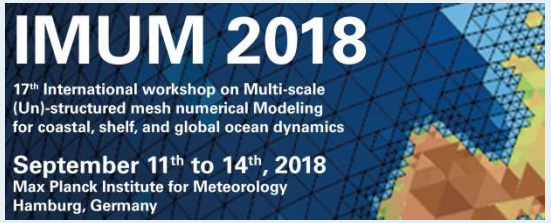

EOSC-hub

Generation of operational forecasts on demand:

The OPENCoastS platform hands-on course

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eosc-hub.eu

@EOSC_eu

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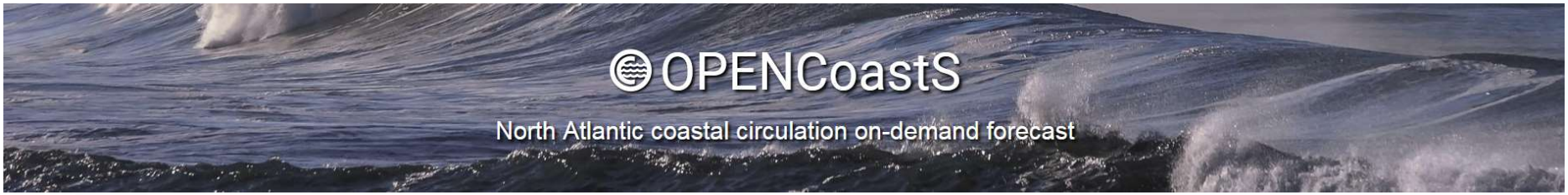
Course overview

- *Goals: What should you know at the end of the course*
- *Service access, registration, users manual and everything you need to get to the "pole position"*
- *The OPENCoasts platform hands-on tutorial*
  - *Configuration assistant step by step*
  - *Forecast manager – what can we do*
  - *Outputs Viewer and more*
- *Where are we going from here: our plans and your suggestions*

Goals

- *What is OPENCoastS?*
- *What do I need to use OPENCoastS?*
- *How do I use this platform?*
- *Are there limits on the forecasts? Are they confidential?*
- *What resources are included in EOSC-HUB project*
- *(I liked this platform and I would like to help the development team by …proposing new features, evaluate new versions, contribute with my data/forcing models,…)*

The OPENCoastS platform in a nutshell

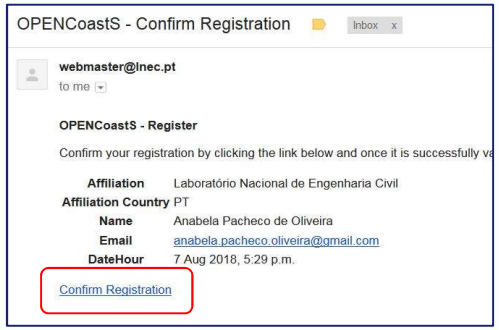


- *A platform to:*
  - *Implement forecast systems for a system chosen by the user, using a browser-based, user-friendly, interface*
  - *Allow the choice of the processes, model and forcings*
  - *Allow the replication and change of forecast systems*
  - *Avoid the need of a large team to generate forecast systems*
  - *Take advantage of the European Open Science Cloud (EOSC) to provide the required computational resources (EOSC-hub project)*

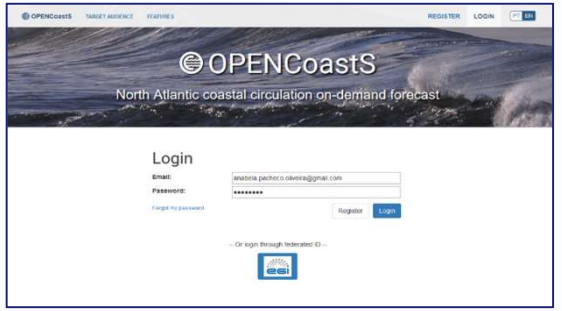
Everything you need to get to the pole position (1)

- *First, you need to register at*
  - *https://opencoasts.ncg.ingrid.pt/register/*
  - *After filling in the info (confidential, not be shared, anonymous, only used to compute resources usage/country)*

- *Then you will get an email acknowledging your registration request that you need to confirm through the provided link (so we know you are not a computer…)*



- *After your confirmation, an email is sent granting the access to the service. From that point onward, the user can login and start using the OPENCoastS service.*

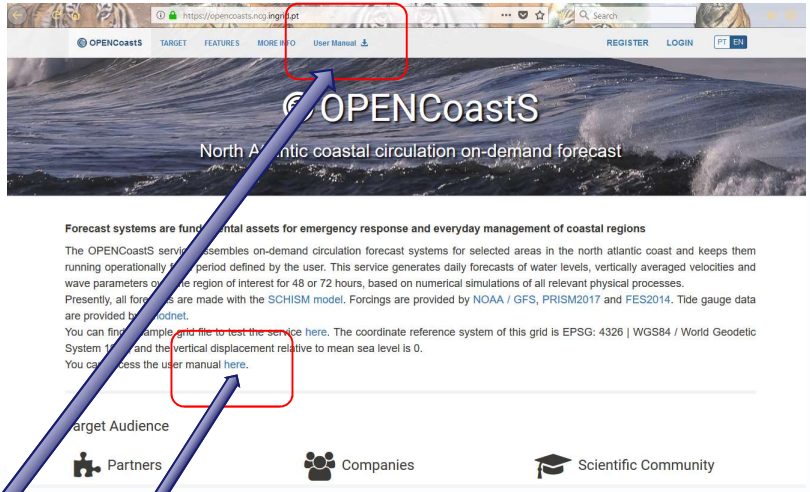


Everything you need to get to the pole position (2)

- *Where can I get more information on this tool?*
  - *Access the OPENCoastS service project information at:*

    http://opencoasts.lnec.pt/index_en.php
  - *Learn more about the EOSC-Hub project at:*

    https://eosc-hub.eu/



- *Is there a users manual?*
  - *Yes: https://opencoasts.ncg.ingrid.pt/static/OPENCoastS_manual.pdf*
  - *If you have additional questions or suggestions email us: aoliveira@lnec.pt*

Hands-on tutorial

- *Login at https://opencoasts.ncg.ingrid.pt/*
- *Configuration assistant step by step*
  - *Step 1: Select the model and the duration*
  - *Step 2: Upload and verify the grid* 

- time to answer questions
  - *Step 3: Specify boundary conditions* 

  - *Step 4: Define output stations* 

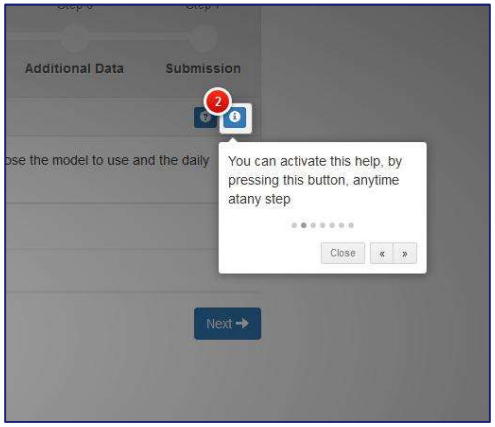
  - *Step 5: Define physical and numerical parameters*
  - *Step 6: Define space-dependent parameters* 

  - *Step 7: Review and submit* 

Hands-on tutorial – first use

- *First time usage:*
  - *Accept usage conditions*
  - *guided tour on the configuration assistant is proposed (to skip it, just hit “close”)*
  - *Help always present:*

button



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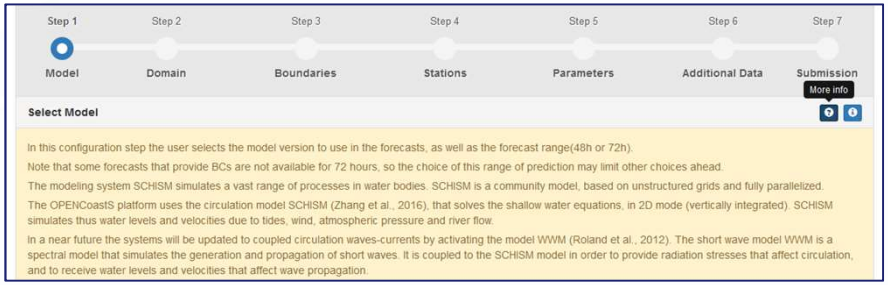
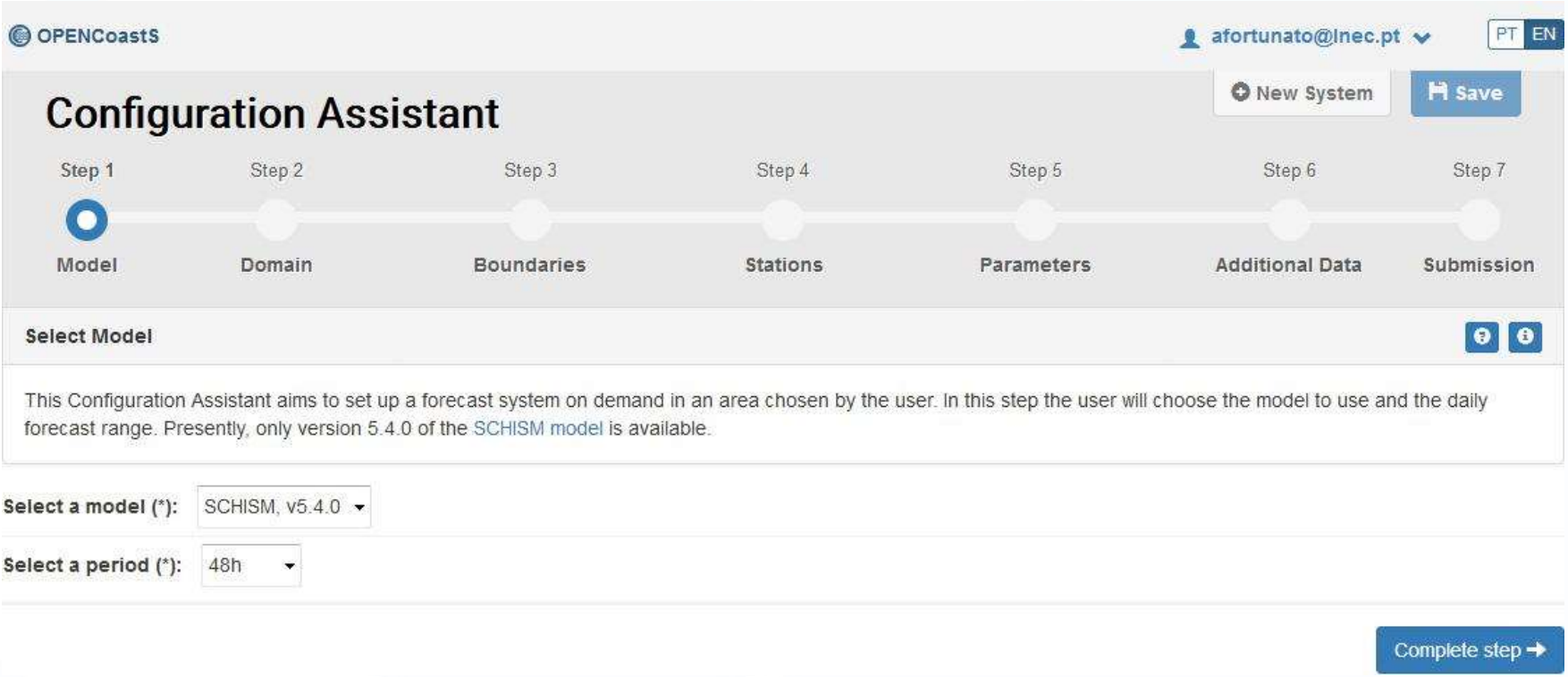


Configuration assistant step-by-step

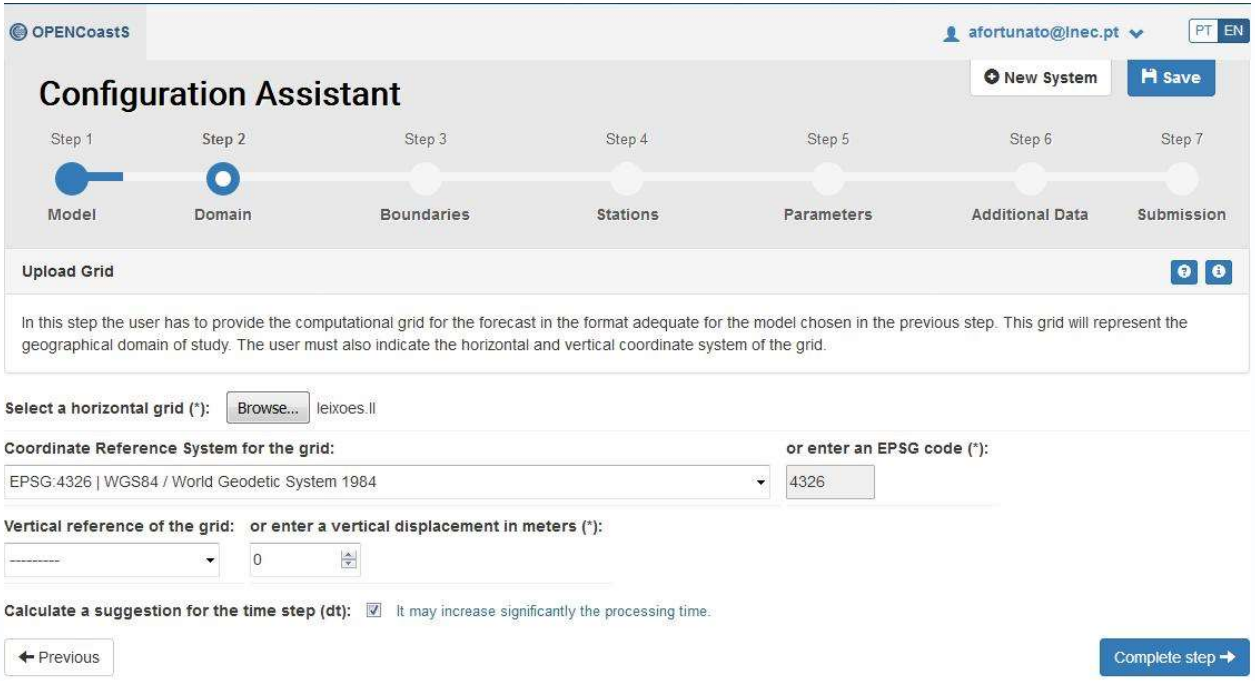
- *Step 1: Select the model and the duration*



- *Only one option for the model (and its version) – other versions and other models are planned*
- *Extension to 72 h also planned*
- *After, just hit "Complete step" and a new deployment is created*

Configuration assistant step-by-step

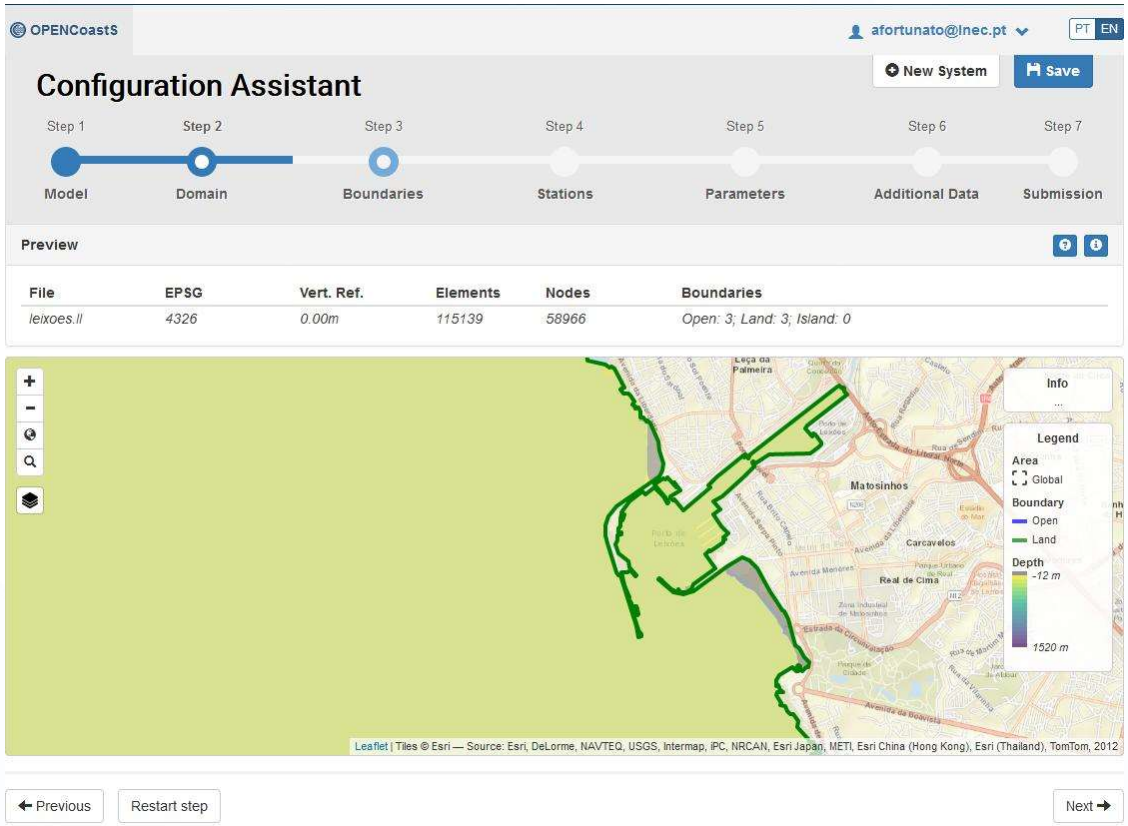
- *Step 2: Upload and verify the grid*



- *Grid format SCHISM/SELFE/ADCIRC*
- *WGS84 is the simplest format if you have trouble finding your grid's EPSG/coordinate system*
- *Vertical reference: we run the forecasts at MSL; this info is needed for model/data comparison*

Configuration assistant step-by-step

- *Step 2: Upload and verify the grid*

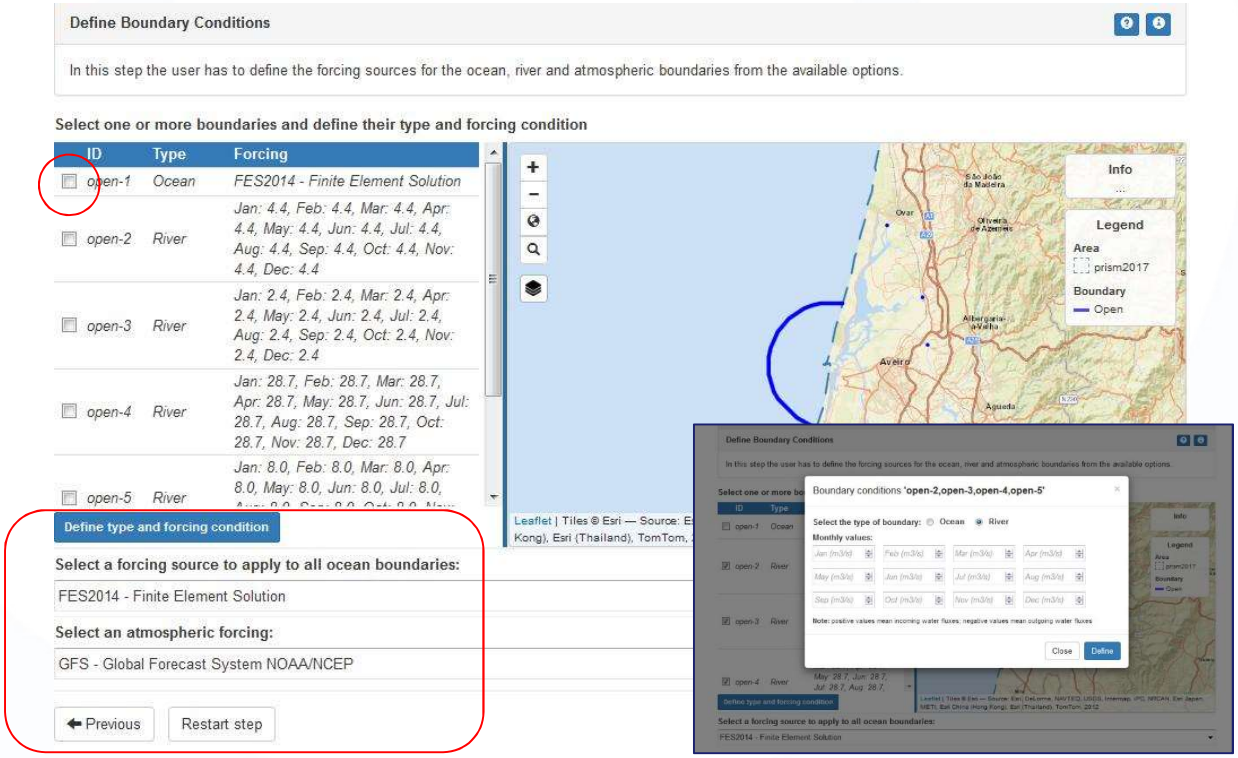


- *Intermediate step to verify the grid and its boundaries*

- *Questions? Trouble getting here? Just ask us!*

Configuration assistant step-by-step

- *Step 3: Specify boundary conditions*

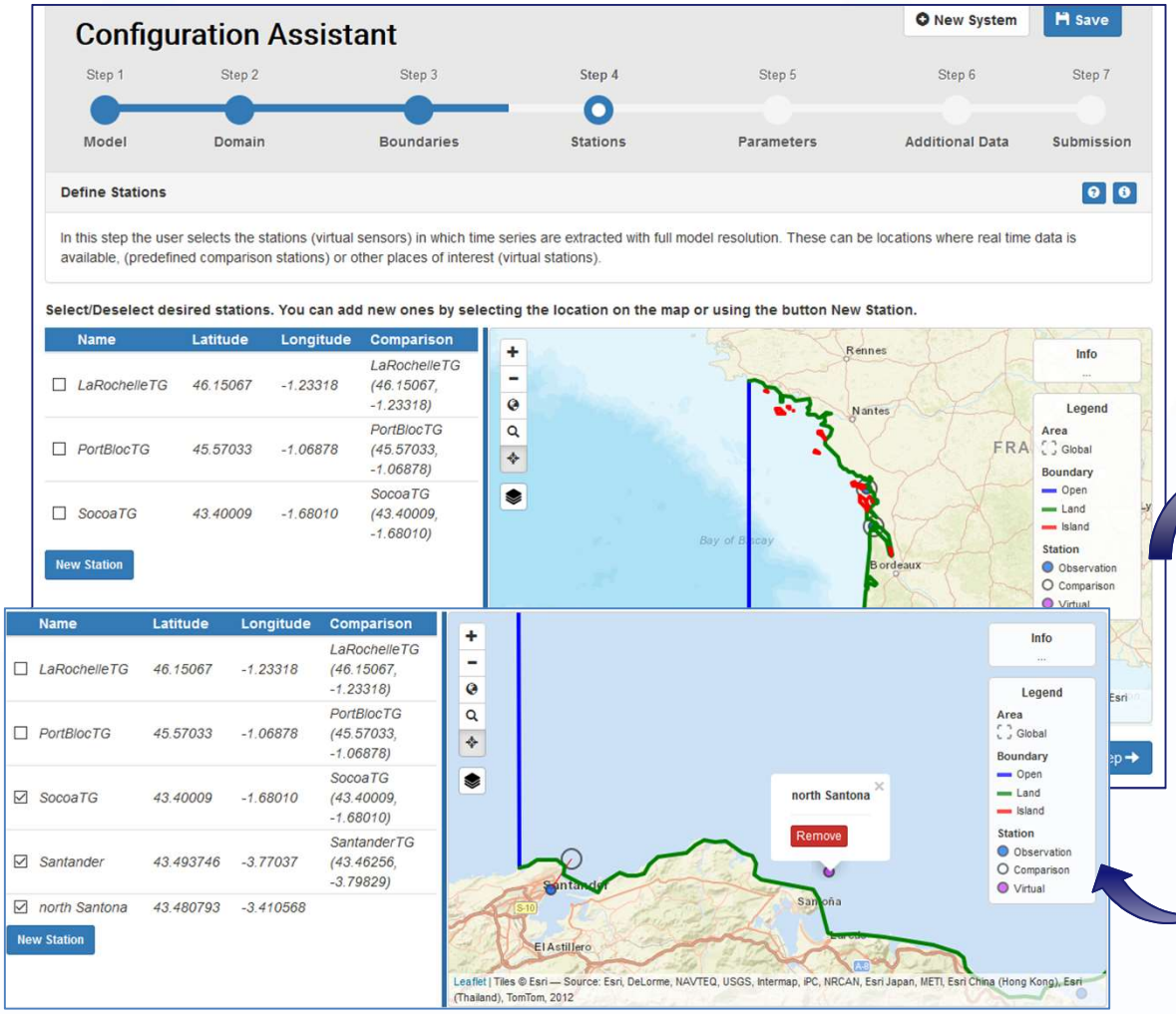


- *Select boundary by clicking on the toggle box*
- *Multiple boxes allow for equal conditions in the several selected Boundaries*
- *For ocean and meteo, the user needs to specify sources below*
- *Same source for all ocean bc.*
- *For river, monthly values need to be specified.*
- *BCs: elevation at ocean, river flow at rivers*

- *Questions? Trouble getting here?*

Configuration assistant step-by-step

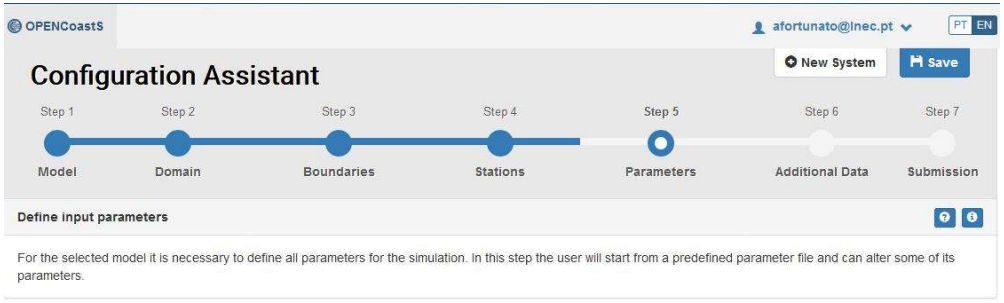
Step 4: Define output stations

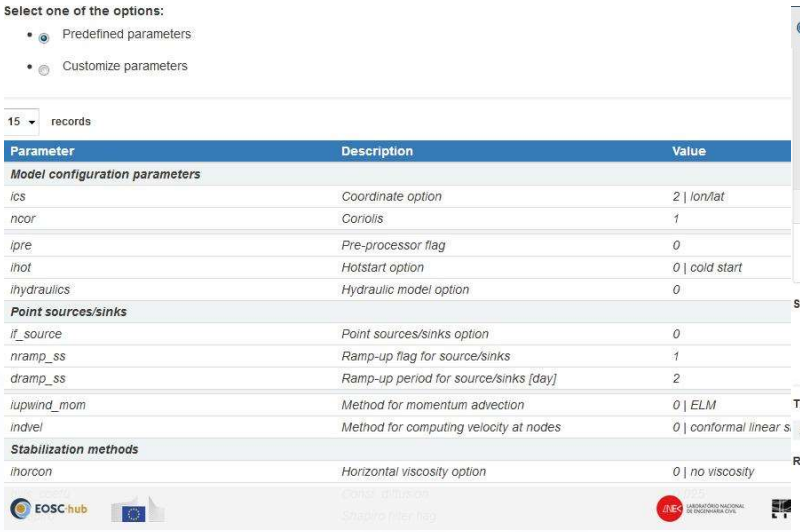


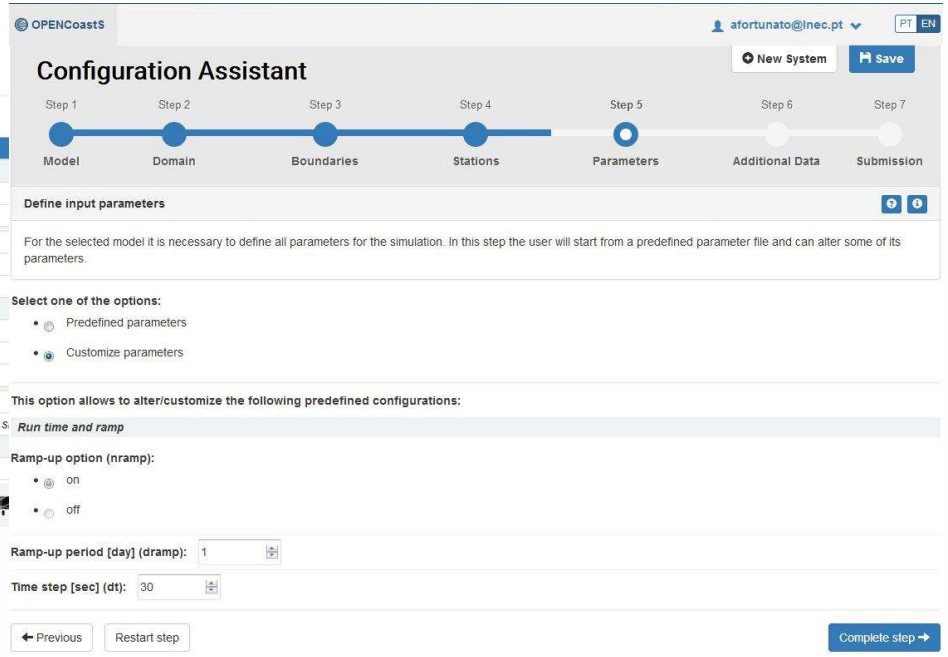
- *Selected stations in EMODNet Physics are automatically proposed (just select the ones you want)*
- *A limit of 5 stations per forecast is allowed*
- *Real stations/Virtual stations can be added and will show up automatically in the VIEWER*

Configuration assistant step-by-step

- *Step 5: Define physical and numerical parameters*



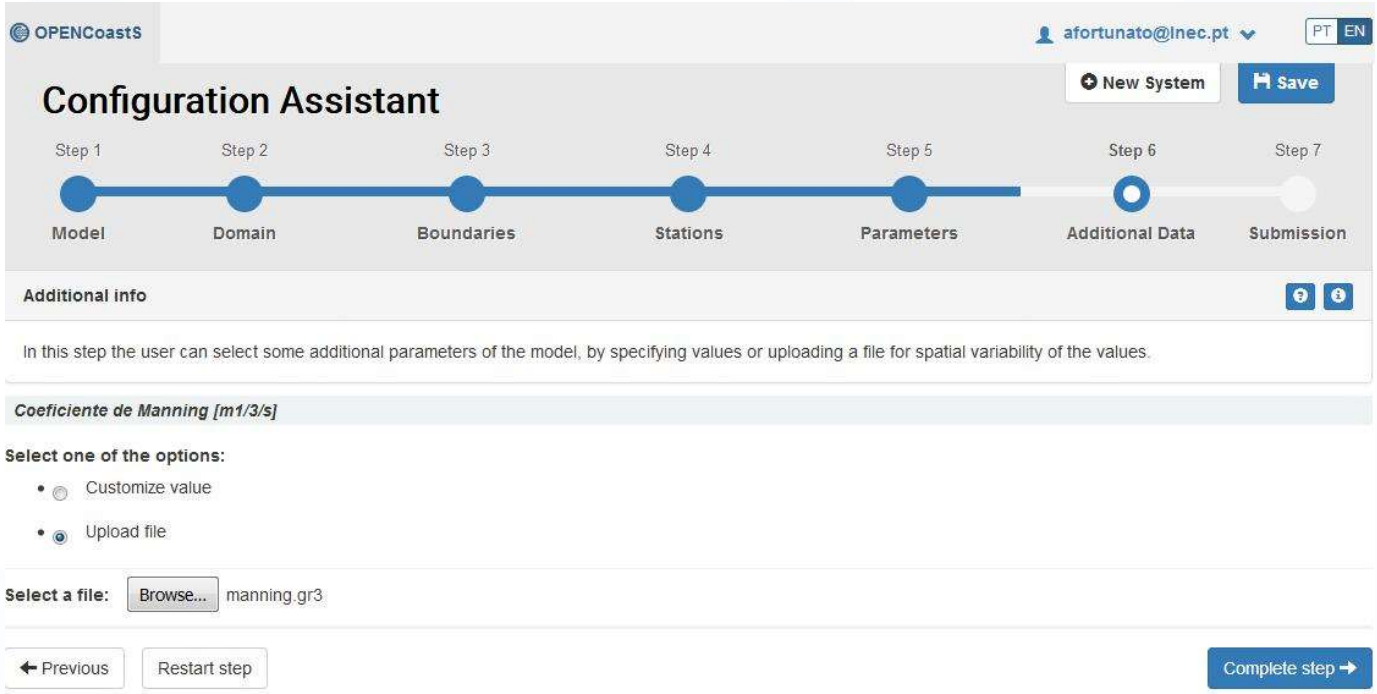




- *Default based on LNEC's experience with SCHISM*
- *A few parameters can be set by the user – limited for robustness*

Configuration assistant step-by-step

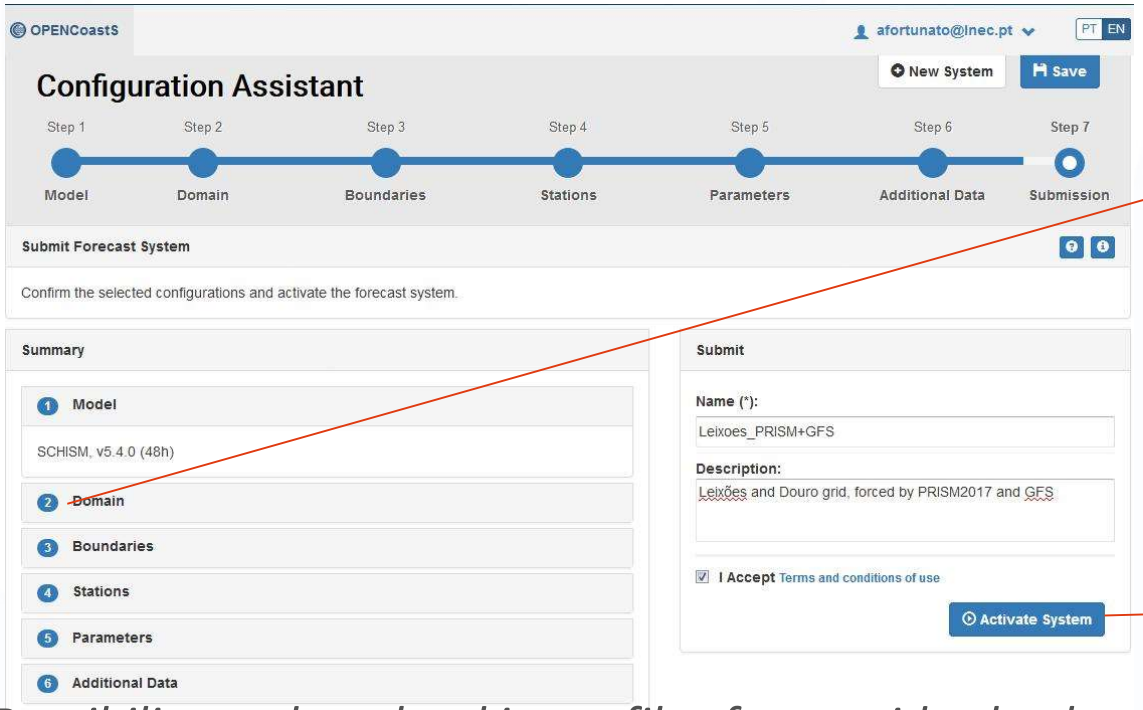
- *Step 6: Define space-dependent parameters*

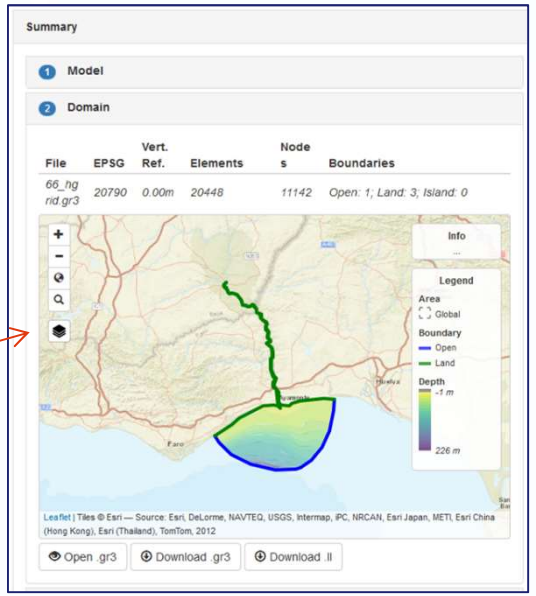


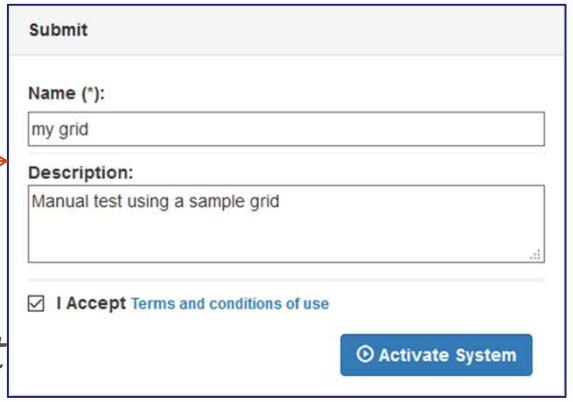
- *Possibility to define spatial variability*
- *In the future, validation procedures will be added to minimize model failure due to poor parameter choice*

Configuration assistant step-by-step

- *Step 7: Review and submit*



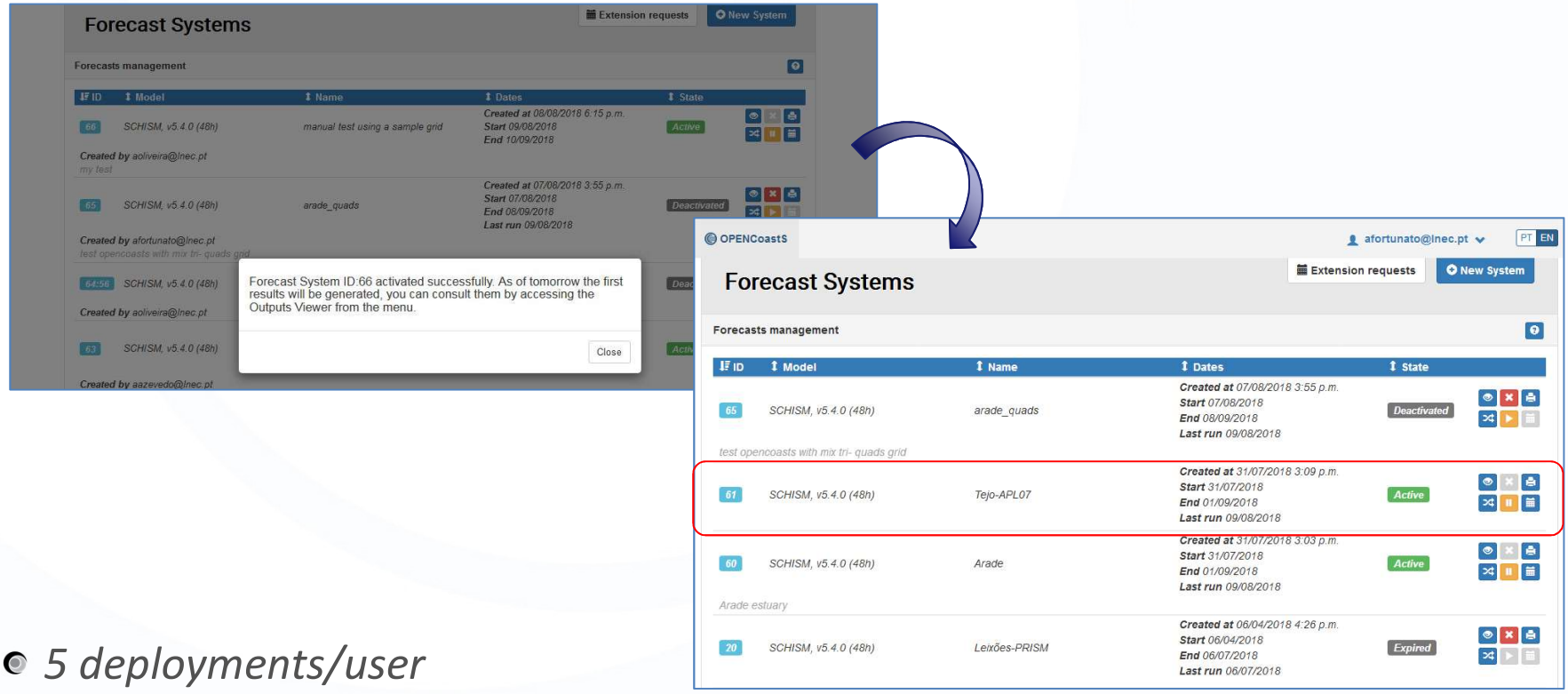




- *Possibility to download input files for outside check*
- *Possibility to go back to any step (after step 2) and correct everything*

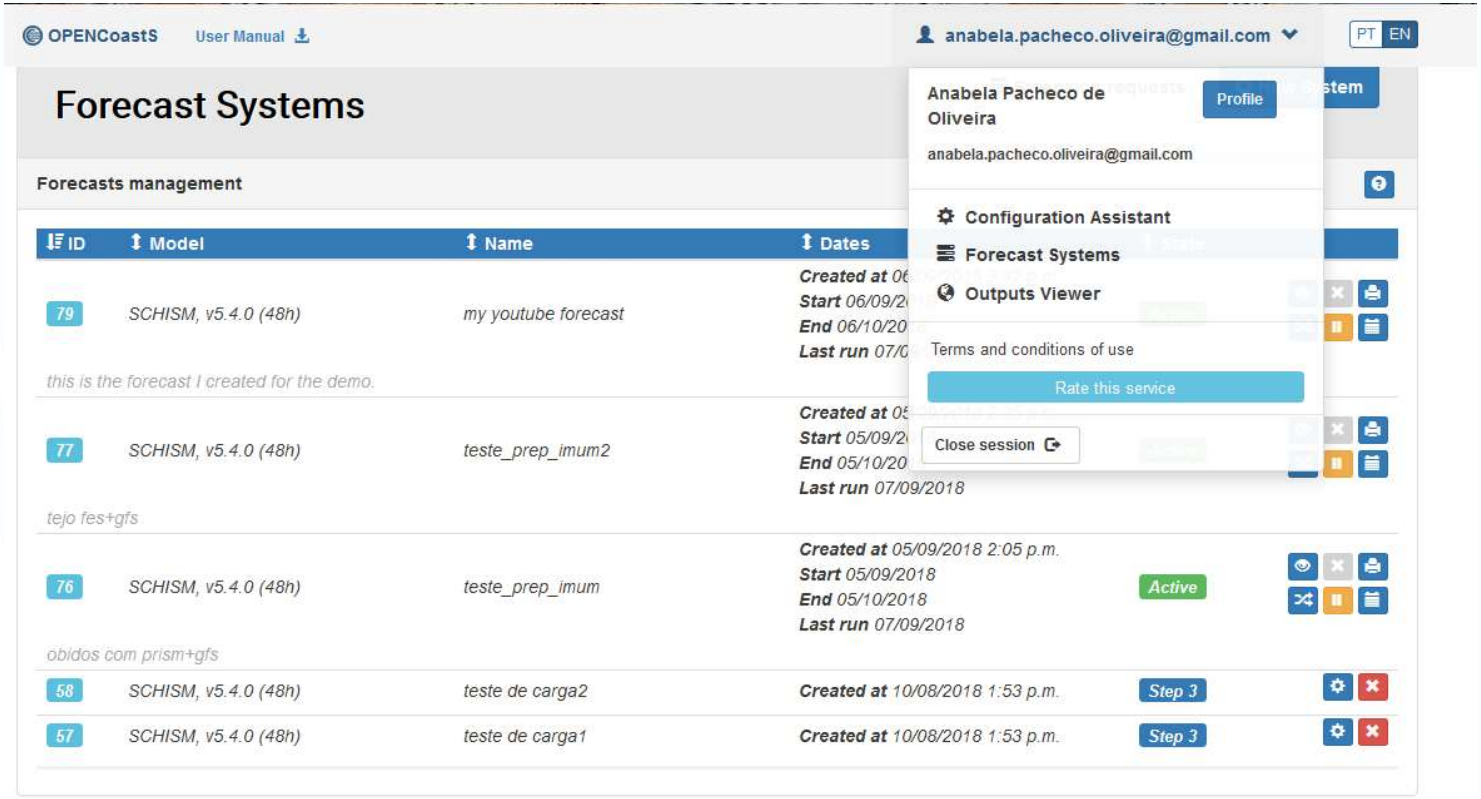
After activating the system

- *Step 7: Review and submit*



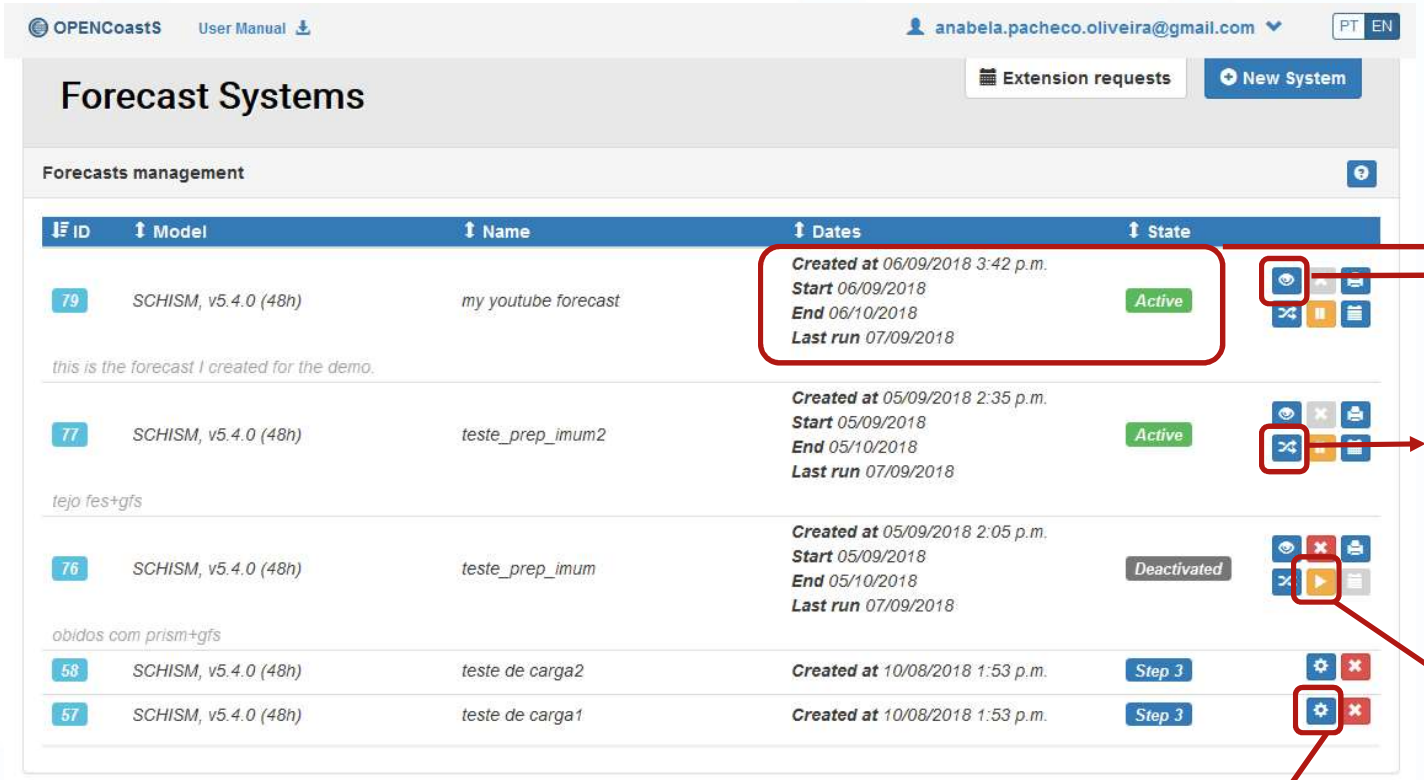
- *5 deployments/user*
- *Resources – EOSC/European Grid Initiative*
- *European institutions use – covered by EOSC-Hub until end of 2020*

Next steps



- *Forecast System Manager: monitor and make changes to my forecasts – confidentiality* STOP
- *Outputs viewer (follow my demo)* STOP
- *Rate this service – your evaluation (and comments) are the path for our improvement*

Forecast Systems Manager

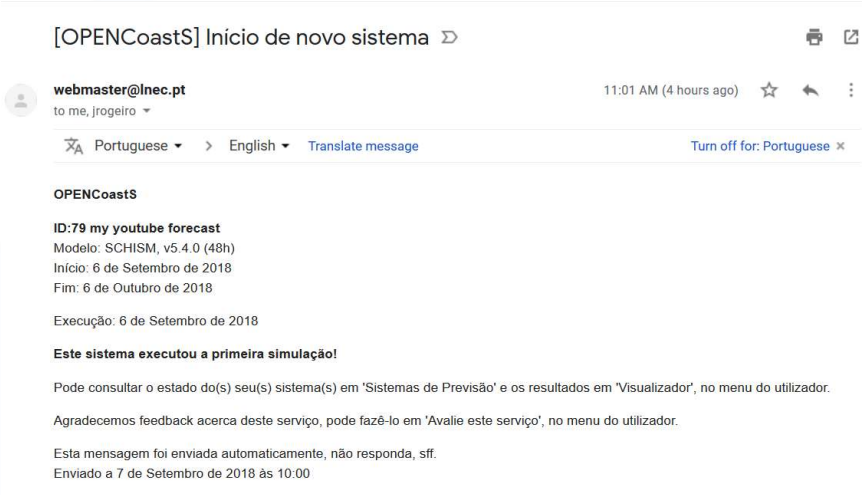


- *Checking the status and the settings of my runs*
- *Clone it – duplicate to change: b.c., parameters, outputs*
- *Re-activate a deactivated system or eliminate it*
- *Return to C.Assist. to continue to setup my forecast*

- *<u>Many states are possible</u>:*
  - *"step k" – in construction, we can continue later or just eliminate it*
  - *Active – we can deactivate, clone it, check it,…*
  - *Deactivated – we can activate it again or eliminate it*

Forecast Systems Manager & Configuration Assistant control

- *Warnings either through the interface or by email help the user to: 1) make sure he/she is doing the intended action 2) follow their deployments closely*
- *Examples:*
  - *When a system runs for the 1st time*
  - *When a status change is requested*


[OPENCoastS] Início de novo sistema

webmaster@lnec.pt 11:01 AM (4 hours ago)
to me, jrogeiro

Portuguese › English Translate message Turn off for: Portuguese

OPENCoastS

ID:79 my youtube forecast
Modelo: SCHISM, v5.4.0 (48h)
Início: 6 de Setembro de 2018
Fim: 6 de Outubro de 2018

Execução: 6 de Setembro de 2018

Este sistema executou a primeira simulação!

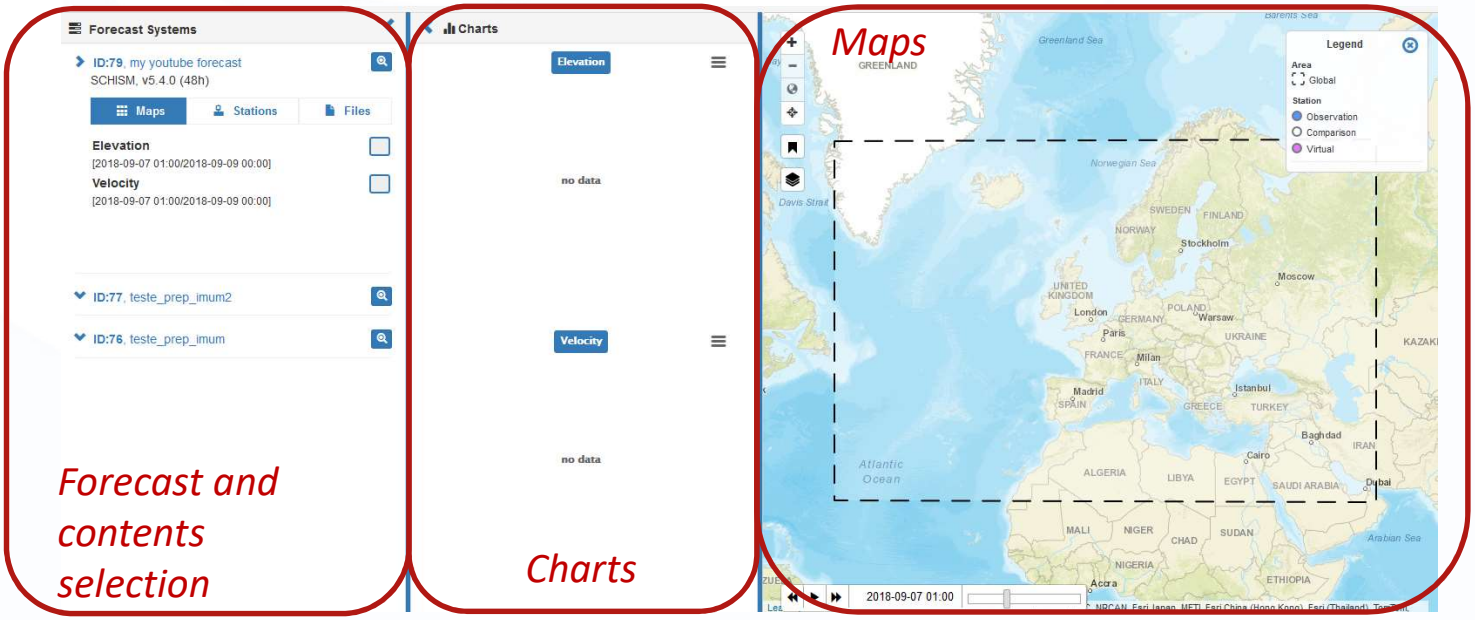
Pode consultar o estado do(s) seu(s) sistema(s) em 'Sistemas de Previsão' e os resultados em 'Visualizador', no menu do utilizador.

Agradecemos feedback acerca deste serviço, pode fazê-lo em 'Avalie este serviço', no menu do utilizador.

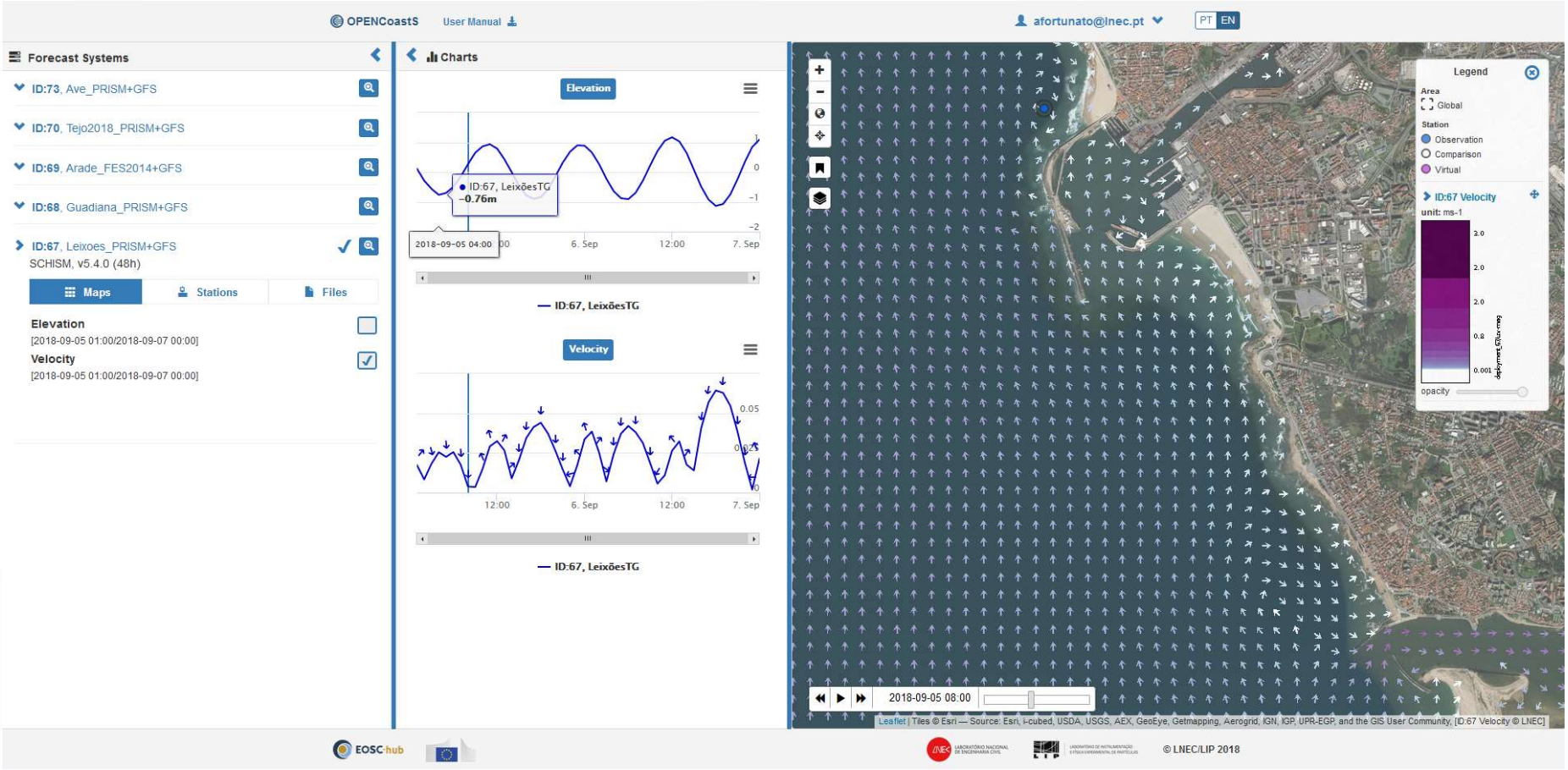
Esta mensagem foi enviada automaticamente, não responda, sff.
Enviado a 7 de Setembro de 2018 às 10:00

Outputs viewer

- *Hands-on only if you tested OPENCoastS before (and already have simulations available)*
- *If not, just follow my demo*
- *Later, you can browse your results and/or you can check the recorded hands-on tutorial on youtube: https://www.youtube.com/watch?v=TRomoXBxdOc&feature=youtu.be*
- *Viewer: 3 areas*



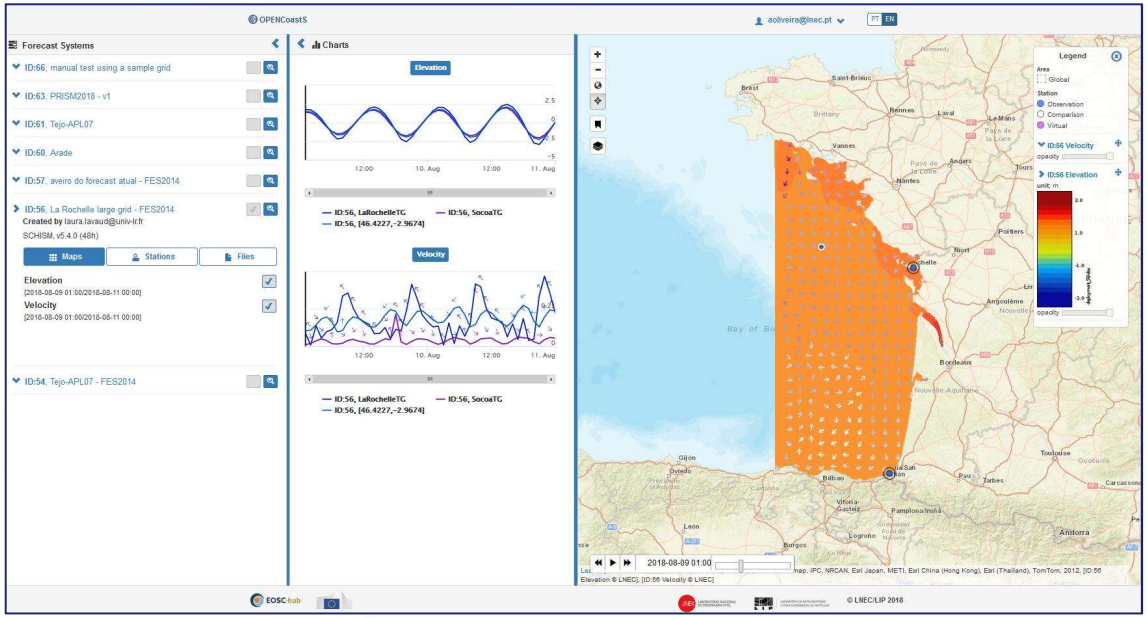
Example: flow and time series in the Leixões Harbour

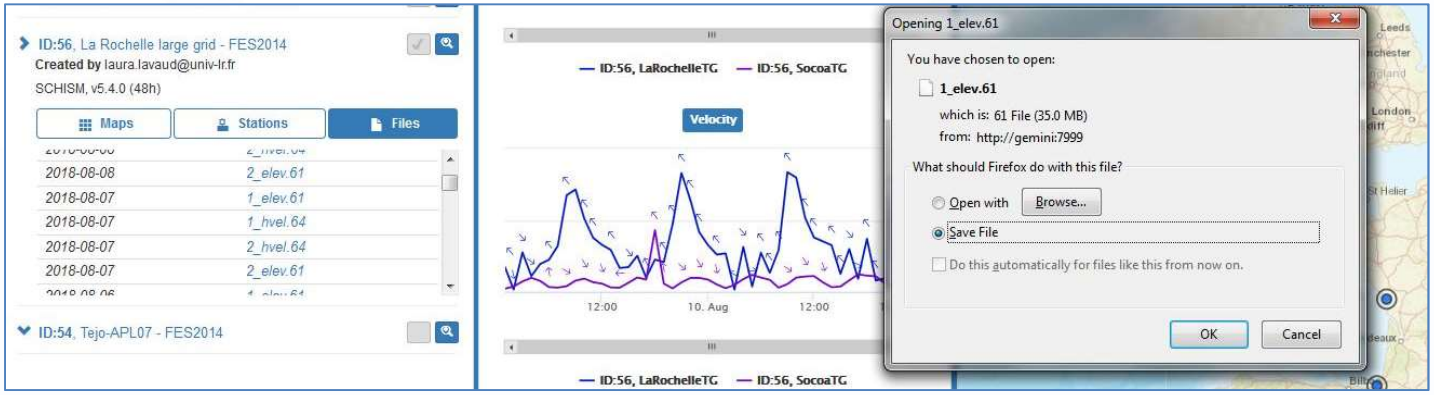


Example: elevation and time series in La Rochelle region

- Adding points on the fly

- Saving time series and model outputs in your PC





- We can see Time Series from several forecasts at the same time

Perspectives and your role

- 3D baroclinic physics (SCHISM)
- Improved viewer
- Improved and extended NE Atlantic model for boundary conditions (PRISM2018)
- Atmospheric forcings from METEO-FRANCE
- Coupled wave-current model (SCHISM-WWM), including forcing by WW3
- Perform 72 hour forecasts
- Include more EMODnet stations
- Open code at the end of the project (2021)

- Stay tuned for new developments!
- Send us your comments and suggestions (aoliveira@lnec.pt or through the rating service)
- If you would like to participate in the development, send us a proposal

- If your institution is outside Europe and you would like to use OPENCoastS beyond testing and evaluation, we will be glad to evaluate with you the possibility to link to other resources providers

Thank you for your attention!

Please fill-in the evaluation report and leave it on the box before you leave the room

If you need a certificate for the course, request at aoliveira@lnec.pt

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Xavier Bertin, Laura Lavaud

Universidad de Cantabria:

Sonia Castanedo, Fernando Mendes

The trainers would like to thank the IMUM 2018 organizers for providing the opportunity and all conditions for the OPENCoasts course.

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