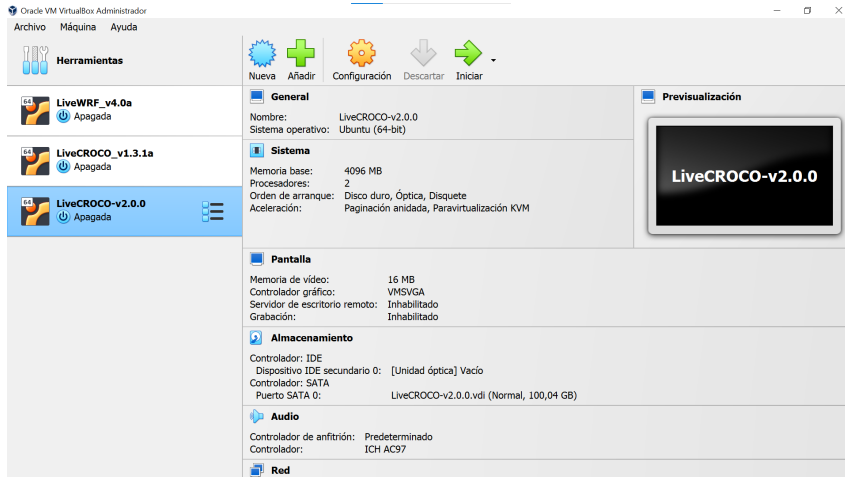
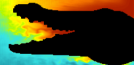
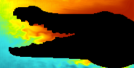


Figure: LiveCROCO v2.0.0



- Tutorials in English and Spanish (French?)
<http://mosa.dgeo.udec.cl/LiveCROCO/>
 - 1 Installation
 - 2 Domain Change
 - 3 NCO/NetCDF handling
 - 4 Climatology
 - 5 Tides
 - 6 Biogeochemistry
 - 7 Nesting (AGRIF)
 - 8 Rivers
 - 9 Floats
 - 10 OpenDrift
 - 11 NH - Test Cases
- More videos? (1 english, 1/2 spanish)
















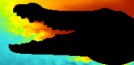
← → ↺ ⚠ Not secure mosa.dgeo.udec.cl/LiveCROCO/			
Index of /LiveCROCO			
<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
<hr/>			
 Parent Directory		-	
 LiveCROCO_v1.3.0a.md5sum	2022-12-08 20:59	56	
 LiveCROCO_v1.3.0a.ova	2022-12-08 19:58	16G	
 PDF_Tutoriales_Espanol/	2023-03-28 17:32	-	
 PDF_Tutorials_English/	2023-08-18 11:26	-	
 Tutorial01/	2022-08-22 18:11	-	
 Tutorial02/	2022-08-22 18:11	-	
 Tutorial03/	2022-08-22 18:05	-	
 Tutorial04/	2022-09-18 22:00	-	
 Tutorial05/	2022-08-22 18:12	-	
 Tutorial06/	2022-08-22 18:12	-	
 Tutorial07/	2022-08-22 18:13	-	
 Tutorial08/	2022-08-22 18:13	-	
 Tutorial09/	2022-08-22 18:13	-	
 Tutorial10/	2022-08-24 12:36	-	
<hr/>			
Apache/2.4.41 (Ubuntu) Server at mosa.dgeo.udec.cl Port 80			

Figure: LiveCROCO Tutorials



Mareas

Versión 2.0, 06 septiembre 2023



Tutorial 05 CROCO: Simulación con Mareas

1. Propósito

En este tutorial revisaremos como realizar una simulación del dominio de Benguela incluyendo el efecto de la marea en los bordes, los archivos importantes para este tipo de simulaciones, y la validación de esta.

2. Creando el directorio de trabajo MAREAS

El ejemplo más sencillo de CROCO es la configuración llamada BENGUELA.LR que corresponde a un dominio de la zona de surgencia de Benguela de baja resolución (de ahí el LR : *Low Resolution*). Esta configuración es la que viene por defecto en el código de CROCO y lo que haremos es similar a lo descrito en Penven et al. (2001).

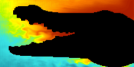
Asumiremos que ya tiene una copia local del código de CROCO y de CROCO.TOOLS en su directorio raíz. Esto se puede lograr siguiendo los pasos del Tutorial 01.

El primer paso es editar el archivo **create.run.bash** con las instrucciones para crear un nuevo directorio de trabajo que llamaremos **MAREAS**

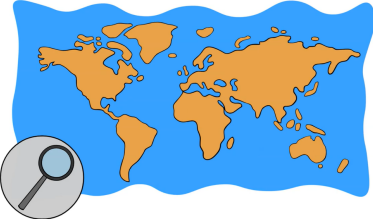
```
1 cd andres/croco
2 nano create_config.bash
```

Ahora tiene que modificar esta sección para colocar el nombre de este ejercicio

Figure: LiveCROCO Tutorial



- Testing the idea for shorter videos (1-2 minutes)
- YouTube, but also LinkedIn
- Funding from PSF (Lionel Renault)
- 4 more videos in 2024 - ideas to showcase?
- Statistics of usage/interest?



Presentación del modelo de circulación de océano CROCO

CROCO 2024
522 subscribers

97 views · 8 months ago

8 likes · 0 comments · Share · ...

Chat Replay is disabled for this Premiere.

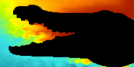
Videos de Difusión

CROCO 2024 - 1 / 4

- Presentación del modelo de circulación de océano CROCO
CROCO 2024
1:43
- Primeros pasos para una simulación con CROCO
CROCO 2024
1:49
- CROCO ACOPLAMIENTO con OASIS
CROCO 2024
1:01
- CROCO No-hidrostático
CROCO 2024
2:18

All From CROCO 2024 Related

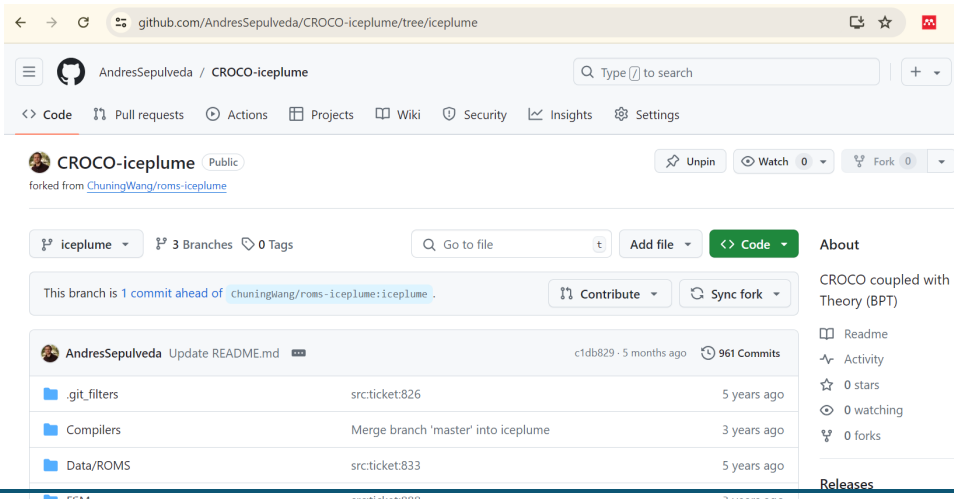
Figure: Promotional Videos



- Need (in Chili) for a better representation of the freshwater input of glaciers
- Two important fjord environments with operational forecasts at 1km grid size by IFOP (Chilean IFREMER)
- Early discussions with John Klinck, Mike Dinniman (ODU, Virginia) on the iceplume code, a Buoyant Plume Theory (BPT)

Wang, C., Chant, R. J., & Jackson, R. H. (2023). Parameterizing Subglacial Discharge in Modeling Buoyancy Driven Flow in Tidewater Glacier Fjords. *Journal of Geophysical Research: Oceans*, 128(8), e2023JC019924.

- Proposal submitted to Chilean NSF (way beyond my comfort zone)
- Early contacts with Dr. Lars Asplin (IMR-Norway) due to similar environments and much more data



github.com/AndresSepulveda/CROCO-iceplume/tree/iceplume

AndresSepulveda / CROCO-iceplume

Search Type to search

Code Pull requests Actions Projects Wiki Security Insights Settings

CROCO-iceplume Public

forked from [ChuningWang/roms-iceplume](#)

iceplume 3 Branches 0 Tags

Go to file Add file Code

This branch is 1 commit ahead of [chuningwang/roms-iceplume:iceplume](#)

Contribute Sync fork

AndresSepulveda Update README.md c1db829 · 5 months ago 961 Commits

.git_filters	src:ticket:826	5 years ago
Compilers	Merge branch 'master' into iceplume	3 years ago
Data/ROMS	src:ticket:833	5 years ago

About

CROCO coupled with E Theory (BPT)

Readme Activity 0 stars 0 watching 0 forks

Releases

Figure: <https://github.com/AndresSepulveda/CROCO-iceplume/>

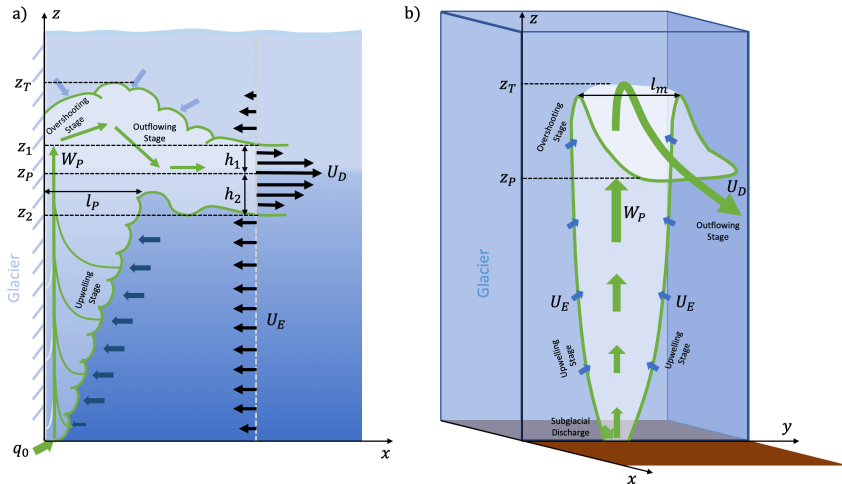


Figure: BPT for Glaciers

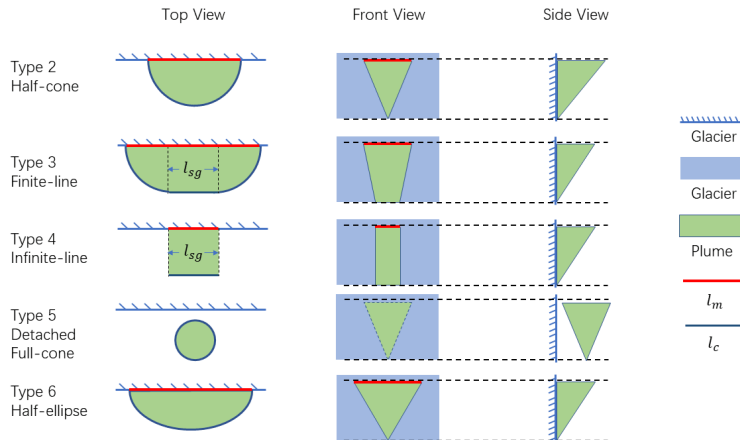


Figure: Plume types - Glaciers