Plan Overview

A Data Management Plan created using DMPonline

Title: Spray Water- Spray jets from wave run-up against ship bows and steep walls

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Project abstract:

In Arctic and sub-Arctic open waters with harsh conditions, ship operations are intensifying due to the reduc-tion of sea ice coverage: transits for transport, tourist and yacht cruises, and crew change transits to offshore operation sites. Their safety is affected by icing, i.e. sea spray that freezes upon contact with the ship. As cli-mate change induces more and more intense storms, the damage and hindrance of spray jets on ships will aggravate. Similar observations hold for spray jets overtopping coastal structures such as levees, flood gates, breakwaters and quay walls, that impact their functionality and safety level of the hinterland. In order to ena-ble better control of overtopping and icing, the formation of spray-jets from wave run-up needs to be investi-gated. The fundamental research questions in this context are: how much spray is formed and how does it break up in drops under various representative storm conditions. Understanding of the physical processes, and from there, computational modelling, will be based on an indispensable and so far non-existing data sets gen-erated in an experimental research program. As proper scaling of the processes is of key importance, two dif-ferent experiments are proposed aiming at representing the important physics at different scales. The results will be used in the development of winterisation guidelines as related to IMO Polar Code operation-al guidelines. Fundamental knowledge on spray formation will also be used in the design of coastal defence structures.

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Spray Water- Spray jets from wave run-up against ship bows and steep walls

General information

Name applicant and project number

Prof. dr. ir. W.S.J. Uijttewaal, TUD

Have you received support from the datamanagement support office of your institution writing this plan?

- Yes

Description of the data

Describe the data that will be collected/generated within the project.

There will be three experimental campaigns.
1. Large-scale jet model
2. Full-scale model tests (field experiments)
3. Small-scale wave run-up experiments in TU Delft WaterLab. The data that will be collected are:
-surface elevation (ASCII files)
-high-speed images of the run-up process of a wave againsta wall with different inclinations
-velocities at the run-up of wall (TIFF and txt files with positions and velocity components)

Specify the type and format of the data.

The raw data will be mainly .txt files and .tif images. The nomenclature of the files wil gather the key information of each of the files, namely the test campaign, the measurement technique and the conditions of each test.
The processed data is subjected to the characteristics of the anlalyses.

Data storage during the project

What is the volume of the data and where will the data be stored?

The volume of data will be approximately of 2TB per experimental campaign.
It will be stored in an 4TB external hard-drive an in the TU Delft webdrive.

Is there sufficient storage capacity during the project?

- Yes

Will the data be backed-up regularly during the project? Who is responsible for this?

- Yes

The PhD, Irene Rivera-Arreba is responsible for this back-up

What are the expected costs? Please specify and state an amount that is as realistic as possible. How will these costs be covered?

The costs of storage drivers should no go over 700euros (5 times 4TB external hard drive).

Archiving of data after the project

Specify in which trusted repository the data will be stored after the project.
If the data will not be stored in a trusted repository specify where it will be stored and how its made discoverable?

Question not answered.

Will a persistent identifier be used to make the data findable?

- Yes

For how long will the data be archived?

Question not answered.

What are the expected costs? Please specify and state an amount that is as realistic as possible. How will the costs be covered

Question not answered.

Standards and Metadata

How will the data be documented? What metadata standard will be used to make the data accessible and reusable?

The documentation (or explanation) of the data will go together with the storage drivers. A report after every experimental campaign clarifying the collected data and where is what will follow.

Making data available

Are the data available for reuse after the project?
If not, please explain why the data are not suitable and/or available for reuse.

- Yes

If data are only made available after a certain period then please state the reason for this.
If part of the data cannot be made (directly) available then please specify the part concerned.

Question not answered.

Are there any restricions/conditions for the reuse of the data?
If so, are these conditions specified in a consortium agreement?

- No