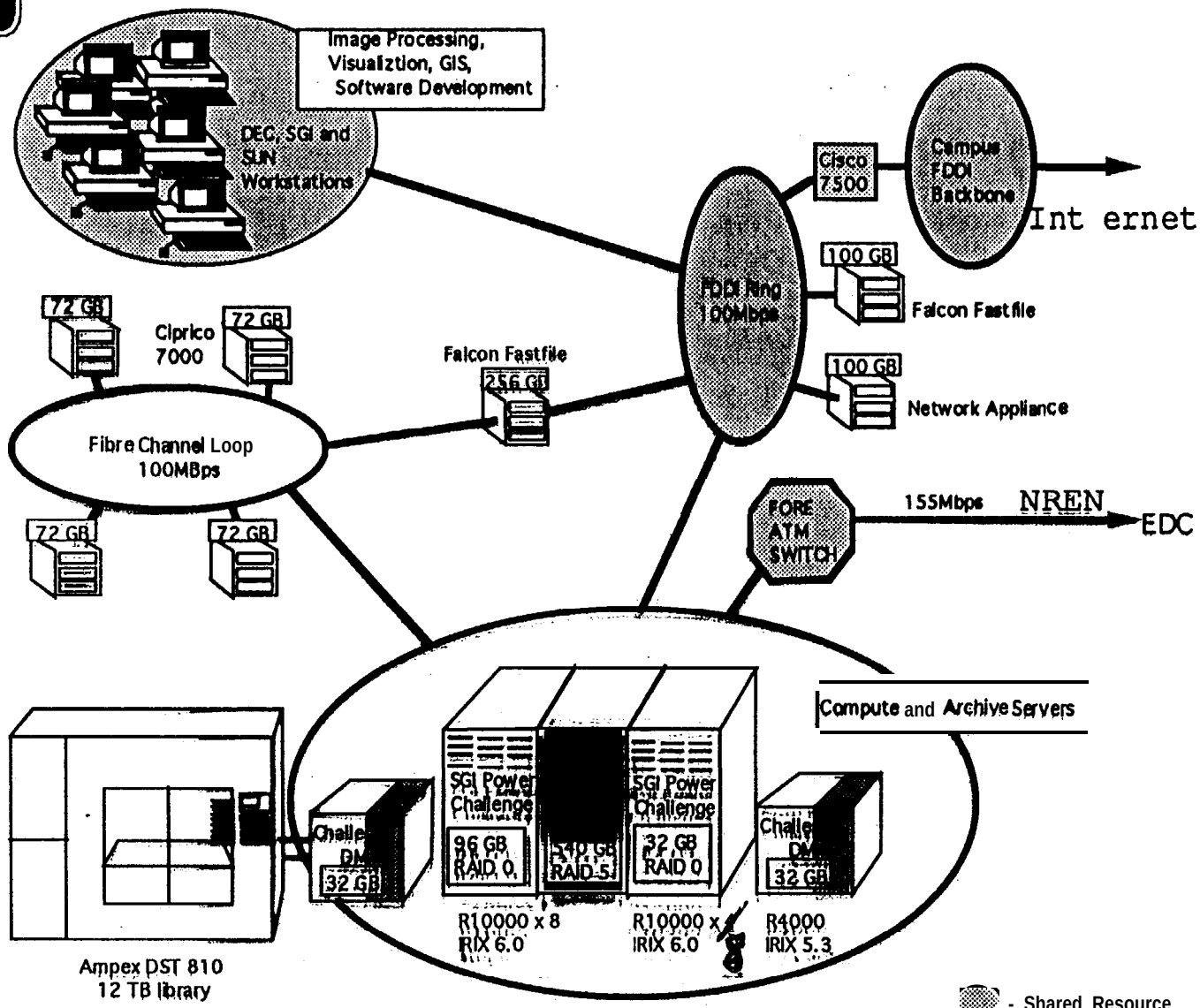
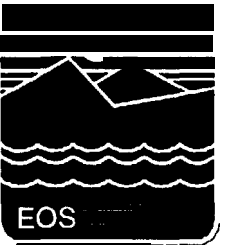
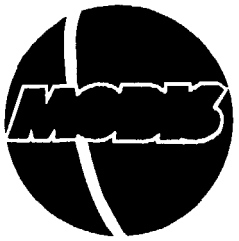
MODIS TL-SCF '96



TLCF Plans '97

- Increase processing power in TL-SCF
  - Add next generation SGI system
  - More RAID on Fibre Channel
  - Add 2nd tape drive to automated tape library
- Production scheduler
  - Enhance TSDIS scheduler
- Nearline archive
  - Define metadata fields
  - Software integration of automated tape library





MODIS SDST Report

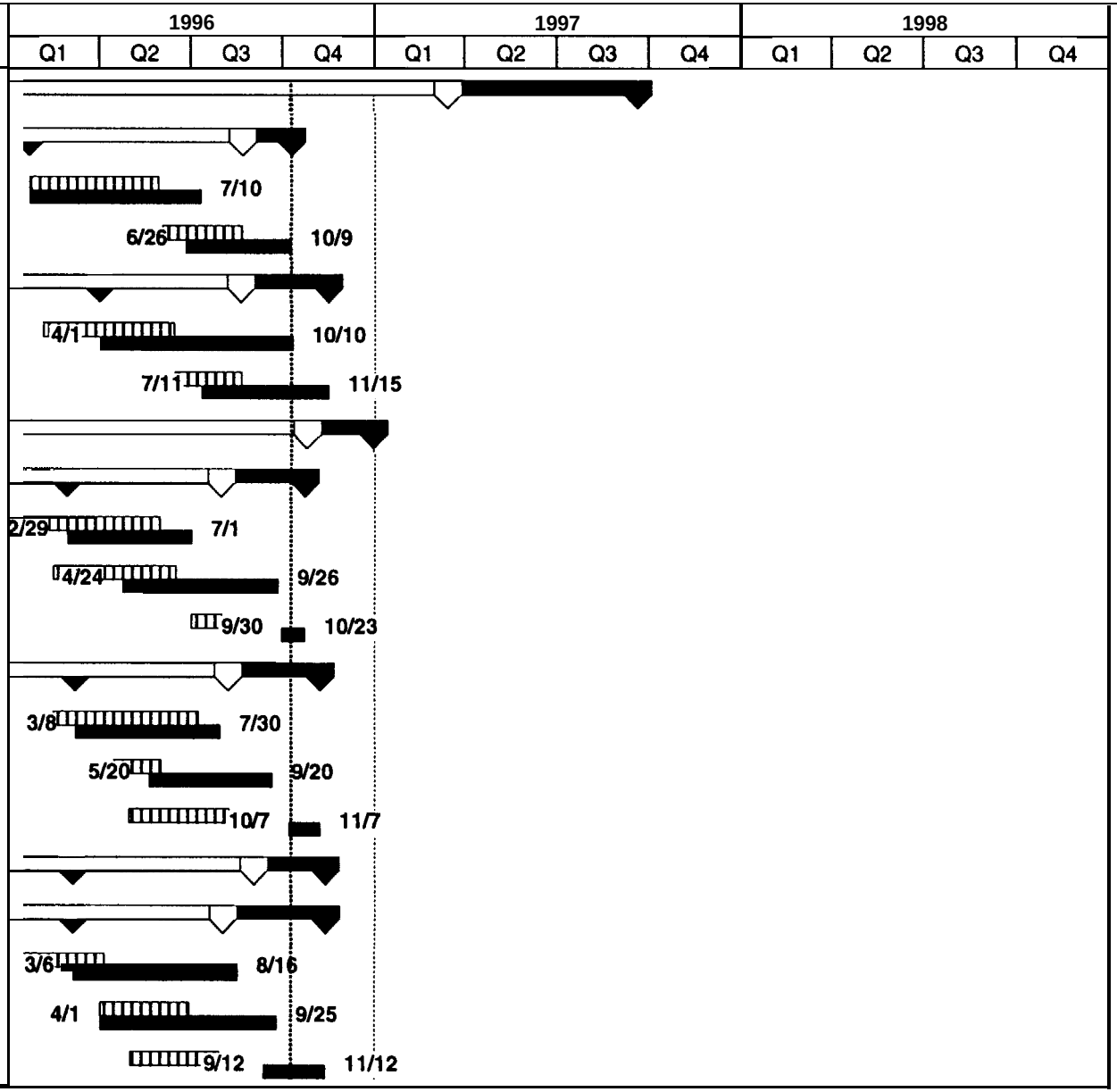
Edward Masuoka, Code 922
NASA's Goddard Space Flight Center
emasuoka@pop900 .gsfc.nasa.gov

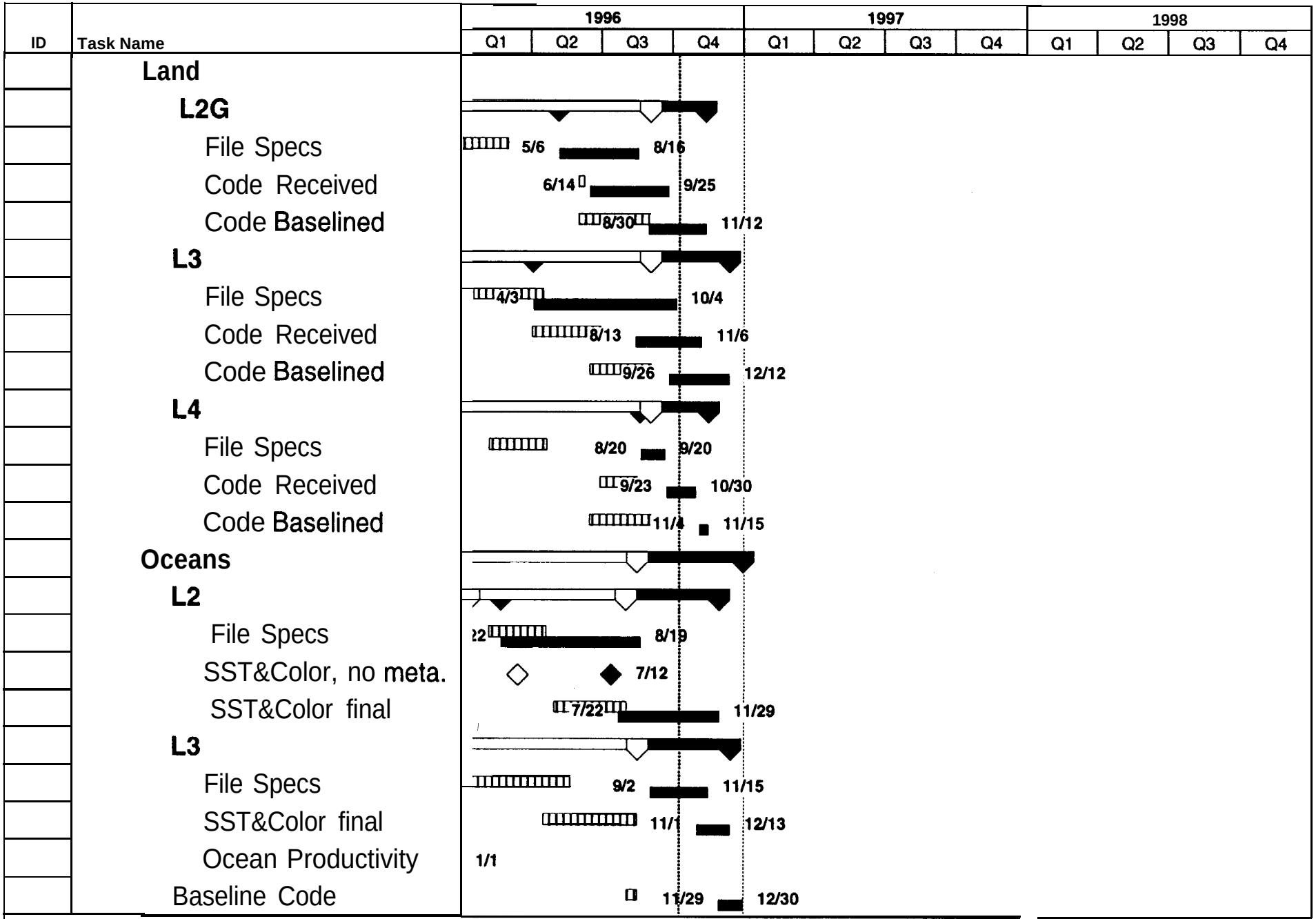
October 1O, 1996

Version 1 Status

- Software deliveries have slipped 3-4 months past the dates established in 3/96
- All software except Level 3 Atmosphere products are on schedule for Version 1 deliveries to DAACs in 1/97 and 3/97
- However, there is no Release A system at the DAACs on 1/97 or 3/97 which can support our integration and testing

ID	Task Name
1	**Version 1**
2	**Level 1A**
3	Design
4	Code, Unit Test, SDP-TK
5	**Geolocation**
6	Design
7	Code, Unit Test, SDP-TK
8	**Science Software**
9	**11 B**
10	File Spec
11	Code Received
12	Code Baselined
13	12 **Atmospheres**
14	File Specs
15	Code Received
16	Code Baselined
17	**Land**
18	**L2**
19	File Specs
20	Code Received
21	Code Baselined




ID
Task Name
1996
1997
1998
Q1
Q2
Q3
Q4
Land
L2G
File Specs
5/6
8/16
Code Received
6/14
9/25
Code Baselined
8/30
11/12
L3
File Specs
4/3
10/4
Code Received
8/13
11/6
Code Baselined
9/26
12/12
L4
File Specs
8/20
9/20
Code Received
9/23
10/30
Code Baselined
11/4
11/15
Oceans
L2
File Specs
8/19
SST&Color, no meta.
7/12
SST&Color final
7/22
11/29
L3
File Specs
9/2
11/15
SST&Color final
12/13
Ocean Productivity
1/1
Baseline Code
11/29
12/30

Status of S/W - GSFC DAAC

Process ID	PI	Product Name	Level	S/W Rcvd	Process ID	PI	Product Name	Level	S/W Rcvd
MOD_PR01	Salomonson	Level -1 A Counts	1		MOD.PR18	Evans	Ocean Color	2	
MOD_PR02	Salomonson	Level- 1 S Radiance, Calibrated Geolocated	1		MOD_PR18A	Evans	Ocean Color- daily, weekly, monthly	3	
MOD_PR03	Salomonson	Geolocation Fields	1		MOD_PR27Y	Esaias	Primary Productivity, Yearly	3	
MOD_PR04L	Kaufman	Aerosol-Land	2		MOD_PR28	Brown	Sea Surface Temperature	2	
MOD_PR04LA	Kaufman	Aerosol Product, L3 Daily	3		MOD_PR28E	Brown	Sea Surface Temperature, L3 Daily	3	
MOD_PR04S	Kaufman/Tanre	Aerosol-Sea	2		MOD_PR29	Hall	Sea Ice Maximum Extent	2	
MOD_PR05	Gao/Kaufman	Precipitable Water	2		MOD_PR29G	Hall	Tiled Sea_Ice Max Extent	2G	
MOD_PR06CT	Menzel	Cloud Product-Cloud Top Properties	2		MOD_PR35	Menzel	Cloud Masks, MODIS	2	
MOD_PR06IR	Menzel	Cloud Product-IR Cloud Phase	2		MOD_PRANC	Menzel	Atmosphere Ancillary Data Processing	N/A	
MOD_PR06OD	King	Cloud Product-Optical Depth/Particle Size	2		MOD_PRMGGA	Just ice	Tiled Geolocation Angular Data	2G	
MOD_PR07	Menzel	03, Stability, Profiles	2		MOD_PRMGPN	Justice	L2G Pointer Mao	2G	
MOD_PR09	Huete/Justice	Surface Reflectance	2		[illegible]	[illegible]	Early Warning Volcano Alert	2	
MOD_PR09G	Justice	Tiled Surface Reflectance-500m	2G		MOD_JOINT	Menzel	Combined Gridded Atmosphere Product	3	
MOD_PR10	Hall	Snow Cover	2		Key				
MOD_PR10G	Hall	Tiled Snow Cover	2G						
MOD_PR11A	Wan	Gridded Land_sfc Temp/Emissivity	2G		O				
MOD_PR14G	Justice	Tiled Thermal Anomalies	2G						

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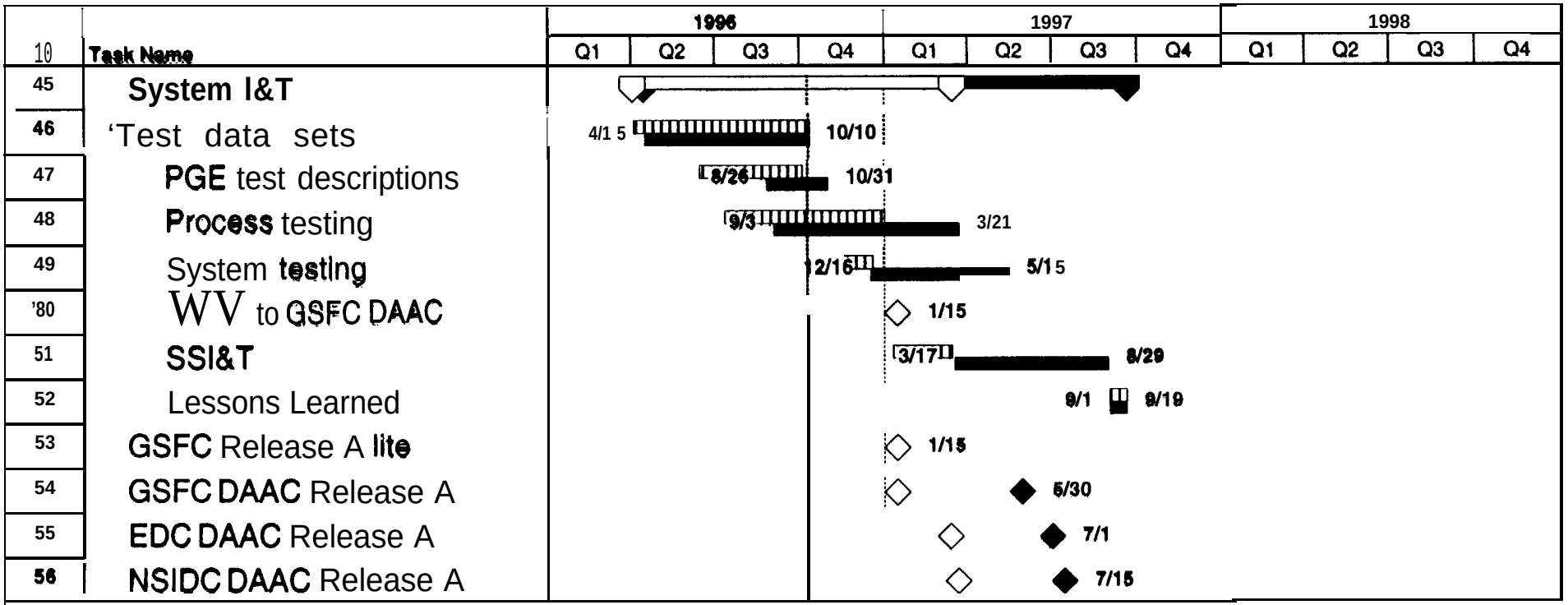
Status of S/W - EDC/NSIDC

Process ID	PI	Product Name	Level	S/W Rcvd	
MOD_PR10A	Ham	Gridded Daily Snow Cover	3		
MOD_PR11 B	wan	Gridded 8-Day Land_sfc Temp.-CMG	3		
MOD_PR11C	Wan	Gridded Monthly Land _sfc Temp.-CMG	3		
MOD_PR12C	Strahler	Land Cover-CMG	3		
MOD_PR12M	Strahler	Monthly Land_Cover Database	3		
MOD_PR12Q	Strahler	Land Cover	3		
MOD_PR13	Huete/Justice	Gridded Vegetation Indices 8-Day	3		
MOD. PR13A	Huete	Gridded Vegetation Indices	3		
MOD_PR13B	Huete	Gridded Vegetation Indices Monthly	3		
MOD_PR13P	Huete	Gridded Vegetation Indices 8-Day, 250m	3		
MOD_PR14A	Justice	Gridded 8-Day Thermal Anomalies	3		
MOD_PR14C	Justice	Gridded 16-Day Thermal Anomalies-CMG	3		
MOD_PR14G	Justice	Tiled Thermal Anomalies	2G		
MOD_PR15	Running	Leaf Area Indices (LA) and FPAR	4		
MOD_PR15A1	Running	Daily Intermediate L3 LAI/FPAR	3		

Process ID	PI	Product Name	Level	Plan'd Code Rec'd
MOD_PR15A2	Running	Daily LAI and FPAR	3	
MOD_PR15C	Running	Leaf Area indices (LAI) and FPAR-CMG	4	
MOD_PR17	Running	Vegetation Production, Net Primary (NPP)-L4 Yearly	4	
MOD_PR17C	Running	Vegetation Production, Net Primary-CMG	4	
MOD_PR17P	Running	Interim Composite DAO Climatology	4	
MOD_PR29A	Hall	Daily Sea_Ice Max Extent	3	
MOD_PR33	Hall	1 0-Day Snow Cover	3	
MOD_PR33C	Hall	10-Day Snow Cover-CMG	3	
MOD_PR42	Hall	10-Day Sea-Ice	3	
MOD_PR42C	Hall	10-day Sea Ice-CMG	3	
MOD_PR43B1	Strahler	BRDF Subsetting	3	
MOD_PR43B2	Strahler	BRDF/Albedo	3	
MOD_PR43BC	Strahler	BRDF/Albedo-CMG	3	
MOD_PRMGGA	Justice	Tiled Geolocation Angular Data	2G	
MOD_PRMGPNTR	Justice	L2G Pointer Map	2G	

Key

Ott-Nov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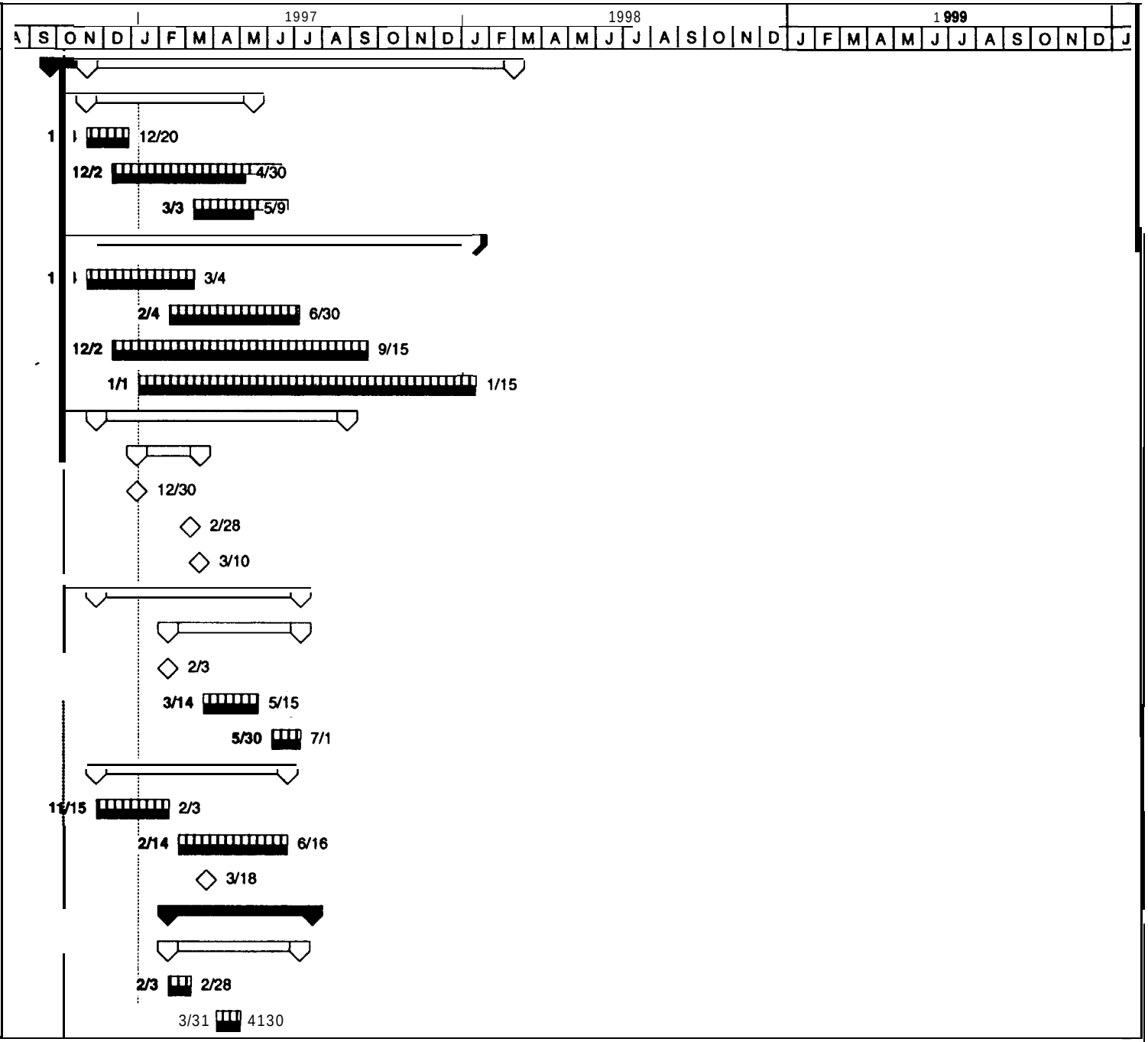
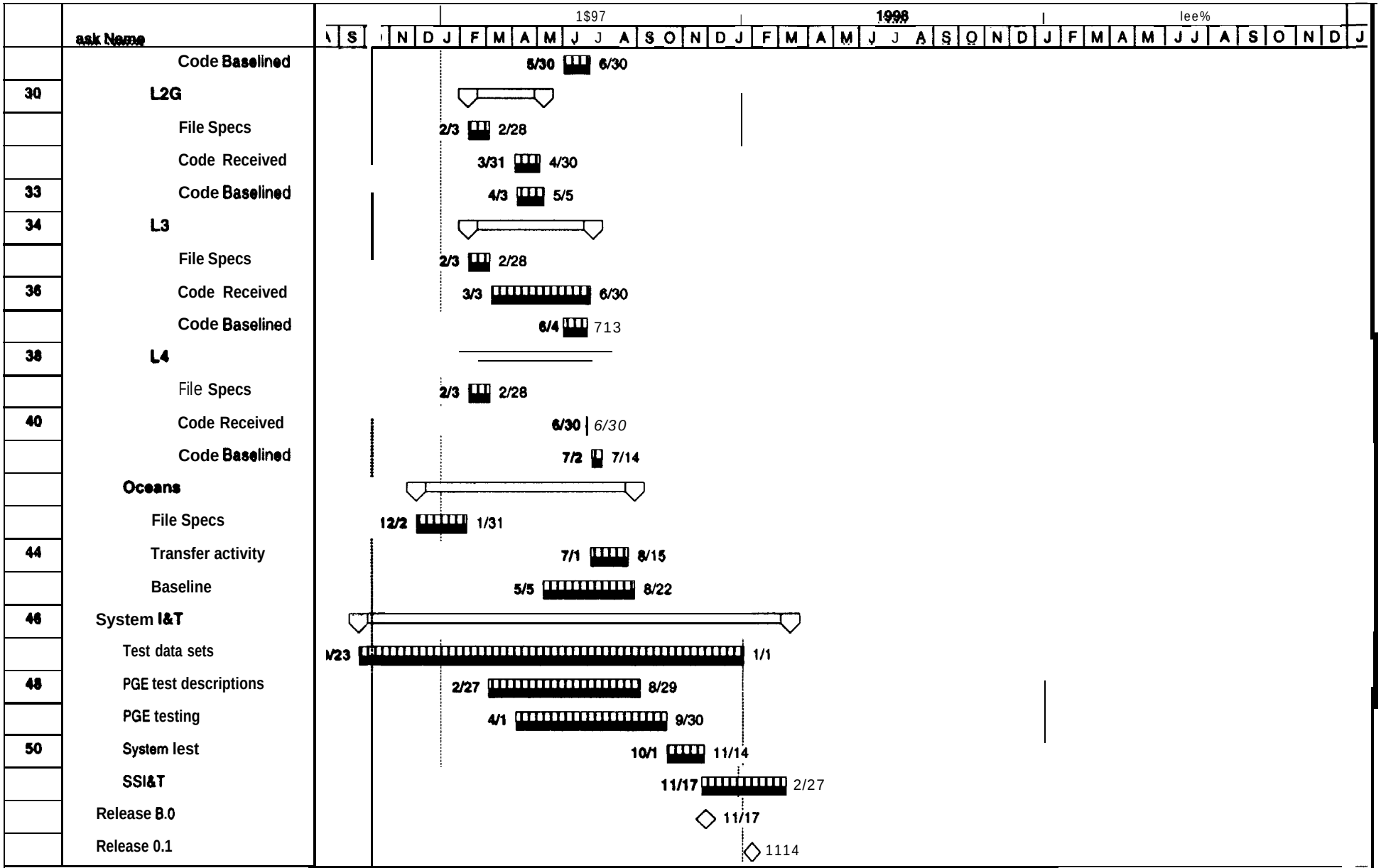
Task Name
1996
1997
1998
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
45
System I&T
46
'Test data sets
47
PGE test descriptions
48
Process testing
49
System testing
'80
WV to GSFC DAAC
51
SSI&T
52
Lessons Learned
53
GSFC Release A lite
54
GSFC DAAC Release A
55
EDC DAAC Release A
56
NSIDC DAAC Release A
4/1 5
10/10
8/26
10/31
9/3
3/21
12/16
5/15
1/15
3/17
8/29
9/1
9/19
1/15
5/30
7/1
7/15

Impact of Release A Slip

- More time for Science Team software deliveries
- Adequate time for SDST tests in the TL-SCF
- But at the DAAC we face a compressed testing schedule which suggests we need:
  - To defne our most important tests
  - Identify a dedicated test string
  - Develop streamlined procedures
  - Work several shifts at DAAC
  - Avoid SNAFUS

ID	Task Name
1	Version 2
2	Level 1A
3	Requirements Update
4	Design Update
5	Code/Unit Test
6	Geolocation
7	Design (Preliminary)
6	Production Software
9	Control Chip Matching Sol
10	Control Chip Library
11	Science Software
12	L1B
13	File Spec
14	Code Received
15	Code Baselined
16	Atmospheres
17	L2
18	File Specs
19	Code Received
20	Code Baselined
21	L3
22	File Specs
23	Code Received
24	Code Baselined
25	Land
26	L2
27	File Specs
28	Code Received




ask Name
1$97
1998
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Code Baselined
5/30 6/30
30 L2G
File Specs
2/3 2/28
Code Received
3/31 4/30
33 Code Baselined
4/3 5/5
34 L3
File Specs
2/3 2/28
36 Code Received
3/3 6/30
Code Baselined
6/4 713
38 L4
File Specs
2/3 2/28
40 Code Received
6/30 6/30
Code Baselined
7/2 7/14
Oceans
File Specs
12/2 1/31
44 Transfer activity
7/1 8/15
Baseline
5/5 8/22
46 System I&T
Test data sets
1/23 1/1
48 PGE test descriptions
2/27 8/29
PGE testing
4/1 9/30
50 System lest
10/1 11/14
SSI&T
11/17 2/27
Release B.0
11/17
Release 0.1
1114

Testing

. Standards validation

- Functional testing
  - Product matches file spec
  - Inspection by scientist
- Performance - PGE runs within resource limit
- Error - PGE handles:
  - missing data, redundant data, noisy or corrupt data, terminator crossing, wrong input files . . .
- Regression - compare with golden data sets

Schedule slip delays testing at DAACs

- V 1 testing parallels V2 science s/w delivery
  - Burden on SDST and science developers to support changes in two versions of software
- MODIS V 1 SSI&T in parallel with ECS Release B installation
  - VI needs a stable test string
- V 1 testing in parallel with V2 SSI&T
- How to do the “Day in the Life” tests

ISSUES&CONCERNS 3/96

- ECS able to produce MODIS products?
  - Still a concern.
- Timing of EOSDIS software development and MODIS needs (HDF-EOS and FORTRAN 90)
  - Resolved by using native HDF for Version 1. Fortran 90 support was provided.
- Network bandwidth for SCFs too small
  - ESDIS installed network links in 1997 should provide needed bandwidth

ISSUES&CONCERNS 10/96

- Would like all open issues that effect science software developers resolved in December '96
  - Production rules syntax
    HDF-EOS support for our nested integerized sinusoidal grids
  - SDP-TK or subsequent toolkits are downward compatible

ISSUES&CONCERNS 10/96

- Role in replanning after Release A slip
  - How can instrument teams be involved in re-planning of Release A and B to prioritize development of critical pieces of the system needed for production
  - What visibility into the development schedule will be provided to instrument teams to allow them to track development of these critical items

- EDC and NSIDC need experience with MODIS software and testing before Release B
  - With the schedule slip it is important to get everyone trained early even if there are no more surprises in store

ISSUES&CONCERNS 10/96

- MODIS Testing
  - A test of ECS capability to process the MODIS at-launch workload is essential and must begin in Version 1 to provide timely feedback to ECS and MODIS developers
  - With a slip in the ECS schedule, our testing in the DAACs runs in parallel with Release B deliveries from ECS, we need a stable environment on a separate test string to conduct our Release A and B testing
- MODIS At-Launch Resources
  - Not enough benchmarks to determine our at-launch resource requirements
    - MOD35 running at 23% of peak
  - Changes in our system design to accommodate new understanding of ECS often increases our storage volume or processing resource requirements