

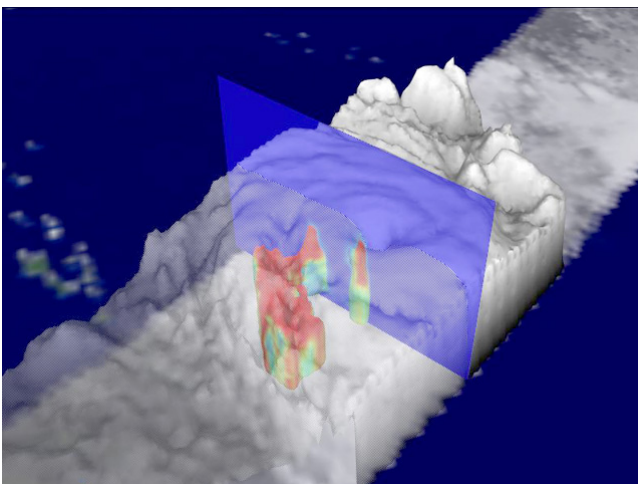
A PROVEN SYSTEM WITH A  
COMMUNITY-ORIENTATION AND AN  
EVOLUTIONARY STRATEGY...

**Providing:**

- ◆ **A High-Performance, Distributed, "Grid-like" Scaleable System:** Distributed Processing System which permits scientific functions to be performed on any system in the network, as desired, with both process-level and system-level controls for operations staff to manage workload.
- ◆ **Adaptive-Orientation:** the goal is not to replace existing systems, but to harness them.
- ◆ **Progressive-Utilization:** permits users to pick and choose features as desired.
- ◆ **Meta-Data Management:** lineage details about each individual scientific object, all types and collections to which each belong, the processes that create them and the parental input objects to those processes.
- ◆ **Automated re-processing:** the ability to repeat all processing steps at will.

**Tropical Rainfall Measuring Mission (TRMM)**

Hurricane Susan - 3d slice 980105



**Featuring:**

- ◆ *The Big Sur System™*
- ◆ Distributed Processing System
  - Eager Engine™ - Demand Engine™
- ◆ *DbCryptor™ - database encryption service*
- ◆ *The Publisher™ - collaboration engine*
- ◆ *The Archivist™ - storage manager*
- ◆ *ScienceInspector™ - User GUI*
- ◆ *ScienceMaster™ - Administrator's GUI*
- ◆ Extensions to STDB™: GeoDB™, MedDB™
- ◆ Multiple-Dimension Arrays
- ◆ Java API/SDK

**Technical Specifications**

Please contact us for full details

Requirements:

Clients: Java™ from Sun Microsystems

Servers - the following RDBMSes are certified:

Informix	Postgres	DB2
Oracle	Sybase	

Supported OS Platforms:

Unix - All variants such as Linux, Solaris, etc.  
Windows - All variants after Windows98  
Macintosh - Yup That Too!

For systems which we have not yet certified, the availability of a suitable posix compliant C compiler is required (gcc preferred). And RDBMSs must have:

- SQL92 compliance
- JDBC driver
- "BLOB" support, or equivalent

Standards Conformance:

BigSur™ aids compliance to your disciplines standards through our schema extension technologies such as GeoDB which provides FGDC Geo-Spatial meta-data standard, and MedDB for DICOM.

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When you think of  
**SCIENCE,**  
think  
**Science Tools!**

Introducing  
The BigSur System™

The Poly-Disciplinary  
Science System

that Brings the World to You!

*ENABLING YOUR RESEARCH*

*SAVING YOU MONEY*

## Notable quotables:

Don Rieger, Langley Research Center (LaRC)  
DAAC staff, February 2, 2004:

*"Since September 1, 1997, Science Tools' BigSur system remains in production managing our TRMM data (and other processing workload) of our supercomputer systems. We keep giving it more work to do. And, so far, we've never found a single bug."*

Victor Zlotnicki, Principal Investigator, OceanESIP,  
Jet Propulsion Laboratory, August 12, 2004:

*"Similar concepts underpin how large NASA projects process most satellite data... And fully tracing a result to all the previous steps is essential to sound research."*

## The BigSur System provides:

**A Comprehensive High-Performance Computing Environment:** The foundation of scientific analysis is *data processing*, with the supporting pillars of *collaboration and results publishing*. BigSur is designed for the researcher, the research institution, and users wishing to access scientific data.

### Meta-data Management

The data about the data is crucial. BigSur provides fully distributed meta-data management so data, processing and meta-data may be on different systems. BigSur is easily extensible to add specialized support. For example the GeoDB (™) extension permits use of the world's fastest geo-spatial indexing scheme while conforming to the U.S. FGDC Geographic Meta-Data Standard.

### Automation & Distributed Process Management

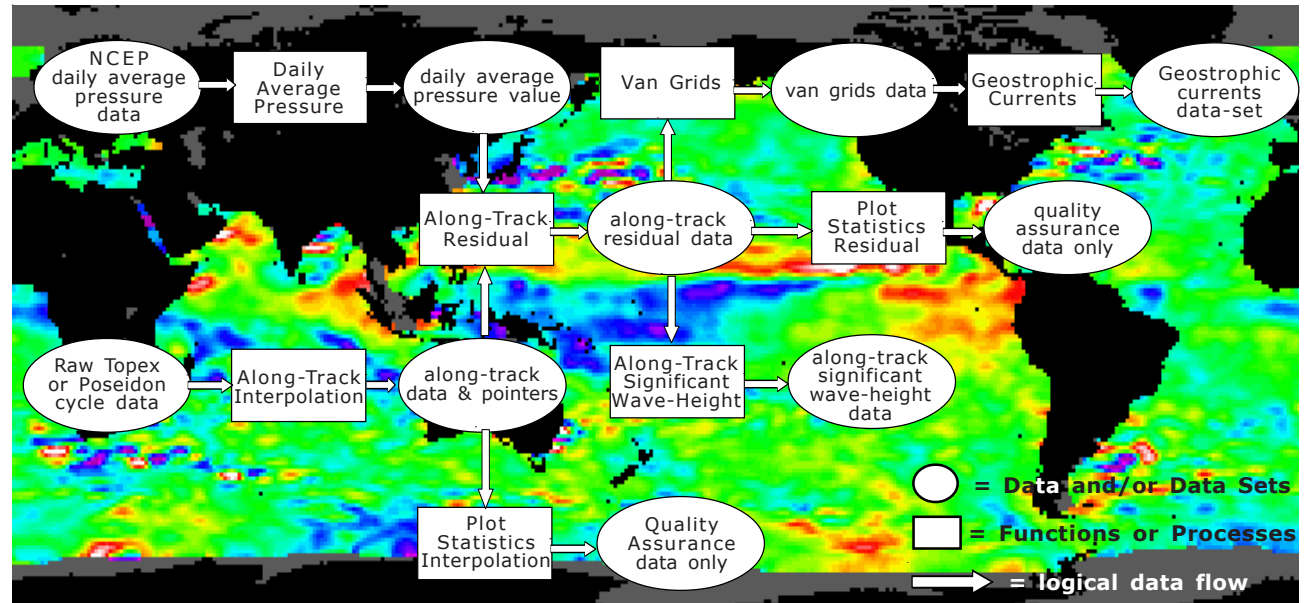
The BigSur DemandEngine™ and EagerEngine™ components of the Distributed Processing System provide automated processing on a single computer, within a site, or across the world.

**Results Publishing:** BigSur's Publisher™ permits you to share results automatically, or works-in-progress, with anyone (collaborators or the public) and provides controls and tracking so you know what is going on.

**Archiving:** The Archivist™ provides high-performance, robust data preservation without unnecessary duplication, ready to handle multi-site repositories and works efficiently with *all storage engines*.

**Security:** BigSur provides its own security and is designed to work with, rather than replace, operating system, database, and application level security schemes. Science Tool's STJC(™) helps protect installations by keeping private database connection and other sensitive information secured from prying eyes.

## JPL OceanESIP: Process workflow overlaying a result-set



These are the processing steps of the OceanESIP project at JPL, managed by Science Tools' BigSur System(™).  
<http://OceanESIP.jpl.nasa.gov/sealevel/>

## We help you manage your whole Scientific Enterprise

### Making Your Life Easier

**Let BigSur learn your ways:** Rather than having to change the way you work, you teach BigSur how you do things - what your datatypes are, et cetera. Teach BigSur to run your scientific processes and you won't be embarrassed when you lose your key staff (intern, grad student) and "forget" how to run your processes!

**Improve Scientific Defensibility:** Tracking the generation history, or lineage, of your scientific objects helps you perform and support your work. Never again struggle to recall just how a particular result was obtained. With BigSur, the exact details of how each object was created are preserved and are easily reviewed. And, this means you can easily repeat processing steps with single changes, helping illuminate and confirm findings, and improve scientific discovery.

**Improve data accessibility:** Because of BigSur's database-centric meta-data, and because of its ease of extensibility, you can now use one system to manage all information related to your scientific enterprise if you wish. No longer do you have to have separate ordering systems, separate web-serving data holdings, separate work areas, etcetera. Heck, you can even use BigSur as a comprehensive address book to track your Intellectual Property!

**Collaborate better:** Science Tools' BigSur System™ helps you work better with other researchers by helping provide both "Catalogue" and "Data" Interoperability.

**Publish faster:** With BigSur's publishing system, get your work into the hands of others post-haste. BigSur can publish your data, or your scientific processes, or your meta-data, or any combination of these, on demand, on a schedule, or as things are created. The Publisher™ tracks what and where it publishes, so if you need to follow up for some reason, you have the data you need.

**Improve data saftey:** The Archivist™ provides world-class archival services for your important data. Tell it to manage as many copies of your data as you'd like, on whatever storage you wish. And, Science Tools' Archivist™ can tell when two files are the same and gives you the power clean up cluttered space with unknown duplicity problems.

**Build your "Library of Alexandria":** By collecting and teaching BigSur processing functions useful to your discipline, you can build a library of capabilities, accessible from anywhere and runnable by anybody to whom you grant permissions.