HPC Related Challenges for Weather and Climate Science

- System Challenges
  - Capacity
  - Need the right HPC, not any HPC. With associated IO performance and storage
  - Need stability of access. Programmes of work, long set-up time.
- Software Challenges. Broad range of skills required
  - SW engineering skills – complex suites and complex multi-model systems
  - Computational science – new algorithms that will scale to next generation hardware
  - Optimisation – need to tune to available architecture which are continually changing
- As a result
  - Quality of weather and climate predictions is strongly constrained by what HPC and software performance can deliver