Virtual Collaboratory for TAO
and other Observing Systems

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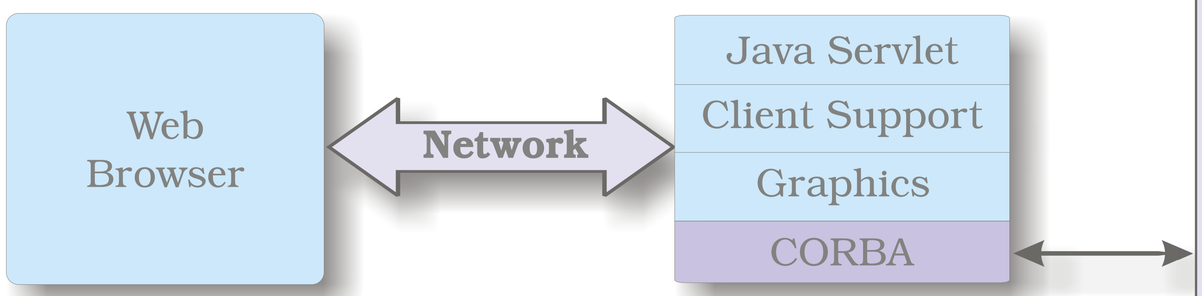
What is a Collaboratory?

The fusion of computers and electronic communications has the potential to dramatically enhance the output and productivity of U. S. researchers. A major step toward realizing that potential can come from combining the interests of the scientific community at large with those of the computer science and engineering community to create integrated, tool-oriented computing and communication systems to support scientific collaboration. Such systems can be called "collaboratories."

From "National Collaboratories - Applying Information Technology for Scientific Research," Committee on a National Collaboratory, National Research Council. National Academy Press, Washington, D. C., 1993.

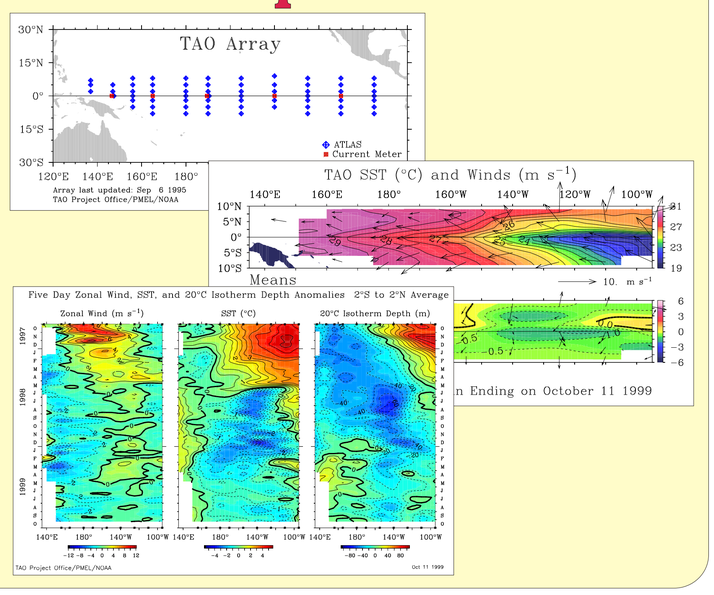


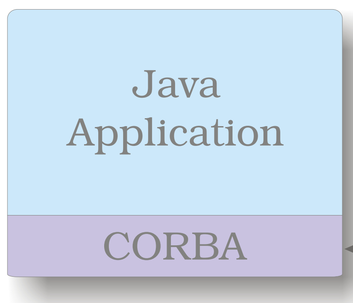
TAO as an Example ...

Data dissemination in initial project planning
- Researcher involvement has assured data quality

Benefits of data dissemination
- Wide use of TAO data
- Traditional research, modeling, forecasting groups
- Over 200 refereed publications in past 5 years
- Related disciplines, educational, administrative, public

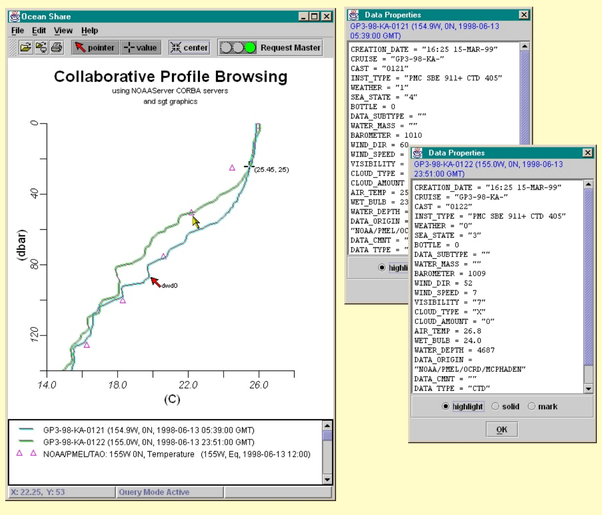
With recent advances in technology, we can do much more...

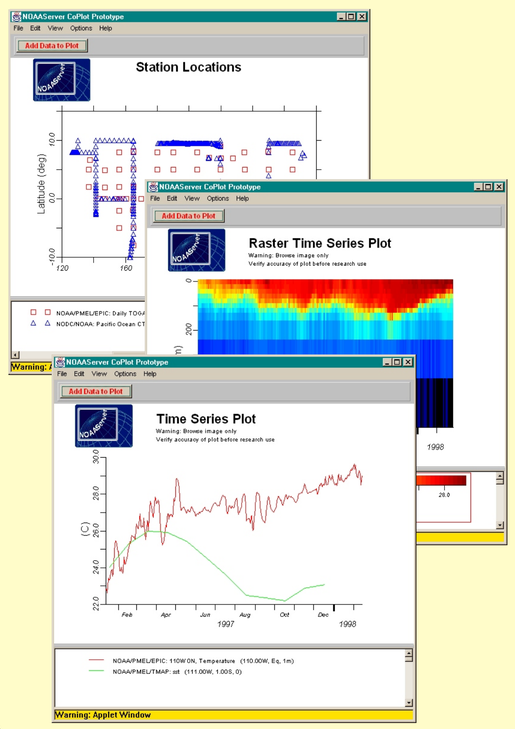




Using Networks for Collaboration *not* Airplanes

OceanShare:
- Portal to distributed climate data in a consistent framework
- Collaborative tool environment
- Off-the-shelf network middleware
- Platform independence (PC, Mac, Unix)
- Built with proven prototypes
  - NOAAServer2
  - HCSA Habanero product
- Use networks for "virtual" scientific collaborations





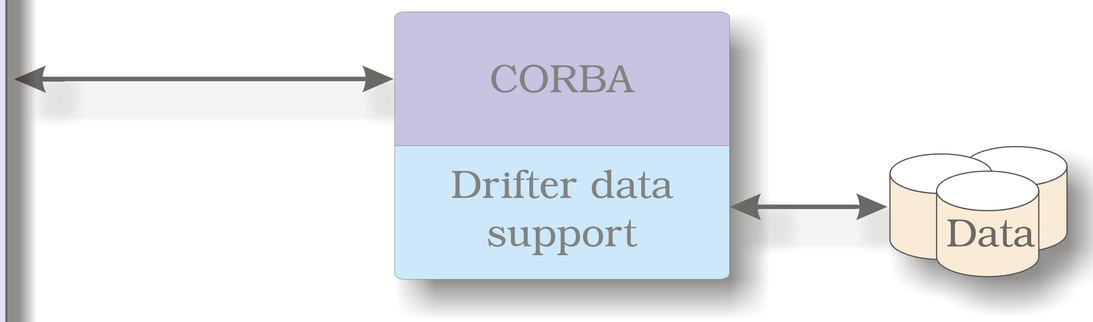
Why do we need a Data Portal?

Each Project Office provides a highly customized Web sites for their data, but different datasets have different navigation and interface characteristics, so the user faces a bewildering spectrum of data access interfaces and locations.
- Data Portal is single, uniform, consistent "doorway" to climate data in a common format
- User goes to a single location and sees a consistent interface
- Complements the customized data access

How do we build a Data Portal?

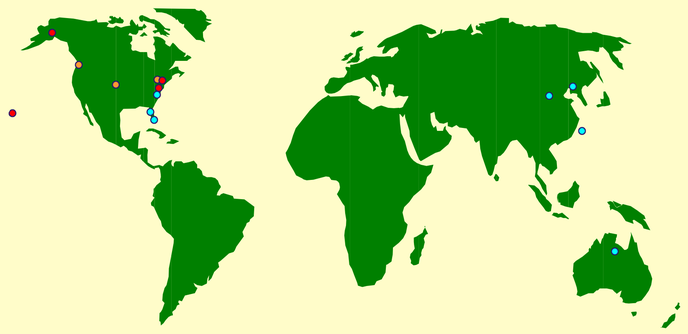
- Link El Niño Observing Systems
- Build on a proven prototype
- Next Generation, NOAAServer 2 prototype software connects 5 geographically distributed data servers in Silver Spring, Boulder, Seattle
  - CORBA for network connections
  - unified interactive Java graphics
  - data from distributed servers are co-plotted together on the same axis on the users desktop
  - Atmospheric and oceanic profiles, time series, ADCP data, global gridded data
- Apply Habanero to create collaborative scientific environments

Network

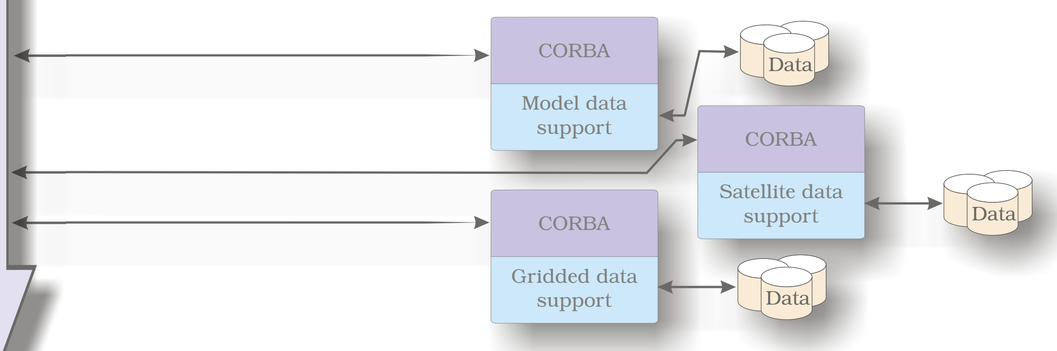


Proposed Climate Data Portal

Centralized, uniform, consistent access to geographically distributed data in a common data format



Realtime Observing system data
Satellite data
Gridded data / Model outputs
Data & information products
Collaborative tool environment



http://www.pmel.noaa.gov/~nns/talks/dot