MODIS Software Process Definition
Atmosphere

Process ID	Product ID	Product Name	Product Level	Time Cover	Process Center	Product Type	Product Mode	ID	PI
Level 2									
MOD_PRANC	N/A	Atmos. Ancillary Data Processing	N/A	N/A	GSFC	N/A	N/A	N/A	Menzel
MOD_PR04L	MOD04	Aerosol - Land	2	Day	GSFC	Standard	Routine	MOD_FL04L_01	Kaufman
MOD_PR04L	MOD04B	Aerosol Product, L3 Daily	3	Day	GSFC	Interim	Routine	MOD_FL04L_02	Kaufman
MOD_PR04S	MOD04	Aerosol - Sea	2	Day	GSFC	Standard	Routine	MOD_FL04S_02	Tanre/Kaufman
MOD_PR05	MOD05	Precipitable Water	2	Day	GSFC	Standard	Routine	MOD_FL05_01	Gao/Kaufman
MOD_PR06CT	MOD06	Cloud Product - Cloud Top Properties	2	Day	GSFC	Standard	Routine	MOD_FL06CT_01	Menzel
MOD_PR06IR	MOD06	Cloud Product - IR Cloud	2	Day	GSFC	Standard	Routine	MOD_FL06IR_01	Menzel
MOD_PR06OD	MOD06	Cloud Product - Optical Depth/ Particle Size	2	Day	GSFC	Standard	Routine	MOD_FL06OD_01	King
MOD_PR07	MOD07	03 Total Burden	2	Day	GSFC	Standard	Routine	MOD_FL07_01	Menzel
MOD_PR07	MOD08	Stability (Lifted Index), Atmos.	2	Day	GSFC	Standard	Routine	MOD_FL07_01	Menzel
MOD_PR07	MOD30	Temperature and Moisture Profiles	2	Day	GSFC	Standard	Routine	MOD_FL07_01	Menzel
MOD_PR07	MOD38	Water Vapor, Atmos. (Thermal IR)	2	Day	GSFC	Standard	Routine	MOD_FL07_01	Menzel
MOD_PR35	MOD35	Utility Masks, MODIS	2	Day	GSFC	Standard	Routine	MOD_FL35_01	Menzel

MODIS Atmosphere Software Process Definition (Continued)

Process ID	Product ID	Product Name	Product Level	Time Cover	Process Center	Product Type	Product Mode	ID	PI
Level 3									
MOD_PR04A	MOD04A	Aerosol Product, L3 Daily (POLDER grid)	3	Day	GSFC	Standard	Routine	MOD_FL04A_01	Kaufman/Tanre
MOD_PR4/5/6A	MOD4/5/6A	Atmos. Joint Product MOD04/5/6 (Equal area only)	3	1 Day	GSFC	Standard	Routine	MOD_FL04/05/06_01	Kaufman/King/ Menzel/Tanre/ Gao
MOD_PR4/5/6B	MOD4/5/6B	Atmos. Joint Product MOD04/5/6 (Equal area and angle)	3	10 Days	GSFC	Standard	Routine	MOD_FL04/05/06_02	Kaufman/King/ Menzel/Tanre/ Gao
MOD_PR4/5/6C	MOD4/5/6C	Atmos. Joint Product MOD04/5/6 (Equal area and angle)	3	Month	GSFC	Standard	Routine	MOD_FL04/05/06_03	Kaufman/King/ Menzel/Tanre/ Gao
MOD_PR07A	MOD07	03 Total Burden, L3 Monthly	3	Month	GSFC	Standard	Routine	MOD_FL07A_01	Menzel
MOD_PR07A	MOD08A	Stability (Lifted Index), Atmos., L3 Monthly	3	Month	GSFC	Standard	Routine	MOD_FL07A_02	Menzel
MOD_PR07A	MOD38A	Water Vapor, Atmos. (Thermal IR), L3 Monthly	3	Month	GSFC	Standard	Routine	MOD_FL07A_03	Menzel

MODIS CPU Performance Estimates (MFLOPS)
Atmosphere

Process	Description	SPSO (3/96)	Beta Code (1/96)
	Level 2		
MOD_PR04L	Aerosol Land	1.5	15.9
MOD_PR04S	Aerosol Sea		251.0
MOD_PR05	PW (NIR)	1.5	8.1
MOD_PR06CT	Cloud Top Properties	416.5	51.8
MOD_PR06IR	Cloud IR Cloud Phase		7.7
MOD_PR06OD	Cloud Optical Depth/Particle Size		222.3 (post Beta)
MOD_PR07	0_3, Stability Index, Profiles and PW (TIR)	171.9	1467.8
MOD_PR35	Cloud Mask	60.6	99.3
MOD_PRANC	Atmosphere Ancillary Data Preprocessing	N/A	N/A
	TOTAL	652.0	656.1 (wo/MOD_PR07)

MODIS CPU Performance Estimates (MFLOPS)
Atmosphere

Process	Description	SPSO (3/96)	Beta Code (1/96)
Level 3			
MOD_PR04A	Daily Aerosol POLDER Grid	N/A	N/A
MOD_PR4/5/6A	Daily Aerosol/Water/Cloud	0.16	N/A
MOD_PR4/5/6B	10-Day Aerosol/Water/Cloud	0.01	N/A
MOD_PR4/5/6C	Monthly Aerosol/Water/Cloud	< 0.01	N/A
MOD_PR07A	Monthly 0_3/Stability/Water	0.01	N/A

MODIS Product Volume Estimates (GB/day)
Atmosphere

Product ID	Description	SPSO (3/96)	Beta Delivery (1/96)
	Level 2		
MOD04	Aerosol	1.1	1.5
MOD05	Precipitable Water NIR	11.1	1.6
MOD06	Cloud	8.9	7.1
MOD07	Column Ozone	0.1	0.6
MOD08	Stability Indices	0.2	0.7
MOD30	Temperature and Moisture Profiles	7.2	5.7
MOD35	Cloud Mask	3.2	3.2
MOD38	Precipitable Water - TIR	0.1	0.6
	TOTAL	31.9	21.0

MODIS Product Volume Estimates (GB/day)
Atmosphere

Product ID	Description	SPSO (3/96)	Beta Delivery (1/96)
Level 3			
MOD04A	Daily Aerosol Processes	N/A	N/A
MOD04B	Interim Daily Aerosol (for MODLAND)	N/A	0.6 (V1 code)
MOD4/5/6A	Daily Aerosol/Water Vapor/Cloud	< 0.1 (formerly MOD04A1)	N/A
MOD4/5/6B	10-Day Aerosol/Water Vapor/Cloud	< 0.1 (formerly MOD04A2)	N/A
MOD4/5/6C	Monthly Aerolsol/Water Vapor/Cloud	< 0.1 (formerly MOD04A3)	N/A
MOD07A	Monthly Column Ozone	<0.1	N/A
MOD08A	Monthly Stability Indices	<0.1	N/A
MOD30A	Monthly Water Vapor - TIR	<0.1	N/A

Remaining L2 Software Development

- V1 Delivery to SDST
  - cloud mask is in

- Iterate code modifications with SDST
  - error handling
  - science enhancements
  - mandatory ECS core metadata
  - sensible QA check (all inputs refer to same granule?)

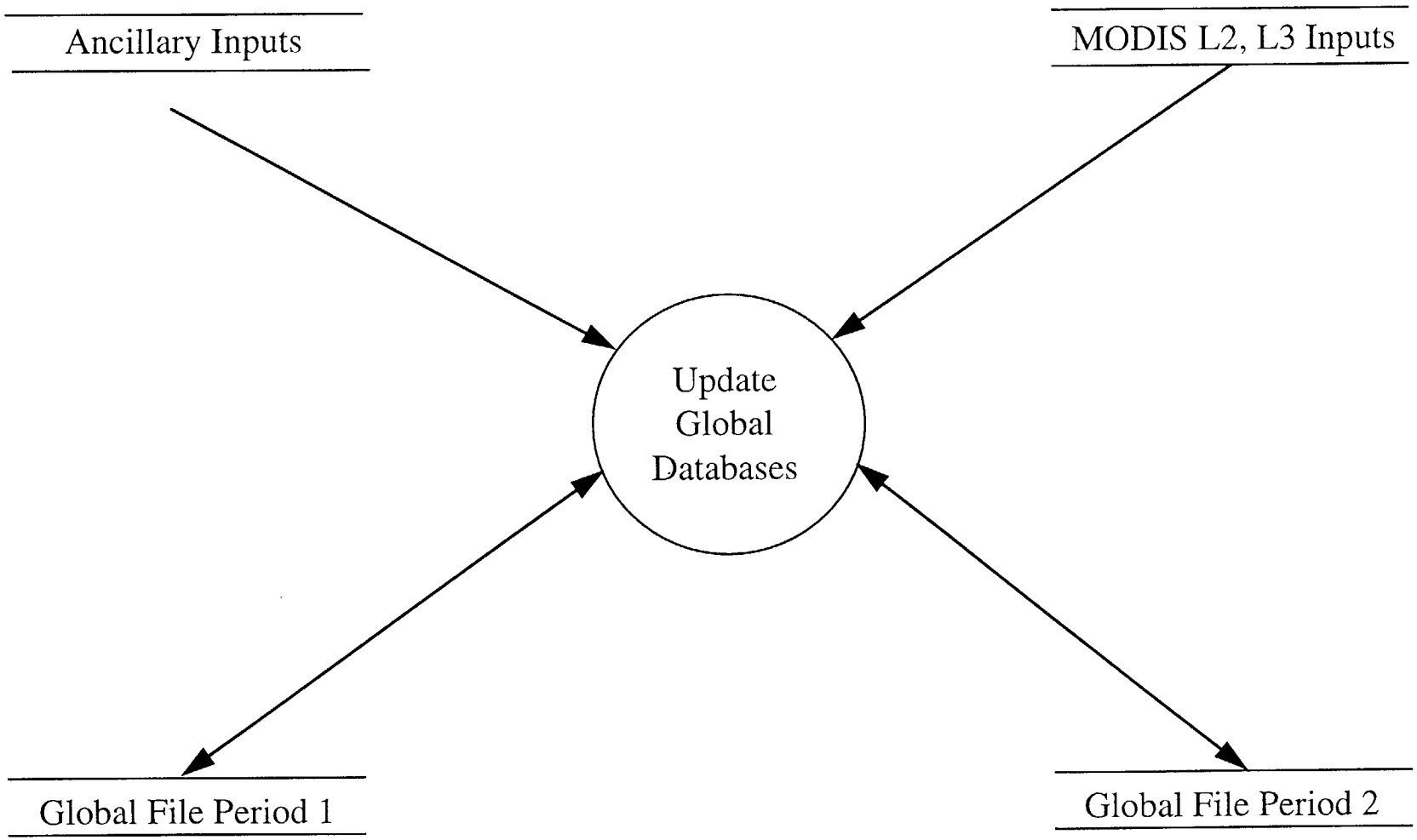
- Optimize CPU performance

- Production Rules

L3 Software Development

- Define Products
  - keep simple
  - write file specifications
- Formulate Processing Model
- Choose Grid Projection
  - acquire grid binning and mapping routines
- Develop Code on Processing Model
  - separate components at SCFs
  - integrate at TLCF or SCF
- Delivery to SDST

Proposed L3 Processing Model
(on Each Level 2 Granule)



Delivery Schedule

		Date (in 1996)	
Process	**Description**	**File Spec**	**Software**
Level 2			
MOD_PR04L	Aerosol Land	3/8L2 √ 4/15 L3 Interim √	5/7
MOD_PR04S	Aerosol Sea	3/8 √	5/7
MOD_PR05	PW (NIR)	3/8 √	5/7
MOD_PR06CT	Cloud Top Properties	3/8 √	6/14
MOD_PR06IR	Cloud IR Phase	3/8 √	5/30
MOD_PR06OD	Cloud Optical Depth/Particle Size	3/8 √	5/7; 6/30
MOD_PR07	0_3, Stability Index, Profiles and PW (TIR)	3/8 √	6/14
MOD_PR35	Cloud Mask	3/8 √	4/15
MOD_PRANC	Atmosphere Ancillary Data Preprocessing	5/17	5/24

√ - Indicates done

Delivery Schedule

		Date (in 1996)	
Process	**Description**	**File Spec**	**Software**
Level 3			
MOD_PR04A	Daily Aerosol POLDER Grid	5/31	7/31
MOD_PR4/5/6A	Daily Aerosol/Water/Cloud	5/31	9/1
MOD_PR4/5/6B	10-Day Aerosol/Water/Cloud	5/31	9/8
MOD_PR4/5/6C	Monthly Aerosol/Water/Cloud	5/31	9/15
MOD_PR07A	Monthly 0_3/Stability/Water	5/31	6/28?