TempoQuest, the leading provider of accelerated microscale weather forecasts, launches its latest version of AceCAST

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BOULDER, CO, USA, October 20, 2021 /EINPresswire.com/ -- TempoQuest, the leading provider of accelerated microscale weather forecast software and services, launches its latest version of AceCAST™, the only solution on the market providing GPU accelerated processing of the most widely used regional numerical weather prediction model called WRF (Weather Research and Forecasting). AceCAST provides unparalleled insight into severe weather events before they happen by providing earlier warning and better data allowing enhanced operational decision making.

> " the launch of AceCAST v1.3 adds critical namelist options to AceCAST for meteorologists and atmospheric modelers, and demonstrates TempoQuest's commitment to continually improving forecasts "
>
> *Gene Pache, CEO, TempoQuest*

The new AceCAST version 1.3 adds new features to the previous AceCAST version 1.2: Adaptive Time Stepping, Stochastic Perturbation Schemes for ensemble forecasting, Fractional Sea Ice, Analysis Nudging and Surface Analysis Nudging.

Adaptive Time Stepping enables the maximization of the incremental change in time for which the governing equations are being solved while keeping the model numerically stable.

Stochastic Perturbation Schemes enables users to easily identify areas of model uncertainty in ensemble (group) simulations by applying a small perturbation (change) at every incremental change in time for which the governing equations are being solved to each ensemble member. Having the ability to identify model uncertainty is critical to improving the model forecast. Additionally, stochastic perturbation can enhance the representation and variability of model forecasts.

Fractional Sea Ice enables users to treat sea-ice as a fractional field to better represent polar climates.

Analysis Nudging enables users to apply Four-Dimensional Data Assimilation (FDDA) technique that nudges the model towards the analysis by nudging either horizontal winds, temperature, or water vapor or a combination. Analysis nudging adds a corrective term to the predictive (time-varying) equations that is based on the difference between the model and a reference field computed at each grid cell. Analysis Nudging is commonly used for research in historical simulations.

Gene Pache, CEO, TempoQuest, stated, "the launch of AceCAST version 1.3 adds important namelist options to AceCAST for meteorologists and atmospheric modelers, and demonstrates TempoQuest's commitment to continually expanding the capabilities of the accelerated Weather, Research and Forecasting Model."

About AceCAST
AceCAST is a powerful cutting-edge software powered by Graphic Processing Units (GPU) that enables the acceleration of the National Center for Atmospheric Research (NCAR) Weather Research and Forecasting Model (WRF) from the National Center for Atmospheric Research (NCAR). AceCAST is the product of a half-a-decade of punctilious research and development that empowers WRF users to secure striking performance optimizations using the superior massive parallelism of GPU hardware versus traditional Central Processing Unit (CPU) computation. AceCAST encompasses an ample set of refactored common WRF physics and dynamics modules, and namelist options with NVIDIA CUDA or OpenACC GPU programming techniques, allowing a wide swath of users to adopt AceCAST painlessly as a drop-in replacement for existing WRF configurations.

About TempoQuest
TempoQuest is an independent weather software vendor that was incorporated to revolutionize mesoscale weather forecast modeling and to simplify the forecast tasks for meteorologists. TempoQuest offers two software products, AceCAST, or accelerated WRF software, and WSV-3, a highly advanced weather visualization and storm tracking software. Additionally, TempoQuest offers WRF On-Demand, a cloud application that greatly simplifies and accelerates the running of CPU and GPU WRF simulations.

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