CERES Requirements Log - Clouds

Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4-1	Update Terra Main Processor for MODIS Collection 5 and handle Edition 3 changes	603	Geier	Clouds/ Convolution	Sun-Mack	Email, phone, and face-to-face	04/20/05	04/20/05		The delivery for Terra only will not be necessary. We have integrated the changes for Edition3 into this requirement. This requirement has been split in two again. See 4-3 and 4-5 (20070514).
4-1.1	Integrate updated CERES cloud mask code	603	Minnis	Clouds	Sun-Mack	Email	04/20/05	04/20/05		Waiting science code changes (Minnis approval). Moved to 4-5.
4-1.2	Update MOD04 read software to handle rename SDS and change in dimensions for Collection 5	603	Geier	Clouds	Sun-Mack	Email	08/24/05	08/24/05		MOD04 file format reviewed. Test files have been read. Moved to 4-3.
4-1.3	Update cloud algorithms to be similar to Aqua production code	603	Minnis	Clouds	Sun-Mack	Meeting on production schedule	08/11/05	08/11/05		The Terra version of the code has been frozen in production while updates were allowed in the Aqua version. Compatibility was maintained for both satellite in latter versions. The Aqua version will be used as baseline for Edition 3 updates. Moved to 4-5.
4-1.4	Update convolution code to match Aqua production code	603	Geier	Convolution	Miller	Meeting on production schedule	08/11/05	08/11/05		The Terra version of the code has been frozen in production while updates were allowed in the Aqua version. Compatibility was maintained for both satellite in latter versions. The Aqua version will be used as baseline for Edition 3 updates. Moved to 4-5.
4-1.5	Write and implement the initial MCRS-IR Algorithm to retrieval cloud properties	603	Minnis	Clouds	Sun-Mack	Email and face-to-face	06/15/05	06/15/05		Need to validate. Moved to 4-5.
4-1.6	Write a 250 meter MODIS read software to retrieve visible radiances	603	Minnis	Clouds	Sun-Mack	Email	11/15/05	11/15/05	04/15/06	Completed. Moved to 4-5.
4-1.7	With 250 meter reader, write software to implement Partial Cloudy Algorithm	603	Minnis	Clouds	Sun-Mack	Email and meeting.	11/15/05	11/15/05		Initial results looks good for certain types of clouds and not so good for ice cloud. Need to design a strategy when and where to apply the algorithm. Moved to 4-5.
4.1-8	Implement the latest CO2 Slicing Algorithm from MODIS team.	603	Minnis	Clouds	Sun-Mack	Email	01/26/06	01/26/06	05/30/06	Overall, results look good. Need to find out the cause of stripping over high elevation. Moved to 4-5.
4.1-9	Implement the CO2 Slicing Multilayer Detection Algorithm	603	Minnis	Clouds	Sun-Mack	Email, face-to-face, phone, meeting.	02/22/06	02/22/06		Need to validate. Moved to 4-5.
4.1-10	Correct missing imager data algorithm	603	Geier	Convolution	Miller	Email	04/27/06	04/27/06		Moved to 4-5.

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Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4.1-11	Update SSF structure as proposed	603	Geier	Convolution	Miller	Meeting and Emails	05/30/06	05/30/06		The Edition3 SSF type def has been updated and provided to downstream subsystems. Moved to 4-5.
4.1-12	Convolve imager information for new parameters	603	Geier	Convolution	Miller	Meeting on production schedule	05/30/06	06/05/06		NASA CERES
4-2	Modify PCF Generator Script for FM4 Ed2-NoSW	609	Geier	Clouds/ Convolution	Miller	Email	12/12/05	01/09/06	01/20/06	Delivered. Promoted 2/16/06.
4-3	Update Terra and Aqua Main Processor for MODIS Collection 5	654	Geier	Clouds/ Convolution	Sun-Mack	Email, phone, and face-to-face	04/20/05	04/20/05		The functionality to handle MODIS Collection 005 was split from the Edition 3 changes. This SCCR supersedes 603. Updates and testing have been completed.
4-3.1	Update MOD04 read software to handle rename SDS and change in dimensions for Collection 5	654	Geier	Clouds	Sun-Mack	Email	08/24/05	08/24/05		MOD04 file format reviewed. Test files have been read. Updates and testing has been completed.
4-3.2	Change Terra Hourly QC format to be the same as Aqua	654	Minnis	Clouds	Sun-Mack	Email	08/11/05	08/11/05		New format was implemented and tested.
4-3.3	Increase the number of subset regions	654	Minnis	Clouds	Sun-Mack	Email				New subset regions were added.
4-3.4	Produce reduce set CloudVis each hour for Terra	654	Minnis	Clouds	Sun-Mack	Email				Implemented.
4-3.5	Check IES eclipse flag in Terra	654	Geier	Convolution	Miller	Meeting on production schedule	08/11/05	08/11/05		Code modified and tested.
4-3.6	Increase the number of file name read from imager file to agree with Aqua	654	Geier	Convolution	Miller	Meeting on production schedule	08/11/05	08/11/05		Code modified and tested.
4-3.7	Change to NOMAD addresses for Emails	654	Geier	Clouds/ Convolution	Sun-Mack	Email				Completed.
4-4	Update GRings to handle sparse data cases	655	Geier	Convolution	Miller	DMT				Tested on two months of Aqua Edition2A plus problem Terra and Aqua granules. Included in CERESlib.
4-5	Update Terra and Aqua Main Processor to handle Edition 3 changes		Geier	Clouds/ Convolution	Sun-Mack	Email, phone, and face-to-face	04/20/05	04/20/05	02/15/08	The functionality to handle Edition 3 changes was split from MODIS Collection 005. This SCCR supersedes 603. The code was delivered on 20080215

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Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4-5.1	Update cloud algorithms to be similar to Aqua production code	603	Minnis	Clouds	Sun-Mack	Meeting on production schedule	08/11/05	08/11/05	02/15/08	The Terra version of the code has been frozen in production while updates were allowed in the Aqua version. Compatibility was maintained for both satellite in latter versions. The Aqua version will be used as baseline for Edition 3 updates. The code was delivered 20080215
4-5.2	Update convolution code to match Aqua production code	603	Geier	Convolution	Miller	Meeting on production schedule	08/11/05	08/11/05	02/15/08	The Terra version of the code has been frozen in production while updates were allowed in the Aqua version. Compatibility was maintained for both satellite in latter versions. The Aqua version will be used as baseline for Edition 3 updates. The code was delivered 20080215.
4-5.3	Integrate updated CERES cloud mask code	603	Minnis	Clouds	Sun-Mack	Email	04/20/05	04/20/05	02/15/08	Minnis approved science code changes. Code delivered 20080215.
4-5.4	Write and implement the initial MCRS-IR Algorithm to retrieval cloud properties	603	Minnis	Clouds	Sun-Mack	Email and face-to-face	06/15/05	06/15/05	02/15/08	New algorithm validated. Code delivered 20080215.
4-5.5	Write a 250 meter MODIS read software to retrieve visible radiances	603	Minnis	Clouds	Sun-Mack	Email	11/15/05	11/15/05	04/15/06	Code delivered 20080215.
4-5.6	With 250 meter reader, write software to implement Partial Cloudy Algorithm	603	Minnis	Clouds	Sun-Mack	Email and meeting.	11/15/05	11/15/05		Initial results looks good for certain types of clouds and not so good for ice cloud. Need to design a strategy when and where to apply the algorithm. This requirement was moved to Ed3 Beta2
4-5.7	Implement the latest CO2 Slicing Algorithm from MODIS team.	603	Minnis	Clouds	Sun-Mack	Email	01/26/06	01/26/06	05/30/06	Overall, results look good. Code was delivered 20080215.
4-5.8	Implement the CO2 Slicing Multilayer Detection Algorithm	603	Minnis	Clouds	Sun-Mack	Email, face-to-face, phone, meeting.	02/22/06	02/22/06	02/15/08	Code was delivered 20080215.
4-5.9	Update SSF structure as proposed	603	Geier	Convolution	Miller	Meeting and Emails	05/30/06	05/30/06	02/15/08	The Edition3 SSF type def has been updated and provided to downstream subsystems. It has been delivered with subsystem and provided to inversion.
4-5.10	Convolve imager information for new parameters	603	Geier	Convolution	Miller	Meeting on production schedule	05/30/06	06/05/06	02/15/08	The Edition3 algorithms were implemented and delivered.
4-5.11	Correct missing imager data algorithm	603	Geier	Convolution	Miller	Email	04/27/06	04/27/06	02/15/08	Code was delivered 20080215

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Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4-6	Handle MODIS IGBP processing and correct FM4 problem.	673	Loeb	Clouds/ Convolution	Miller	Email	04/02/08	04/07/08	05/30/08	
4-6.1	Modify PCF script to select between CERES and MODIS-derived IGBP map	673	Loeb	Clouds	Miller	Email	04/02/08	04/07/08	05/30/08	Script delivered 20080530.
4-6.2	Modify PCF generator to handle FM4 Ed2-NoSW when only instrument requested.	673	Geier	Convolution	Miller	Email	10/18/07	10/18/07	05/30/08	Script delivered 20080530.
4-6.3	Test new CERESlib to read G5-CERES MOA for Clouds Ed2 on warlock.	742	Robbins/ Gleason	Clouds/ Convolution	Sun-Mack	Email	11/16/09	11/16/09		On warlock: following executables need to be recompiled: CER4.1-4.1P4 and CER4.1-4.1P5
4-6.4	An environmental variable MODIS_IGBP needs to be added in the environment script, to be able to select regular-IGBP map or MODIS-IGBP map.	742	Robbins/ Gleason	Clouds/ Convolution	Sun-Mack	Email	11/16/09	11/16/09		Script: CER4.1-4.env needs to be delivered.
4-6.5	SCCR 741 turned the welch algorithm off for CER4.1-4.1P4 and CER4.1-4.1P5 on *magneto* , which produced larger differences in results produced between *magneto* and *warlock* . Therefore the welch algorithm needs to be turned back on.	752	Robbins/ Gleason	Clouds	Sun-Mack	Email	12/10/09	12/10/09		On *magneto* , no PGE needs to be re-compiled.
4-6.6	G5-Ed2 MOA has unexpected high surface pressure that cause Aqua Ed2 core dumped. Modified clouds code to handle such high surface pressure.	779	Gleason/ Robbins	Clouds	Sun-Mack	Email	04/08/10	04/08/10		On *magneto*
4-7.1	Modify 1P6 run script to produce nonzero Exit code on clouds failure.	680	Geier	Clouds	Sun-Mack	Email	06/24/08	06/26/08		Script updated.
4-8	Port of Clouds Collection 005 to magneto	693	Geier	Clouds/Convol ution	Sun-Mack	F2F			02/03/09	Software delivered 20090203
4-8.1	Implement new directory structure	693	Geier	Clouds/Convol ution	Sun-Mack/Miller	F2F	11/09/07	11/09/07	02/03/09	Software delivered 20090203
4-8.2	Modify code and scripts to allow all Collection 005 PGEs to run on magneto	693	Geier	Clouds/Convol ution	Sun-Mack	F2F			02/03/09	Software delivered 20090203
4-8.3	Create new Snow and Ice PGE to use 16th mesh NESDIS data	693	Geier	Clouds	Sun-Mack				02/03/09	Software delivered 20090203
4-8.4	Correct problem when MODIS radiance and geolocation have different number of scan lines	693	Geier	Clouds	Sun-Mack				02/03/09	Software delivered 20090203
4-9	NPP VIIRS Sub-sampler	701	Geier	Clouds	Sun-Mack	Email	01/31/08	04/19/08	02/18/09	Software delivered 20090218
4-9.1	Due to the changes in the input hdf files, modify the NPP subsetter accordingly	802	Robbins/ Jonathan	Clouds	Sun-Mack	Email and face-to-face	08/11/09	08/12/10		NPP subsetter is updated
4-10.1	Update SSF structure as proposed	719	Geier	Convolution	Miller	Email	01/13/09	01/13/09	09/22/09	Software delivered 20090922
4-10.2	Port the code to magneto	719	Geier	Clouds/Convol ution	Sun-Mack/Miller	F2F			09/22/09	Software delivered 20090922

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Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4-10.3	Implement new directory structure	719	Geier	Clouds/Convolution	Sun-Mack/Miller	F2F			09/22/09	Software delivered 20090922
4-10.4	Update cloud mask	719	Minnis	Clouds	Sun-Mack	F2F			09/22/09	Software delivered 20090922
4-10.5	Update cloud algorithms	719	Minnis	Clouds	Sun-Mack	F2F			09/22/09	Software delivered 20090922
4-11.1	Modify 0P1 shell PCF generator script to handle new version of NSIDC snow/ice HDFEOS: NISE_SSMISF17	725	Robbins	Clouds	Sun-Mack	Email	09/22/09	09/22/09		Script updated.
MODIS Ed4										
4-12	Update Terra and Aqua Processors to handle Edition 4 changes	809	Loeb	Clouds/ Convolution	Sun-Mack/Miller	Meeting	07/07/10	07/07/10		
4-12.1	Change ice diameter to ice radius	809	Minnis	Convolution	Miller	Email	10/15/10	10/15/10	01/14/11	
4-12.2	Change cloud properties from using 1.6 um radiance to 1.2	809	Minnis	Convolution	Miller	Meeting	10/15/10	10/15/10	01/14/11	
4-12.3	Add NPP including VIIRS and FM5 to convolution	809	Gleason	Convolution	Miller	F2F	10/10/10	10/10/10		
4-12.4	Update Terra calibration for 3.7 □m	809	Minnis	Clouds	Sun-Mack	Emails, F2F, Meetings	10/15/10	10/15/10	01/11/11	
4-12.5	Update Terra calibration for 0.6 □m	809	Minnis	Clouds	Sun-Mack	Emails, F2F, Meetings	10/15/10	10/15/10	01/11/11	
4-12.6	Pass precipitable water derived by Clouds to SSF	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.7	Turn off UAH algorithm, and SCOOL output as well	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.8	Calculate and implement directional models, bidirectional models, and clear sky reflectance's for both snow-free and snow-covered surfaces, for each surface scene, and for channels 0.6 □m, 1.24 mm 1.6 □m, 2.1 □m	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.9	Separate snow-free and snow-covered clear sky overhead-sun albedo updating. Re-create necessary start-up maps for snow-free and snow-cover surfaces respectively.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.10	Implement MODIS correlated k-distributions for 1.24 µm	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.11	Comply with DMT and ASDC policies. Simplify and automate Clouds various PGEs in SGE environment on AMI or/and AMI-P	809	Gleason	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.12	Have pressure level definitions of Clouds QC to be consistent with the community	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.13	New size algorithms for 1.24 and 2.1 □m	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.14	New optical thickness algorithm for 1.24 µm	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.15	Use rough models for 0.6, 3.7, 2.1, 1.24 µm	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	

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Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4-12.16	An independent algorithm to handle no retrievals	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.17	Cloud phase retrieval updates	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.18	Find and fix the problem of blocki cloud properties	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.19	Find and fix appeared to be bad-data issue during twilight	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.20	Implement newly developed monthly lapse rate maps	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.21	VISST puts clouds too high. Find the solution and fix it.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.22	Implement Over-Shooting Algorithm, and integrate the algorithm into cloud retrieval.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.23	Implement newly developed cloud thickness	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.24	Implement CERES cloud mask updates and refine cloud mask.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.25	Implement CO2 retrieval updates and multilayer cloud retrieval updates	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	10/15/10	10/15/10	01/11/11	
4-12.26	Change toaflux_sw_dn to toa_solrad_in	825	Loeb	Convolution	Miller	Email	02/04/11	02/04/11	02/07/11	
4-12.27	Use glint probability and CS and observed BT to reclassify unknown cloud fraction. Remove footprints with no imager coverage or all CERES radiance bad	809	Loeb	Convolution	Miller	Phone Call	02/04/11	02/04/11	02/14/11	
4-12.28	Re-do 3.7 um calibration for Terra for all months from July 2002 to Aug 2011. Implement the calibration into Clouds subsystem code.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	09/30/11	10/01/11	11/29/11	
4-12.29	3.7 - 11 um shows stripes, more obvious at the night time. Design, code-up, and implement a de-stripe routine.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	09/23/11	09/23/11	11/11/11	
4-12.30	Night time polar mask overestimates clouds, some areas higher than CALIPSO. Polar/non-polar transition line remains, more so at night.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings.	09/20/11	09/20/11		
4-12.31	Add a new 1.24 um parameterization for optical depth	809	Minnis	Clouds	Sun-Mack	Emails, F2F, Meetings	01/20/12	01/20/12	02/25/12	
4-12.32	Add a new 1.24 and 2.13 um parameterization for particle sizes	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	
4-12.33	Implement Zhonghai Jin's clear sky (snow-free) ocean surface reflectance models and surface diffused albedos for 1.24, 1.6, 2.13 and 3.7 µm.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	
4-12.34	3% data lost due to core dump in cloud retrieval algorithm.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	

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Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4-12.35	Change definition from ice effective radius to generalized effective radius.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	
4-12.36	Handle MODIS aerosol (MOD)4/MYD04) mismatch granules.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	
4-12.37	Over snow and ice surface, 1.24 um is used to retrieved optical depth. This will need to be modified to incorporate the IR optical depth retrieved from CO2 slicing for optically thick clouds.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	
4-12.38	Errors fix and improvements on both CO2 retrieval and multilayer retrieval.	809	Minnis	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	
4-12.39	Consolidated the environment variables between the Clouds PGEs.	809	Gleason	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	
4-12.40	Change the Clouds Exit codes to CERES Standard Exit Codes.	809	Gleason	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	
4-12.41	Use perl library instead of making clouds' own script routines.	809	Gleason	Clouds	Sun-Mack	Emails, F2F, meetings	01/20/12	01/20/12	02/25/12	
4-13	Modify PCF Generator to Handle Edition1-CV processing for FM4	831	Gleason	Convolution	Miller	Phone	01/24/11	01/25/11	01/28/11	Script Delivered 20110128
4-14	To migrate PGE CER4.1-4.0P2 (snow and ice PGE) on the Magneto P4 system over to the AMI-P P6 system	918	Gleason	Clouds	Sun-Mack	phone, emails, F2F, meetings	07/13/12	07/13/12	10/19/12	
4-15	To migrate Clouds Edition 2 PGEs (Required for Ed1-CV SSF processing) PGEs: 4.1-4.1P4, 4.1-4.1P5, 4.1-4.2P2, 4.1-4.2P3, 4.1-4.3P2, on the Magneto P4 system over to the AMI-P P6 system	919	Gleason	Clouds	Sun-Mack	phone, emails, F2F, meetings	07/13/12	07/13/12	02/22/13	
4-16	NESDIS 1/16th mesh SNODEP product will be discontinued starting March 1, 2013. Decision was made to start the subscription with AFWA 1/16th SNODEP product. This requirement is to read and implement AFWA 1/16th SNODEP production with NSIDC SSMI product to create CERES ESNOW and EICE 10min maps.	943	Gleason	Clouds	Sun-Mack	phone, emails, F2F, meetings	12/07/12	12/07/12		
4-17	Update Lapse Rates Database and bring lapse rate modified profile in the framework, for Ed4 Beta2 processing	947	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	01/17/13	01/30/13	01/30/13	

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Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4-18	Moved GRIB file conversion to run script from PCF generator to ensure it is created in the correct platform (for p6 instead of x86).	950	Jonathan	Clouds	Sun-Mack	Phone, emails, meetings, F2F	02/06/13	02/06/13	02/13/13	
VIIRS Ed1										
4-20.0	To have CERES cloud mask worked with NPP-VIIRS data. To improve CERES-VIIRS cloud mask when validating with CERES-MODIS Ed4	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.1	To have a CO2 replacement algorithm, thin cirrus cloud height retrieval algorithm. To have multilayer algorithm worked with NPP-VIIRS data. To improve CERES-VIIRS Ci cloud height and multilayer retrievals when validating with CERES-MODIS Ed4.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.2	To build, compute and implement Correlated K-Distribution's coefficients for VIIRS bands: 3.7 (I4), 11 (M15), 12 (M16), 1.6 (M10), and 1.24 (M8) um.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.3	To build, create and implement clear sky directional models and bidirectional models for 1.6 um for both snow free and snow covered surfaces, ae well as clear sky start up maps (snow-free and snow-cover) for 1.6 um.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.4	To come up a way to resolve VIIRS bowtie deletion issue.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.5	To process VIIRS at 8 (scan) x 2 (track) resolution.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.6	To use the latest lapse rate database created from 2 years of merged MODIS-Aqua and CALIPSO data.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.7	To fix error: modify cloud retrieval code to have thick-cloud-top-height-correction worked correctly.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.8	To fix error: modify cloud retrieval code to remove optical depth conversion from 3.7 um to 0.6 um for both water and ice clouds.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	

CERES Requirements Log - Clouds

Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4-20.9	To calculate and implement single scattering alebdoes for VIIRS 3.7 um for both ice and water.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.10	To modify ice water path calculation formula	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.11	To implemnt 1.6 um particle size retrieval for VIIRS over snow free surfaces, instead of 2.1 particle size retrieval in MODIS Ed4.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.12	To compute and implement cloud absorptions for both VIIRS 1.24 and 1.6 um.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.13	To calculate and implement O2 tansmittance for 0.6 um used in cloud retrievals.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.14	To build and implement new 1.24 and 1.6 um reflectance parameterizations.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.15	To build and implement optical depth conversions from visible to 1.6 and 1.24 um, respectively, for each particle size.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.16	To create liquid water reflectance models from single scattering properties to BRDF with response function, computed by Gang Hong, for VIIRS I1, I3, I4 and M8. To build ice reflectance models by applying response functions to Ping Yang's ice BRDF at central band to calculate albedoes for the same bands: I1, I3, I4, and M8.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.17	To convert VIIRS AOT to corresponding MODIS AOT by weighting logarithm of VIIRS wavelength to MODIS wavelength for 0.469, 0.645, 0.858, 1.64 and 2.13 um.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.18	To calculate 1.24 um reflectance from radiance, and pass the reflectance to SSF.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	

CERES Requirements Log - Clouds

Reqm'ts No.	Requirement	SCCR	Provider	Responsible Subsystem	Responsible Person	How was it conveyed?	When was it received?	When was it accepted?	When was it completed?	Current Status
4-20.19	To fix issues causing core dumps: unreasonable satellite times and angles.	960	Minnis	Clouds	Sun-Mack	Phone, emails, meetings, F2F	06/01/13	06/01/13	02/20/14	
4-20.20	Add switches to handle NPP satellite in convolutiuon processing.	960	Loeb	Convolution	Miller	Meeting	06/01/13	06/01/13	02/12/14	
4-20.21	Replace LogOptDepth StD for 1.24 and 2.13 calculation with dummy variable.	960	Loeb	Convolution	Miller	email	12/06/13	12/06/13	12/06/13	
4-20.22	Set VIIRS radiance for use in the SSF.	960	Loeb	Convolution	Miller	Meeting	01/15/14	01/15/14	02/18/14	
4-21.0	To make hours run successfully when there are no aerosol files	1045	Gleason	Clouds	Smith	email	10/29/14	10/29/14	10/30/14	
4-22.0	To update names email list	1046	Gleason	Clouds	Smith	email	11/06/14	11/06/14		