



# MODIS NETWORK STATUS

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# NETWORKING HEADS -UP, CONCERNS, ISSUES

- ESDIS NETWORK BUDGET WILL BE SCRUBBED TO SAVE MONEY
- SHORT WINDOW (FOUR HOUR) FOR DELIVERY OF DATA IS COSTLY
- SCENARIOS TO SUPPORT BANDWIDTH REQUIREMENT AND OPERABILITY ARE NEEDED,
  - CAN LARGE VOLUMES OF DATA BE ASSIMILATED BY THE STAFF AT THE SCF?
- HOW WILL DOWNSIZING OF PRODUCT VOLUMES IMPACT SIZE OF Q/A VOLUMES REQUESTED
- IT TAKES SIX MONTHS TO GET NETWORK CHANGES IMPLEMENTED
- DO SCF'S WANT TO BE INVOLVED IN OPERATIONAL TESTING WITH DAAC/TLCF
- CHECK NUMBERS ON SUMMARY CHARTS (SEND COMMENTS TO:  
broder@pop900.gsfc.nasa.gov)

MODIS SCF NETWORK  
REQUIREMENTS AND IMPLEMENTATION ITEMIZATION

EOS Site	Team	Member	State	Reqs (Mbps)	Team	DAAC	Need Date	Implementation	type
Boston University	Alan	Strahler	MA	0.1	MODIS		May-98	new T1 GSFC-CRSA	BUS
Boston University	Alan	Strahler	MA	0.26	MODIS	EDC	May-98	same as above	QA/SCF
NASA - GSFC	William	Barnes	MD	0.1	MODIS		May-98	GSFC Campus	BUS
NASA - GSFC	Christopher	Justice	MD	0.1	MODIS		May-98	GSFC Campus	BUS
NASA - GSFC	Yoram	Kaufman	MD	0.1	MODIS		May-98	GSFC Campus	BUS
NASA - GSFC	Vincent	Salomonson	MD	0.1	MODIS		May-98	GSFC Campus	BUS
NASA - GSFC	Vincent	Salomonson	MD	2.4	MODIS	GSFC	May-98	GSFC Campus	IST
NASA - GSFC	Vincent	Salomonson	MD	8.98	MODIS	GSFC	May-98	GSFC Campus	QA/SCF
NASA - GSFC	Vincent	Salomonson	MD	0.38	MODIS	EDC	May-98	EBNet DAAC Service	QA/SCF
NASA - GSFC	Vincent	Salomonson	MD	0.28	MODIS	NSIDC	May-98	Existing Connectivity	QA/SCF
NASA - Wallops Flight Facility	Frank	Hoge	VA	0.1	MODIS		May-98	Existing Connectivity	BUS
Naval Research Laboratory	Bo-Cai	Gao	DC	0.1	MODIS		May-98	Existing Connectivity	BUS
Oregon State Univ.	Mark	Abbott	OR	0.15	MODIS	GSFC	May-98	4 new T1 ARC-OSU	QA/SCF
Oregon State Univ.	Mark	Abbott	OR	0.01	MODIS	LaRC	May-98	same as above	QA/SCF
Oregon State Univ.	Mark	Abbott	OR	0.01	MODIS	JPL	May-98	same as above	QA/SCF
Rosenstiel School of Marine &	Robert	Evans	FL	0.1	MODIS		May-98	New T3 GSFC/Miami	BUS
Rosenstiel School of Marine &	Robert	Evans	FL	1.70	MODIS	GSFC	May-98	same as above	QA/SCF
Univ. of Calif. Santa Barbara	Zhengming	Wan	CA	0.1	MODIS		May-98	New T1 JPL-UCSB	BUS
Univ. of Calif. Santa Barbara	Zhengming	Wan	CA	0.14	MODIS	GSFC	May-98	same as above	QA/SCF
Univ. of Calif. Santa Barbara	Zhengming	Wan	CA	0.18	MODIS	EDC	May-98	same as above	QA/SCF
Univ. of Wisconsin at Madison	Paul	Menzel	WI	0.1	MODIS		May-98	3 new T1 EDC-UWisc	BUS
Univ. of Wisconsin at Madison	Paul	Menzel	WI	0.23	MODIS	GSFC	May-98	same as above	QA/SCF
University of Arizona	Alfredo	Huete	AZ	0.1	MODIS		May-98	Existing Connectivity	BUS
University of Maryland at College Park	John	Townshend	MD	0.1	MODIS		May-98	Existing Connectivity	BUS
University of Maryland at College Park	Eric	Vermote	MD	0.1	MODIS		May-98	Existing Connectivity	BUS
University of Montana	Steven	Running	MT	0.1	MODIS		May-98	Existing Connectivity	BUS
University of Montana	Steven	Running	MT	0.05	MODIS	EDC	May-98	Existing Connectivity	QA/SCF
University of New Hampshire	Janet	Campbell	NH	0.1	MODIS		May-98	Existing Connectivity	BUS

BASELINE FEB 96 DRAFT - AWAITING UPDATE AND APPROVAL PENDING  
SOURCE: NASA NETWORKS

SUMMARY BY PI  
AND  
SAMPLE SIZE, DAAC, PRODUCT DESCRIPTIONS DATA VOLUMES

Origin	PI/Contact - Destination	PRODUCT NAME/DESCRIPTION	Estimated Current Network Connection Bandwidth mega bits/sec (mbs)	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	COMMENTS AND SAMPLE SIZE FOR Q/A, VALIDATION AND ALGORITHM DEVELOPMENT
GSFC DAAC	Gunther/Hopkins- MCST Bldg 33	L1A RADIANCE; L1B CALIBRATED GEOLOCATED L1A	3.96	18.279	One orbit 1/14 SAMPLE; 3-6 months after launch and in case of problems need up to 128 GB/DAY
EDC DAAC	Huete/van Leeuwen - UAZ	L3 VEGETATION , CMG &L2G	0.38	1.760	16 DAY MONTHLY AND QUARTERLY
EDC DAAC	Strahler, Myneni/Lucht - BU	BRDF/ALBEDO, REFLECTANCE, AGGREGATION; LAND COVER CHANGE	1.58	7.300	10% OF INPUT ;100% OF FULL PRODUCT; 4 HR TRANSFER WINDOW
EDC DAAC	Running/Glassy UMT	L4 LAI/FPAR DAY/8DAY/MO; L4 NPP DAY/8DAY/YR	0.45	2.070	4 HR TRANSFER WINDOW
EDC /GSFC	Justice/Wolfe - UVA	L2,3 GRIDDED THERMAL ANOMALIES; L2 INTERMED THERM ANOMALIES	0.59	2.700	SAMPLE AT 10%
EDC /GSFC/NSIDC	Wan -UCSB	L1A; L1B ATMOSPH. PRODS; L2 LST &CMG; SNOW; L2 CLOUD AND SURFACE CLASSIFICATION MASKS	2.35	10.844	SAMPLE INPUTS, OUTPUTS, AND ITERIM AT GSFC - 6% 10% AND 10%; 100% OUTPUT AT EDC; SNOW FROM NSIDC AT10%
NSIDC DAAC	Hall - GSFC BLDG 33	L2,3 SNOW & ICE	0.62	2.850	@15% OF ARCHIVED DATA

SUMMARY BY PI  
AND  
SAMPLE SIZE, DAAC, PRODUCT DESCRIPTIONS DATA VOLUMES

Origin	PI/Contact - Destination	PRODUCT NAME/DESCRIPTION	Estimated Current Network Connection Bandwidth (mega bits/sec (mbs))	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	COMMENTS AND SAMPLE SIZE FOR Q/A, VALIDATION AND ALGORITHM DEVELOPMENT
EDC /GSFC DAAC	Townshend - UMD	LAND COVER CHANGE	0.09	0.400	@10% OF ARCHIVED DATA
GSFC DAAC	Vermote/Fisher - TLCF BLDG32	LIB &L2 REFLECTANCE, ATMOSPHEREIC PRODUCTS,DAO	5.03	23.200	@100% COARSE RESOLUTION; REST AT 10%
GSFC DAAC	King, Gao /Chu - GSFC BLDG33	L2 CLOUD AND SURFACE CLASSIFICATION MASKS; L1B CALIBRATED RADIANCESL3 DAILY, MONTHLY ATMOSPHERIC PROD; CLOUD PROPERTIES; TOTAL PRECIPITABLE WATER; L2 LAND AEROSOL	3.71	17.139	@10% OF ARCHIVED DATA
EDC /GSFC DAAC	Menzel/Strabala-U Wisc	L2 CLOUD AND SURFACE CLASSIFICATION MASKS; L1A,B, GEOLOCATION; L2 CLOUD PRODUCTS	9.01	41.600	MEBER OF VALIDATION TEAM; SAMPLE AT TWO ORBITS PER DAY; IN 6MOS CERES SUBSETS AT ~ 6 GB/DAY
GSFC DAAC	Evans,Gordon,Brown /Walsh,Kilpatrick - U Miami	TOTAL COLOR , O/C &SST; L1A 1KM BAND	11.43	52.770	
GSFC DAAC	Abbott - OSU	OCEAN PRODUCTIVITY	0.100	0.713	@10% OF ARCHIVED DATA

SUMMARY OF SITE TO SITE  
CONNECTIVITY BANDWIDTH, IMPLEMENTATION COMMENTS  
AND  
DATA VOLUME RATES

Origin	PI/Contact (Source of Estimate) - Destination	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	Estimated Current Network Connection Bandwidth mega bits/sec (mbs)	NETWORK IMPLEMENTATION COMMENTS
EDC DAAC	Huete/van Leeuwen -UAZ	1.760	0.38	T1 INSTALLED
EDC DAAC	Justice/Wolfe - UVA	2.000	0.43	NEW REQUIREMENT SITE CHANGED ; VBNS/NSF HIGH BANDWIDTH 150 mbs LINK TO CAMPUS; EXISTING NASA T1 TO CAMPUS
EDC DAAC	Menzel/Strabala-U Wisc	4.400	0.95	3T1's; POTENTIAL VBNS/NSF HIGH BANDWIDTH 150 mbs LINK TO CAMPUS; SEE ALSO GSFC DAAC REQUIREMENT
EDC DAAC	Running/Glassy UMT	2.070	0.45	T1 CURRENTLY IN PLACE
EDC DAAC	Strahler, Myneni/Lucht - BU	7.300	1.58	BASELINE T1 1.45 mbs; VBNS/NSF HIGH BANDWIDTH 150 mbs LINK TO CAMPUS
EDC DAAC	Townshend - UMD	0.400	0.09	UMD TO GSFC LINK AT T3; SEE ALSO GSFC TO EDC LINK BELOW; VBNS/NSF HIGH BANDWIDTH 150 mbs LINK TO CAMPUS - TBD
EDC DAAC	Wan -UCSB	4.064	0.88	SEE ALSO UCSB TO NSIDC AND GSFC COMMENTS BELOW; BASELINE T1 1.45 mbs TO JPL AND ESDIS BACKBONE. ("EARLY T1 IMPLEMENTATION " TO RELIEVE CURRENT SLUGISHNESS)
GSFC DAAC	Evans,Gordon,Brown /Walsh,Kilpatrick - U Miami	52.770	11.43	BASELINE T3 45 mbs
GSFC DAAC	Justice/Wolfe - UVA	0.700	0.15	NEW REQUIREMENT SITE CHANGED ; VBNS/NSF HIGH BANDWIDTH 150 mbs LINK TO CAMPUS; EXISTING NASA T1 TO CAMPUS

SUMMARY OF SITE TO SITE  
CONNECTIVITY BANDWIDTH, IMPLEMENTATION COMMENTS  
AND  
DATA VOLUME RATES

Origin	PI/Contact (Source of Estimate) - Destination	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	Estimated Current Network Connection Bandwidth mega bits/sec (mbs)	NETWORK IMPLEMENTATION COMMENTS
GSFC DAAC	Menzel/Strabala-U Wisc	37.200	8.06	POTENTIAL VBNS/NSF HIGH BANDWIDTH 150 mbs LINK TO CAMPUS; SEE ALSO EDC DAAC REQUIREMENT
GSFC DAAC	Wan -UCSB	6.410	1.39	SEE ALSO UCSB TO EDC AND GSFC COMMENTS; BASELINE T1 1.45 mbs TO JPL
GSFC DAAC	Vermote/Fisher - TLCF GSFC Bldg.32	23.200	5.03	BUILDING 32 LAN
GSFC DAAC	Gunther/Hopkins-MCST GSFC Bldg. 33	18.279	3.96	CAMPUS LAN
GSFC DAAC	King/Gao/Chu - GSFC Bldg. 33	17.139	3.71	CAMPUS LAN
GSFC DAAC	EDC DAAC	368.000	79.73	OCT 97, OC3 AT LAUNCH - 155 mbs" THIS ADDITIONAL BANDWIDTH SUBJECT TO REVIEW AND APPROVALS
GSFC DAAC	NSIDC DAAC	99.000	21.45	VIA EDC; BASELINE EBNET BACKBONE T1 ; T3 NEEDED, ADDITIONAL BANDWIDTH SUBJECT TO REVIEW AND APPROVALS
NSIDC DAAC	Hall - GSFC Bldg. 33	2.850	0.62	BASELINE - "EXISTNG CONNECTIVITY"
NSIDC DAAC	Wan -UCSB	0.370	0.08	SEE ALSO UCSB TO EDC AND GSFC COMMENTS ABOVE; BASELINE T1 1.45 mbs TO JPL



CURRENT VOLUMES BY DAAC & PI

Origin	PI/Contact (Source of Estimate) Destination	PRODUCT NAME/DESCRIPTION	Product ID	Estimated Network Connection mega bits/sec (mbs)	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	COMMENTS
<b>LEVEL 1 PRODUCTS</b>						
GSFC DAAC	Gunther/Hopkins- MCST Bldg 33	L1A RADIANCE	MOD01	1.47	6.768	One orbit.
GSFC DAAC	Gunther/Hopkins- MCST Bldg 33	L1B CALIBRATED GEOLOCATED L1A	MOD02	2.23	10.286	3-6 months after launch
GSFC DAAC	Gunther/Hopkins- MCST Bldg 33	GEOLOCATION FIELDS	MOD03	0.27	1.226	and in case of problems need up to 128 GB/DAY
<b>TOTAL GSFC DAAC</b>	Gunther/Hopkins- MCST Bldg 33			<b>3.96</b>	<b>18.279</b>	
<b>LAND</b>						
<b>TOTAL EDC</b>	Huete/van Leeuwen - UAZ	L3 VEGETATION , CMG & L2G	MOD13	0.38	1.760	16 DAY MONTHLY AND QUARTERLY; T1 INSTALLED
EDC DAAC	Strahler/Lucht - BU	BRDF/ALBEDO, REFLECTANCE, AGGREGATION	MOD43, MODAGG	0.85	3.900	
EDC DAAC	Strahler/Lucht - BU	LAND COVER CHANGE	MOD12	0.39	1.800	
EDC DAAC	Myneni/Lucht - BU	(SAME AS ABOVE)		0.35	1.600	

CURRENT VOLUMES BY DAAC & PI

Origin	PI/Contact (Source of Estimate) Destination	PRODUCT NAME/DESCRIPTION	Product ID	Estimated Network Connection mega bits/sec (mbs)	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	COMMENTS
TOTAL EDC DAAC	Strahler, Myneni/Lucht - BU			1.58	7.300	Baseline T1 1.45 mbs
EDC DAAC	Running/Glassy UMT	L4 LAI/FPAR DAY/8DAY/MO	MOD15	0.38	1.740	4 HR TRANS- FER WINDOW
EDC DAAC	Running/Glassy UMT	L4 NPP DAY/8DAY/YR	MOD17	0.07	0.330	
TOTAL EDC DAAC	Running/Glassy UMT			0.45	2.070	T1 CURRENTLY IN PLACE
TOTAL EDC DAAC	Justice/Wolfe - UVA	L2,3 GRIDDED THERMAL ANOM	MOD14	0.43	2.000	
TOTAL GSFC DAAC	Justice/Wolfe - UVA	L2 INTERMED THERM ANOMALIES		0.15	0.700	
TOTAL	Justice/Wolfe - UVA			0.59	2.700	PRIOR LOCATION UMD
GSFC DAAC	Wan -UCSB	L1A	MOD01	1.02	4.700	

CURRENT VOLUMES BY DAAC & PI

Origin	PI/Contact (Source of Estimate) Destination	PRODUCT NAME/DESCRIPTION	Product ID	Estimated Network Connection mega bits/sec (mbs)	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	COMMENTS
GSFC DAAC	Wan -UCSB	L1B	MOD02	0.23	1.060	
GSFC DAAC	Wan -UCSB	ATMOS	MOD06	0.06	0.290	
GSFC DAAC	Wan -UCSB	L2-LAND SURF TEMP (LST)	INTERIM	0.08	0.360	
<b>TOTAL GSFC DAAC</b>	Wan -UCSB			<b>1.39</b>	<b>6.410</b>	
<b>TOTAL NSIDC DAAC</b>	Wan -UCSB	SNOW	MOD10	0.08	0.370	
EDC DAAC	Wan -UCSB	SURFACE CLASSIFICATION MASKS	MOD35	0.18	0.810	
EDC DAAC	Wan -UCSB	LAND SURF TEMP (LST) &CMG	MOD11	0.71	3.254	
<b>TOTAL EDC DAAC</b>	Wan -UCSB			<b>0.88</b>	<b>4.064</b>	
<b>TOTAL</b>	Wan -UCSB			<b>2.35</b>	<b>10.844</b>	
<b>TOTAL NSIDC DAAC</b>	Hall - GSFC BLDG 33	L2,3 SNOW &ICE	MOD10,29	0.62	2.850	@15% OF ARCHIVED DATA

CURRENT VOLUMES BY DAAC & PI

Origin	PI/Contact (Source of Estimate) Destination	PRODUCT NAME/DESCRIPTION	Product ID	Estimated Network Connection mega bits/sec (mbs)	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	COMMENTS
TOTAL EDC DAAC	Townshend - UMD	LAND COVER CHANGE	MOD44	0.09	0.400	@10% OF ARCHIVED DATA
TOTAL GSFC DAAC	Vermote/Fisher - TLCF BLDG32	LIB &L2 REFLECTANCE, ATMOSPH,DAO	MOD09, 02,05,06,07	5.03	23.200	@10%,Coarse res refl 100%
<b>ATMOSPHERE</b>						
GSFC DAAC	King/Gao/Chu - GSFC BLDG33	L2 LAND AEROSOL	MOD04	0.03	0.143	
GSFC DAAC	"	TOTAL PRECIPITABLE WATER	MOD05	0.05	0.219	
GSFC DAAC	"	CLOUD PROPERTIES	MOD06	0.22	1.000	
GSFC DAAC	"	L3 DAILY, MONTHLY ATMOSPHERIC PROD	MOD08	0.01	0.047	
GSFC DAAC	"	L1B CALIBRATED RADIANCES	MOD02	3.12	14.400	
GSFC DAAC	"	SURFACE CLASSIFICATION MASKS	MOD35	0.29	1.330	
TOTAL GSFC DAAC	King/Gao/Chu - GSFC BLDG33			3.71	17.139	

CURRENT VOLUMES BY DAAC & PI

Origin	PI/Contact (Source of Estimate) Destination	PRODUCT NAME/DESCRIPTION	Product ID	Estimated Network Connection mega bits/sec (mbs)	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	COMMENTS
EDC DAAC	Menzel/Strabala-U Wisc	SURFACE CLASSIFICATION MASKS	MOD35	0.43	2.000	
EDC DAAC	Menzel/Strabala-U Wisc	L2 CLOUD PRODUCTS	MOD06	0.30	1.400	
EDC DAAC	Menzel/Strabala-U Wisc	L2 ATMOS PROFILES	MOD07	0.22	1.000	
<b>TOTAL EDC DAAC</b>	Menzel/Strabala-U Wisc			0.95	4.400	
<b>TOTAL GSFC DAAC</b>	Menzel/Strabala-U Wisc	L1A,B GEOLOCATION	MOD01,2	8.06	37.200	MEMBER CALI- BRATION TEAM
<b>TOTAL</b>	Menzel/Strabala-U Wisc			9.01	41.600	
<b><u>OCEANS</u></b>						
GSFC DAAC	Evans,Gordon,Brown /Walsh,Kilpatrick - U Miami	TOTAL COLOR , Q/C &SST		3.85	17.770	
GSFC DAAC	Evans,Gordon,Brown /Walsh,Kilpatrick - U Miami	L1A 1KM BAND	MOD01	7.58	35.000	
<b>TOTAL GSFC DAAC</b>	Evans,Gordon,Brown /Walsh,Kilpatrick - U Miami			11.43	52.770	
GSFC DAAC	Abbott - OSU	OCEAN PRODUCTIVITY		.1 (A)	.713 (A)	(A); Low volumes to LARC and JPL See Baseline, Current TBR

CURRENT VOLUMES BY DAAC & PI

Origin	PI/Contact (Source of Estimate) Destination	PRODUCT NAME/DESCRIPTION	Product ID	Estimated Network Connection mega bits/sec (mbs)	Current Estimate of Product Volume to be shipped - GIGA BYTES/DAY (GB/DAY)	COMMENTS
<b>LAND DAAC TO DAAC TRANSFERS</b>						
GSFC DAAC	EDC DAAC	L2G POINTER AND GEOANGLE L2G REFLECTANCE & FIRE,L2/3 LST DAILY		79.73	368.000	INCLUDES INTERIM DATA
GSFC DAAC	NSIDC DAAC	L2,2G SNOW AND ICE, L2G POINTER , GEOANGLE, & L1A GEOLOCATION		21.45	99.000	INCLUDES INTERIM DATA