

# What does the term 'Cloud for Research' mean?

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# What is a cloud?

- A host for Computational Services and Data
  - Microsoft, Amazon, Google clouds based on massive data centers.



Quincy, WA



Chicago, IL



San Antonio, TX



Dublin, Ireland



Generation 4 DCs



# Cloud Attributes

- Designed for 24x7 on demand access to services by thousands of concurrent users
- Services run in one or more VMs
- On demand scaling and de-scaling.
- Geo replication of compute and data resources
- Online parallel and distributed data collections
- Not a supercomputer but embedded HPC clusters
- Can support massive scale data analysis computations.





# Cloud4Research = Supporting Communities

- Building Research Marketplaces
  - advanced data analytics and machine learning libraries
  - Curated data collections
  - Data upload, curation and visualization tool
- Strong tool support for building science gateways & tutorials
  - Ipython, Java, C#, F#, C++

