Project title: CLINT - climate intelligence (Community project)

Principal investigators: Christopher Kadow and Stephan Kindermann

Allocation Period: 07/2022 - 06/2023

Data Volume: 100 TB

CLINT - climate intelligence

The main objective of CLINT (https://climateintelligence.eu/) is the development of an Artificial Intelligence framework composed of Machine Learning algorithms to process big climate datasets for improving Climate Science in the detection, causation, and attribution of Extreme Events, including *tropical cyclones*, *heatwaves* and *warm nights*, and *extreme droughts*, along with *compound events* and *concurrent extremes*.

The CLINT project is organized as a bottom-up structure based on four interconnected components:

CLIMATE INTELLIGENCE will design new Machine Learning algorithms and tools to process big climatological data sets across different spatiotemporal scales.

AI-enhanced *CLIMATE SCIENCE* will advance the state-of-the-art on the detection, causation, and attribution of Extreme Events.

AI-enhanced *CLIMATE SERVICES* will be developed at the EU continental scale across the Water-Energy-Food Nexus, and on selected climate change hotspots.

CLIMATE SERVICES INFORMATION SYSTEMS will be deployed as web processing services based on most advanced open software and data standards.

The CLINT project has 15 partners, including DKRZ, SMHI, CMCC, ECMWF and OGC focussing on climate service components. The german partners are: DKRZ, Helmholtz-Zentrum hereon, University Justus-Liebig (Giessen).

The project is part and reviewed successfully by the H2020 Programme supported by the European Union.

All the outcomes of CLINT (software, services and produced data) will be made available to the community.

This application requests resources for running the machine learning algorithms on a shared data pool at DKRZ.