

IMBIE Phase II

– IMBIE Web Portal Description Document –

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1 INTRODUCTION

1.1 Scope

The purpose of this document is to describe the IMBIE web portal, which will accommodate the registration of the participants in the experiment, their data submissions and will provide access to the experiment results.

1.2 Applicable Documents

- AD. 1** “Proposal for the ESA-NASA Ice sheet Mass Balance Inter-comparison Exercise (IMBIE) Phase II”

2 FRONT-END DESCRIPTION

The IMBIE web portal, <http://imbie.org/>, presents the following information:

1. Introduction of the experiment, as well as past and future assessments.
2. Presentation of the news and information about the status of the project.
3. The IMBIE 2012 experiment, its participants and results.
4. The current IMBIE 2016 experiment, with the conditions and definitions, list of participants and the executive committee. Participants are grouped per technique: Altimetry, Gravimetry, Mass Budget, Surface Mass Balance and Glacial Isostatic Adjustment.

In the frame of the current IMBIE 2016 experiment, there were two temporary functionalities that are no longer available:

5. Registration (mid July to mid August 2016): it covered the procedure to register to the IMBIE 2016 experiment by means of a questionnaire. There was a different questionnaire for each one of the technique groups.
6. Data submission (mid October to mid November 2016): only available to registered participants, it allowed them to submit their data to the portal. The fulfillment of another questionnaire was required, in order to explain and define the data. As with the registration, a different questionnaire was used for each one of the technique groups.

The main page of the website is shown in Figure 1.

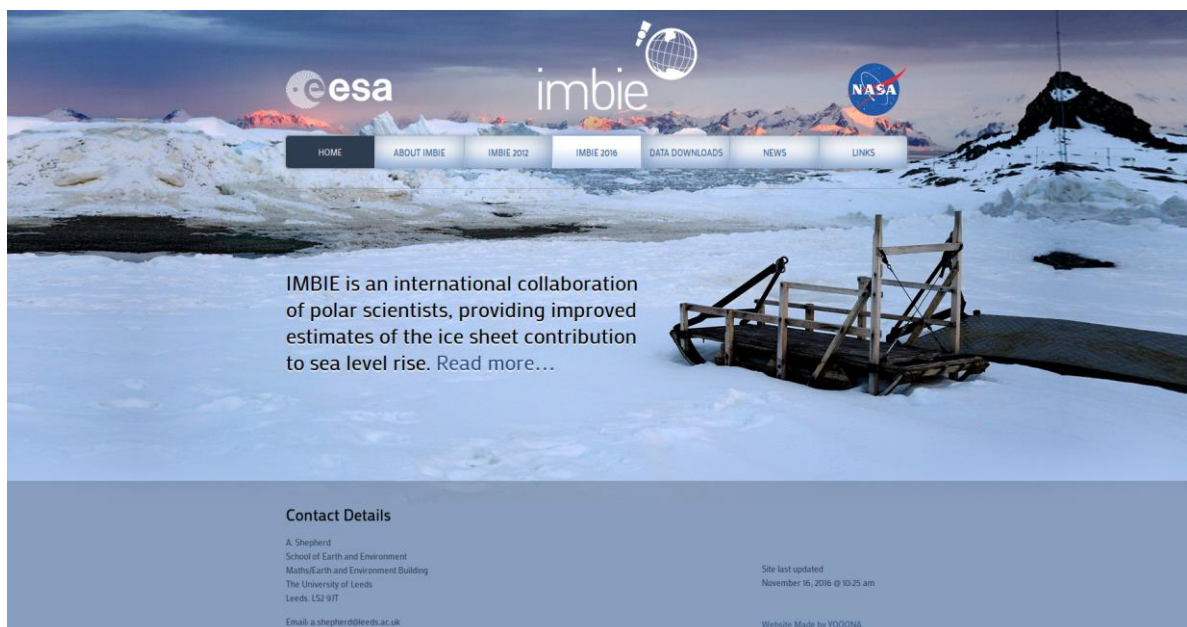


Figure 1. IMBIE website main page

2.1 Website structure

This section describes the website map structure. Table 2-1 lists the items of the menu in the main page, and their subsections. These subsections will be displayed as a pull-down menu, once the mouse pointer is over the menu item.

Table 2-1: Sitemap

Menu item	Subsection
Home	(None)
About IMBIE	Sea level rise
	Past assessments
	The IMBIE assessment
	Future assessments
IMBIE 2012	Participants
	Experiments
	Results
IMBIE 2016	Executive committee
	Participants
	Drainage basins
	File formats
	Participate
	Data submission
Data downloads	(None)
News	Publications
	Presentations
	News stories
	For the media
Links	(None)

2.2 IMBIE 2016 pages description

This section elaborates on the web pages that have been created specifically for the IMBIE 2016 experiment.

A brief description of the IMBIE 2016 experiment can be displayed when clicking on the IMBIE 2016 menu entry or, equivalently, here <http://imbie.org/imbie-2016/>. The Table 2-2 describes shortly each of the subsections under the IMBIE 2016 menu entry.

Table 2-2: IMBIE 2016 subsections description

IMBIE 2016 subsection	Description
Executive committee	List of the project leaders, group leaders and the rest of the so-called executive committee.
Participants	List of the participants that have registered to the IMBIE 2016 experiment, organised per technique groups.
Drainage basins	It contains the definition of the two sets of grounded ice area and drainage basins that will be used in the data (Zwally, Rignot).
File formats	This section defines the file formats of the data that will be submitted.
Participate	When the registration period was open, this section had a link to the registration site. More details in §2.2.1. Currently, it contains the participation conditions and two links for the group leaders with the overview of the registered participants and with the participants answers to the registration questionnaires.
Data submission	When the data submission period was open, this section had a link to the uploads site. More details in §2.2.2. Currently it only indicates the upload portal is closed.

2.2.1 Registration process

The registration process for the IMBIE 2016 experiment was open between mid July and mid August 2016.

The registration page would present the experiment, the conditions and rules of participation, and then, for each different technique group, would require the participant's personal information and the description of the participant's data.

Figure 2 and Figure 3 show the group selection and the participant's details step of the questionnaire.

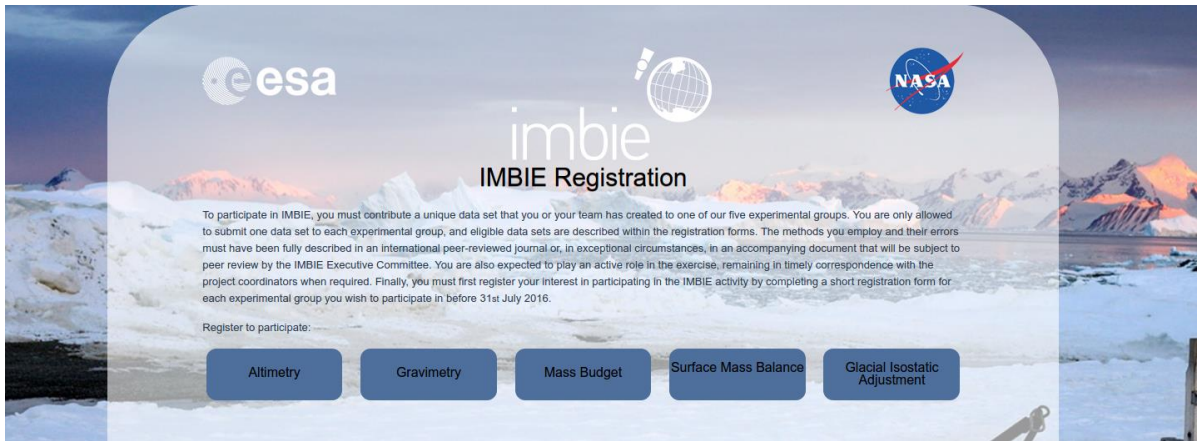


Figure 2 Registration – group selection page

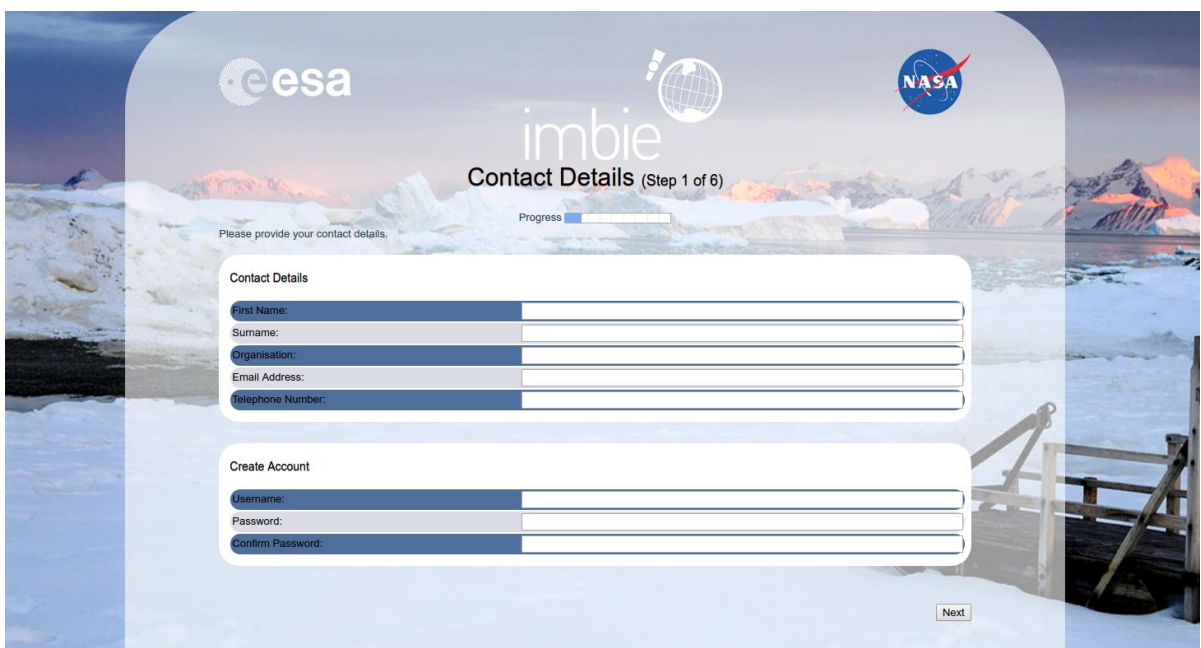


Figure 3 Registration – participant's details page

2.2.2 Data submission process

The data submission process for the IMBIE 2016 experiment was open between mid October and mid November 2016.

The uploads portal page would require a login, so in order to access here the participant must have registered previously in the 2016 experiment (§2.2.1).

Once logged in, the participant had access to the corresponding technique group submission questionnaire. This would require the participant to describe the data and to upload the data files. Only one dataset was allowed per registered participant, as specified in the experiment rules.

After the data and questionnaire were submitted, the participant had the option to remove or edit the questionnaire or data files.

Figure 4 and Figure 5 show, for the Glacial Isostatic Adjustment group, the step of the questionnaire where the data files upload is required and the summary of the data submission, respectively.

Glacial Isostatic Adjustment Group

Required Data

(Page 2 of 4)

Please confirm which data you are contributing to the IMBIE GIA experiment group.

1a. Uplift rates and their associated uncertainties, distributed on a 0.5 degree grid:

East Antarctic Ice Sheet

West Antarctic Ice Sheet

Antarctic Peninsula Ice Sheet

Greenland Ice Sheet

1b. Upload a data file and a metadata file describing the data file contents and format.

urate_B_v1.txt 1.59 MB Upload a data file 


README_v1.txt 12.04 kB Upload a metadata file 

2a. Stokes coefficients at least up to degree and order 90:

Provided

Not Provided

2b. Upload a data file and a metadata file describing the data file contents and format.

grate_B_v1.clm 286.06 kB Upload a data file 

README_v1.txt 12.04 kB Upload a metadata file 

[Back](#)

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Figure 4 Data submission – GIA data upload page

IMBIE 2016

Glacial Isostatic Adjustment Group

gia-tester

[logout](#)

Uploaded Submissions

Submission Date: October 10 2016 10:04:17 (CET)
Submission Size: 6.95 MB

Methods Description

Whitehouseetal12b.pdf

Data Files

urate_B_v1.txt

grate_B_v1.clm

README_v1.txt

README_v1.txt

Additional Experiments

Review Questionnaire Answers

Delete Submission

Edit Submission

Figure 5 Data submission – upload summary page

3 BACK-END DESCRIPTION

In the server side, two main things are managed:

1. Information of the registered participants.
2. Submitted datasets.

3.1 Back-end: information of the registered participants

During the IMBIE 2016 registration period, the information that was introduced by the participants was stored into a MySQL database. Contact details of the participants as well as username and passwords, which will be used for the uploads portal login, and answers to the registration questionnaire are among this information.

The details of the participants and their answers to the questionnaire are available to the group leaders. In addition to this, the statistics about the registration are also available.

The registration statistics page is available in <http://imbie.org/imbie-registration/report> and contains tables and plots describing the participants answers, such as number of participants per group, or type and number of datafiles that could be provided. Figure 6, Figure 7 and Figure 8 shows some of these tables and plots.

Overview

Name	Institute	Group	Date
van Wessem, Melchior	IMAU/UU	SMB	2016-06-27 10:54:35
Scambos, Ted	National Snow and Ice Data Center	IOM	2016-06-28 01:49:44
Shepherd, Andrew	university of leeds	RA	2016-07-01 17:48:09
Schrama, Ernst	TU Delft	GMB	2016-07-04 13:32:29
Falk, Ulrike	Climate Lab, Geographie FB08, Univ. Bremen	SMB	2016-07-04 14:46:04
Tarasov, Lev	Memorial University of Newfoundland	GIA	2016-07-04 15:10:12
Lecavalier, Benoit	Memorial University of Newfoundland	GIA	2016-07-04 15:54:48
Barletta, Valentina Roberta	DTU Space	GIA	2016-07-04 16:20:08
Langen, Peter	Danish Meteorological Institute	SMB	2016-07-05 10:02:09
Fettweis, Xavier	University of LI	SMB	2016-10-26 13:37:08

Figure 6 Registration statistics – participants list

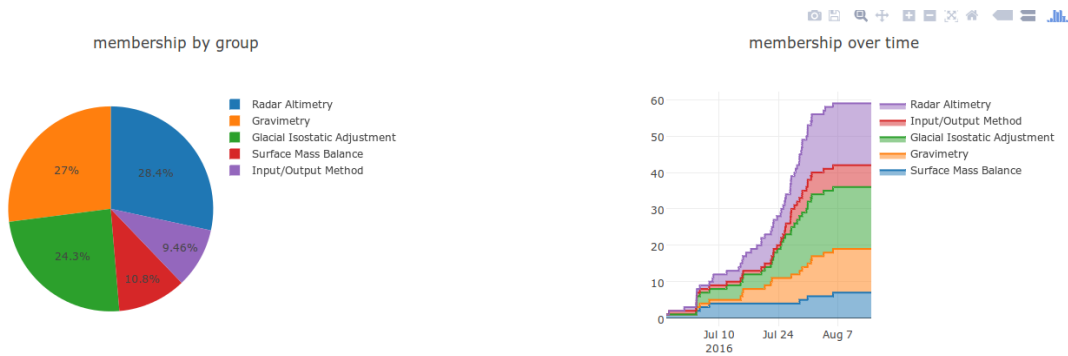


Figure 7 Registration statistics– membership by group and over time

Radar Altimetry

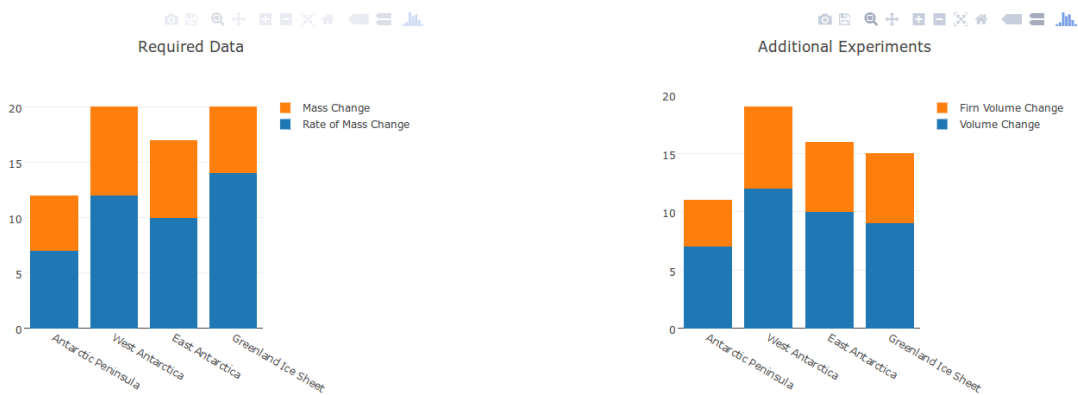


Figure 8 Registration statistics – Altimetry group data description

The registration statistics page is available in <http://imbie.org/imbie-registration/report> and contains tables and plots describing the participants answers, such as number of participants per group, or type and number of datafiles that could be provided. Figure 6, Figure 7 and Figure 8 shows some of these tables and plots.

The answers to the registration questionnaire are available in the webpage <http://imbie.org/imbie-registration/answers> and contains, for each technique group, the answers that were provided by the participants. They can be displayed either by questions (Figure 9) or by participants (Figure 10).

Responses

Jun Li: Which mission(s) have you employed in your altimetry mass balance computation?

ICESat

Andrew Shepherd: Please indicate which data you intend to contribute towards the IMBIE altimetry experiment group:

Mass Change: Antarctic Peninsula

Sebastian Simonsen: Please indicate which data you intend to contribute towards the IMBIE altimetry experiment group:

Rate of Mass Change: Greenland

Figure 9 Registration answers – Altimetry group responses for a specific question

Responses

Andrew Shepherd: Please indicate which data you intend to contribute towards the IMBIE altimetry experiment group:

Mass Change: Antarctic Peninsula

Andrew Shepherd: Which mission(s) have you employed in your altimetry mass balance computation?

ERS-1

Andrew Shepherd: Which general method(s) have you employed to compute elevation changes?

Cross-overs

Andrew Shepherd: Which general method(s) have you employed to compute ice sheet mass changes from ice sheet volume changes?

Constant/Uniform Density

Figure 10 Registration answers – Altimetry group responses for a participant

3.2 Back-end: submitted datasets

In the IMBIE 2016 data submission period, the datasets and their description that were uploaded by the participants are stored in the server. These files are organised by technique groups and by participant, and are the main input of the IMBIE 2016 assessment.

There is not a dedicated webpage for the group leaders to access the participant's data. Instead, after the data submission period is finished, the data is zipped and sent to each one of the group leaders so they can inspect it.

When submitting the data, the participant needs to answer a list of questions to describe the data. This answers are stored along the participant's data, in a JSON text file. XXX shows an example of this file.

```
"username": "velicogna",
"group": "GMB",
"contact": {
  "forename": "isabella",
  "lastname": "velicogna",
  "organisation": "University of California Irvine",
  "email": "isabella@uci.edu",
  "phone": "9493516063"
},
"files": {
  "spherical-harmonics-upload": {
    "name": "velicogna_imbie2_results_major_regions_2003-2015.txt",
    "size": 61295,
    "field": "spherical-harmonics-upload",
    "type": "required"
  },
  "methods-and-errors": {
    "name": "Velicogna_Geophys._Res._Lett.-41_2014.pdf",
    "size": 1867041,
    "field": "methods-and-errors",
    "type": "supporting"
  },
  "no-gia-upload": {
    "name": "velicogna_imbie2_results_major_regions_case1_2003-2015.txt",
    "size": 64131,
    "field": "no-gia-upload",
    "type": "additional"
  },
  "no-degree-upload": {
    "name": "velicogna_imbie2_results_major_regions_case2_2003-2015.txt",
    "size": 64136,
    "field": "no-degree-upload",
    "type": "additional"
  },
  "no-c20-upload": {
    "name": "velicogna_imbie2_results_major_regions_case3_2003-2015.txt",
    "size": 64109,
    "field": "no-c20-upload",
    "type": "additional"
  },
  "mascons-approach-upload": {
    "name": "velicogna_imbie2_mass_change_major_regions_2003-2015.txt",
    "size": 1492,
    "field": "mascons-approach-upload",
    "type": "required"
  }
}
```

Figure 11 Data submission answers for a participant

End of the document