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Accelerating Time-To-Science in Geophysical Simulations

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Accelerated computing is nowadays, de-facto, accepted as the path forward to deploy large-scale energy-efficient scientific and technical computing (including Exascale). The positive side effect has been a tremendous opportunity for domain scientists to accelerate the pace of discovery and innovation, as well being capable to quickly respond and adapt to unforeseen natural scenarios by quickly deploy computational tools in support of coordinated mitigation strategies and on-the-ground responses (so called 'urgent computing', work pioneered by the ChEESE Eu Centre of Excellence). The purpose of this talk is to briefly introduce the NVIDIA platform, hardware and software, showcasing few examples of geophysical applications that have been successfully accelerated using NVIDIA GPU and set the stage for the future in computing which involve classic HPC simulations coupled or argument by AI methods.