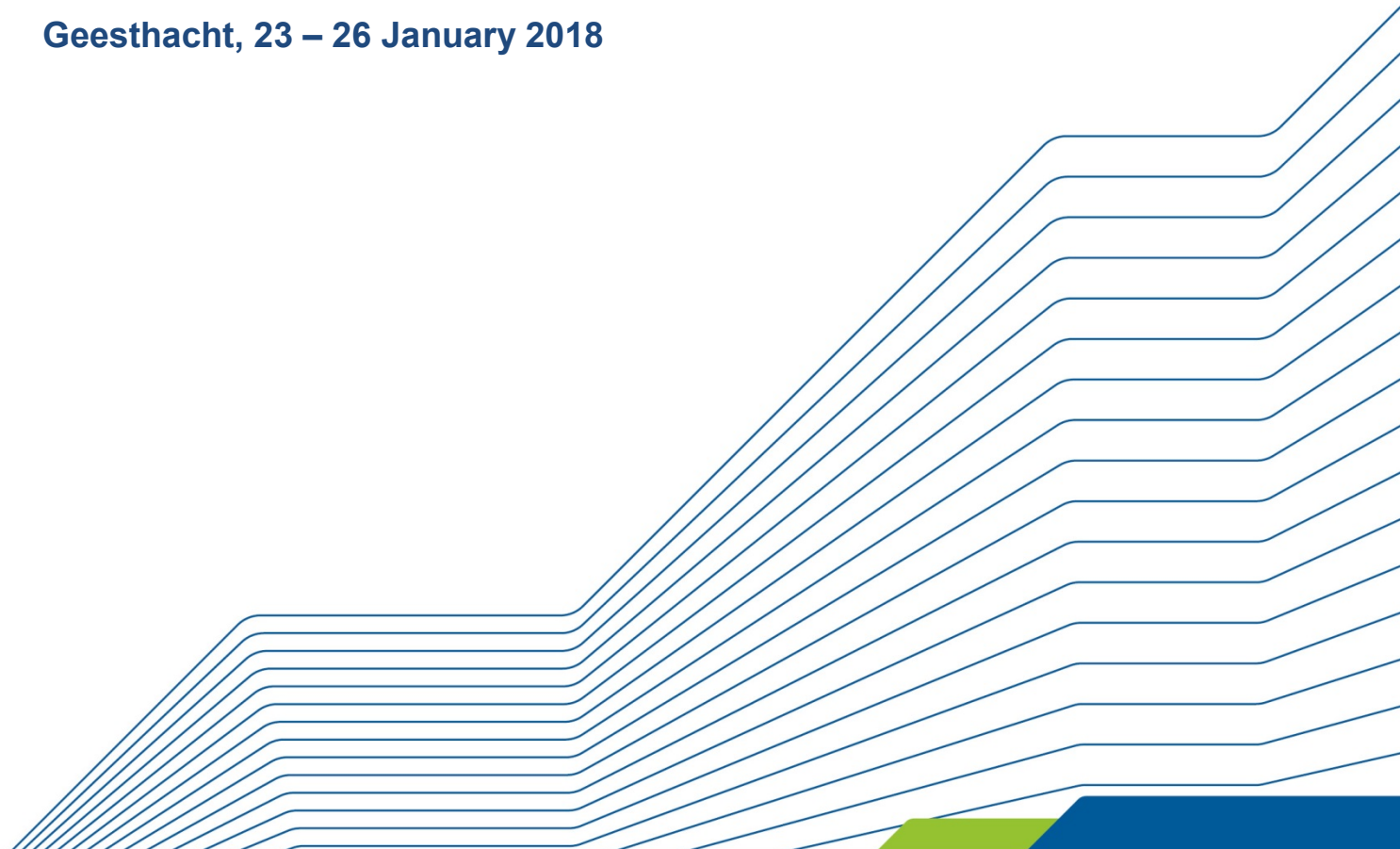


**Evaluation Report
on the Helmholtz Center
Helmholtz-Zentrum Geesthacht -
Centre for Materials and Coastal Research (HZG)**

Research Field Earth and Environment

Geesthacht, 23 – 26 January 2018



Evaluation Framework

Chair of the Review Panel

Peter	Herman	Royal Netherlands Institute for Sea Research	The Netherlands
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Members of the Review Panel

Helen	Andersson	Swedish Meteorological and Hydrological Institute	Sweden
Frans G.H.	Berkhout	King's College London	UK
Richard	Dewey	University of Victoria	Canada
Jane	Francis	British Antarctic Survey (BAS)	UK
Katarina	Gardfeldt	Swedish Polar Research Secretariat (SPRS)	Sweden
Jari	Haapala	Finnish Meteorological Institute	Finland
Pavel	Kabat	International Institute for Applied Systems Analysis (IIASA)	Austria
Katja	Philippart	Netherlands Institute for Sea Research (NIOZ)	The Netherlands
Alfred Johny	Wüst	École polytechnique fédérale de Lausanne	Switzerland

In order to ensure integrity and impartiality in the scientific evaluation processes of the Helmholtz Association, reviewers were asked to indicate potential bias or conflicts of interest during the recruiting phase prior to the evaluation. The summary of these statements is attached in annex II.

A list of further participants can be found in annex I.

Task of the evaluation

The scientific performance of the Helmholtz-Zentrum Geesthacht (HZG) (regarding the research field Earth and Environment) and its contribution to the Helmholtz program Marine, Coastal and Polar Systems will be evaluated.

For each HZG unit to be reviewed, the review panel will evaluate the scientific performance (status, standing and future scientific prospects). This assessment should include both a detailed statement and a rating. The period under consideration for the past performance covers the past four years, the future's scientific prospects refers to long-term developments in the field of research.

In addition, the reviewers are asked to evaluate the unit's contribution to the program and its topics, as well as the contribution to the center's goals and strategy, and to the future strategic priorities of the program and research field within this program period and beyond.

For the HZG contribution to the research program and its topics, the reviewers will evaluate its contribution with regard to the scientific performance and relevance, and give recommendations regarding the planned strategic focus of the research activities within the current period. The programs were started or altered with the beginning of PoF III in 2014, so the period under consideration is the current program period.

At center level, the reviewers are requested to rate the international standing of the center and its contribution to the research fields, and to give their opinion on the center's strategy with regard to research and infrastructure, cooperation and competitiveness, and the compatibility of each program and topic contributions with this strategy. Furthermore, the reviewers should assess the center's contribution to achieving the objectives of the Joint Initiative for Research and Innovation (e.g. transfer of technology and knowledge, international cooperation, career development and equal opportunity).

Information provided to the Review Panel

The review panel has taken into account the following information:

- ❖ Status report covering the research activities of the center (within the research field Earth and Environment) funded via the Helmholtz research programs for the years 2013-2016 (2017 as far as possible) including information on the level of
 - Research units
 - Contributions to the Helmholtz programs and their topics
 - Center

- ❖ During the on-site review,
 - the presentations of
 - Prof. Dr. Wolfgang Kaysser Scientific Director, Helmholtz-Zentrum Geesthacht:
Overview of the center
 - Prof. Dr. Reinhard Hüttl Scientific Director, Helmholtz Centre Potsdam – GFZ, Coordinator of the Research Field Earth and Environment: *General overview of the Research Field Earth and Environment*
 - Discussions with the scientists in
 - the plenary session and
 - small groups

- ❖ Additional information on
 - ...

Executive Summary

text

Statements and Recommendations of the Review Panel

Research Unit *Institute of Coastal Research – System Analysis and Modelling (RU 1)*

General remarks

Scientific performance

- *How would you rate the scientific importance/impact and quality of unit's research activities?
At what level is the research internationally competitive?*
- *How would you evaluate the scientific achievements in relation to the research unit's size, available infrastructure and funding?
What are specific strengths and weaknesses?
Can you identify novel contributions to the field? If so, which are they?
Please indicate the most prominent research results (up to three).*
- *Please comment on the unit's future scientific prospects and direction.*

Contributions to the program and the center

- *Which of the unit's research activities are (i) essential, (ii) important or (iii) additional contributions to the program?*
- *How well do the different research groups in the unit interact with each other? How well does the unit interact with other units contributing to the program?*
- *Please indicate how the unit and its research activities contribute to the strategies of the program and center, respectively.*

Talents and career development

- *How would you evaluate the unit's approaches and achievements to career development?*
- *Can you identify scientists with exceptional contributions to the field?*

Specific recommendations: Research Unit *Institute of Coastal Research – System Analysis and Modelling (KS)*

- A
- B
- C

Rating

☐ Outstanding ☐ Excellent ☐ Very good ☐ Good ☐ Fair

see definition of grades in the annex

General remarks

Scientific performance

- *How would you rate the scientific importance/impact and quality of unit's research activities?
At what level is the research internationally competitive?*
- *How would you evaluate the scientific achievements in relation to the research unit's size, available infrastructure and funding?
What are specific strengths and weaknesses?
Can you identify novel contributions to the field? If so, which are they?
Please indicate the most prominent research results (up to three).*
- *Please comment on the unit's future scientific prospects and direction.*

Contributions to the program and the center

- *Which of the unit's research activities are (i) essential, (ii) important or (iii) additional contributions to the program?*
- *How well do the different research groups in the unit interact with each other? How well does the unit interact with other units contributing to the program?*
- *Please indicate how the unit and its research activities contribute to the strategies of the program and center, respectively.*

Talents and career development

- *How would you evaluate the unit's approaches and achievements to career development?*
- *Can you identify scientists with exceptional contributions to the field?*

Specific recommendations: Research Unit *Institute of Coastal Research – Biogeochemistry in Coastal Seas (KB)*

- A
- B
- C

Rating

<input type="checkbox"/> Outstanding	<input type="checkbox"/> Excellent	<input type="checkbox"/> Very good	<input type="checkbox"/> Good	<input type="checkbox"/> Fair
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see definition of grades in the annex

General remarks

Scientific performance

- *How would you rate the scientific importance/impact and quality of unit's research activities?
At what level is the research internationally competitive?*
- *How would you evaluate the scientific achievements in relation to the research unit's size, available infrastructure and funding?
What are specific strengths and weaknesses?
Can you identify novel contributions to the field? If so, which are they?
Please indicate the most prominent research results (up to three).*
- *Please comment on the unit's future scientific prospects and direction.*

Contributions to the program and the center

- *Which of the unit's research activities are (i) essential, (ii) important or (iii) additional contributions to the program?*
- *How well do the different research groups in the unit interact with each other? How well does the unit interact with other units contributing to the program?*
- *Please indicate how the unit and its research activities contribute to the strategies of the program and center, respectively.*

Talents and career development

- *How would you evaluate the unit's approaches and achievements to career development?*
- *Can you identify scientists with exceptional contributions to the field?*

Specific recommendations: Research Unit *Institute of Coastal Research – Operational Systems (KO)*

- A
- B
- C

Rating

<input type="checkbox"/> Outstanding	<input type="checkbox"/> Excellent	<input type="checkbox"/> Very good	<input type="checkbox"/> Good	<input type="checkbox"/> Fair
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see definition of grades in the annex

General remarks

Scientific performance

- *How would you rate the scientific importance and quality of unit's service and research activities? How would you rate the international competitiveness of the research and services?*
- *How would you evaluate the scientific achievements in relation to the research unit's size, available infrastructure and funding?
What are specific strengths and weaknesses?
Can you identify novel contributions to the field? If so, which are they?
Please indicate the most prominent research results (up to three).*
- *Please comment on the unit's future scientific prospects and direction.*

Contributions to the program and the center

- *Which of the unit's research activities are (i) essential, (ii) important or (iii) additional contributions to the program?*
- *How well do the different research groups in the unit interact with each other? How well does the unit interact with other units contributing to the program?*
- *Please indicate how the unit and its service and research activities contribute to the strategies of the program and center, respectively.*

Talents and career development

- *How would you evaluate the unit's approaches and achievements to career development?*
- *Can you identify scientists with exceptional contributions to the field?*

Specific recommendations: Research Unit *Climate Service Center Germany (GERICS)*

- A
- B
- C

Rating

☐ Outstanding ☐ Excellent ☐ Very good ☐ Good ☐ Fair

see definition of grades in the annex

Contribution to the Program “Marine, Coastal and Polar Systems” and its Topics

Please note that the texts comprising this section provide a basis for the respective *Evaluation Report on the Program*. This report will be compiled by the cross and program reviewers of each participating center.

Topic Fragile coasts and shelf seas

General remarks

Scientific performance and relevance

- *How would you rate the scientific quality of the center's contribution to this topic?
At what level is the research internationally competitive?*
- *How would you evaluate them in relation to the size, available infrastructure and funding of the activities?
What are specific strengths and weaknesses?
Please indicate the center's major highlights and achievements to the topics.*
- *Please comment on the proposed future scientific prospects and the center's role in view of the direction of the topic within the program period.*
- *Which of the center's contributions are essential for the topic?
Please indicate ways in which to further enhance the center's impact.*
- *How would you rate the impact of the center's contributions to the topic?
Please comment in view of originality and strategic relevance for this research field.*

Specific recommendations: Topic Fragile coasts and shelf seas

- A
- B
- C

Rating Topic

<input type="checkbox"/> Outstanding	<input type="checkbox"/> Excellent	<input type="checkbox"/> Very good	<input type="checkbox"/> Good	<input type="checkbox"/> Fair
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see definition of grades in the annex

Topic Bridging research and society – products, tools and climate services

General remarks

Scientific performance and relevance

- *How would you rate the scientific quality of the center's contribution to this topic?
At what level is the research internationally competitive?*
- *How would you evaluate them in relation to the size, available infrastructure and funding of the activities?
What are specific strengths and weaknesses?
Please indicate the center's major highlights and achievements to the topics.*
- *Please comment on the proposed future scientific prospects and the center's role in view of the direction of the topic within the program period.*
- *Which of the center's contributions are essential for the topic?
Please indicate ways in which to further enhance the center's impact.*
- *How would you rate the impact of the center's contributions to the topic?
Please comment in view of originality and strategic relevance for this research field.*

Specific recommendations: Topic Research in science-stakeholder interactions

- A
- B
- C

Rating Topic

<input type="checkbox"/> Outstanding	<input type="checkbox"/> Excellent	<input type="checkbox"/> Very good	<input type="checkbox"/> Good	<input type="checkbox"/> Fair
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see definition of grades in the annex

Program Marine, Coastal and Polar Systems

General remarks

Scientific performance and relevance

- *How would you rate the scientific quality of the center's contribution to the program?
At what level is the research internationally competitive?*
- *How would you evaluate them in relation to its size, available infrastructure and funding of the activities?
What are specific strengths and weaknesses?
Please indicate the center's major highlights and achievements to the program.*
- *Please comment on the proposed future scientific prospects and the center's role in view of the direction of the program within the program period.*
- *Which of the center's contributions are essential for the program?
Please indicate ways in which to further enhance the center's impact, also in regard to its impact on society.*
- *How would you rate the impact of the center's contributions to the program?
Please comment in view of originality and strategic relevance for this research field.*

Rating Program Marine, Coastal and Polar Systems

<input type="checkbox"/> Outstanding	<input type="checkbox"/> Excellent	<input type="checkbox"/> Very good	<input type="checkbox"/> Good	<input type="checkbox"/> Fair
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see definition of grades in the annex

General remarks

Scientific performance and relevance

- *How would you evaluate the national and international standing and competitiveness of the center? Please name international competitors of similar strengths.*
- *Please indicate the major highlights and strengths (up to three). What makes them most prominent?*
- *How would you evaluate the research portfolio of the center? How did it evolve within the last (three) years?*
- *How would you evaluate the scientific achievements in relation to the center's size, available infrastructure and funding?*
- *Can you identify major areas for improvement of the center's overall achievements? If so, which are they?*
- *Is the center visible through conferences; recruitment of outstanding scientists; major awards; contributions to research networks, consortia, and coordinated projects?*
- *How well do the different research groups and units interact with each other?*
- *How would you evaluate the interaction between research and infrastructure? Is the infrastructure vital for carrying out the research activities?*

Talent Management, Cooperation, and Innovation

- *How would you evaluate the measures implemented in favor of talent management and career development? Do you see the need to put stronger focus on specific target groups, such as internationally outstanding early career scientists? If so, what are your suggestions for improving the respective recruiting and/or career development mechanisms?*
- *What is the potential for added value and synergies regarding the networking and collaboration strategy of the center, both nationally and internationally? Please indicate potential partners that could further strengthen the center's capacity for system solutions.*
- *How would you evaluate the structures and achievements in the area of knowledge and technology transfer?*

Equity

- *How do you evaluate the center's goals and measures to promote equal opportunity and diversity? Which additional procedures, measures or specific activities seem promising – given the center's scientific characteristics and its legal environment – to meet the center's goals (e.g. a higher percentage of female scientists in leading positions)?*

Place, date

<Signature>

Peter Herman, chair of the review panel

Annex I

Delegates of the Helmholtz Senate and Senate Commission

Representatives of the Scientific Advisory Boards

Delegates of the Helmholtz head office

The following scientists represented the research in the center during the review.

Representatives of Strategic Partners *(if applicable)*

Representative of the ministry

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Definition of grades

outstanding	Extremely strong performance at the level of international leadership. Groundbreaking research with transformative impact and/or with high potential for significant societal impact. Essentially no weaknesses.
excellent	Very strong performance and innovative research at an exceptionally high international level. Significant impact on the field and/or potential for significant societal impact. Some negligible or minor weaknesses.
very good	Strong research at the level of national leadership. Considerable impact on the field. Several minor weaknesses
good	Overall performance at a nationally competitive level with solid potential for impact on the field. Several minor and at least one moderate weakness.
fair	Mediocre performance and unconvincing research approaches. Limited potential for relevant impact on the field. At least one major weakness.