Creating an online overview of models developed within Copernicus

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Objectives

Whilst a lot of models have been develop at Copernicus, a comprehensive overview of these models is currently lacking. An online overview will be developed to mitigates this, which will have multiple advantages. First, it can facilitate logical and creative collaboration between different researchers, both within and outside of Copernicus. This speeds up scientific advancement in specific topics, and improves the position of Copernicus in the broader scientific community. Secondly, by having the models easily accessible they can more readily be used within education. This will help students understand current modelling methods, and allows them to eventually build further on the models currently developed by Copernicus.

Overview of Copernicus models

As mentioned above, an overview of the utilized models will be developed on the Copernicus website. To achieve this, four components will be developed. Firstly, the overview itself will be made, showing all utilized models in an appealing way. Secondly, a comprehensive explanation page for each model will be developed to allow users to learn more about models of interest. Thirdly, to give users a more complete grasp of what each model produces, for each model a page will be created containing a visualization of the output data. Finally, to foster connection with the broader research community the models will also obtain a Dataverse entry, the standard UU data repository[1].

Copernicus overview:

On the Copernicus website, an illuminating overview of all participating models will be given. Exactly what this will look like depends on the number of models partaking and on further discussions amongst ourselves and with participants. Here, models can be selected which will bring you to a specific Model page.

Model page:

Within every model page following will be present.

1. Name
2. Description
3. Who worked on the model including contact details.
4. And, if applicable:
    a. Link to a file containing model description
    b. Link to input data
    c. Link to model output data
    d. Link to a data visualization page

Data visualization page:

Allowing users to investigate the output data for a model. This will depend on the type of data that is produced by the model and will be decided based on the modellers participating.

[1] https://www.uu.nl/en/research/research-data-management/tools-services/tools-for-storing-and-managing-data/data-repository-finder/the-research-data-repository-dataversenl

Dataverse overview:
Within Dataverse, all the utilized models and corresponding data will be stored in a dedicated Copernicus page. This will have both all models as a list users can scroll through and pick ones of interest, and a search function to find ones desired. Each model will also have a page in this environment, automatically generated from the earlier 'Model page'.

Activities
The first step is to gather who would like to partake in this project. This will be done through a **google form**. Here, respondents are asked questions regarding:

1. Do they have a model they want in the overview?
2. What type of data do they want to display?
3. Are they open for an interview on further collaboration?

The second step (executed in parallel with the first step) is to **develop initial ideas** regarding each of the four components: What will the Copernicus overview look like, what will be on each model page, how will data visualization be done and how will the Dataverse entries be created. This will be done through sketches of actual webpages in figma, sketching relationships between components in tldraw and investigating the different technical components. One key aspect that will be investigated is whether it is feasible to create a form asking for all information regarding a particular model and then automatically adding this model to all the components in the overview. This is technically complex but would result in an overview that can indefinitely be updated.

The third step is to **interview the interested survey respondents**. This interview will follow the three core components of the overview:

1. Discuss ideas regarding the Copernicus overview.
2. Ask them to deliver a description, the model and the data for the model page.
3. Discuss how to visualize the data of this model, and where/what type of data.

The fourth step requires that **decisions** are made. Firstly, the opinions of the interviewees and our own are weighted to decide on the format for the Copernicus overview. Secondly, which data types to show in what way is decided.

The fifth step is to **developed and populate the decided products**. This will either be done automated or by hand, depended upon an earlier feasibility analysis. The earlier described overview will be developed:

1. The Copernicus overview will be made
2. For each model, a Model page will be made
3. A link to a data visualization environment will be added to every model page where applicable.
4. Each model will be entered into the Dataverse framework

The sixth step regards **finalization**. In this step, a showcase of the overview will be held with participating model developers and other interested parties. Furthermore, a documentation will be made to allow future interested parties to add to/alter the created overview.

Time plan:

Activity	w 37	w 38	w 39	w 40	w 41	w 42	w 43	w 44	w 45	w 46	w 47	w 48	w 49	w 50	w 51	w 52
Project startup																
Orientation form																
Develop component ideas																
Interviews																
Decide on components																
Developing components																
Dev 1: Copernicus overview																
Dev 2: Model pages																
Dev 3: Data visualization																
Dev 4: Dataverse overview																
Finalization																