EVE Preparatory Project[1]

Torrential rains and catastrophic flooding in Derna, Hebei, Lake Kivu, Santa Cruz; wildfires decimating Rhodes, Maui, Tenerife, and wide swaths of Canada; suffocating heat stretching, it seemed, from Arizona to Alabama and across the Atlantic to Andalusia. Climate change is unveiling Worlds never seen before, exposing how poorly we are able to anticipate and prepare for local impacts with existing tools. Our ignorance is all the more intolerable given that those least responsible for their vulnerability are being asked to risk the most.

Fortunately, as temperatures rise, so are our technological and scientific capabilities. Computing prowess now makes it possible to better anticipate, imagine, and virtually experience how weather will change locally with warming, the world over. This information can and should be available and accessible for all. Putting such capabilities in the hands of decision makers at every level will immeasurably help efforts to adapt and build resilience to that which is inevitable, and build resolve to prevent that which is not.

EVE — born in Berlin in July, at a meeting of some of the world's most renowned climate scientists, technologists and service practitioners — proposes to develop these breakthrough technologies. EVE would create models with local granularity, globally, allowing us to see more clearly into the future, and to enable users to interact with their possible futures more intuitively. This would improve everyone's ability and efforts to anticipate future weather, supporting EVE's vision of a world where everyone knows how climate and climate change affect them, and where this knowledge empowers them to act.

As momentum behind EVE mounts, its message is being carried to the 2nd Open Science Conference of the World Climate Research Programme (WCRP), in Kigali, to more fully engage, and benefit from, those that could not come to Berlin. Then it will sail onward, to Dubai, where its evolving vision will be shared with the participants of COP28. As word spreads, communities of knowledge and practice are preparing to evaluate: the readiness and requirements of technology; mechanisms to engage and influence decision making; and how best to integrate EVE in the web of ongoing and cutting edge activities at the local scale. Community input will be necessary to determine EVE's ultimate scope and structure and to develop the implementation plan that will bring it to life.

To arrive at this implementation plan a 2-year €20 M preparatory project is required. The project would be led and coordinated by a project office, established under the auspices of the WMO, albeit with new and dedicated funding. The office would organize and coordinate nine work-packages (see Figure), each bringing together international teams to provide the broad base from which it would distill its plan, in time to be presented at COP30.

The various workpackages of the preparatory project would assess the myriad parts and essential links that will make EVE's whole. From the state and needs of modelling through capacity building (see Figure). Real-laboratories would be set up at a variety of locations worldwide to demonstrate and explore methods of stakeholder interaction, and to determine how EVE must be structured to best realize its vision.

A particular challenge to the scoping and implementation of EVE is that it does not exist in a vacuum. Multitudes of agencies operating at the local, national, and sometimes multi-national level are active in collecting and sharing climate data, producing climate information tailored to stakeholders' needs. Research labs around the world are actively developing more sophisticated models of the Earth system. Notable in the latter regard are large and ambitious projects like the EU's Destination Earth, which could be augmented and constituted as one of a handful of EVE Centers of Excellence. Social scientists have developed a sophisticated understanding of how people process information, and information scientists have been pioneering new methods for making information available for Humans to process. The sheer dimension of these activities turns challenge to chance. By developing EVE to stimulate and support these distributed activities, and by working at a scale that existing efforts cannot individually broach, EVE's vision suddenly becomes tangible.

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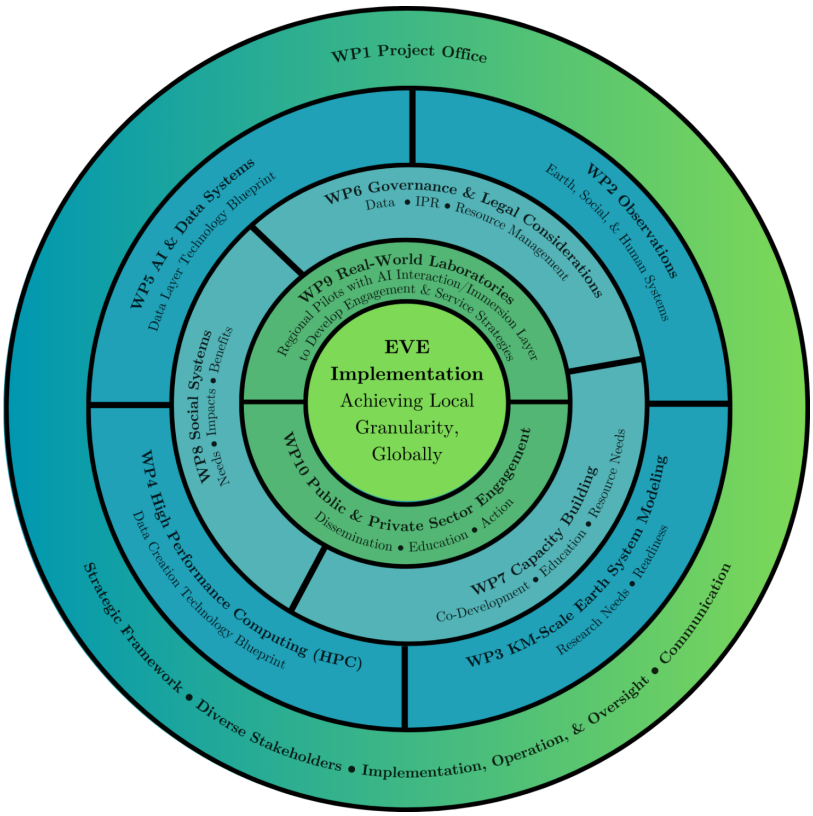
[1] This document provides a high-level outline of a proposed EVE preparatory project.



Proposed structure of EVE preparatory project, with WPs comprising a 24 month funding volume of 1-3 M€ each.