

### CERES Requirements Log - TISA Averaging

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
7.1-1	SCIENCE: Prepare synoptic interpolation software to process Terra Beta TSI data		Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen	Team mtgs	09/12/05	09/12/05	09/20/05	Complete
7.1-2	SCIENCE: Update the cloud interpolation subroutine to correct cloud parameters		Dave Doelling, Fred Rose	TISA Averaging Subsystem 7.1	Cathy Nguyen	Emails and phone calls	03/13/06	03/15/06	03/22/06	In pre-delivery verification testing
7.1-3	SCIENCE: Update the TOA flux interpolation code		Dave Doelling, Fred Rose	TISA Averaging Subsystem 7.1	Cathy Nguyen	Phone calls and meetings	03/13/06	03/15/06	03/22/06	In pre-delivery verification testing
7.1-4	SCIENCE: Update code to change the time of the data to GMT from hour one to last hour of the month		Dave Doelling, Fred Rose	TISA Averaging Subsystem 7.1	Cathy Nguyen	Phone calls and meetings	04/10/06	04/14/06	04/21/06	In validation
7.1-5	SCIENCE: Update code to use the local and GMT cosine solar zenith angle tables for SW flux analysis		Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen	Phone calls and meetings	04/20/06	04/20/06	04/22/06	Complete
7.1-6	SCIENCE: Update SW normalization code to use the local time clear-sky map to work in GMT time		Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen	Meetings	03/13/06	03/15/06	03/22/06	Complete
7.1-7	SCIENCE: Correct flux flags for nongeo, geo and interpolated data		Fred Rose	TISA Averaging Subsystem 7.1	Cathy Nguyen	Meetings	03/27/06	03/27/06	03/29/06	Complete
7.1-8	SCIENCE: Add the filling up SW fluxes and albedos for the days without data		Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen	Meetings	03/13/06	03/15/06	03/22/06	Complete
7.1-9	SCIENCE: Remove unused parameters		Dave Doelling, Fred Rose	TISA Averaging Subsystem 7.1	Cathy Nguyen	Email	04/04/06	04/04/06	04/05/06	Complete
7.1-10	SCIENCE: Add parameters such as aerosol from FSW and IR radiance from GEO		Dave Doelling, Fred Rose	TISA Averaging Subsystem 7.1	Cathy Nguyen	Email and meeting	03/31/06	04/05/06	04/06/06	Complete
7.1-11	Non-SCIENCE: Change TSI from non-nested grid to nested grid to save disk space		Fred Rose	TISA Averaging Subsystem 7.1	Cathy Nguyen	Phone calls and emails	02/27/06	03/15/06	04/03/06	Complete

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7.1 - 12	SCIENCE: Make TSI hourbox center to be the same with FSW hourbox center	660	Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen	Meeting	08/22/07	08/22/07	08/22/07	Complete
7.1 - 13	SCIENCE: Replace old code for computing cosine solar zenith angles, solar incidence, AM time and PM times for each region	660	Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen	Email	09/04/07	09/10/07	09/14/07	Complete
7.1 - 14	SCIENCE: Updated code to include the change in cosine solar zenith angles, solar incidence and AM and PM times	660	Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen				09/15/07	Complete
7.1 - 15	SCIENCE: Updated code to change the aerosol optical depth interpolation	660	Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen	Email	06/28/07	07/15/07	08/02/07	Complete
7.1 - 16	SCIENCE: Rescale TOASW fluxes using correction factors based on year, month, and instrument	660	Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen	Email	08/10/07	08/12/07	08/14/07	Complete
7.1 - 17	SCIENCE: Include the TOA daytime LW correction ratios	660	Fred Rose	TISA Averaging Subsystem 7.1	Cathy Nguyen	Email	08/07/07	08/20/07	08/21/07	Complete
7.1 - 18	SCIENCE: Change the solar declination, distance correction, and delta longitude from daily to hourly	660	Dave Doelling	TISA Averaging Subsystem 7.1	Cathy Nguyen	Email	10/05/07	10/06/07	10/09/07	Complete
7.1 - 19	SCIENCE: Add a restriction bases on 50 percents cloud amount for land and 50 percents cloud amount or 80 degrees sza for ocean to eliminate the GGEO clear-sky IR to improve the clear-sky LW	660	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	11/14/07	11/14/07	11/14/07	Complete
7.1 - 20	SCIENCE: Improved the temporal interpolation for GGEO SW fluxes	660	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	11/16/07	11/20/07	11/22/07	Complete
7.1 - 21	SCIENCE: For snow regions, make total-sky GGEO SW fluxes to be non-GGEO SW fluxes ( in toa_flux_mod)	660	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	12/18/07	12/18/07	12/18/07	Complete
7.1 - 22	SCIENCE: Recompute albedos after extrapolate non-GGEO SW fluxes. (in erbe_interp)	660	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	12/19/07	12/19/07	12/19/07	Complete

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7.1 - 23	SCIENCE: Change code to make the negative csza to be zero to match with results from SGI runs	660	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	01/10/08	01/10/08	01/11/08	Complete
7.3-1	Add a check for NaN and Inf of the input GGEO cloud parameters. Check for cloud fractions and make other cloud parameters to be defaults if cloud fractions are zero.	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	8/15/2011	8/15/2011	8/15/2011	Complete
7.3-2	Add a range check for IR from GGEO data. If the IR is bad then make the IR to be default and cloud parameters also defaults	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Email	8/19/2011	8/19/2011	8/19/2011	Complete
7.3-3	Add code to use the clear-sky map to fill in the SW TOA fluxes when there is no SW flux at cosine solar zenith angle greater than zero.	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	8/22/2011	8/22/2011	8/22/2011	Complete
7.3-4	Update the non-GEO SW interpolation code to handle the unique cases in the polar regions.	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	8/22/2011	8/22/2011	8/22/2011	Complete
7.3-5	Update GEO interpolation code to increase the limit of solar zenith angle to 90 degrees	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Email	8/31/2011	8/31/2011	9/1/2011	Complete
7.3-6	Update the directional model code to accept sza=90 degrees	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Cathy Nguyen	8/31/2011	8/31/2011	9/1/2011	Complete
7.3-7	Add a QC check for NaN and Inf for output TOA fluxes.	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	9/6/2011	9/6/2011	9/6/2011	Complete
7.3-8	Update code to omit the interpolation of the Vertical Aspect Ratio cloud parameter.	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	9/6/2011	9/6/2011	9/6/2011	Complete
7.3-9	Update code to correct the half-sine fit for LW and WN fluxes	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls and meetings	8/22/2011	8/22/2011	8/22/2011	Complete
7.3-10	Change the IR lower boundary from 0.0 to 0.5	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	9/7/2011	9/7/2011	9/7/2011	Complete
7.3-11	Add a check for output cloud parameters for every hour after interpolation. If the cloud parameter is out of the range then make it default. After the end of the month, add a check for defaults and then linear interpolate the parameter if there is default in the data.	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls and meetings	9/9/2011	9/9/2011	9/9/2011	Complete

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7.3-12	Use the SORCE solar radiation instead of 1365	833	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone calls	9/9/2011	9/9/2011	9/9/2011	Complete
7.3-13	Req # 7.3-13 Delta Delivery - Update CER7_3_1P1_PCF.pm to add the "END METADATA WRAPPER INFORMATION" to the PCF file	889	Cathy Nguyen	TISA Averaging	Cathy Nguyen					Complete
7.3-14	Update the SORCE solar radiation file to add data up to February 2013	953	Cathy Nguyen	TISA Averaging	Cathy Nguyen					Complete
7.3-15	Update the satellite ID file since there are new geostationary satellites added.	953	Cathy Nguyen	TISA Averaging	Cathy Nguyen					Complete
7.3-16	Update the SORCE solar radiation file to add data up to July 2013	976	Cathy Nguyen	TISA Averaging	Cathy Nguyen					Complete
7.3-17	Update the SORCE solar radiation file to add data up to December 2013	995	Cathy Nguyen	TISA Averaging	Cathy Nguyen					Complete
7.3-18	Update code to read the Edition4 SFCB, GGEO data	1024	Dave Doelling	TISA Averaging	Cathy Nguyen	Emails and phone calls	5/1/2014	5/1/2014	5/1/2014	Complete
7.3-19	Update the solar code to compute solar zenith angles, solar incoming fluxes in GMT.	1024	Dave Doelling	TISA Averaging	Cathy Nguyen	Emails and phone calls	5/5/2014	5/5/2014	5/5/2014	Complete
7.3-20	Include the new methods of computing LW and SW fluxes.	1024	Dave Doelling	TISA Averaging	Cathy Nguyen	Emails and phone calls	9/3/2014	9/3/2014	9/3/2014	Complete
7.3-21	Include the updated solar code in GMT	1024	Dave Doelling	TISA Averaging	Cathy Nguyen	Emails and phone calls	5/5/2014	5/5/2014	5/5/2014	Complete
7.3-22	Add a new PGE to read the HDF SSF footprint data and produce LW narrowband to broadband coefficients code and scripts	1024	Dave Doelling	TISA Averaging	Cathy Nguyen	Emails and phone calls	10/26/2013	10/26/2013	10/26/2013	Complete
7.3-23	Include the slope and offset calculations for LW fluxes in PGE 7.3.1P2	1024	Dave Doelling	TISA Averaging	Cathy Nguyen	Emails and phone calls	10/26/2013	10/26/2013	10/26/2013	Complete
7.3-24	Remove un-used parameters and add skin temperature flag and MOA skin temperature	1053	Dave Doelling	TISA Averaging	Cathy Nguyen	Emails and phone calls	1/10/2015	1/10/2015	1/10/2015	Complete
7.3-25	Updated code to not compare GGEO and CERES GMT time pass the maximum hour of the month	1098	Cathy Nguyen	TISA Averaging	Cathy Nguyen	N/A	11/19/2015	11/19/2015	11/19/2015	Complete
7.3-26	Deliver new satellite data fro the new GGEO	1117	Cathy Nguyen	TISA Averaging Subsystem 7.1	Cathy Nguyen	N/A	2/22/2016	2/22/2016	2/22/2016	Complete
7.3-27	Update code to limit the use of GGEO data from zone 29 to zone 151	1121	Cathy Nguyen	TISA Averaging	Cathy Nguyen	Emails and phone calls	3/16/2016	3/18/2016	3/18/2016	Complete

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8-01	SCIENCE: Validate the synoptic average TOA fluxes		Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Meeting	6/14/06	06/14/06	in progress	In validation
8-1	Non-SCIENCE: Change the SYN/AVG/ZAVG structure	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Phone calls and emails	09/08/06	09/11/06	09/20/06	Complete
8-2	SCIENCE: Remove unused parameters from TSIB (Please see SYN, AVG, and ZAVG Parameter Changes worksheets.)	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Phone calls and emails	08/03/06	08/03/06	08/04/06	Complete
8-3	SCIENCE: Remove unused parameters from SYNI (Please see SYN, AVG, and ZAVG Parameter Changes worksheets.)	639	Fred Rose	TISA Averaging Subsystem 8	Cathy Nguyen	Emails	08/09/06	08/09/06	08/10/06	Complete
8-4	SCIENCE: Remove number of observations from all of the parameters from AVG/ZAVG (Please see SYN, AVG, and ZAVG Parameter Changes worksheets.)	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Emails	09/20/06	09/21/06	09/29/06	Complete
8-5	SCIENCE: Add the MODIS aerosol optical depths to SYN/AVG/ZAVG	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Emails	09/20/06	09/21/06	09/29/06	Complete
8-6	SCIENCE: Add TOA Flux Error to SYN/AVG/ZAVG	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Meetings	09/20/06	09/21/06	09/29/06	Complete
8-7	SCIENCE: Add checks for defaults in SYNI parameters and linearly interpolate data if necessary		Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Meetings	09/20/06	09/21/06	09/29/06	Complete
8-8	SCIENCE: Compute untuned fluxes from tuned and adjust fluxes from SYNI	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Meetings	09/20/06	09/21/06	09/29/06	Complete
8-9	SCIENCE: Compute Direct fluxes and Diffuse fluxes from the Total fluxes and Direct/Diffuse ratio from SYNI. Use the Direct and Diffuse fluxes to compute averages of the Direct/Diffuse ratios	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Meetings	09/20/06	09/21/06	09/29/06	Complete
8-10	SCIENCE: Change the linear average for SW fluxes to adding the monthly hourly average SW fluxes to hours of missing data	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Meetings	10/10/06	10/11/06	10/17/06	In validation

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8-11	SCIENCE: Add the number of hourboxes for observed, tuned and untuned SW and LW fluxes	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Meetings	10/16/06	10/16/06	10/18/06	In validation
8-12	SCIENCE: Add the satellite emulated untuned and tuned TOA WN fluxes	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Meetings	10/16/06	10/16/06	10/20/06	In validation
8-13	SCIENCE: Change the average of cloud parameters to include cloud fraction	639	Dave Doelling	TISA Averaging Subsystem 8	Cathy Nguyen	Meetings	10/10/06	10/11/06	10/18/06	In validation
8-14	SCIENCE: New PGE CER8.2P1 delivery to create web plots for SYN product	639	Dave Doelling	TISA Averaging Subsystem 8	Raju,Flug,Nguyen	Email	10/18/06	10/18/06	02/15/07	Complete
8-15	Non-SCIENCE: Updated the readsoftware package to reflect the new structures in the SYN, AVG and ZAVG products via SCCR 639	649	Dave Doelling	TISA Averaging Subsystem 8	Nguyen	Phone calls	03/15/07	03/15/07	03/19/07	Complete
8-16	SCIENCE: Add the twilight flux to the observed SW all-sky monthly mean regional flux and to the tuned TOA level 1 all-sky SW flux	667	Dave Doelling	TISA Averaging	Cathy Nguyen	Email	01/09/08	01/15/08	01/16/08	Complete
8-17	SCIENCE: Add the clear-sky twilight flux table. Use the clear-sky twilight flux to add to the observed SW clear-sky monthly mean flux and to the tuned TOA level 1 clear-sky SW flux	667	Dave Doelling	TISA Averaging	Cathy Nguyen	Email	01/09/08	01/15/08	01/17/08	Complete
8-18	SCIENCE: Add three new parameters: Total-sky UVB surface flux up, snow grain size, match total aerosol optical depth at 0.55 um	667	Dave Doelling	TISA Averaging	Cathy Nguyen	Phone call	01/03/08	01/04/08	01/04/08	Complete
8-19	SCIENCE: Remove all clear-sky LW and SW fluxes that were added to the TSI so that the clear-sky and all-sky were identical when the cloud amount was zero.	667	Dave Doelling	TISA Averaging	Cathy Nguyen	Email	01/09/08	01/15/08	01/17/08	Complete
8-20	SCIENCE: Linearly interpolate the zonal monthly clear-sky LW fluxes	667	Dave Doelling	TISA Averaging	Cathy Nguyen	Email	01/18/08	01/18/08	01/22/08	In Validation
8-21	SCIENCE: Use the incoming solar and the zonal monthly SW fluxes to interpolate the default zonal monthly SW fluxes.	667	Dave Doelling	TISA Averaging	Cathy Nguyen	Email	01/18/08	01/18/08	01/22/08	In validation

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8-22	SCIENCE: Change parameter names to match with the names in DPC	667	Cathy Nguyen	TISA Averaging	Cathy Nguyen	Self	01/23/08	01/23/08	01/23/08	Complete
8-23	non-SCIENCE: Modify code to run on IBM cluster	667	Cathy Nguyen	TISA Averaging	Cathy Nguyen	Self	01/02/08	01/02/08	01/02/08	Complete
8-24	SCIENCE: For regions with one clear-sky TOA SW flux a day or less than 20 observations per month, the clear-sky TOA SW fluxes of the month are made to be defaults	667	Dave Doelling	TISA Averaging	Cathy Nguyen	Email	02/15/08	02/15/08	02/15/08	Complete
8-25	SCIENCE: Correct the 3-hourly averages of the PAR and UVA, UVB fluxes	667	Dave Doelling	TISA Averaging	Cathy Nguyen	Email	4/4/2008	4/4/2008	4/4/2008	Complete
8-26	NON-SCIENCE: Deliver code to AMI-P based on Magneto code with the removal of ss7 and 10 specific code, add range checks and improved performance.	795	Dave Doelling	TISA Averaging	Betty Lock	Email	11/18/2010	11/18/2010	11/18/2010	Complete
8-27	NON-SCIENCE: Change the organization of the HDF output files from space-time to time-space. Files AVG and ZAVG have been replaced with CER_SYN1deg-Month and CER_SYN1deg-M3Hour	795	Dave Doelling	TISA Averaging	Betty Lock	Email	11/18/2010	11/18/2010	11/18/2010	Complete
8-28	NON-SCIENCE: Deliver code to follow the CERES_BB_10-1 requirements for SGE execution and naming conventions.	795	Dave Doelling	TISA Averaging	Betty Lock	Email	11/18/2010	11/18/2010	11/18/2010	Complete
8-29	SCIENCE: Correct the parameter values for: Untuned Clear Sky Longwave Up, Untuned Clear Sky Window Up, Mean cloud visible optical depth-adjusted, Mean cloud fractional area-adjusted, mean cloud effective Temperature-adjusted.	795	Dave Doelling	TISA Averaging	Betty Lock	Email	11/18/2010	11/18/2010	11/18/2010	Complete
8-30	NON-SCIENCE: Update SGE script	885	Dave Doelling	TISA Averaging	Betty Lock	Email	2/29/2012	2/29/2012	2/29/2012	
8-31	NON-SCIENCE: Read package for Edition3A including the DPC documentation	910, 922	Dave Doelling	TISA Averaging	Betty Lock	Email				
8-32	SCIENCE: Update code to comply with the Edition4 Data Product Catalog. Change the HDF format. Remove unused parameters. Add new parameters.	1025	Dave Doelling	TISA Averaging	Dennis Keyes	Email, phone	6/4/2014	6/4/2014	3/24/2015	Complete

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10-1	SCIENCE: Prepare averaging software for Edition2D SRBAVG	583	Bruce Wielicki, Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	09/01/04	09/16/04		In pre-delivery verification testing
10-2	SCIENCE: Add new PGE, CER10.2P1, to create a month of the daily regional snow and ice maps	583	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	05/01/05	05/01/05	05/27/05	Implementation and verification testing completed, but the ST may decide PGE is not necessary
10-3	SCIENCE: Add new PGE, CER10.3P1, to create a month of the daily regional ozone maps	583	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	05/01/05	05/01/05	05/27/05	Implementation and verification testing completed, but the ST may decide PGE is not necessary
10-4	SCIENCE: Add phase one before creating SRBAVGs to compute the monthly hourly average of the non-GGEO clear-sky albedos and SW fluxes. Add a new PGE, CER10.P2 to create the above data plus the monthly snow	583	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	05/01/05	05/01/05	08/17/07	In pre-delivery verification testing
10-5	SCIENCE: Add phase two before creating SRBAVGs to create the clear-sky map	583	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	05/01/05	05/01/05	05/13/05	In pre-delivery verification testing
10-6	SCIENCE: Modify phase three to create the SRBAVG using the output from phases one and two	583	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	05/01/05	05/01/05	05/17/05	In pre-delivery verification testing
10-7	SCIENCE: Update the GGEO algorithm to incorporate the latest GGEO method	583	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	05/01/05	05/01/05	09/02/05	In pre-delivery verification testing
10-8	SCIENCE: Run four seasonal months to validate the interpolated surface flux and the monthly average of TOA fluxes	583	Dave Doelling and Dave Rutan	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	09/12/05	09/13/05	09/14/05	In pre-delivery verification testing
10-9	SCIENCE: Run four seasonal months of Terra and Aqua and TRMM and output the interpolated TOA and surface fluxes for validation	583	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	09/13/05	09/13/05	09/15/05	In pre-delivery verification testing
10-10	SCIENCE: Run three years of cross-track Terra SRBAVGs for validation	583	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Team mtgs	09/13/05	09/16/05	09/19/05	In pre-delivery verification testing
10-11	SCIENCE: Correct errors in the GGEO interpolation to validate ValR7 SRBAVGs	608	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Phone calls and emails	10/11/05	10/11/05	10/11/05	Delivered to CM

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10-12	SCIENCE: Correct GGEO SW fluxes and clear-sky net surface fluxes	608	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Emails and meetings	01/05/06	01/05/06	01/07/06	Delivered to CM
10-13	SCIENCE: Add the linear interpolation for the relative humidity in the case of missing partial PMOA data	608	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Meetings	11/03/05	11/03/05	12/20/05	Delivered to CM
10-14	SCIENCE: Correct the conversion of four cloud categories to two cloud categories for the IR emissivities, optical depth, cloud pressures	608	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Meetings	11/08/05	11/08/05	11/09/05	Delivered to CM
10-15	SCIENCE: Correct the weights in the zonal and global averages	608	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Phone calls and emails	11/09/05	11/09/05	11/11/05	Delivered to CM
10-16	NON-SCIENCE: Correct the label name for the surface fluxes and the attributes of the HDF SRBAVGs	608	Ed Kizer, Erika Geier	TISA Averaging Subsystem 10	Cathy Nguyen	Emails	12/27/05	12/27/05	12/28/05	Delivered to CM
10-17	SCIENCE: Create SRBAVG4 for the GGEO daily means		Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Emails and phone calls	01/31/06	01/31/06	02/25/06	In pre-delivery verification testing
10-18	SCIENCE: Create SRBAVG5 for the CERES daily means. Add the snow/ice and solar incoming flux parameters		Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Emails and phone calls	01/31/06	01/31/06	02/25/06	In pre-delivery verification testing
10-19	SCIENCE: Create SRB+B16AVG6 for the GGEO cloud and SRBAVG7 for CERES cloud in ISCCP format		Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Emails and phone calls	01/31/06	01/31/06	03/09/06	In pre-delivery verification testing
10-20	SCIENCE: Search for the cause of the "inf" in the surface fluxes		Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Emails and phone calls	02/13/06	02/13/06	02/14/06	In pre-delivery verification testing
10-21	Non-SCIENCE: Create a new PGE to product SRBAVG4/5/6/7 and the to include the 10-minutes snow/ice maps for inputs to SRBAVG5 snow/ice parameter		Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Emails and phone calls	02/13/06	02/13/06	02/20/06	In pre-delivery verification testing
10-22	SCIENCE: Create a non-public HDF file for night time MODIS cloud		Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Meeting	04/20/06	04/24/06	04/27/06	In pre-delivery verification testing
10-23	SCIENCE: Run Aqua SRBAVGs from March 2003 through May 2004 with the use of Beta6 GGEOs. Add the number of days for the 8 GMT blocks in the MODIS D2 ISCCP-like data.		Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Phone calls and meeting	04/24/06	04/24/06	04/27/06	Complete

### CERES Requirements Log - TISA Averaging

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
10-24	SCIENCE: Add the daily and the monthly hourly number of observations for non-GEO and GEO TOA fluxes		Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Meeting	05/02/06	05/05/06	05/11/06	Complete
10-25	SCIENCE: Add the daily twilight correction to adjust the daily TOA SW fluxes		Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Meeting	05/08/06	05/09/06	05/17/06	Complete
10-26	SCIENCE: Deliver code to support the Beta version of SRBAVG4-7	624	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Email and meeting	06/09/06	06/12/06	06/13/06	Complete
10-27	SCIENCE: Update code to include the defaults in the clear-sky map for regions without data for 200503 SRBAVG DAAC process	629	Lisa Link	TISA Averaging Subsystem 10	Cathy Nguyen	Email	06/19/06	06/19/06	06/20/06	Complete
10-28	SCIENCE: Beta1 Daily SRBAVGs were produced at the DAAC for further validation. Found NaN in surface net flux mod. A and also in the cloud top and bottom pressures. Search for the cause of the NaN.		Dennis Keyes, Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Email and meeting	07/05/06	07/05/06	in progress	In validation
10-29	SCIENCE: Updated code to include the RAPS data for Beta5 Aqua SRBAVG delivery	637	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Email	09/06/06	09/06/06	09/09/06	In validation
10-30	Non-SCIENCE: Updated the GGEO file check script to correct the location of available GGEO at DAAC	645	Lisa Link	TISA Averaging Subsystem 10	Cathy Nguyen	Email	02/13/07	02/13/07	02/13/07	In validation
10-31	SCIENCE: Updated the daily TOA SW fluxes over the polar regions.	650	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Email	03/27/07	03/27/07	03/27/07	Complete
10-32	SCIENCE: Updated the daily surface SW fluxes for model A and model B since there are regions the averages do not add up correctly	650	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Email	03/28/07	03/28/07	03/29/07	In validation
10-33	SCIENCE: Correct the use of the snow maps. Start at -180 degrees instead of 0	650	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Email	03/27/07	03/27/07	03/27/07	In validation
10-34	Add a check for output cloud parameters for every hour after interpolation. If the cloud parameter is out of the range then make it default. After the end of the month, add a check for defaults and then linear interpolate the parameter if there is default in the data.	650	Cathy Nguyen	TISA Averaging Subsystem 10	Cathy Nguyen		03/08/07	03/08/07	03/27/07	Complete

**CERES Requirements Log - TISA Averaging**

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
10-35	SCIENCE: Updated to remove the ISCCP-like srbavgs and output SRBAVG1,2,3 and SRBAVG-Daily1 and SRBAVG-Daily2	650	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	phone calls	03/02/07	03/02/07	03/09/07	Complete
10-36	SCIENCE: Update to add the change in surface LW model B	650	Cathy Nguyen	TISA Averaging Subsystem 10	Cathy Nguyen		03/29/07	03/29/07	03/29/07	Complete
10-37	SCIENCE: Add the RAP mode for Terra processing	650	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen		03/02/07	03/02/07	03/02/07	Complete
10-38	SCIENCE: Deliver code, scripts and Edition2.6 SSF 1-deg and SYN 1-deg data products for archival purpose	860	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen		7/26/2011	7/26/2011	7/26/2011	
10-39	SCIENCE: Delta Delivery, Updated the SOURCE TSI ancillary data file to correct the "zero" daily mean Total Solar Irradiances from September through December 2010	861	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen		7/28/2011	7/28/2011	7/28/2011	
10-40	SCIENCE: Update solar_declination algorithm to correct the time in the parameter "seconds" for CERESlib Edition4	880	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	phone calls	2/14/2003	2/21/1930	2/21/2003	Complete
10-41	SCIENCE: Update weights algorithm for CERESlib Edition4	880	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	email	1/4/2012	1/4/2012	1/4/2012	Complete
10-42	SCIENCE: Update meta data file code and scripts to add more informations to the meta data file and the HDF file	1023	Pam Mlynczak	TISA Averaging Subsystem 10	Cathy Nguyen	email, phone calls	3/4/2015	3/4/2015	4/1/2015	Complete
10-43	SCIENCE: Use Edition4 SSF1deg code (PGE 10.0P5) with the Edition4 data format and in GMT time for Edition3 SSF1deg data.	1069	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Emails and phone calls	4/1/2015	4/1/2015	5/1/2015	Complete
10-44.1075	NON-SCIENCE: Update Edition4 SSF1deg code to correct the parameter dimensions for the code to be able to run on X86.	1075	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Emails and phone calls	6/3/2015	6/3/2015	7/6/2015	Complete
10-44.1086	NON-SCIENCE: Update Edition3 SSF1deg code to coret the previous year instead of the current year typo error. Some March Ed3 SSF1deg data are bad because the number of days in Feb of the current year and previous year are	1086	Dave Doelling	TISA Averaging Subsystem 10	Cathy Nguyen	Emails and phone calls	9/9/2015	9/9/2015	9/10/2015	Complete