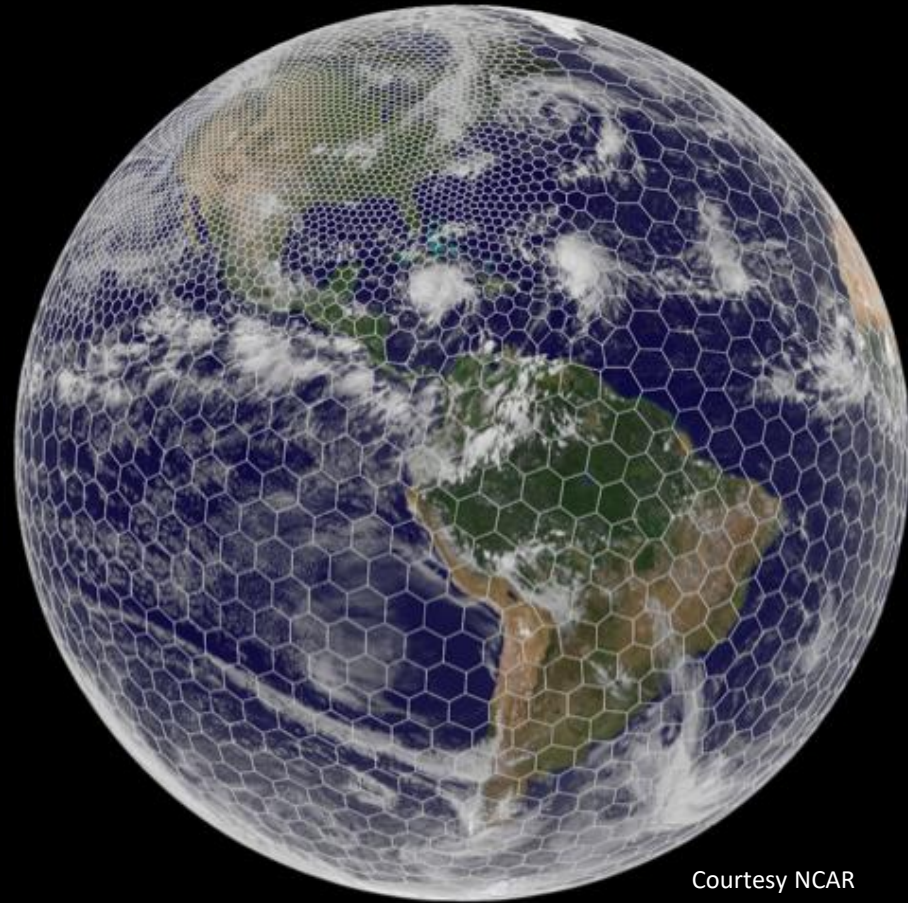


The Global high-Resolution Atmospheric Forecast (GRAF) System: Advancing NWP through Strategic Partnerships

Kevin R. Petty, Ph.D.
Director of Science and Forecast Operations
The Weather Company/IBM

WMO OCP
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Courtesy NCAR

GOALS AND CONSIDERATIONS

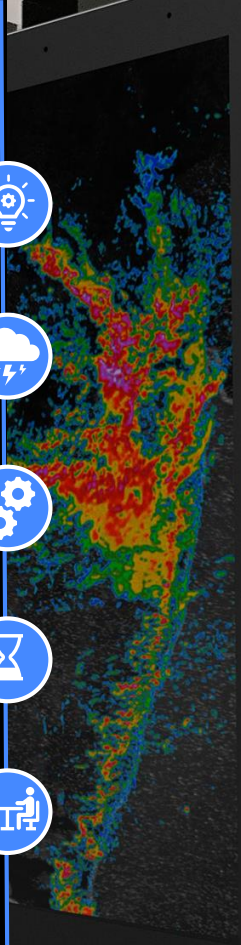
Remain at the forefront of weather forecasting science and technology

Advance the TWC/IBM forecast stack, with a focus on global, convective-allowing, rapidly-updating NWP

Generate measurable, operational results on a relatively short time horizon (i.e., < 2years)

Ensure initial investments result in sustainable, long-term capabilities that can be continually improved

Leverage trusted, capable partners that have well-aligned objectives



POWER9

dyeus

The Weather Company

KEY PARTNERS IN THE OPERATIONAL IMPLEMENTATION OF GRAF



IBM Research

Facilitate top performance on IBM systems, with a particular focus on code optimization



IBM Systems

Design and deliver the Power9 GPU-based HPC upon which the GRAF system operates



NCAR

Lead the development of the GPU-accelerated MPAS system and work with TWC to ensure optimal forecast output from IBM GRAF



NVIDIA

Deliver knowledge and resources aimed at supporting code optimization on GPU technology



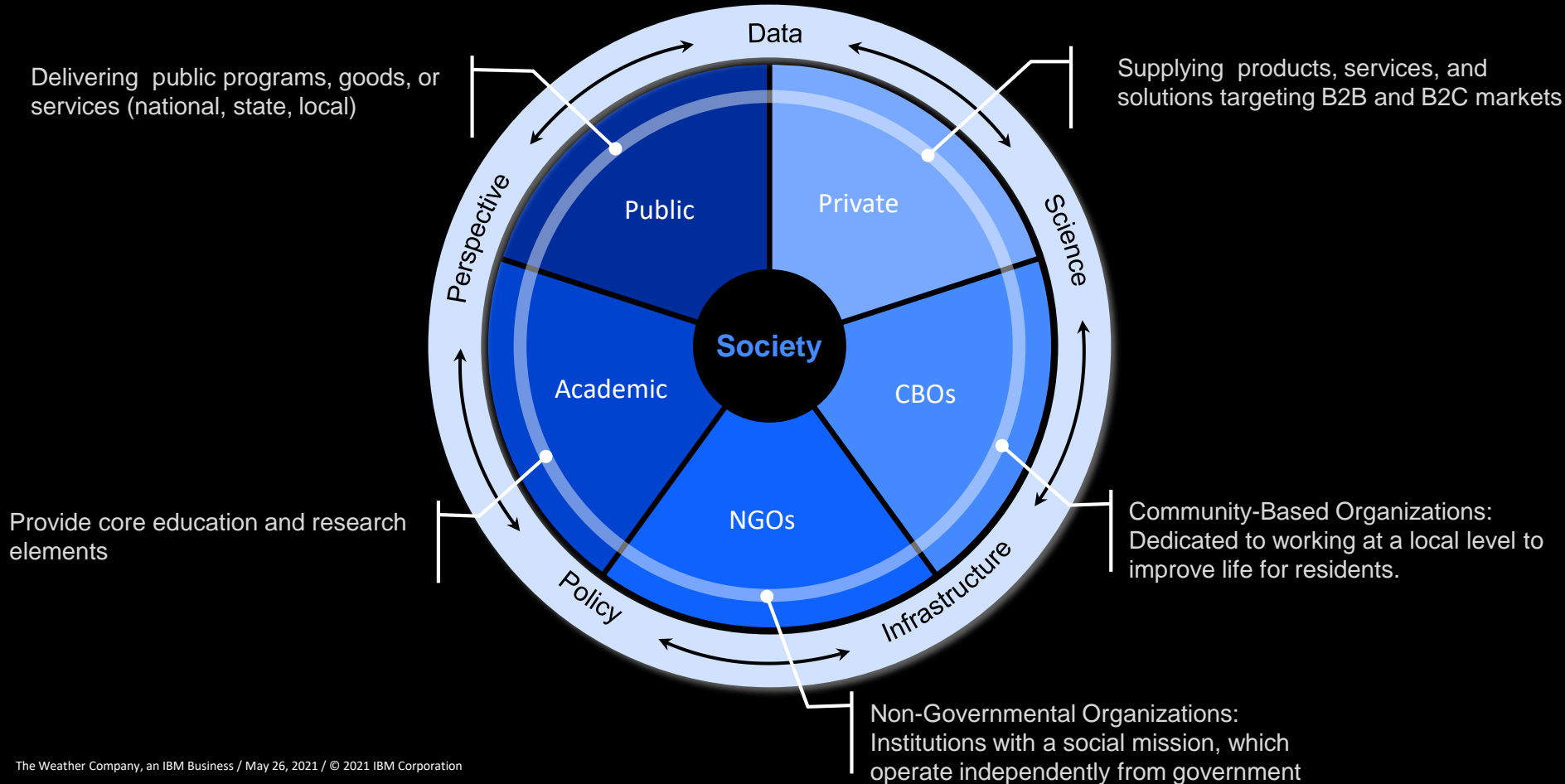
TWC/IBM

Testing, implementation and operation of the MPAS core, as well as advancements related to TWC-specific goals and requirements



Univ. of Washington

Support the porting of MPAS code and work in parallel on exploring new, novel data sources that have the potential to contribute to improved weather forecasts



KEY MESSAGES

Strategic partnerships are an effective and efficient way of achieving goals and objectives, particularly on compressed timescales

Engaging the right partners is essential in any endeavor; efforts should not be made to force fit

Partnerships should be built around a common goal; however, the motivation of each partner may be slightly different and that is OK

Strong partnerships can potentially open the door to other collaborative opportunities

