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Letter of Support for the FET Flagship Candidate Project Extreme Earth (CSA proposal)

To whom it may concern,

Geoverbund ABC/J – as the geoscientific network within the research region of **Aachen-Bonn-Cologne/Jülich** – has a very strong interest in developing a FET Flagship Extreme Earth and thus offers best support to the proposal.

Since 2009, the geoscientific institutes of RWTH Aachen University, the University of Bonn, the University of Cologne, and Forschungszentrum Jülich collaborate under the umbrella of Geoverbund ABC/J. The cooperation efficiently pools and interconnects the expertise in geoscientific research and education gained at these institutions over several decades. Geoverbund ABC/J initiates and promotes research projects spanning different locations, supports early-career scientists, and encourages easy access to scientific infrastructures.

The Flagship's research focus is covered by Geoverbund ABC/J's guiding research themes, which are *evolution of Earth and life, environmental dynamics and atmosphere in global change, terrestrial systems and georesource management, and risks and risk regulation*. Our members have strong and proven expertise in monitoring, analyzing and managing extreme natural phenomena, e.g. floods, droughts, earthquakes, volcanoes, tsunamis, desertification, glacier melting, and sea-level rise. Our network will thus be able to provide a significant contribution on enhancing Europe's capability to predict and monitor environmental extremes and their impacts on society enabled by the integration of edge and exascale computing, and the real-time exploitation of environmental data.

In this context, Geoverbund ABC/J also has direct access to the high-performance supercomputers of Forschungszentrum Jülich through the centre of excellence *High-Performance Scientific Computing in Terrestrial Systems* (HPSC TerrSys). This centre was founded by Geoverbund ABC/J in 2011. Together with the associated Simulation Laboratory (SimLab TerrSys) and in close cooperation with the *Jülich Supercomputing Centre* (JSC), HPSC TerrSys provides the geoscientists of the ABC/J region with scientific and technical support for their research activities by means of its supercomputers.

Yours sincerely,

Prof. Dr. Harry Vereecken

Scientific Director

Geoverbund ABC/J