HPC activities at UCSB

- ***New Campus cluster*** **(CNSI/MRL)**
  - 84 MPI nodes
  - 4 ‘fat nodes’ (512GB RAM)
  - 12 GPUs

  CSC (cross unit IT staff support collaboration, between ORUs, CS, Bio, Chem., Econ)
- ***GPUs***

  Shea group (Chemistry) some success using Amber11

  Petzold group (ICB/CS) works well for their Monte Carlo
- ***4 socket systems/large memory*** (e.g. 48 core, 128GB RAM)

  Earth Research Inst. (ERI) and **MRL** having good luck with them

  NCEAS needs large memory (informatics) more than MPI nodes
- ***Parallel Applications***

  ICB: Parallel MatLab with DCT (up to 128 cores).
- ***Supercomputing Centers***

  Still lots of people using SDSC, TACC, ANL, and now ShaRCS

Cloud activities at UCSB

- **IS&C/Administrative units**
  virtualized environments (delocalized to SDSC), SaaS (e-mail)
- **Instructional Computing**
  experimenting with commercial services. Also interested on policy (student data), SaaS
- **Library (Cloud Storage)**

  www.reddnet.org (e.g. distributed CERN data)

  www.dataone.org (NSF data repository)
- **MSI (MarineMap.org)** (Colin Ebert)
  AWS for web based GIS app. for public input into the MLPA process.
  Cost savings (hardware), dev. on copies, lower latency than campus based.
  UC Policy issues, process done by partner
- **NCEAS** Ecoinformatics **(**Kepler, etc.)
- Several research units (e.g **MSI, ERI, Bren**) experimenting with private clouds (data transfer an issue).
- **Research Projects:**

  Wolski (Eucalyptus), Krintz (AppScale)

  Zhao/Kruegel/Vigna – security group (encryption)