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How Arm's entry into the HPC market might affect meteorological codes

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In recent years the HPC hardware market has been dominated by the x86 architecture, with 93% of the Top500 systems currently powered by Intel CPUs. The resulting lack of competition has inevitably resulted in significantly rising component costs, and decreased rates of performance improvement and related innovations. Arm's entry into the HPC market is seen as one of the most likely developments to disrupt the current status quo. 2018 has seen the first generation of HPC-optimised CPUs hit the market, with for example Cavium's ThunderX2 32 core CPUs proving to be performance competitive with state-of-the-art x86 CPUs. Performance per dollar benefits are even more compelling. In this talk, we will investigate how Arm's HPC strategy might impact the meteorological sciences, and report on early results from Isambard, the world's first production, Arm-based supercomputer.

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