



The Rector of the University of Cologne

Herrn
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Cologne, 18/12/2017

Endorsement of the Flagship candidate project ExtremeEarth (CSA proposal)

To whom it may concern

I am writing in my capacity as Rector of the University of Cologne to express my strongest support for the proposed CSA proposal to develop a FET Flagship Project *ExtremeEarth*.

With great interest we are following the activities of the geoscience community to develop a joint FET Flagship candidate project on enhancing Europe's capability to predict and monitor environmental extremes and their impacts on society enabled by the imaginative integration of edge and exascale computing and beyond, and the real-time exploitation of pervasive environmental data.

As a member of Geoverbund ABC/J we are strongly involved in geoscientific research activities with focus on the investigation of the dynamic earth-human system.

Extreme natural phenomena – such as floods, droughts, wind storms, earthquakes, volcanoes, tsunamis – and the escalating impact of climate change – such as desertification, ice-sheet and glacier melting, sea-level rise – dramatically affect all sectors of society. Historically, environmental pressure on the human population has reshaped entire civilizations, and there is a need for effective mechanisms dealing with future change and extremes now. Understanding and advancing our ability to predict the frequency of occurrence and intensity of extremes reliably is of paramount importance for efforts to make society more resilient to the environmental impacts of the present and changing climate, and it will allow European governments and businesses to plan more effectively than they are able for current and changing

climate risks. *ExtremeEarth* brings together Earth-system scientists and associated down-stream science and application communities, joining forces with those pushing the envelope in digital technology, to realize in the next five to ten years what seems unfeasible today. *ExtremeEarth* will greatly enhance our capacity to observe and monitor the state of the Earth, predict extremes, understand their underlying drivers, and characterize their societal impact.

With our research background in the fields of evolution of life and earth, environmental dynamics, georesource management and georisk assessment, we see strong links to the aims of the proposed project *ExtremeEarth*. Therefore, I very much welcome and strongly support this proposal.

The *ExtremeEarth* project aims to reflect the views and requirements of scientific, technological and service oriented communities that are included in the project for realizing a step-change enhancement of their capabilities in the future. The representation of these communities will be developed throughout the evolution of *ExtremeEarth*, from preparatory action to Flagship project, through endorsements, consultations and formal project partnership. The endorsement of the Flagship candidate project *ExtremeEarth* implies that the endorsing entity supports the scientific, technological and programmatic objectives of *ExtremeEarth*.

This endorsement does not imply any legal or financial commitments of the University of Cologne towards the *ExtremeEarth* project. Support will only imply that statements and logos of supporters may be shown on the *ExtremeEarth* website, with the option that this permission can be revoked for important reasons.

Univ.-Prof. Dr. rer. nat. Axel Freimuth



Rector

University of Cologne