HELMHOLTZ RESEARCH FOR GRAND CHALLENGES

Helmholtz Association • Anna-Louisa-Karsch-Straße 2 • 10178 Berlin • Germany

Coordinator of the ExtremeEarth CSA project proposal European Centre for Medium –Range Weather Forecasts –ECMWF Dr. Peter Bauer Shinfield Park Reading, Berkshire, RG2 9AX UNITED KINGDOM

Endorsement of the Flagship candidate project ExtremeEarth (CSA proposal)

Dear Dr. Bauer,

On behalf of the Helmholtz Association of German Research Centres I am expressing my strongest support for the CSA proposal to develop a FET Flagship Project ExtremeEarth.

This activity of the climate and earth system science communities to develop a joint FET Flagship candidate project is a most timely and appropriate measure for the future of Europe. It will drastically enhance 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.

The Helmholtz Association of German Research Centres is strongly involved in Earth and environmental research activities which are pursued at eight Helmholtz Centres.

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.

Within the Helmholtz research field Earth and Environment we will continue to pool the capacities and expertise in interdisciplinary activities to tackle the future Earth system challenges. This strategy will facilitate the expansion of Earth observation and knowledge systems as well as integrated Earth system modelling approaches. Here we see strong links to the aims of the proposed project ExtremeEarth. 07.02.2018/AT

The President Prof. Dr. med. Dr. h.c. mult. Otmar D. Wiestler

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This project is therefore one of the future Flagship Initiatives the Helmholtz Association considers to be of the highest strategic relevance.

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 towards the ExtremeEarth project. Support will imply that statements and logos of supporters may be shown on the ExtremeEarth website.

Sincerely yours,

Otmar D. Wiestler