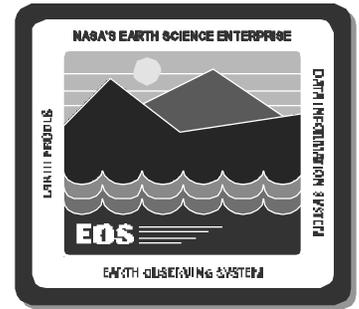


# Release 5B - GSFC & NSIDC Site Readiness Assessment (SRA)

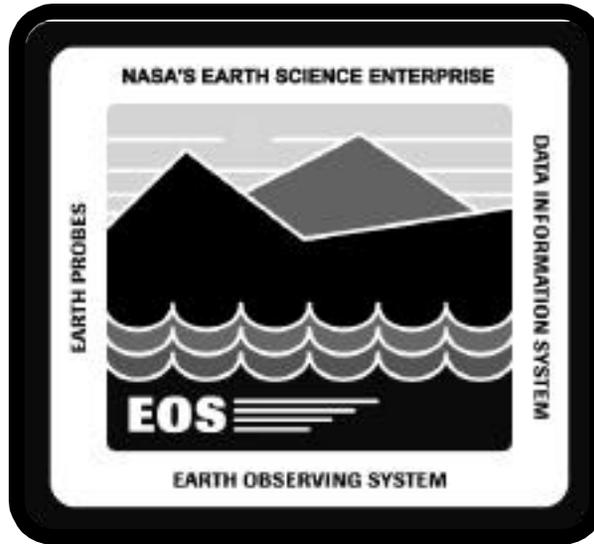
24 August 2000

# Agenda



- Introduction
- PCA Results for GDAAC & NSIDC
- GSFC DAAC 5B Transition Results
- NSIDC DAAC 5B Transition Results
- Summary/Actions

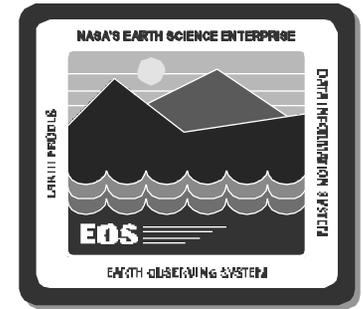
Ravi Nirgudkar  
Wanda Brown  
Steve Kreisler  
Renea Ericson  
Ravi Nirgudkar



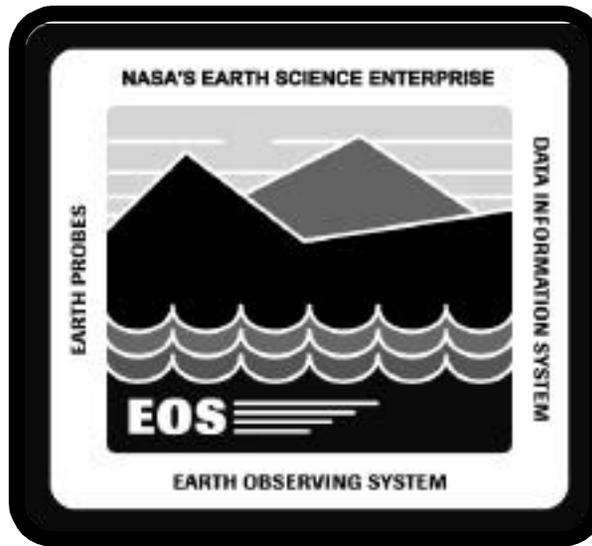
# Introduction

**Ravi Nirgudkar**

# Introduction



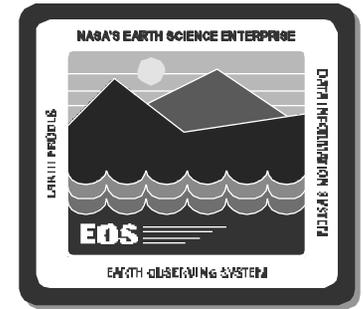
- **Review new capabilities added since PSR**
  - None to report
- **Review updated Development status since PSR**
  - None to report
- **Review updated Test Engineering status since PSR**
  - None to report
- **Review CM PCA results**
- **Review GSFC and NSIDC test results and transition status**



# NSIDC and GSFC Physical Configuration Audit

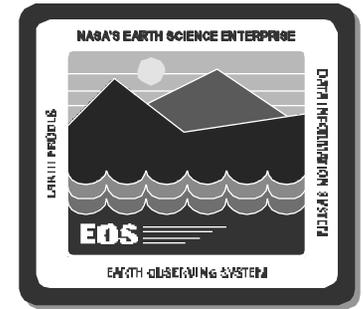
Wanda Jones Brown

# Agenda



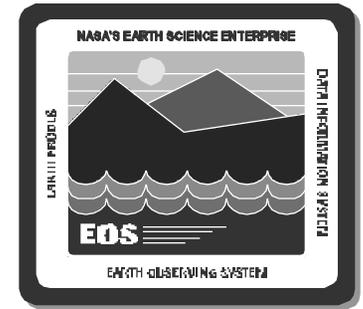
- **Purpose of the PCA**
- **PCA Activities**
- **Documentation of PCA Findings**
- **Findings Classification**
- **PCA Process Summary**
- **NSIDC**
  - **PCA Findings**
  - **PCA Work-off Plan**

# Agenda (Cont.)



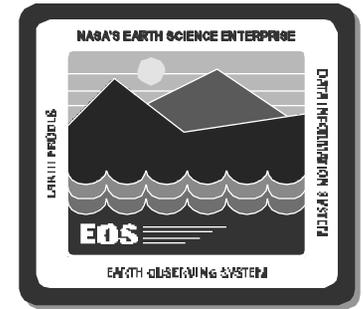
- **GSFC**
  - PCA Findings
  - PCA Work-off Plan
- **Areas for improvement and process improvement actions**
- **Conclusion**

# Purpose



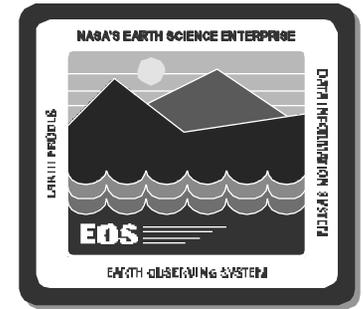
**Compare the “as built” configuration to the “as approved baseline” configuration to verify the integrity of the system prior to transition to operations.**

# PCA Activities



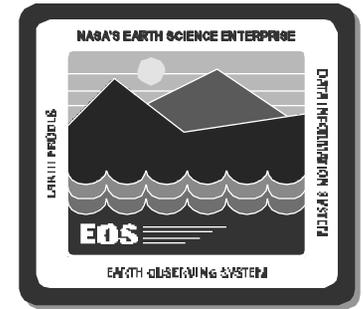
- **PCAs - Transition Modes (TS1, TS2 and OPS)**
  - **COTS Software - mode independent**
  - **O/S Patches - mode independent**
  - **Custom Code - All modes for Drop 5B.03+**
  - **Configuration Parameters - mode independent**

# Documentation of PCA Findings



- **Critical and Non-Critical products**
- **PCA NCR classification recognized by the following distinction:**
  - **Class   Severity   Definition**
  - **2      Medium      Critical product. Finding will be forwarded to a technical cognizant (either a system administrator, development engineer, or site personnel) for problem resolution. If it is determined that the finding requires further action, then the affected site will be promptly notified**
  - **3      Low      Non-critical product. Correction recommended to assure continued level of support**

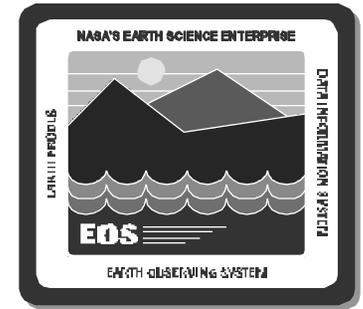
# Findings Classification



## PCA NCR Severity:

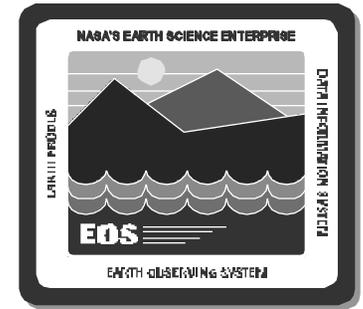
- **COTS SW Findings will be either Class 2 or 3 severity.**
- **All Custom Code Findings will be Class 2 or 3. Each executable must be the correct version and none can be missing. Severity 3 findings are for backup hosts (unused).**
- **O/S Patches can be either Class 2 or 3. Certain missing patches may not affect the system because of how the system is used.**

# PCA Process Summary

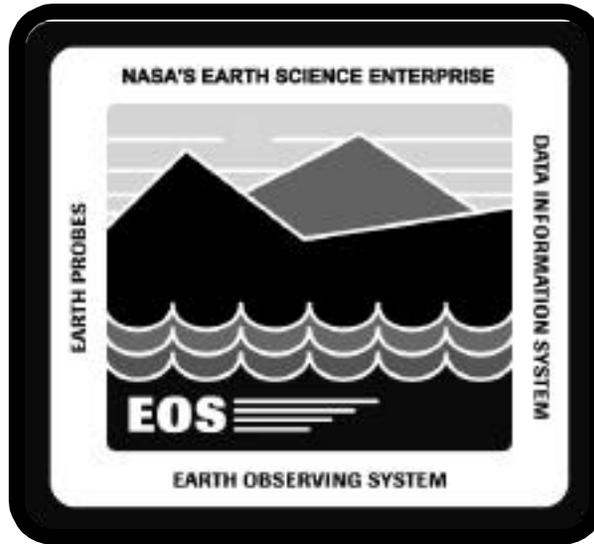


- **Develop Audit Plan/Schedule**
- **Provide Release Baseline for audit locations & modes**
- **Interrogate hosts at sites and create discrepancy reports**
- **Post discrepancy reports on <http://cmdm.east.hitc.com/baseline/>, then click on interrogation button**
- **Review Technical Data Package (TDP) and audit plan with the audit team at the kick off meeting**
  - **CM, M&O, Development, CM DAAC Representatives**

# PCA Process Summary (Cont.)

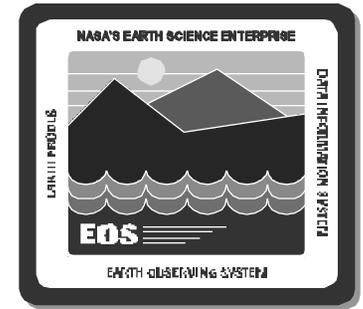


- **Conduct Audit**
- **Forward medium severity findings to the appropriate area for further evaluation**
- **Create PCA NCRs to document findings**
- **Provide summary of all audit findings at the SRA**
- **Verify closure of all PCA NCRs and audit team action items**
- **Prepare final DID 506 report of the audit**



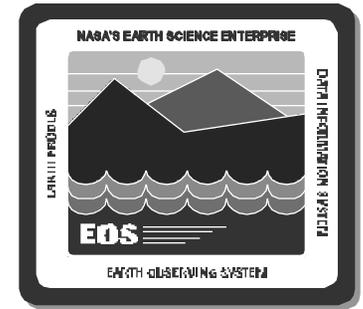
# NSIDC PCA Findings

# NSIDC Findings

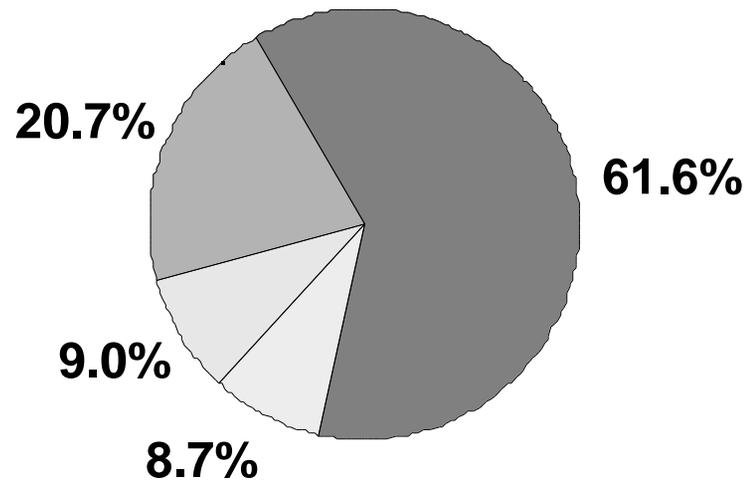


- **COTS SW**
  - **Critical and Non Critical COTS SW**
  - **Critical COTS SW**
    - Approved but not installed
    - Not approved but installed
    - Installed incorrectly
- **OS Patches**
  - **SUN, HP, SGI Summary**
- **Custom Code**
  - **Summary**
- **Configuration Parameters**
  - **Summary**

# NSIDC PCA Results - COTS Software (Critical and Non Critical)

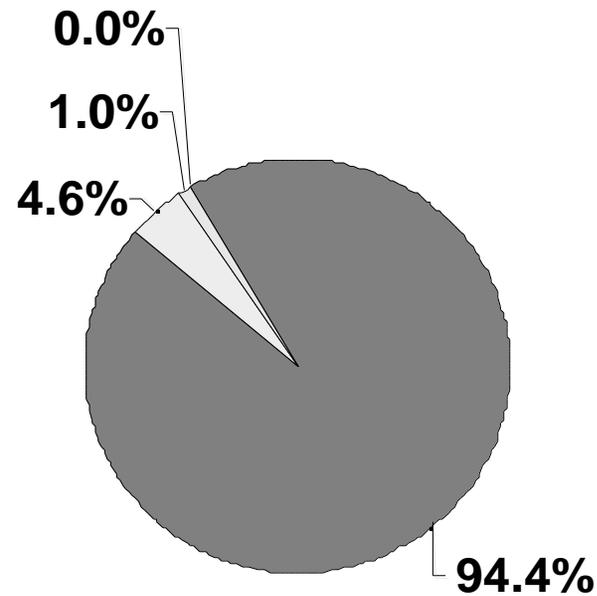
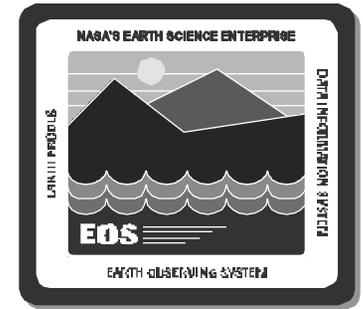


Investigation Completed  
on 8/21/00



- 61.6% Properly Installed
- 8.7% Approved but not installed
- 9.0% Not approved but installed
- 20.7% Installed w/incorrect version/path

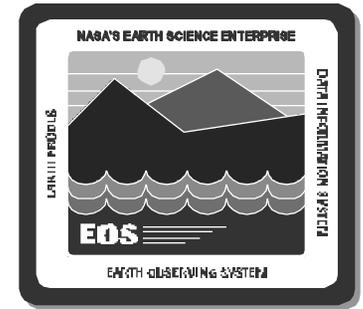
# NSIDC PCA Results - Critical COTS Software



Investigation Completed  
on 8/21/00

- 94.4% Properly Installed
- 4.6% Approved but not installed
- 1.0% Not approved but installed
- 0.0% Installed w/incorrect version/path

# NSIDC PCA Results - Critical COTS SW Approved but not Installed



## 4.6% COTS SW

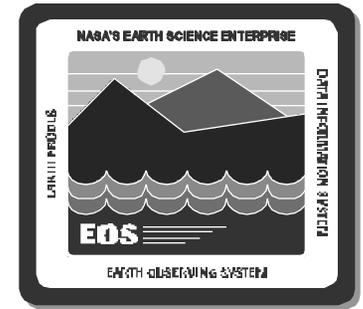
- **Host Issues**
  - **AMASS** not found on n0drg02
  - **IMSL C & FORTRAN Libs** not found on n0spg03
  - **Replication Server** not found on n0mss21
- **Baseline Issues**
  - **BDS** not found (SGI hosts)
  - **BuilderXcessory** not found (All hosts)
  - **StorEdge Volume Manager** not found (mss hosts)

## Resolution

**NCR ECSed 27843** written for host issues.

**CCR 00-0859** written for baseline issues.

# NSIDC PCA Results - Critical COTS SW Not Approved but Installed



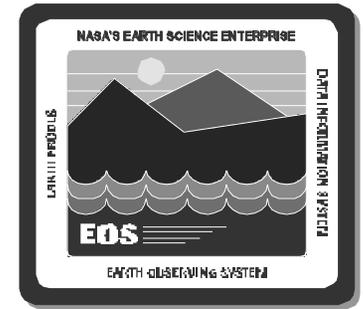
## 1.0% COTS SW

- **Host Issues**
  - Netscape Enterprise Server on n0acg01
- **Baseline Issues**
  - AutoSys on n0ais01, n0pls01, n0pls02, n0pls03, n0spg03
  - Open Client on n0msh10
  - Replication Server on n0mss20
  - FLEXIm on n0spg03

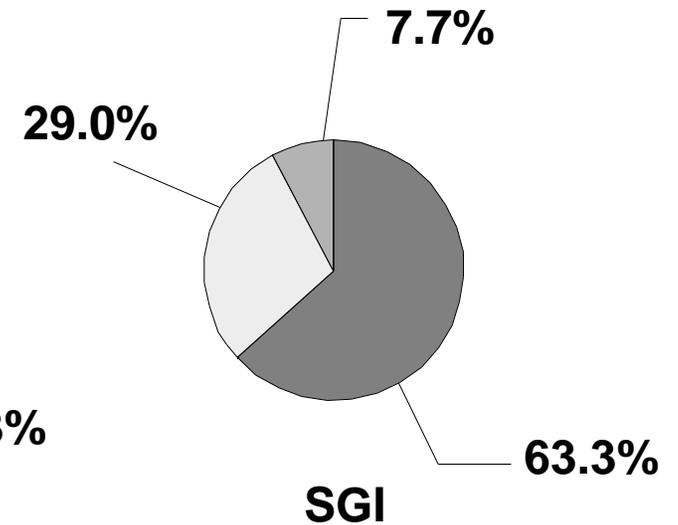
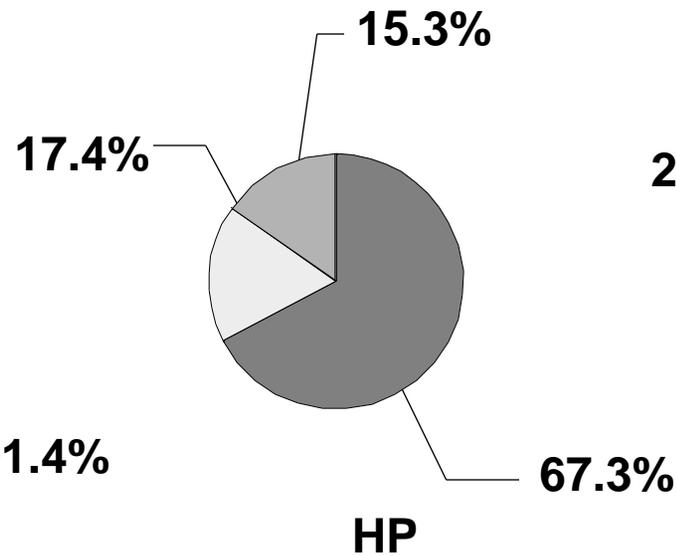
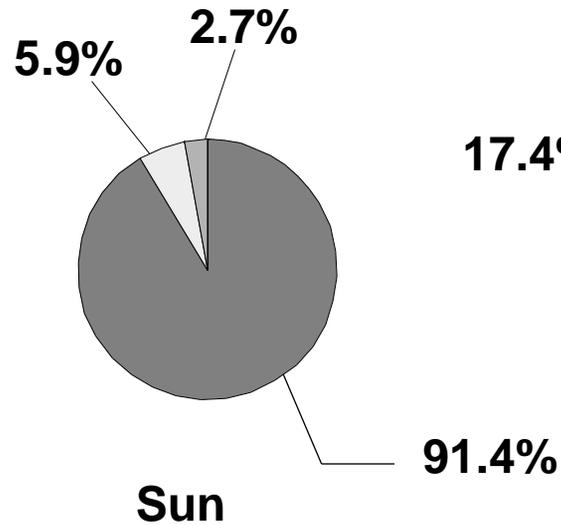
## Resolution

- Will write an NCR.

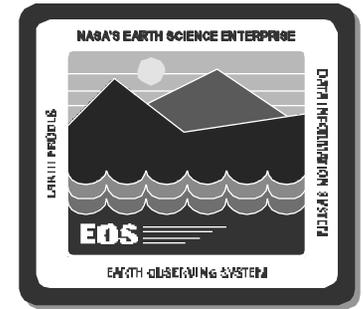
# NSIDC PCA Results - O/S Patches



Investigation Completed  
on 8/21/00



# O/S Patch Summary - SUN Platforms

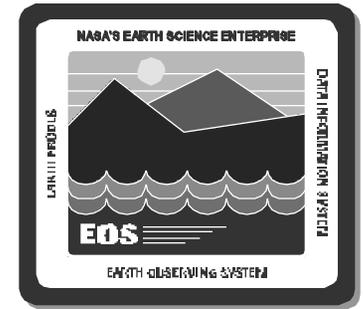


## 5.9% Approved but not installed:

<u>Patch/Name</u>	<u>Impact</u>	<u>Status</u>
104915-08	None	B/L needs to be corrected
105324-02	Sparc StorageArray ses driver	B/L needs to be corrected

Note: n0drs03 runs Solaris 2.6. There is no Solaris 2.6 O/S Patch baseline.

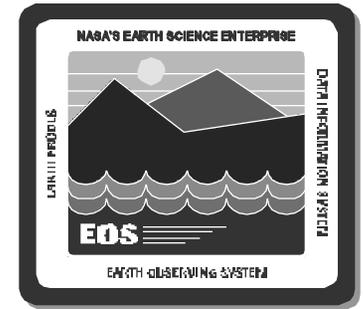
# O/S Patch Summary - SUN Platforms (Cont.)



## 2.7% Not Approved but installed

Hosts n0ins01, n0ins02 and n0mss21- findings are baseline issues;  
need to correct baseline. Hosts are configured correctly.

# O/S Patch Summary - HP Platform



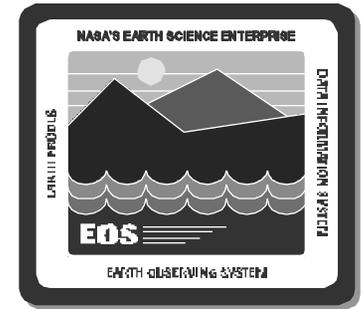
## 17.4% Approved but not installed:

All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

## 15.3% Not Approved but installed:

All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

# O/S Patch Summary - SGI Platform



## 29.0% Approved but not installed:

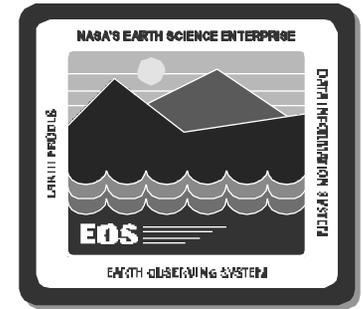
22.2% of the findings are the result of incorrect baseline documentation. Severity 3 PCA NCR's will be written.

6.8% the findings need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

## 7.7% Not Approved but installed

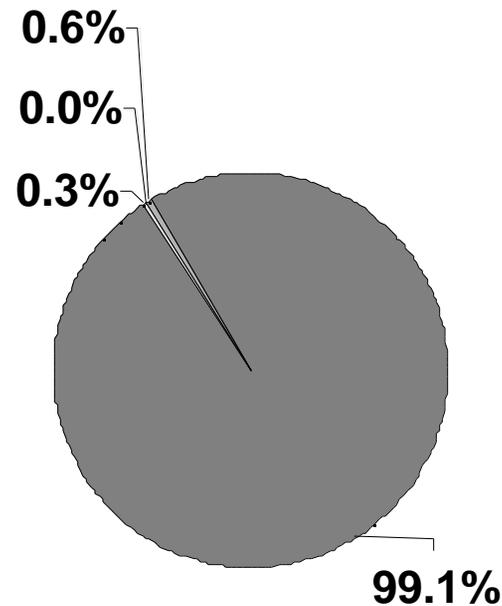
All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

# NSIDC PCA Results - Custom Code



## Notes:

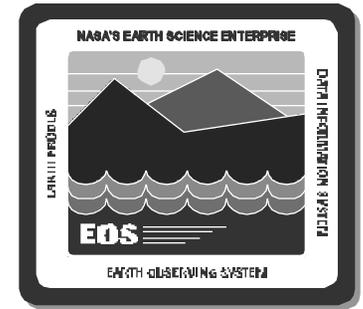
- Excludes Backup Servers
- NSIDC does not populate TS2 mode
- Shown data is for OPS and TS1 modes



Investigation Completed  
on 8/22/00

- 99.17% Properly Installed
- 0.28% Approved but not installed
- 0.0% Not approved but installed
- 0.55% Installed w/incorrect version/path

# NSIDC PCA Results - Custom Code Summary

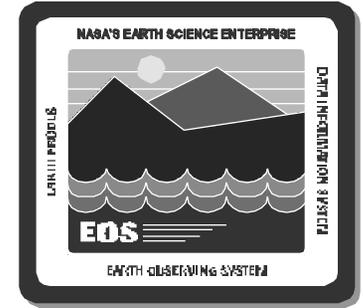


## 0.28% Approved but not installed:

<u>Host</u>	<u>Executable</u>	<u>CCR</u>	<u>Name</u>
n0acs03	EcDsSdSrvGui	00-0659	5B.03

## 0.0% Not approved but installed:

# NSIDC PCA Results - Custom Code Summary (Cont.)

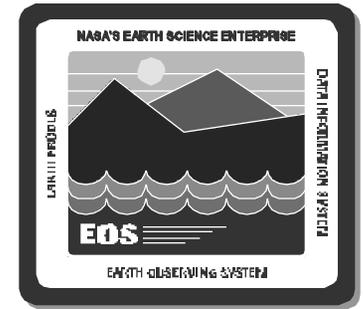


**0.0% Installed w/incorrect version:**

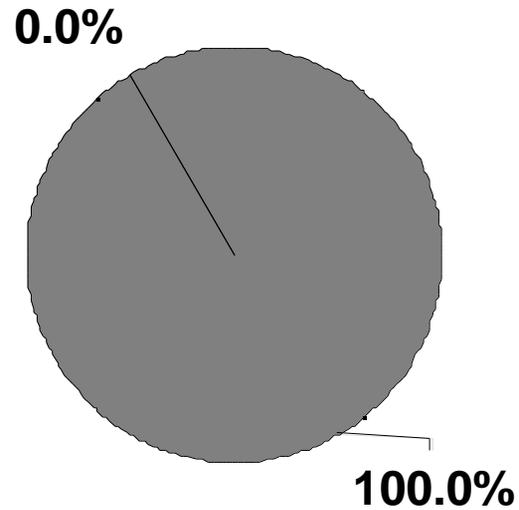
<u>Host</u>	<u>Executable</u>	<u>CCR</u>	<u>Name</u>
n0acg01	EcDsStPullMonitorServer	00-0675	5B.04_Hemlock.01
n0pls02	EcPIPREditor_IF	00-0xxx	5B.04_Guava.01

These should have embedded version identifiers of “DROP5B.04” instead of “DROP5B.03”.

# NSIDC PCA Results - Configuration Parameters

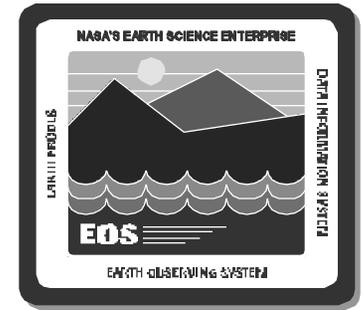


Investigation Completed  
on 8/22/00



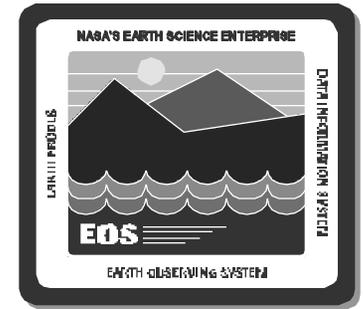
■ 100.0% Correct Values  
■ 0.0% Incorrect Values

# NSIDC PCA Results - Configuration Parameters Summary



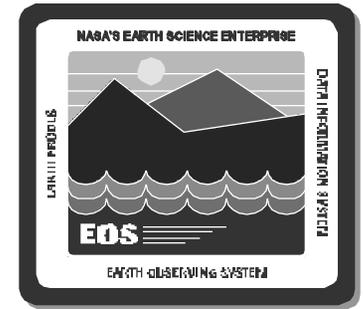
- The new audit process for UNIX configuration parameters compares the baseline to the as-builts. The baseline consists of Tech Docs 920-TDx-015 (Suns), 920-TDx-016 (SGIs), and 920-TDx-017 (HPs). The “as-builts” are located on server [pete.hitc.com](http://pete.hitc.com) in the /CONFIG directory.
- UNIX configuration parameters define how the UNIX operation system functions. These parameter values can be modified to enable specific custom code executables to perform more efficiently. There are 50 Sun parameters for each host, 239 SGI parameters, and 80 HP parameters.

# NSIDC PCA Results - Configuration Parameters Summary (Cont.)



- The baseline was formulated by first reading all of the ECS hosts at the DAACs, the VATC, and the PVC. By subsequently reading the vendor notes, it was then determined whether the read values were the “default, out-of-the-box” values. All read values were the default values. HTML tables were created and posted using the CCR/CCB process.

# NSIDC PCA Work-off Plan



## COTS SW:

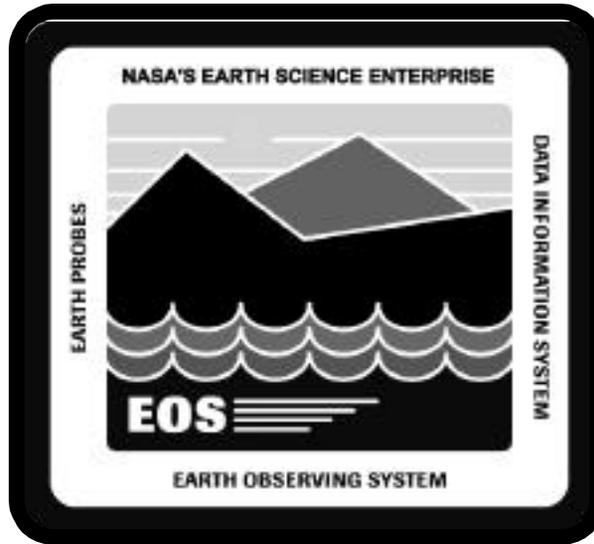
- 43 findings will result in updates to baseline documentation and will be completed by 9/30/00.
- 87 findings will be reviewed by CM and M&O with the DAACs to prioritize and complete outstanding items.

## OS Patches:

- 97 Items must be assigned to System Administrator for priority resolution. ( 16 - Sun's, 24 - SGI's, 57 - HP's)

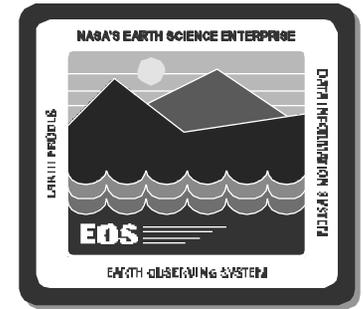
## Custom Code:

- Write NCR to document the 3 findings.



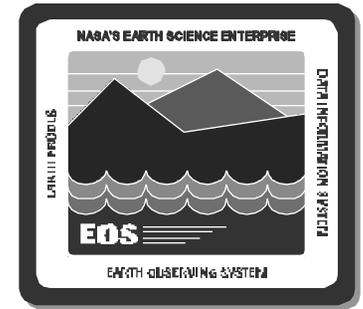
# GSFC PCA Findings

# GSFC Findings

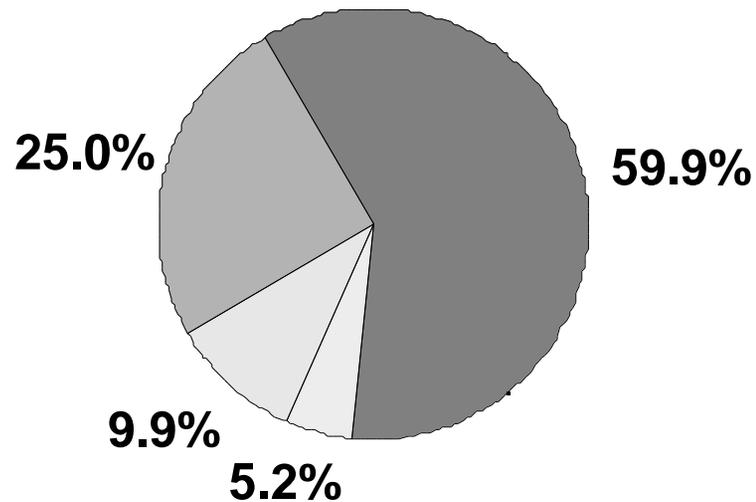


- **COTS SW**
  - **Critical and Non Critical COTS SW**
  - **Critical COTS SW**
    - Approved but not installed
    - Not approved but installed
    - Installed incorrectly
- **OS Patches**
  - **SUN, HP, SGI Summary**
- **Custom Code**
  - **Summary**
- **Configuration Parameters**
  - **Summary**

# GSFC PCA Results - COTS Software (Critical and Non Critical)

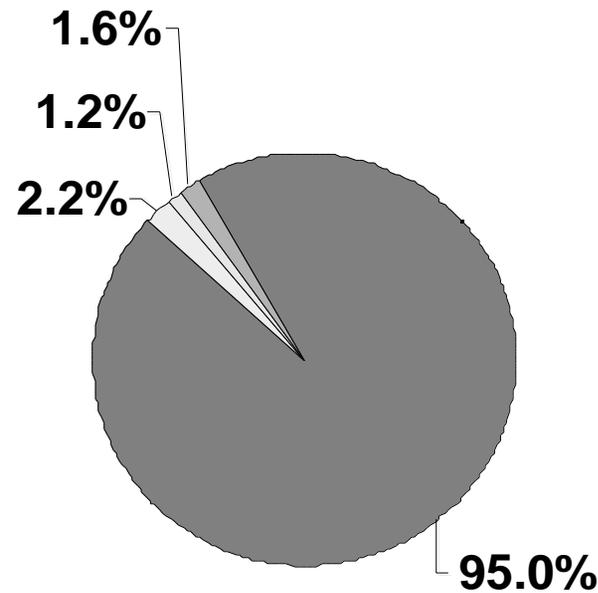
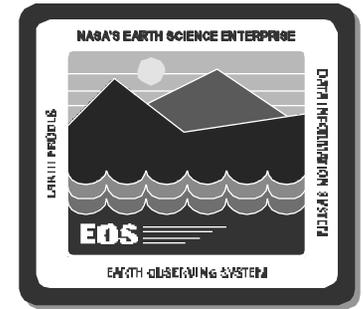


Investigation Completed  
on 8/22/00



- 59.9% Properly Installed
- 5.2% Approved but not installed
- 9.9% Not approved but installed
- 25.0% Installed w/incorrect version/path

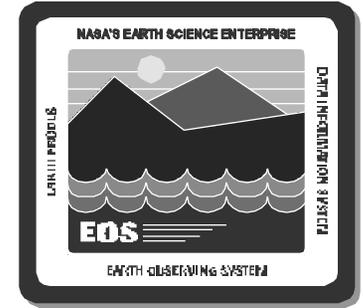
# GSFC PCA Results - Critical COTS Software



Investigation Completed  
on 8/22/00

- 95.0% Properly Installed
- 2.2% Approved but not installed
- 1.2% Not approved but installed
- 1.6% Installed w/incorrect version/path

# GSFC PCA Results - Critical COTS SW Approved but not Installed



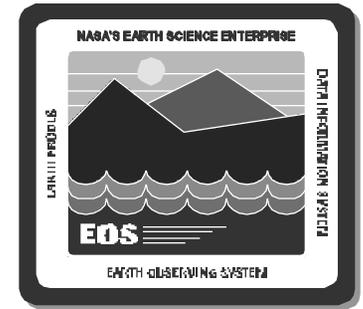
## 2.2% COTS SW

- **Host Issues**
  - StorEdge Volume Manager (version is 2.5, should be 2.6) 6 hosts
  - Sybase Adaptive Ser (version is 11.0.33, should be 11.5.1) 6 hosts
  - Netscape Enterprise Ser not found on g0ins01, g0ins02, g0msh08
- **Baseline Issues**
  - BuilderXcessory (version 5.0 not found, B/L is 5.0.3)
  - HDF Libraries baseline path wrong
  - IMSL C Libs baseline path wrong

## Resolution

**CCR and NCR written for NSIDC to be updated with GSFC findings.**

# GSFC PCA Results - Critical COTS SW Not Approved but not Installed



## 1.2% COTS SW

- **Host Issues**

- DCE Client on g0spg01, g0spg07
- FLEXIm on g0acg01, g0acg05, g0aqq01, g0aqq02, g0drg06, g0icg01, and g0spg07
- Replication Server on g0mss20

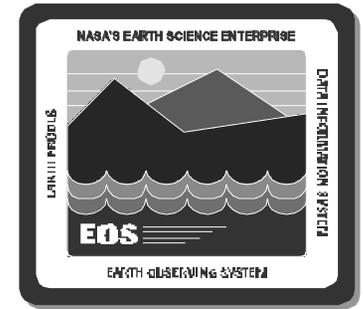
- **Baseline Issues**

- HiPPI on g0acg01, g0acg05, g0drg01, g0drg02, g0drg07, g0icg01, g0icg02, g0spg01, g0spg07
- AutoSys on g0ais01, g0pls01, g0pls02, g0pls03
- BDS on g0icg01 and g0icg02
- DCE Server on g0mss07

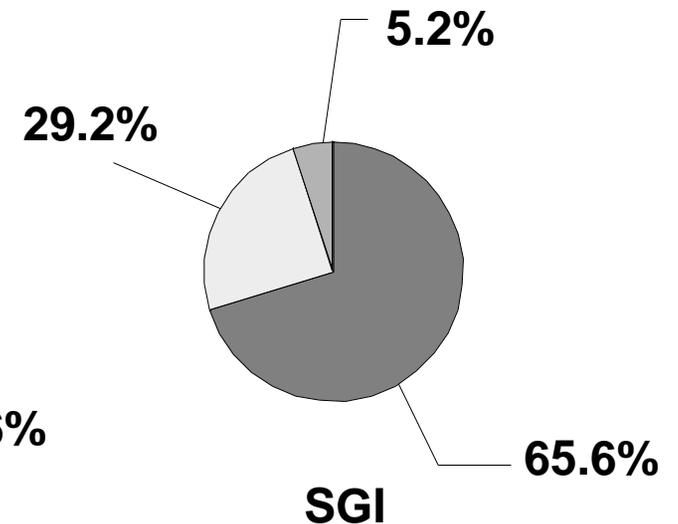
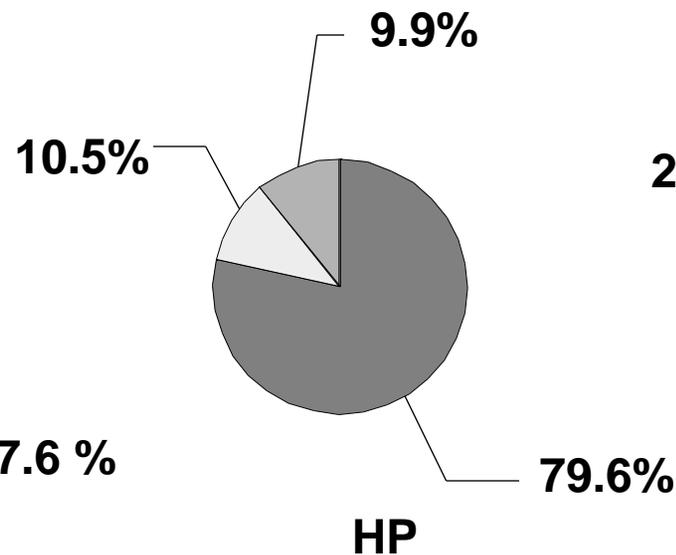
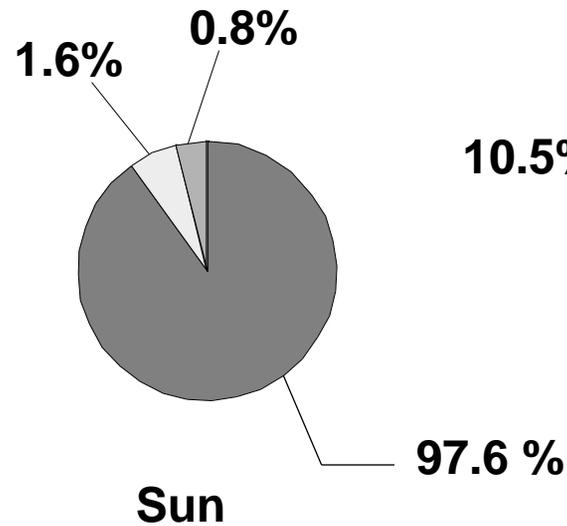
## Resolution

CCR and NCR written for NSIDC to be updated with GSFC findings

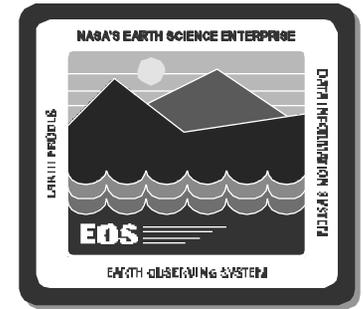
# GSFC PCA Results - O/S Patches



Investigation Completed  
on 8/22/00



# O/S Patch Summary - SUN Platforms



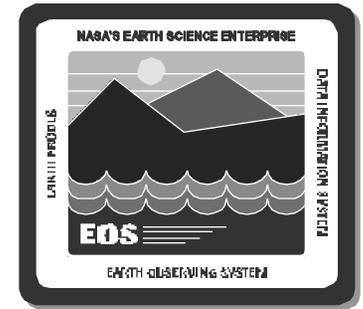
## 1.6% Approved but not installed:

All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

## 0.8% Not Approved but installed:

All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

# O/S Patch Summary - HP Platforms



## 10.5% Approved but not installed

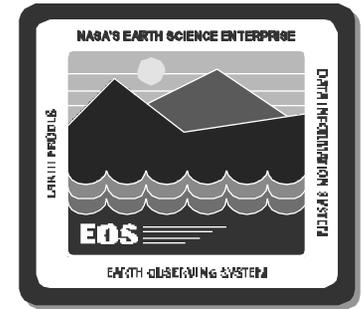
7.9% of the findings are the result of incorrect baseline documentation. Severity 3 PCA NCR's will be written.

2.4% the findings need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

## 9.9% Not Approved but installed

All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

# O/S Patch Summary - SGI Platform



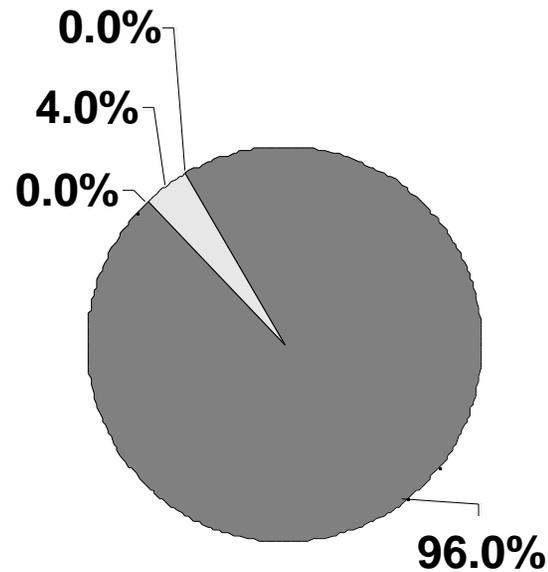
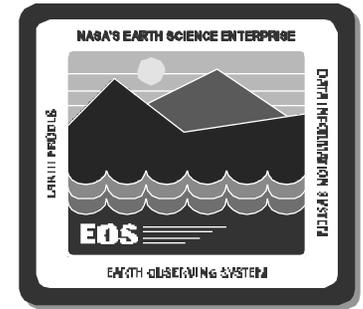
## 29.2% Approved but not installed:

All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

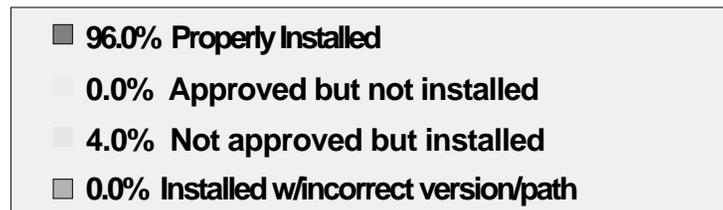
## 5.2% Not Approved but installed

All issues need to be resolved by a RTSC system administrator. These findings were previously documented as PCA NCR's during previous audits.

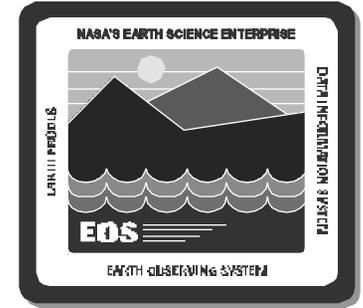
# GSFC PCA Results - Custom Code



Investigation Completed  
on 8/22/00



# GSFC PCA Results - Custom Code Summary



**0.0% Approved but not installed:**

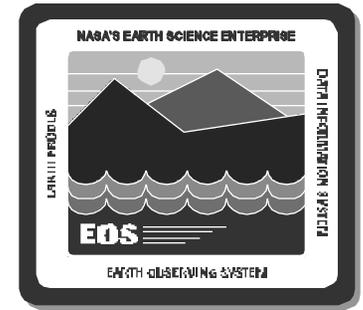
**4.0% Not approved but installed:**

<u>Host</u>	<u>Executable</u>	
g0css02	14 Old Versions (July 7, 1997)	Not used
g0acs03	EcTsDsClientDriver	Not delivered

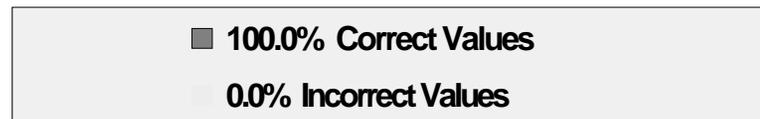
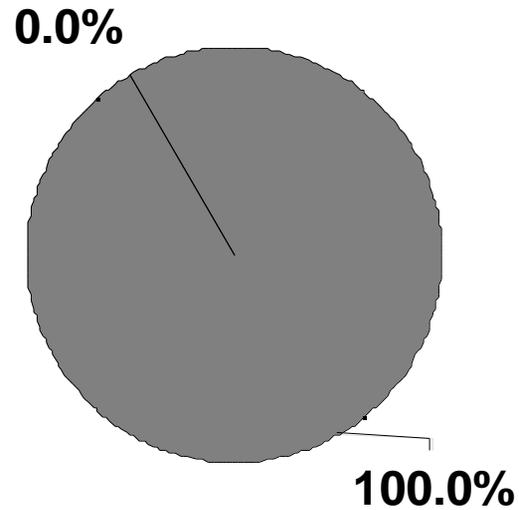
14 are Sev 3's, as these executables are not invoked.

**0.0% Installed w/incorrect version:**

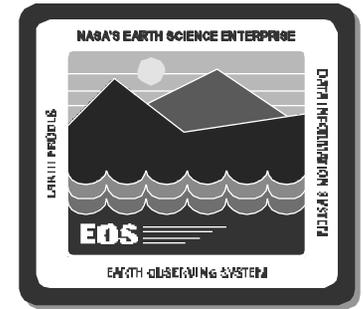
# GSFC PCA Results - Configuration Parameters



Investigation Completed  
on 8/22/00



# GSFC PCA Work-off Plan



## COTS SW:

- 44 findings will result in updates to baseline documentation and will be completed by 9/30/00.
- 127 findings will be reviewed by CM and M&O with the DAACs to prioritize and complete outstanding items.

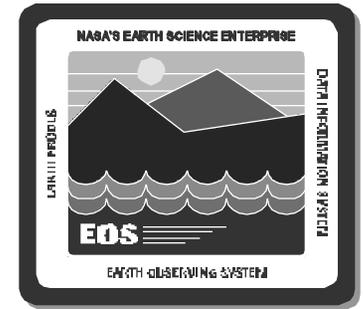
## OS Patches:

- 75 Items must be assigned to System Administrator for priority resolution. ( 7 - Sun's, 26 - SGI's, 42 - HP's)

## Custom Code and Configuration Parameters:

- 14 Old Custom Code versions can be removed from g0css02 (OPS).
- Review g0drg06 and g0drg07 semaphore settings

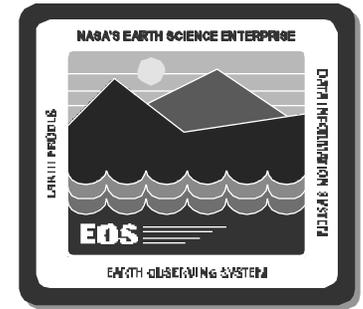
# Areas for Improvement



## The PCA identified the following issues:

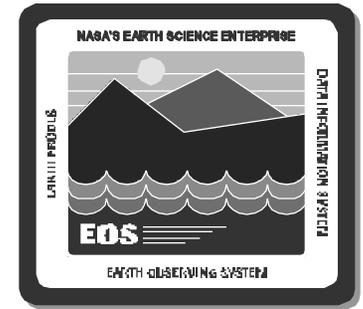
- Lack of a standard feedback loop from the DAACs when the need arises to deviate from the install instructions.
- Problems that have been identified in previous audits have not been resolved.
- Need to improve Baseline management process, updates are not captured accurately in the XRP database.
- PCA's are not conducted on a routine basis to resolve discrepancies as they occur.
- CMO needs to improve it's direct process with RTSC to address OS Patches findings.

# Process Improvement Actions



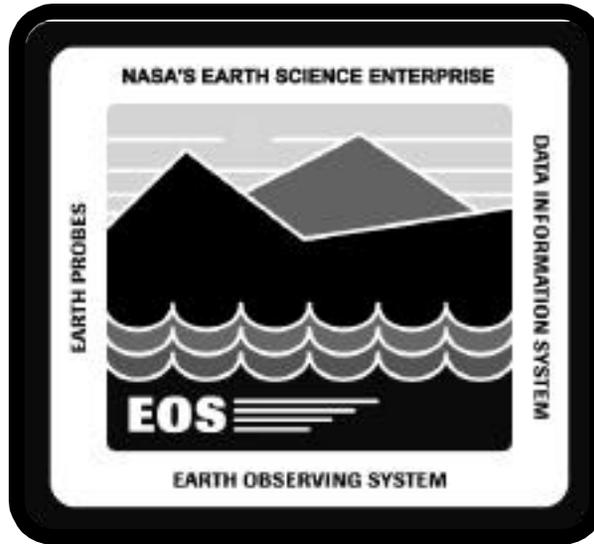
- Implement a standard policy for the DAAC's to use the TT reporting process to communicate deviations from the install instructions. Status - completed
- Action team (CM and M&O) to work with DAACs (as appropriate) to review and resolve outstanding PCA NCR's. Status - in progress
- Review existing processes within baseline management. Recent change in CMO separates the audit and baseline management team. Status - in progress
- Audits will be conducted on a weekly basis to identify new discrepancies from the baseline and will be addressed immediately. Status - in progress

# NSIDC and GSFC PCA Conclusion



## NSIDC and GSFC

- Items needing resolution have been identified and will be addressed via the work-off plans
- Overall, the results of the PCA demonstrates the integrity of the configuration of the system

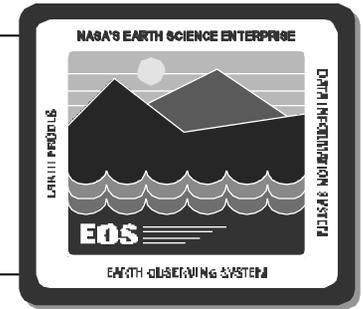


# GDAAC 5B Transition Report

**Steve Kreisler**

# ECS Drop 5B.03

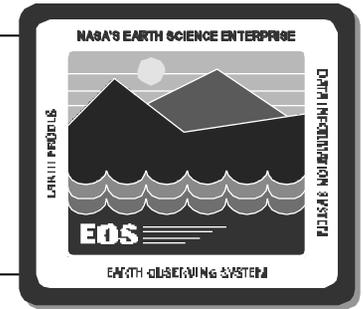
## \*TS2/TS1 Transition Results\*



- **TS2 Install/Checkout – 07/11/00 to 08/02/00**
  - 8 TT/NCRs submitted for TS2 install/checkout; no NCRs on 5A.05 equivalent functionality.
  - Necessary to convert remote shell install script to secure shell.
- **TS1 Install/Checkout – 08/03/00 to 08/08/00**
  - No TT/NCRs submitted for TS1 install/checkout.
  - All TS2 previously submitted sev1 TT/NCRs corrected.
- **Parameter Registry in use for both modes.**
- **Replication Server installed and tested in coordination with SMC.**

# ECS Drop 5B.03

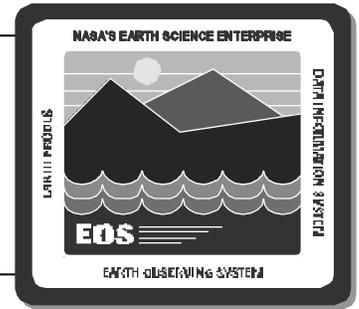
## \*OPS Transition Results\*



- **OPS Install/Checkout – 08/08/00 to 08/10/00**
  - 11:00 a.m. on 08/08/00 – Code brought down
  - 11:30 a.m. on 08/09/00 – Ingest and distribution resumed
  - 3:30 p.m. on 08/10/00 – Production resumed
- **Extended downtime due to 5A/5B database transition.**
  - Post-analysis revealed cause as incorrect installation of Testerossa.04.
- **3 TT/NCRs submitted.**
  - Science data server issues (ECSed27733, ECSed27752) -- corrected.
  - PDPS anomaly (ECSed27786) -- pending.
- **OPS checkout completed for:**
  - 5A.05 equivalent functionality.
  - Update ESDT functionality (introduced with 5B).
- **Other new 5B functionality currently being tested via OREs.**

# ECS Drop 5B.03

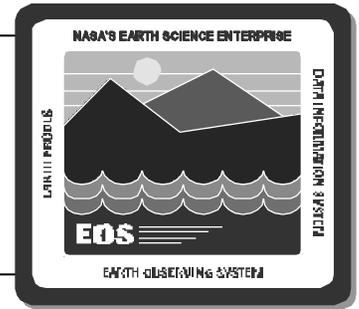
## \*Post Transition Issues\*



- **ECSed27733 (SV 1) -- Science Data server core dumping.**
  - Major impact due to performance degradation.
  - 5B.04\_SDSVR.02 installed on 08/14/00 appears to have corrected the problem.
- **ECSed27786 (SV 2) – PDPS requests other than MOD000 coming in distribution as Vhigh.**
  - Impact to production due to inefficient thread allocation.
- **ECSed27425 (SV 2) – Cleanup of mode deleted ESDT files.**
  - Minor install impact -- Restoration of deleted files was necessary.
- **ECSed27491 (SV 2) – Unable to initialize g0icg01 servers as a group.**
  - As workaround, Ops Controller must bring up g0icg01 servers individually.

# ECS Drop 5B.03

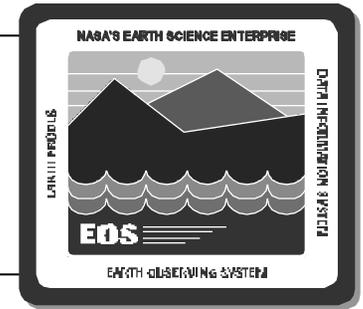
## \*Post Transition Issues\* (cont.)



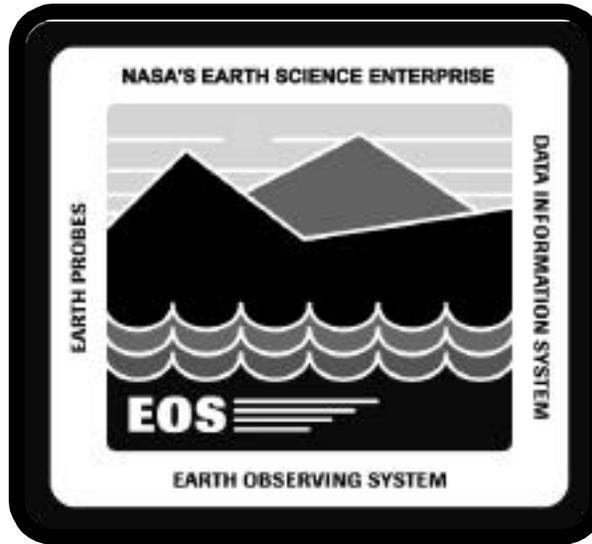
- **ECSed27401 (SV 3) – Sitemap corrections.**
  - Minor impact to installation process.
- **ECSed27418 (SV 3) – Install program omitted some configuration parameters.**
  - Minor impact to installation process.
- **ECSed27494 (SV 3) – Failed update to row in PDPS database.**
  - Minor impact – DBA manually added row.

# ECS Drop 5B.03

## \*Summary Status\*



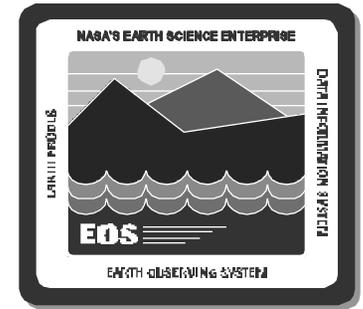
- **From 8/10 to 8/18, high volume exercise of 5B Custom Code was limited due to:**
  - **MODIS sensor being turned off from 8/6 to 8/18.**
  - **Science Data Server anomalies preventing a full capacity checkout.**
- **Since 8/18, MODIS data volumes have been at a normal rate and OPS mode seems to be performing nominally.**



# NSIDC 5B Transition Results

**Renea Ericson**

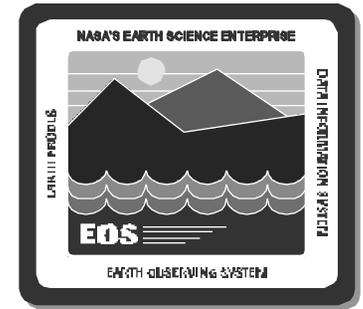
# NSIDC ECS 5B Transition Planning



## 5B.03 OPS Install Process

- **Review with Local CCB**
  - Review potential risks of install into OPS
  - Review potential risks of not installing into OPS
  - Review problems during install into TS1
  - Review fall back procedures should they be needed
  - Assign tasks to staff
  - Establish communication channels

# NSIDC ECS Transition Results



## Install Review

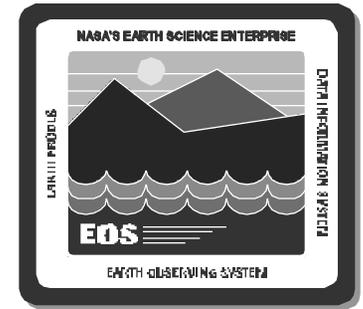
- OPS Install 2 (16 hours) day install \*
- Some internal communication issues
- No show stoppers

\* no ingest down time reported due to slow data flow from MODAPS

## Testing of 5B.03

- OPS mode tested ingesting NISE and MODIS data
- No “test” data ingested into OPS Mode
- Distribution not used in drop evaluation

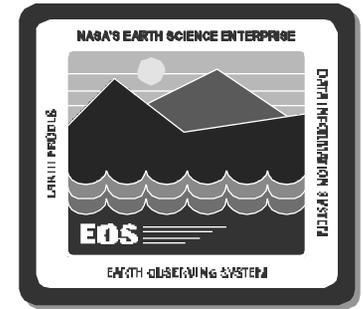
# NSIDC ECS Post Transition Issues



- **Post Transition Issues/comments**

- Training and cross DAAC support successful
- Install instructions reasonably detailed and complete
- OPS Installed in 2 days (16 hours)
- Help from EDF was timely
- NISE browse not ingesting (resolved)
- Memory Growth on server process (workaround)
- No show stoppers
- Ingest speed improved however it continues to be slower than EGS10 results
- Distribution not fully tested

# Summary



**No Show stoppers found**

**NSIDC will continue to use Trouble Ticket process to resolve problems found in 5B.03**

**5B transition process (planning, training cross DAAC support) seen as successful at NSIDC**

**Distribution not fully tested - not seem as critical to NSIDC until MODIS public release**

# Summary/Actions

