

**MODIS SEMI-ANNUAL REPORT
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**UNIVERSITY OF MIAMI
RSMAS/MPO**

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A. PERSONNEL

Personnel supported for the first half of 2001 include:

B. Evans (Jan, Feb, Mar, Apr, May, Jun)
V. Halliwell (Jan, Feb, Mar, Apr, May, Jun)
K. Kilpatrick (Jan, Feb, Mar, Apr, May, Jun)
J. Jacob (Apr, May, Jun)
A. Kumar (Jan, Feb, Mar, Apr, May, Jun)
J. Splain (Jan, Feb, Mar, Apr, May, Jun)
S. Walsh (Jan, Feb, Mar, Apr, May, Jun)
R. Kolaczynski (Jan, Feb, Mar, Apr, May, Jun)
D. Wilson-Diaz (Jan, Feb, Mar, Apr, May, Jun)
J. Brown (Jan, Feb, Mar, Apr, May, Jun)
E. Kearns (Mar, Apr, May, Jun)
A. Li (Jan, Feb, Mar, Apr, May, Jun)

B. OVERVIEW OF RECENT PROGRESS

B.1 Processing and Algorithm Development

Ocean color

Given the slow progress towards removing instrument artifacts from the L1b (RVS, mirror side difference, polarization - changes seen in time, long term and orbit) we began the following approach to limit the instrument effects in the data set to permit evaluation of derived products:

using Dennis' December data, Ed and Bob effected a 'calibration for "B" side electronic, post day 2000-306. We restricted the 4km and lower resolution binned products to include only the low AOI pixels, pix 75 to 667, to minimize RVS and BRDF effects. Bin only mirror side 1 to remove time variable mirror side difference. Bin only Quality "0" to remove cloud contaminated pixels and algorithm failures.

We processed days 338-345, Dec 3-10, corresponding to Dennis' cruise and produced global files binned according to the above procedure. Given the restrictive nature of the binning, we will produce global 4, 36 km and 1deg files for the week. Daily files likely will be too sparse to be of value. Each team member was encouraged to analyze these files to determine the quality, geophysical relevance, etc. of their respective products.

Work progressed on development correction and calibration strategies for the Side “B” electronics for MODIS/Terra at the end of 2000. After new LUTs arrived, new interdetector corrections, mirror side corrections, and spectral calibrations were computed as they had been for Side “A” electronics. These methodologies follow similarly to those described in the last year 2000 report. However, some new twists emerged:

Polarization

A stable and consistent polarization was established after some corrections to the code (so that all angles were handled properly) and a suite of possible polarization corrections were run. The result is that the mid-scan “zipper” of old is completely eliminated.

Mirror sidedness

The disparities in mirror side behavior and their spectral dependence were confirmed by MCST. The MCST study showed that mirror sides were degrading at different rates, and that the blue bands (412 and 443 nm) were by far the most greatly affected. Changes were made to the code that linearly and continuously approximate this degradation in time per band.

Cross-scan changes

Significant cross-scan trends in the visible bands can be traced to a combination of instrument-related (RVS) error, and to a mischaracterization of bands 15 and/or 16. There is clearly a cross-scan dependence present in both bands 15 and 16, but the removal of the appropriate amount of Lt from these bands to achieve a flat field is not at all straightforward, or even knowable. Rather than work with this possibly intractable situation, we decided to make changes to the bands (8-14), adding corrections to the Lt's as a function of satellite zenith angle. Leaving 15 and 16 alone, each of the other bands nLw fields were examined and compared to MOCE data and to SeaWiFS imagery. Then the Lt's for each band were scaled so that the nLw fields appeared to have a correct cross-scan behavior, and the entire day 336 ocean color products were run. A recursive approach was necessary to totally reduce the cross-scan behavior. This approach worked very well for all bands. The resulting nLw fields and the chlorophyll products showed little evidence of any cross-scan dependence. However, the FLH products showed significant striping and cross-dependence; due to the nature of the calculation, bands 13, 14, and 15 apparently must be corrected in such a way as to minimize any distortion of their relative

magnitudes. By turning off any corrections to bands 13, 14, and 15, the FLH products are much improved – although the individual fields nLws are full of artifacts.

Sun glint

Sun glint influences large portions of the image (figure 6). Comparisons with De Clark's MOS in situ data from the MOCE-6 initialization cruise indicated that satellite Lw's decreased in regions affected by sun glint and at high satellite zenith angles. The retrieved epsilon appeared high, on the order of 1.1 away from the sun glint decreasing to 1.0 as sun glint increased. This suggested that the atmospheric correction over-corrected as the scan approaches the sun glint region in all bands indicated that the La in the sun glint region was too large. We therefore included a sun glint term to reduce the Lt - Lr - Lg leading into the La calculation. A dramatic improvement in the retrievals in regions adjacent to the main sun glint pattern can be seen in figure 7.

Several approaches to correcting the glint problem were investigated.

- a) We assumed sun glint was direct, i.e. no scattering component. Result: lower Lw as increasing sun glint was removed.
- b) Removed diffuse Rayleigh scattering component of the sun glint. Result: Lw retrievals showed a spectral behavior. Lw's were correct in the green region but under-corrected in the blue.
- c) Included a diffuse aerosol component to the sun glint. Result: improved Lw retrievals in regions of sun glint contamination with reasonable spectral behavior

sun glint reflectance is computed as: $tg = glintsc * zglint * zbst(l) * t_star(l)$
Where: $glintsc = 1.65$ (sun glitter coefficient scale factor; see problems section for caveats associated value of scale factor), $zglint =$ sun glitter coefficient using Cox and Munk (1954a,b; 1956), assumes isotropic wind., $zbst =$ two-way Rayleigh and Ozone diffuse transmittance; sun - ground - satellite. $t_star =$ one-way aerosol diffuse transmittance using chosen models; ground - satellite

The glint radiance (Lg) is $Lg = tgLt$. The new La865 calculation now has the form

$$La865 = Lt - Lr - Lf - Lg$$

Where: L_r is the modeled rayleigh radiance; L_f is the modeled sea foam radiance
is the transmittance factor

The L_w corrected for glint becomes:

$$tL_{wxx} = L_{txx} - L_r - L_g - L_f - L_{axx}$$

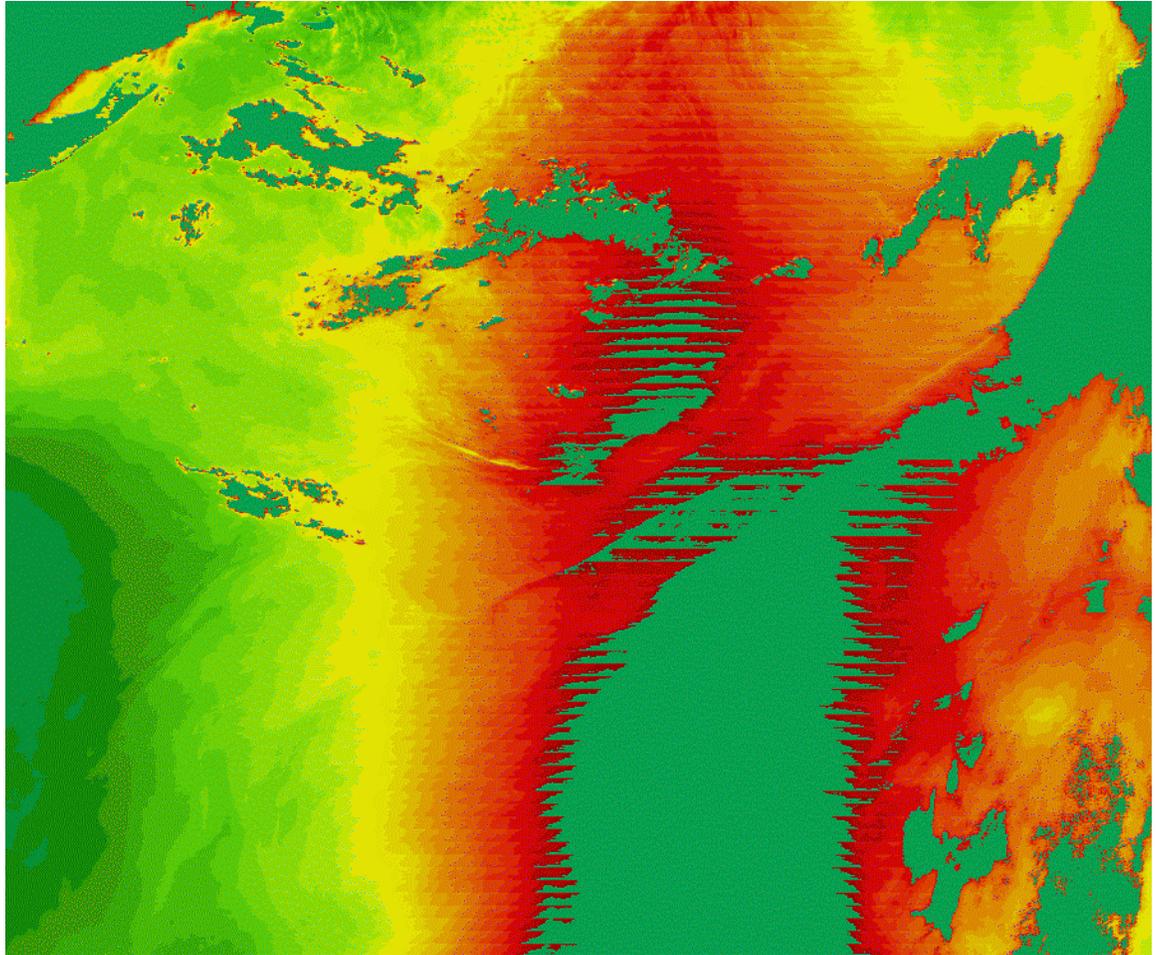


Figure 6. Unfiltered L_a 865nm
Yellow - red region glint contaminated ($L_g > 5 * L_a$).

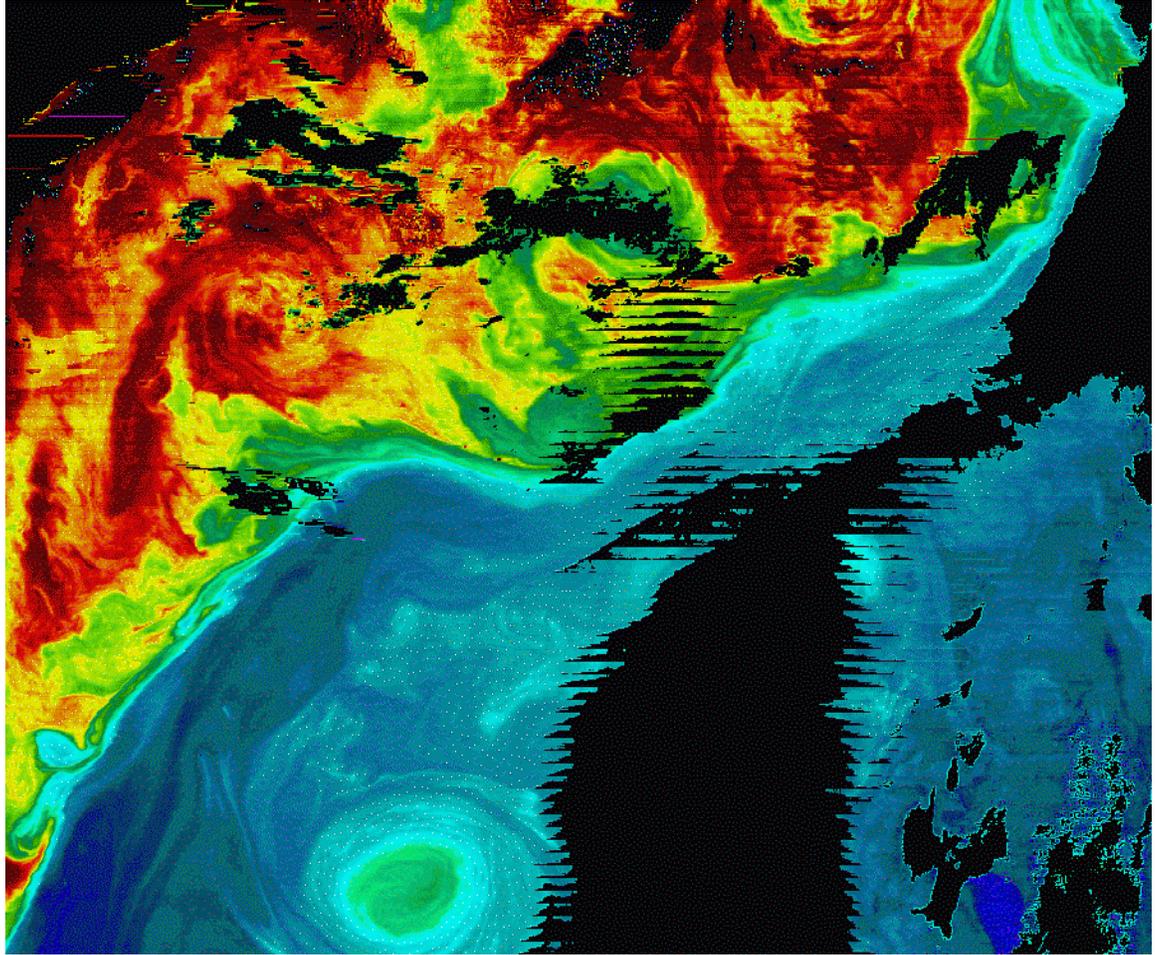


Figure 6. Corrected MODIS chlorophyll. East Coast U.S. Day 129:1545.

Band ratio products e.g. Chl and K490 are less affected by residual sun glint contamination than single band products e.g. a_{440nm} .

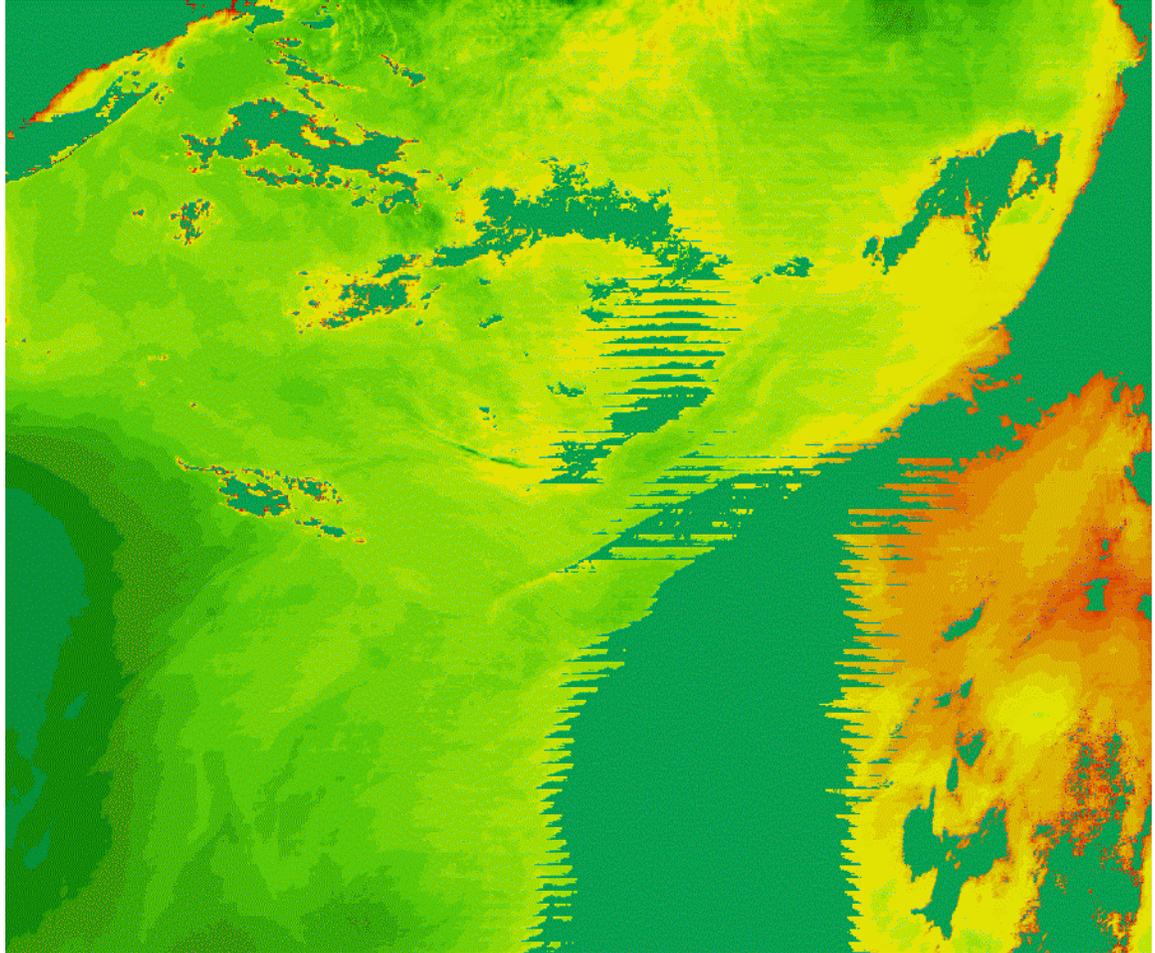
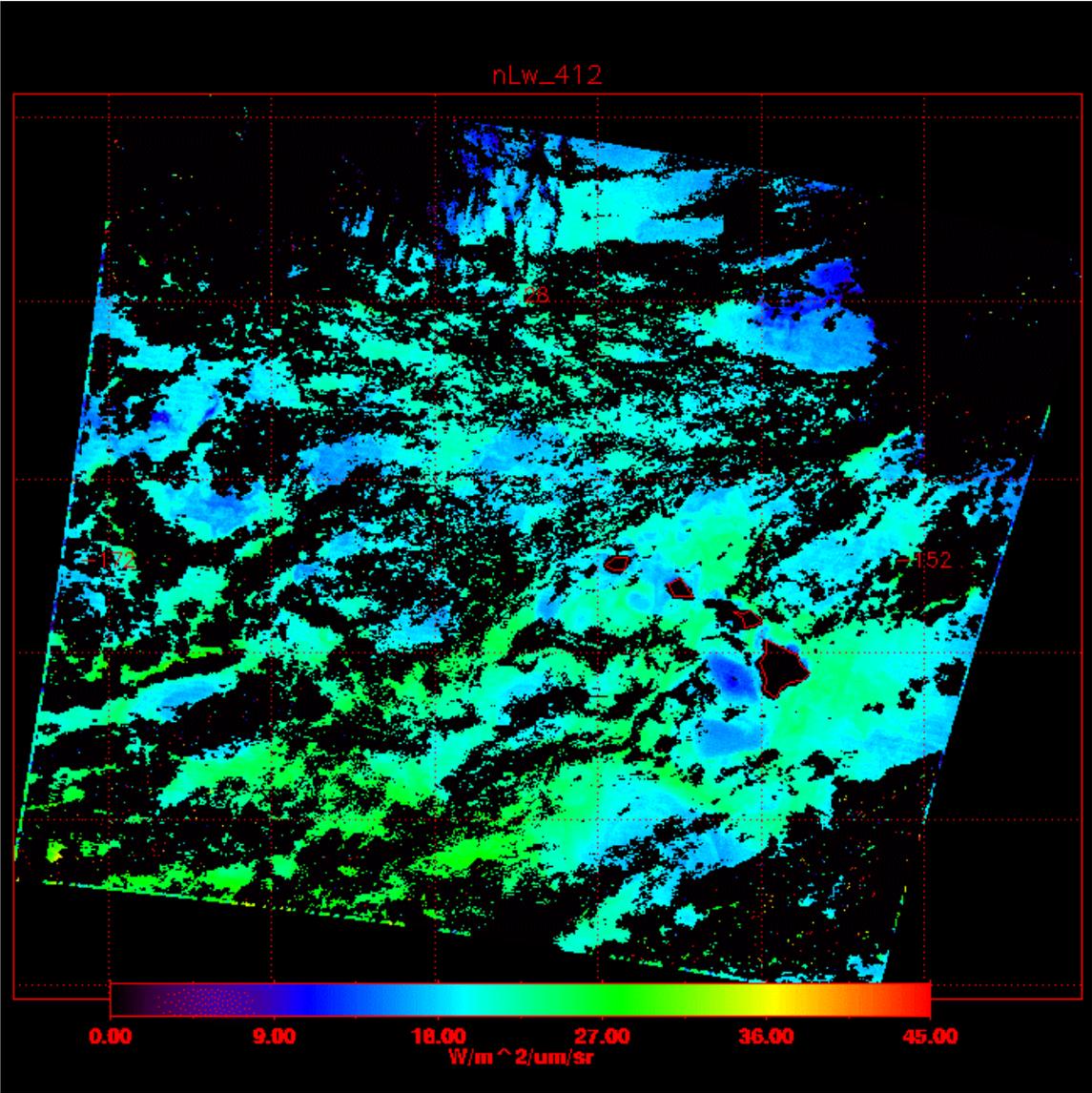


Figure 7. Sun glint removed La865nm. Note the unexpected existence of Gulf stream and adjacent water features in La and epsilon fields.

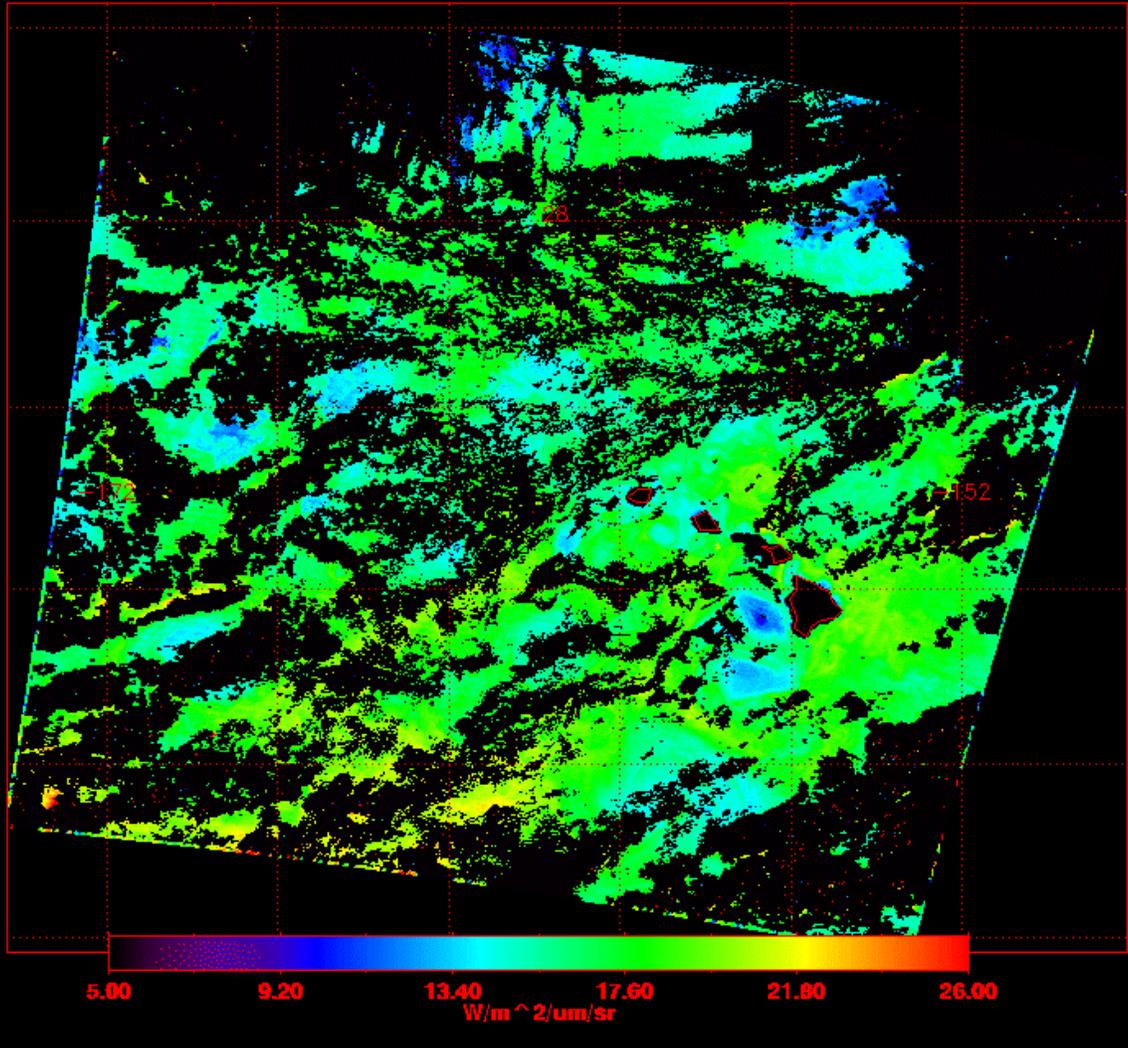
Polarization

The MODIS sensor has a rotating mirror such that the angle of incidence (AOI) changes dramatically from West to East across the scan line. Initial comparison of MODIS L_w 's with Dennis Clark's Hawaii MOBY/MOCE optical buoy data indicate that the satellite L_w decreased with increasing AOI. The loss of the P component of the polarized light field begins to appear at nadir (AOI of $\sim 30^\circ$) and is most pronounced on the eastern side of the scan where the satellite zenith angle is high and the AOI approaches 65° . We analyzed the instrument polarization tables and computed average polarization for each AOI by spectral band. The result is a new table where the polarization factors are smoothed by AOI and fixed for all detectors across both mirror sides for each spectral band. The new tables produce stable retrievals across detectors adding radiance as a function of AOI.

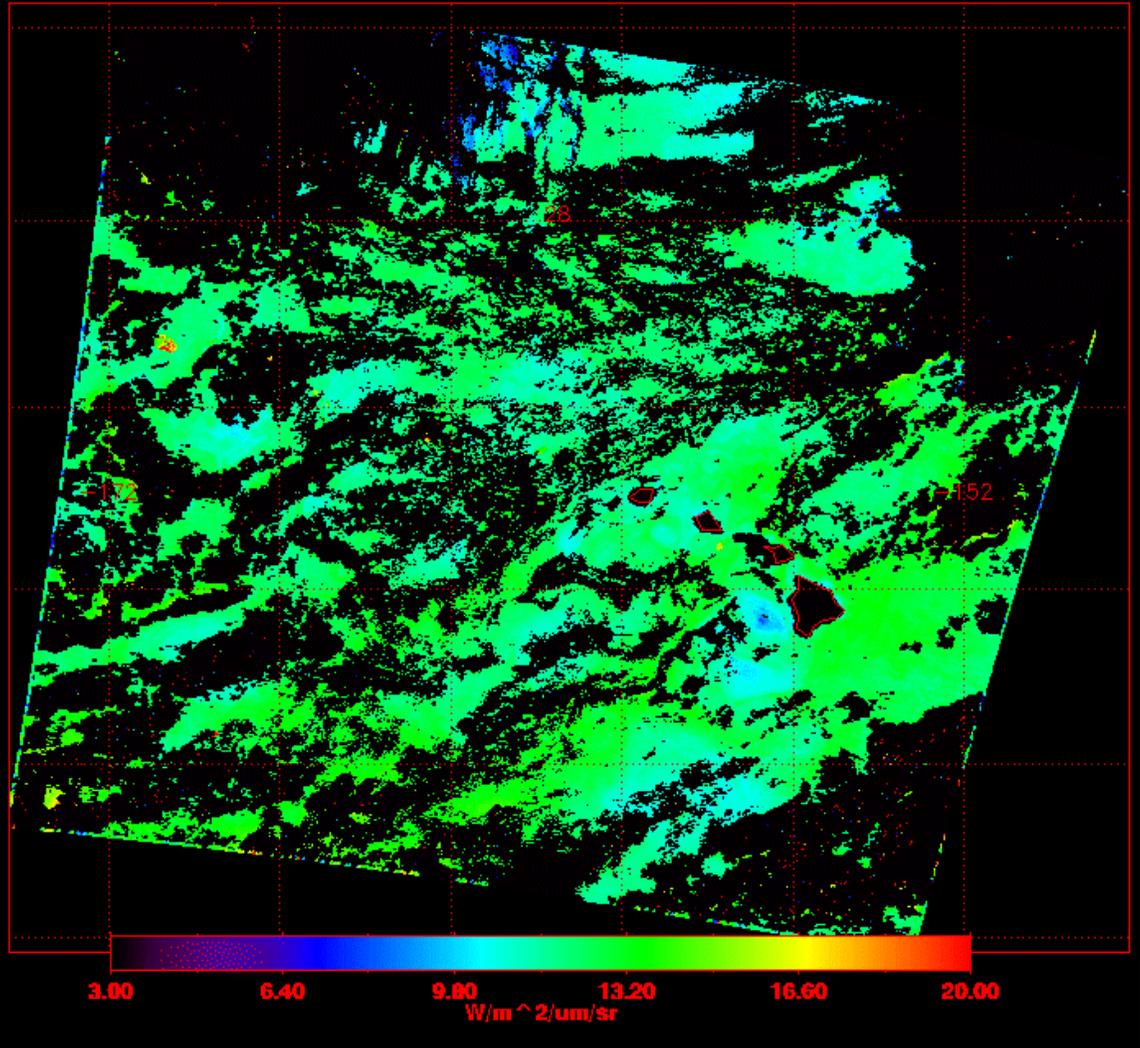
The following are from A2000336.2140 (single granule) to demonstrate our level progress on Side B electronics data:



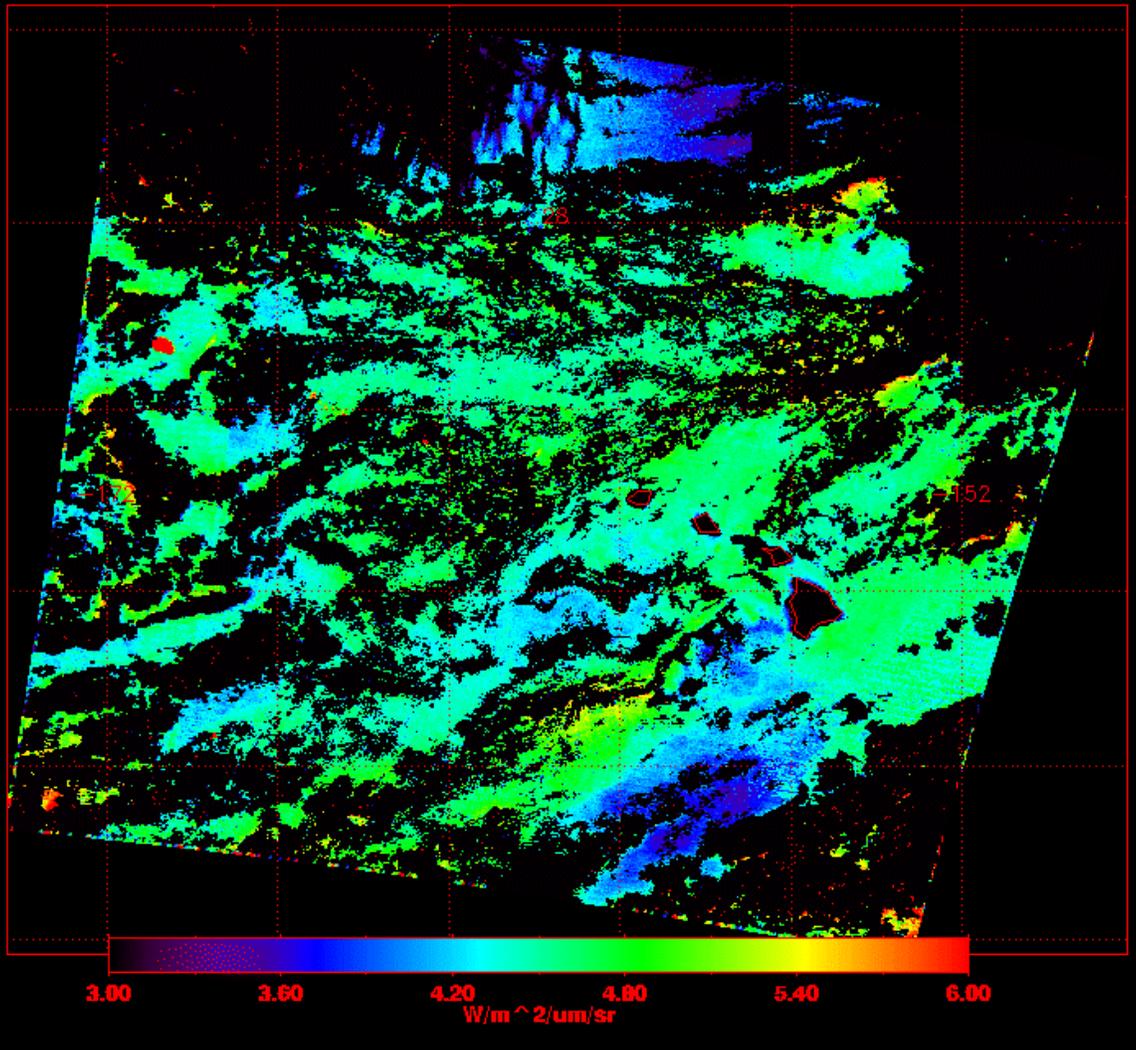
nLw_443



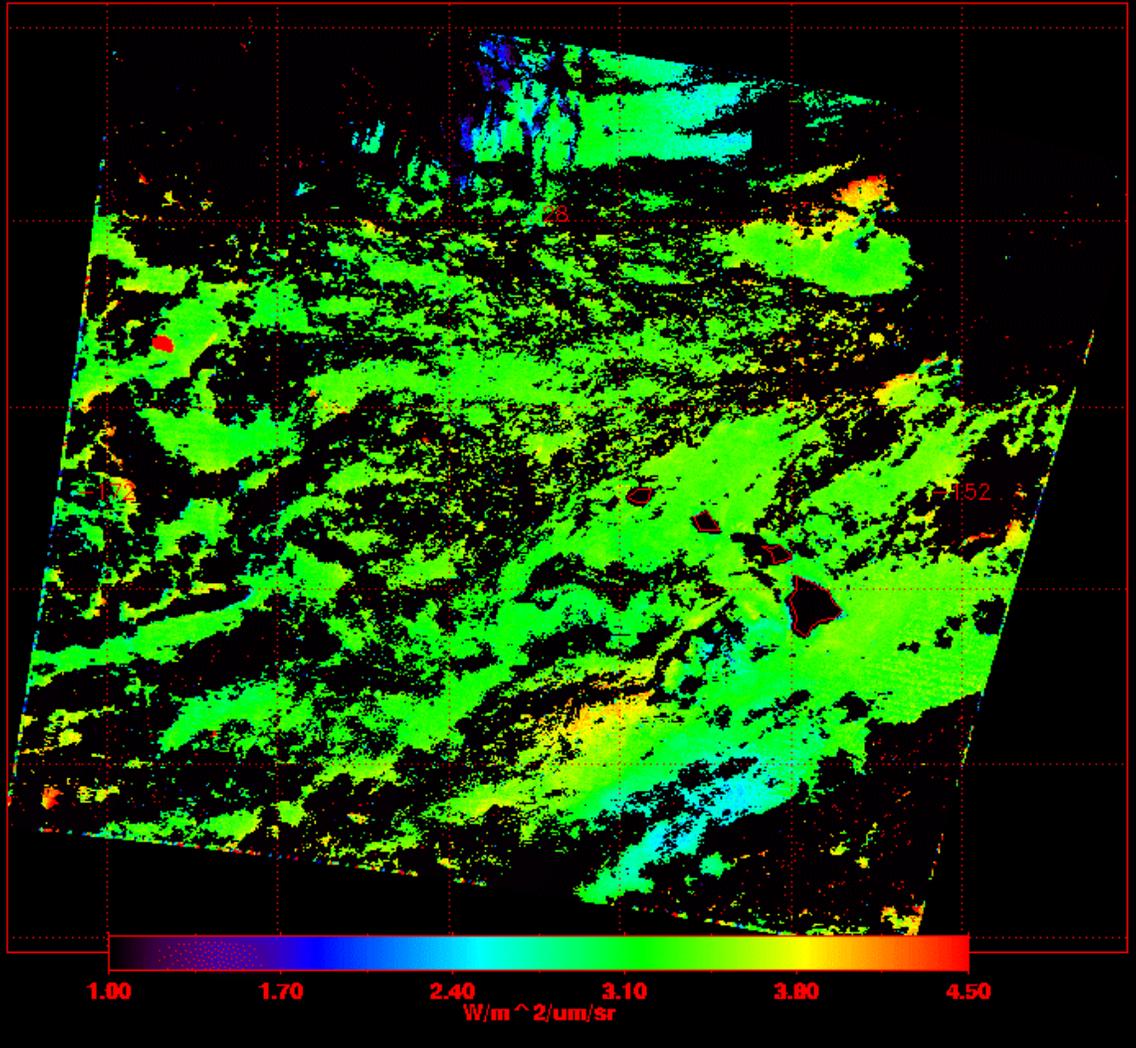
nLw_488

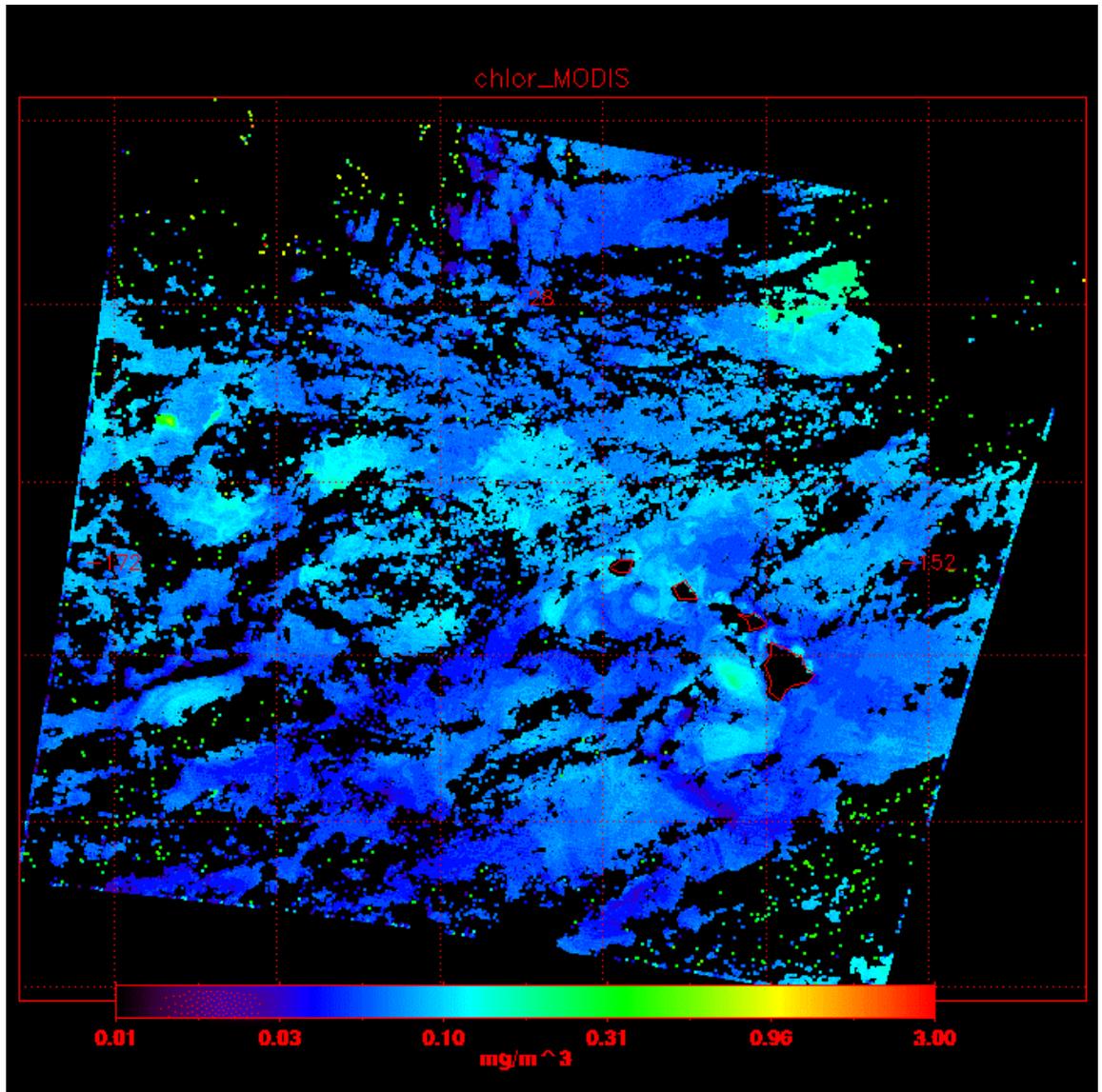


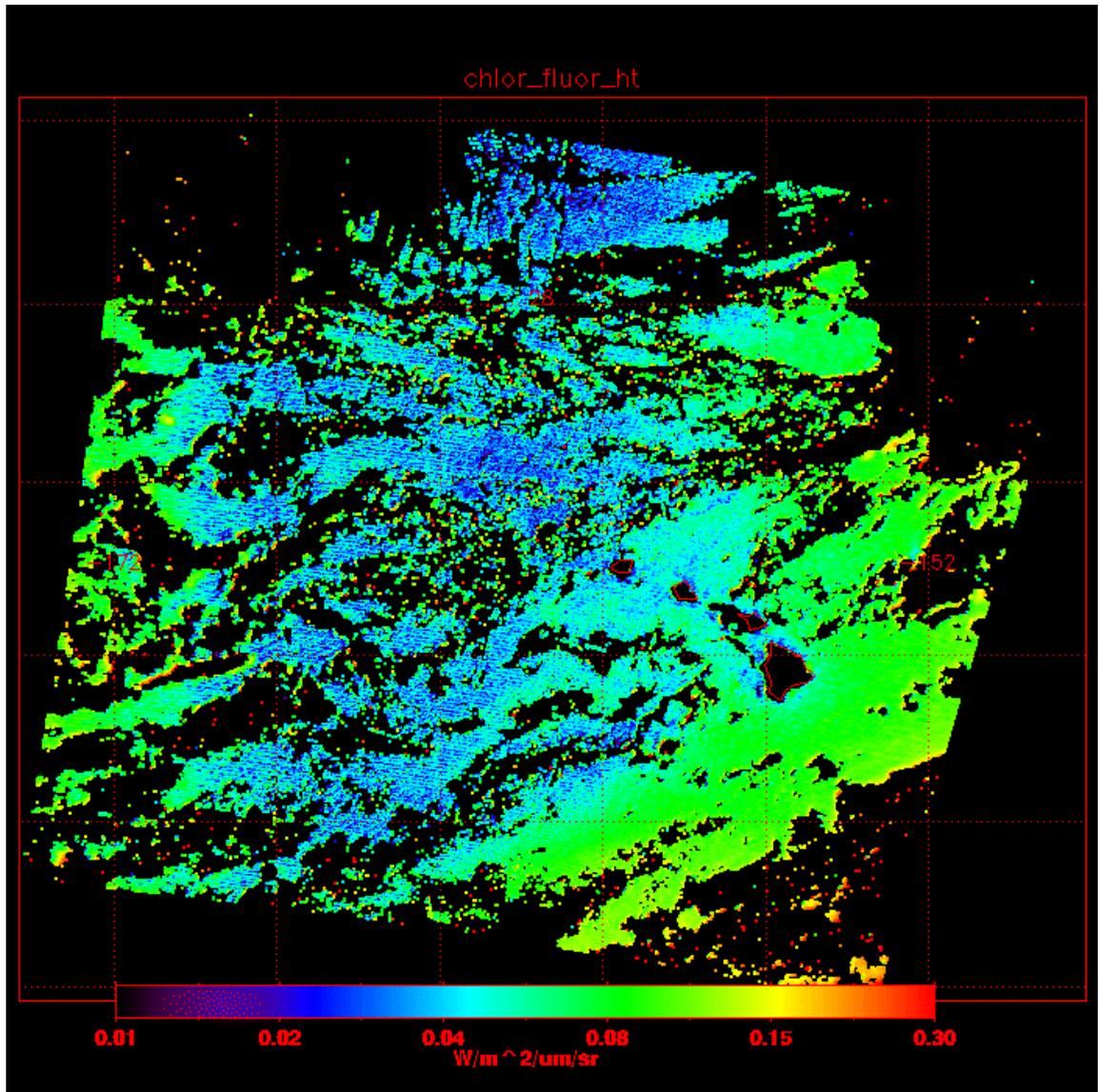
nLw_531



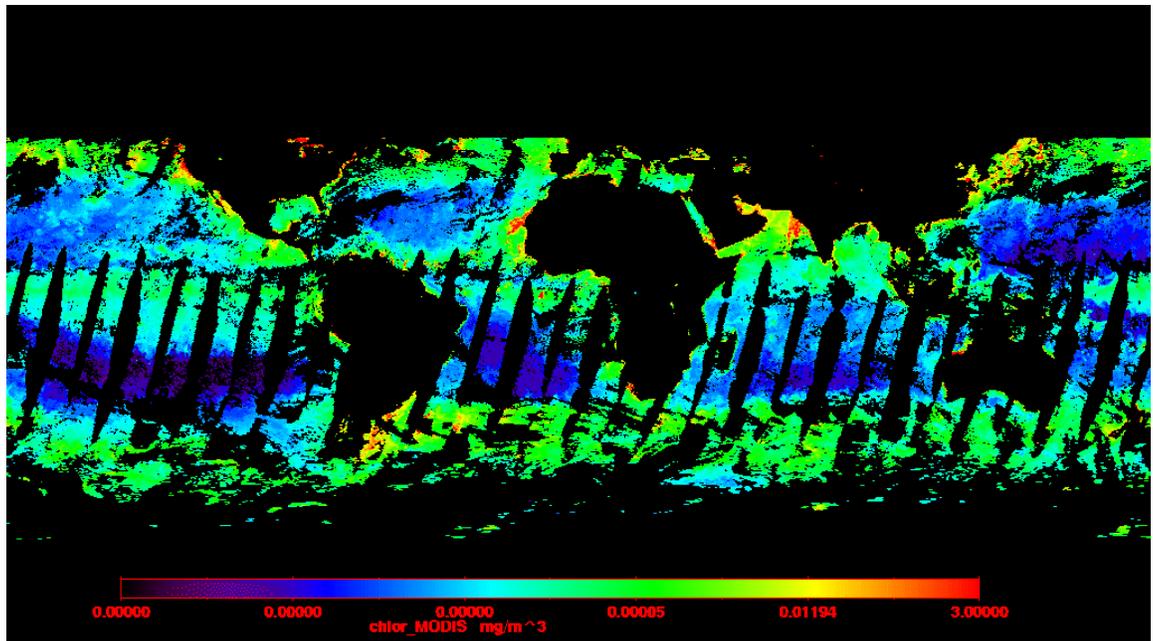
nLw_551



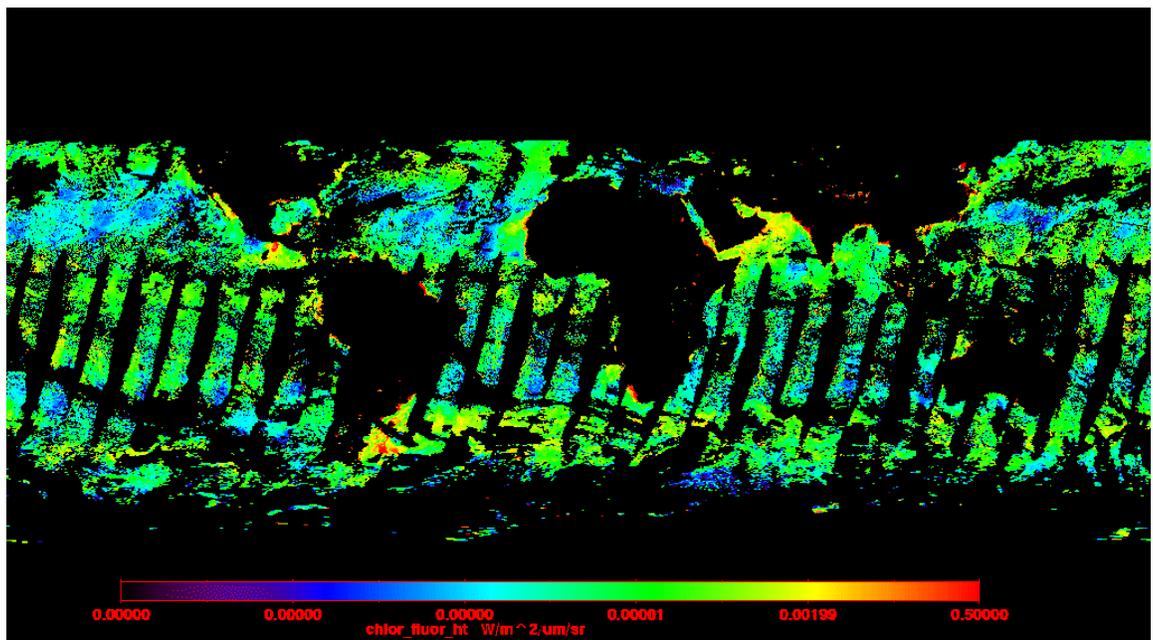




Likewise, global composites of days 336 and 337 of year 2000 yield the cleanest results for chlorophyll:



and promise decent flh fields:

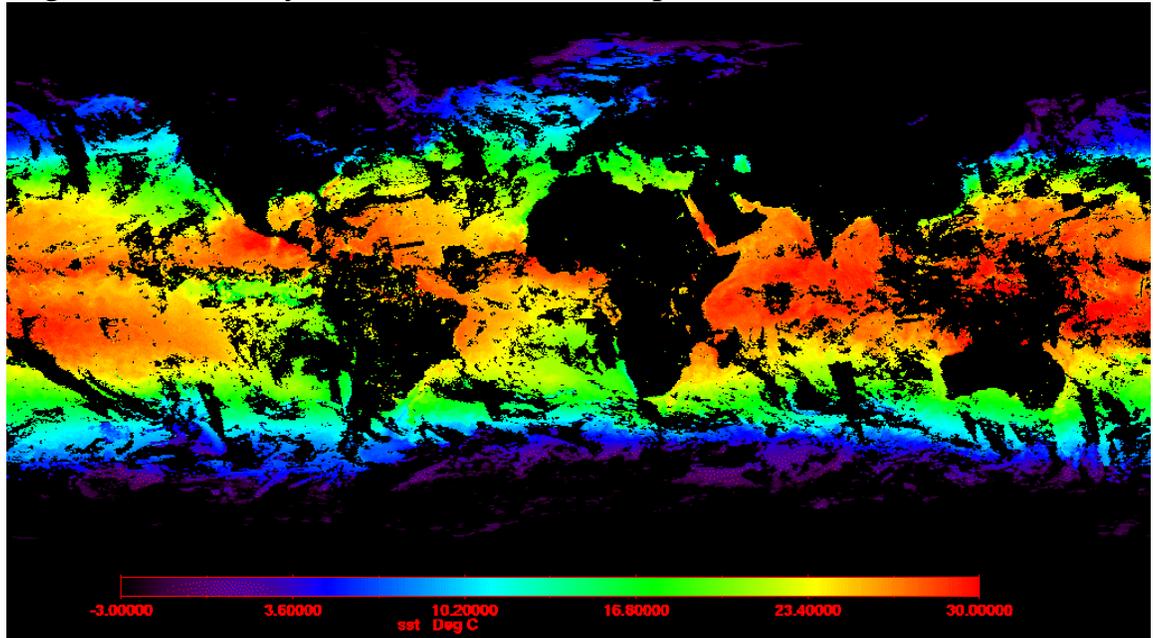


MODSST

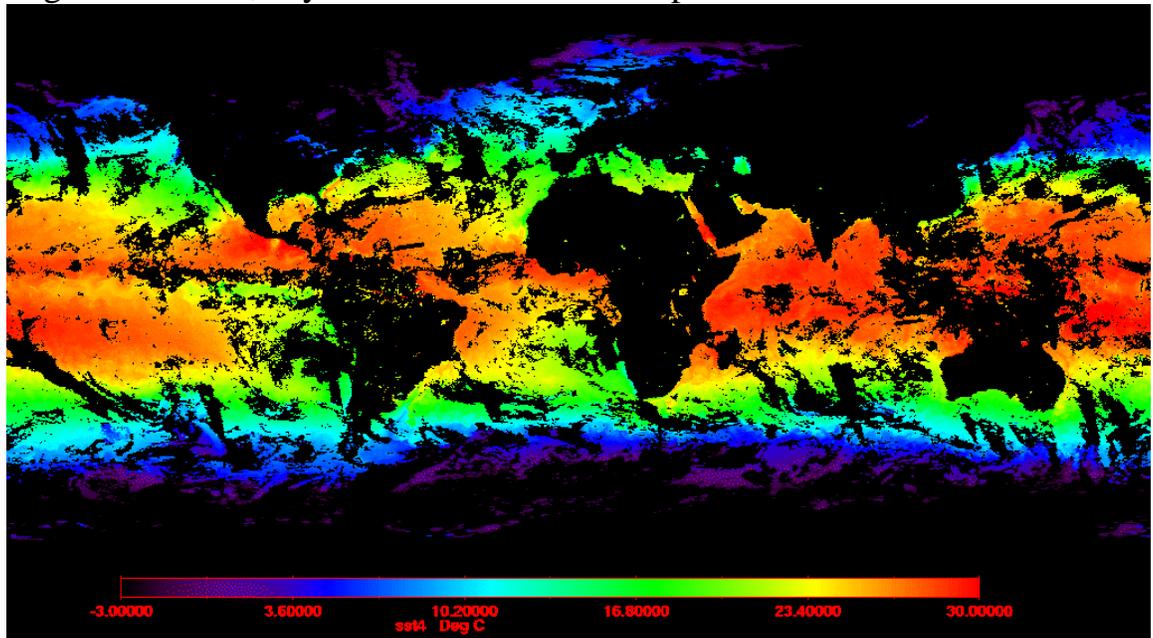
Binning by mirror side was added so that we can distinguish the stats between sides. We processed and binned mirror side 1, side 2; sat z, sol z, pix # for aoi added as additional file/parameters.

New mirror side corrections and interdetector were then applied to the Side B electronics data so as to create flat fields. These corrections, coupled with the coefficients which were derived at the end of the last report period, were used to create new SST and SST4 fields.

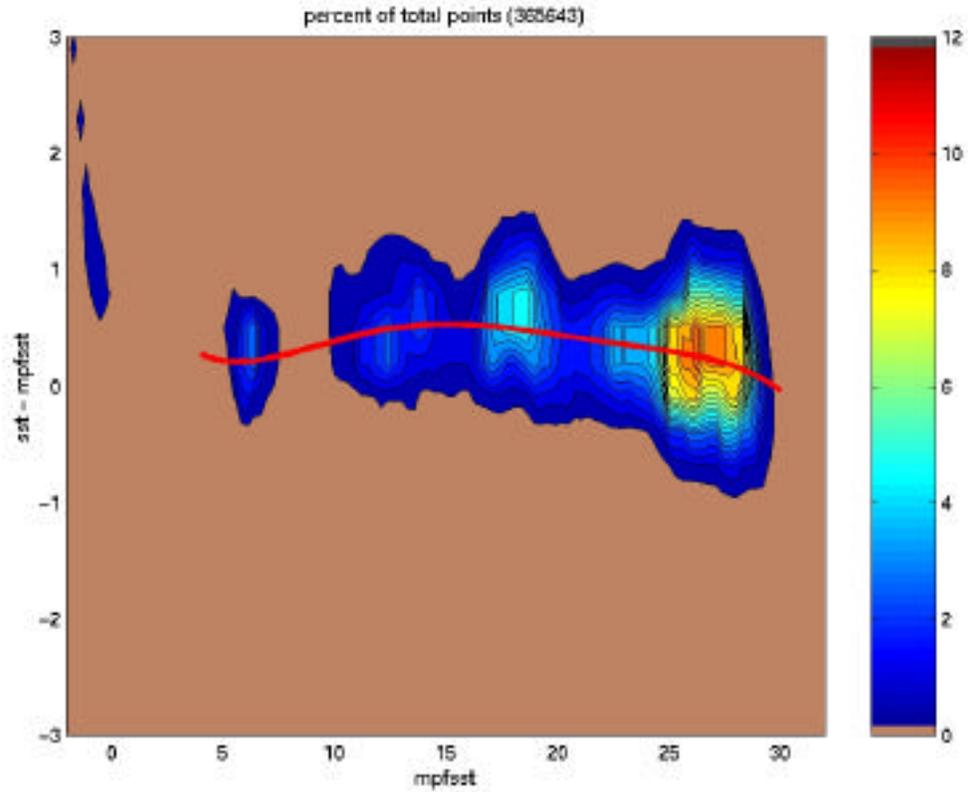
Nighttime SST, day 336 and 337 2000 composite

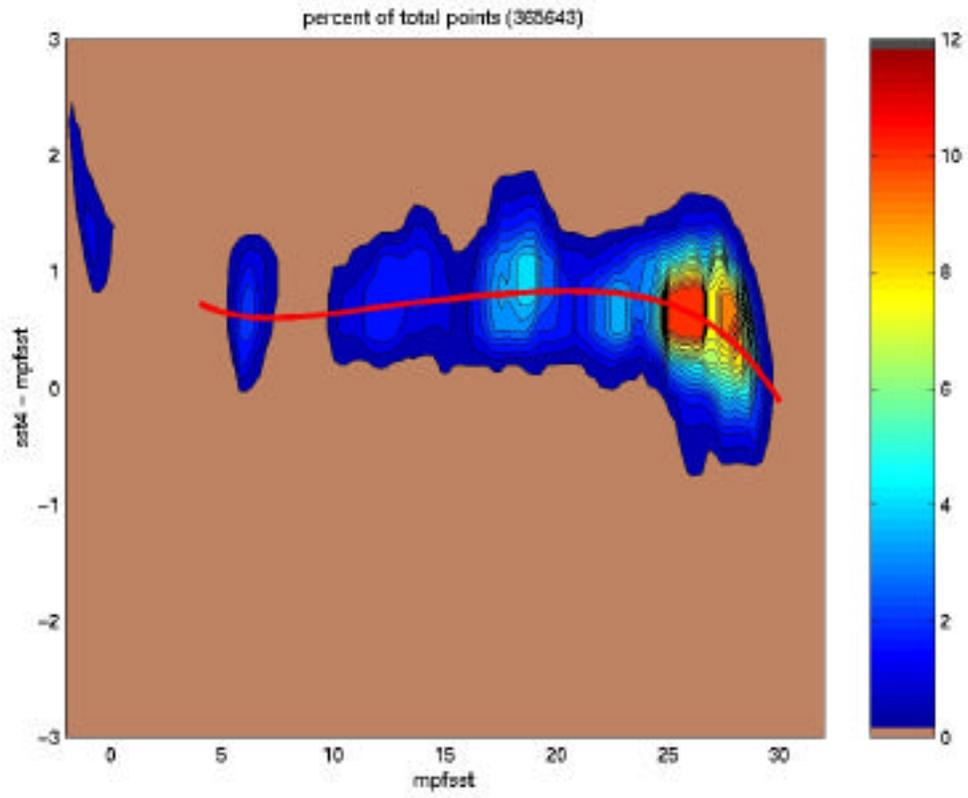


Nighttime SST4, day 336 and 337 2000 composite

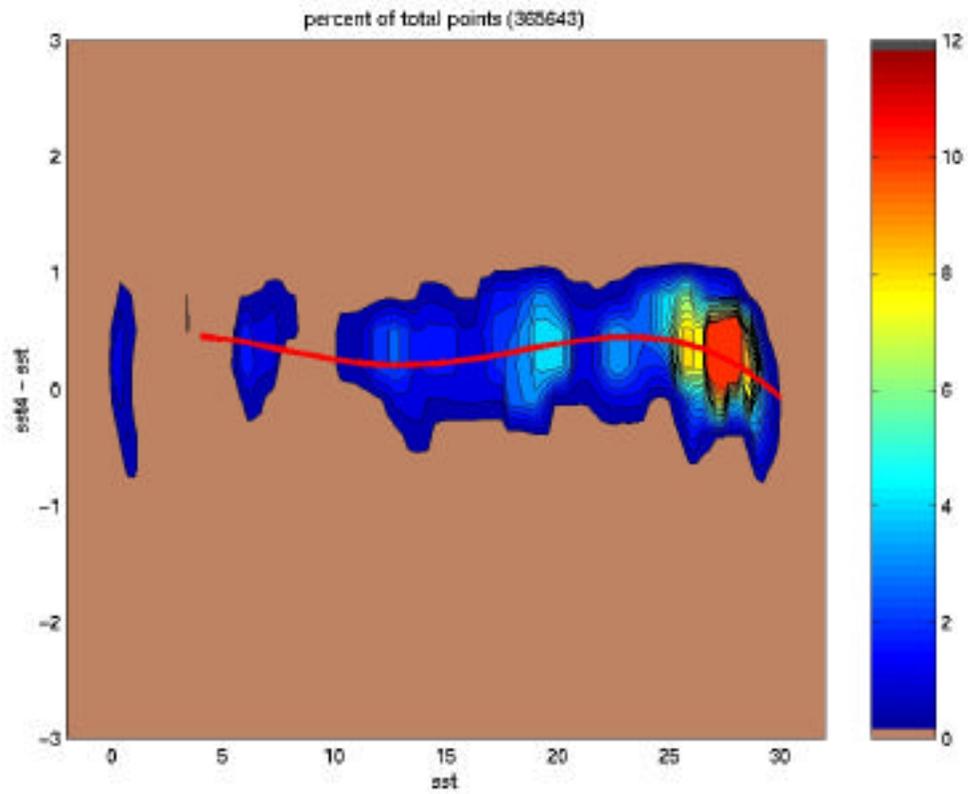


These SST and SST4 fields are now showing great promise. Comparisons with the AVHRR Pathfinder v4.2 mpfst fields from a day 336, 2000 4km comparison are likewise promising:





And relative to each other (sst4-sst) on the same day:



Work remains on the refinements of the sst4 coefficients and on the path length t_c (and motivation).

B.2 Matchup Database

B.3 Systems Support

atmcorshr :

calprint.rat : Use specific length for input parameter declaration.

getcorrections.rat : Add a string to describe the corrections (corver).

getcorrections.rat : Change RadFact to hold spectral and mirror side corrections.

getcorrections.rat : Make CorVer longer. Add MsKeyWords, msbin input parameters.

getcorrections.rat : Use C dimension order when reading from HDF file.

hdf-wrd.c : Validate requested dimensions against actual dimensions when reading data.

readreyw.rat : Remove references to year 1900.

binshr :

bin9kmf.rat : Check index before referencing array (split if statement).

bin9kmf.rat : Fix new split 'if' statements.

l3in.c : Fix flag attributes.

l3in.c writecal.c : Capitalize attributes.

l3out.rat : Fix flag attributes.

l3out.rat : Make l2_flagnames big enough for all 32 possible flags.

settbinmeta.rat : Add debug to see ASSOCIATEDSENSORSHORTNAME
Put local granule ID version : numbers in include file.

settbinmeta.rat : Allow ReprocessingActual metadata field to be specified i
pcf file.

settbina. meta.rat : Allow ReprocessingPlanned to be specified in the pcf file.

settbina. meta.rat : Don't read AssociatedSensorShortname since it's now fixed in the mcf file.

settbina. meta.rat : Fix an error message. Add new parameters to subroutine statement (small : problem from previous addition if Reproc* parameters.)

settbina. meta.rat : Return error status.

settbina. meta.rat : Return status value.

sum_structure.rat : Increment I_FILES that msbin uses to include new sst c

sum_structure.rat : Increment I_FILES to 11 so msbin can bin OCF3.

invgeo :

io :

dsplib.c utils.c : Add routines to convert year between two and four digits.

mfill :

makefile : Alpha debugging options (currently commented out).

mfill.mice : Allow ReprocessingActual metadata field to be specified in pcf file.

mfill.mice : Allow ReprocessingPlanned to be specified in the pcf file.

mfill.mice : Fix default for ReprocessingPlanned. Exit with error from settbinmeta.

mfill.mice : Make l2_flagnames big enough for all 32 possible flags.

mice :

ml3b2mia :

mmap :

hdf-io1.rat : Change Scale_type to be generic instead of using product name in the equation.

hdf-io1.rat : Change attributes (scale_type, name, units) to match spelling and case of L2 files.

hdf-io1.rat : Exit with error from settbinmeta.

hdf-io1.rat mmap.mice : Allow ReprocessingActual metadata field to be specified in pcf file.

hdf-io1.rat mmap.mice : Allow ReprocessingPlanned to be specified in the pcf file.

hdf-io1.rat mmap.mice remapit.rat : Add attribute Long_name. Capitalize attributes. Make sure sum_band is : set for all output types.

mmap.mice : Change the option to specify which quality values to output to include : '2' for all but the worst, and change 'm' to '1' (for just 0's and 1's).

mmap.mice : Fix description of mask bytes.

mmap.mice : Make l2_flagnames big enough for all 32 possible flags.

modcol :

anly8dbl.rat : Add mirror side, spectral adjustment (factors are in correction file where : RadFact used to be).

anly8dbl.rat : Add polarization fix. Put OC3M in chlor_a_2. Put chl_seawi (was in : chlor_a_2) into F2 slot 10. Change CFE input FLHQ.

anly8dbl.rat : Change new calcite concentration to be mg instead of g.

anly8dbl.rat : Fix CFE High check.

anly8dbl.rat : Fix index into RadFact. Change glint, Lg865, to reflectance.

anly8dbl.rat : Fix quality setting for updated fluor. bands. Add new quality algorithm : and change bad values to -1 for Clark's bands. Fix calibration of other : QC products. Fix reference to mirror side. Fix wavelengths in some : comments. Set B_Dr2_chl_inconsis instead of B_Dr2_default. Add V4 chlorophyll : algorithm. Save lv flags when others are saved. Remove some debugs. : Fix declaration of input parameter radsX in anaNxNbox.

anly8dbl.rat : Ifdef out some debugs.

anly8dbl.rat : Implement new Carder chlorophyll algorithm. : Implement n Clark in-water algorithms. : Simplify buffer indexing; correct one calculation error. : Disable debugging.

anly8dbl.rat : Move variable declarations to get around compiler bug. : Add fourth (F4) extra output file. : Change L2 flags and quality algorithms for Abbott's prod : Add MsKeyWords attribute to pass parameters from radiance correction file : to msbir Add psatazi option.

anly8dbl.rat : New output variable from coccolith subroutine. Move OC V₂ values : to F2 output file to make room for coccolith variable in F3 file.

anly8dbl.rat : Set albedo to maximum value if 865 counts are saturated, also set cloudy flags. : Add albedo to F1 file slot 12.

anly8dbl.rat : Use Clark MODIS chlorophyll for flh.

anly8dbl.rat : Write out the CorVer string, which describes the actual correction set that : is used, as an attribute.

anly8dbl.rat hdf-io1.rat : Write out mirrorside attribute.

anly8dbl.rat hdf-io1.rat makefile wang3.f : Add new Cocco products: one to see the CocconConNew values that are negative, : flh_cclth, Bb_550, CoccoConNew, and CalciteConNew. Change some debugs and : comments. Change attribute names to be consistent with other files: : capitalize 'Name', 'Long_name', Scale_type. Fix quality description for : chl_modis.

anly8dbl.rat makefile modcol.mice wang3.f : Add POLENAB command line option. Put polarization angles in F4 file. : Add SGLINTTH to processing log. Output - for masked nLw's. : Change default thresholds for LOWLW1, COCCOF1, COCCOF2 for SeaWiFS : units to modis units.

anly8dbl.rat modcol.mice : Add rho_t_max limit. Set cloudy flag if any pixel in box has negative input : value (bad or saturated).

hdf-io1.rat : Change L2 flags and quality algorithms for Abbott's products. Use band names for gelb and chlor_absorb in quality bit description. : Add MsKeyWord attribute to pass parameters from radiance correction file : to msbin. Update copyright d : Make CorVer, radiance corrections description, longer.

hdf-io1.rat : Remove quality bit descriptions from attributes.

hdf-io1.rat : Write out Dr2 flag 14 as hi package.

hdf-io1.rat : Write out the CorVer string, which describes the actual correction set that : is used, as an attribute.

hdf-io1.rat hdf-io1b.rat : Fix flag and quality attributes.

hdf-io1.rat hdf-io1b.rat : Fix mirror side attribute.

hdf-io1b.rat : Add CorVer and MsKeyWords from the radiance corrections file.

hdf-io1b.rat : Fix flags for alternate QC files.

hdf-io1b.rat : Write out mirrorside attribute. Change comments and message to note : optional F file instead of LW.

hdf-io3.c : Add ability to choose between two geometries for satellite azimuth angle.

hdf-io3.c : Add polarization correction.

hdf-io3.c : Correct end of string constant.

hdf-io3.c : Something about angles and detector 6? : Set θ_6 and ϕ_6 the viewing angles for detector 6. Use psatazi : to determine how to set the satellite azimuth.

makefile : Don't look for include files from the directories of other program

makefile : Enable bounds checking at runtime.

makefile : Implement version 1.2 blended packaging algorithm.

makefile : Use new coccolith routine (new_coccolith_MODIS3.f).

modcol.mice : Add F4 output file. : Add satellite zenith angle orientation selector.

modcol.mice : Add POLAZIM keyword to enable/disable polarization correction.

modcol.mice : Add psatazi options to set satellite azimuth, and poldet6 to viewing : angles for detector 6 for polarization.

modcol.mice : Add sun glint threshold for Lg865.

modcol.mice : Fix default string for ReprocessingPlanned.

modcol.mice : Revert default to original behavior (psatazi).

modcol.mice : Update Clark diffuse attenuation coefficients.

modcol.mice setcolmeta.rat : Allow ReprocessingPlanned to be specified in pcf file.

modcol.mice setcolmeta.rat : Allow setting of ReprocessingActual attribute in pcf file.

modis_chl-1.2.c : Correct some comments.

modis_chl-1.2.c : Implement algorithm changes.

modis_chl-1.2.c : Make sure log parameters are always positive.

new_coccolith_MODIS3.f : Add header for modis delivery.

new_modis_pol_corr_sub.f : Fix comments.

new_modis_pol_corr_sub.f rayleigh_rough.f wang3.f : Use C dimension ordering when reading from HDF file.

readndt.f : Read new NDT HDF file.

seabam_chlor.c : Add comments to header.

setcolmeta.rat : Don't set sname, it's set in mcf.

setcolmeta.rat : Put local granule ID version in commoninout include file.

setcolqual.rat : Add flags4 and abbflags inputs to set quality for Abbott's products. : Remove quality for baseline. : Change dr1qual to 4 bytes as it is in anly8dbl. Change algorithm for Gordon's nLw bands. : Check to make sure quality isn't already 3, worst, before checking : to see if it should be incremented due to bad zenith angles or su data.

setcolqual.rat : Change quality for Gordon's nLw bands, Abbott's FLE. Add quality for : chlor_a_2.

setcolqual.rat : Fix quality algorithms for Clark's and Carder's products. : Make separate quality values for pig_total and chl_modis. : Add check for chl>.4 or lo_eps for qual 1 for clear water epsilon.

setcolqual.rat : Only set the 3 Fluor. bands when updating.

wang3.f : Add option to use viewing angles for detector 6.

wang3.f : Add polarization correction.

wang3.f : Comment out debugs.

wang3.f : New coccolith routine has another argument to be returned to main program.

modinc :

commoninout.h commoninout.rat : Add NUM_Q2_USED, the number of SDS's actually populated in the sst q2 file.

commoninout.h commoninout.rat : Change Abbott's flags. Remove NUM_Q2_USED.

commoninout.h commoninout.rat : Change MAX_SST_INPUT to 10 for reading 27 and 28 also.

commoninout.h commoninout.rat : Change calcite_conc units to mg instead of g.

commoninout.h commoninout.rat : Update product descriptions for DR1 items (particularly Clark).

commoninout.rat : Add BN_hipackage, and change BD_Dr2_14 from unus to hipackage.

meta.rat : Add Local Granule ID version numbers.

newnames.h newnames.rat : Add Dsp_ParseCommandLine2.

newnames.h newnames.rat : Add routines to convert year between two and four digits.

ocean_lun.f ocean_lun.h ocean_lun.rat : Add MODOCBF3_LUN, ReprocP_LUN, and ReprocA_LUN.

ocean_lun.f ocean_lun.h ocean_lun.rat : Add OC_F4_LUN. Fix comment.

ocean_lun.f ocean_lun.h ocean_lun.rat : Add PGEVER_LUN to get PGE Version metadata value from pcf file.

ocean_lun.f ocean_lun.h ocean_lun.rat : Add luns for 3rd color QC file (F3 and 2nd sst QC file (Q2)).

modisio :

L1B_Geo_Cld_Interface.c : Change missing MOD35 to be a warning.

v2_meta.c : Add debug to see LocalGranuleID.

v2_meta.c : associated*shortname metadata is now fixed in the mcf file. R6800500 : to get the PGEVersion.

v2_meta.c v2_meta.h : Allow ReprocessingPlanned to be specified in the pcf file.

v2_meta.c v2_meta.h : Make v2_meta_init static, it should only be called by m2_meta. Change : check for options to specifically check for a value instead of a set bit.

modlib :

modsst :

etbpedf.rat : Increment MAX_BND for new inputs.

etbbsub.rat : Change debug to handle larger values.

fakeetbp.rat : Fix array order to compensate for C and Fortran differences.

fakeetbp.rat : Use specific length for input parameter declaration.

getsstpar.rat modsst.mice : Add optional second qc output file (MOD28Q2).

hdf-io.c : Fix comment for last revision

hdf-io.c : Put local granule ID version in commoninout include file.

mcsstcom.rat : Add channel 14 and remove channel 21.

mcsstcom.rat mcsstop.rat modsst.mice : Read channels 27 and 28 also. Add
brights for 27,28 and 29 to Q2 file. : Fix L2 flag and quality attributes. Fix check for wh
bands are used for : sst4 calculation.

mcsstop.rat : Add channel 14 and remove channel 21.

modsst.mice : Add REFSSTTH for the sst vs Reynolds threshold.

modsst.mice : Add USEREY, USEMED, and USEMED4 options. : Check
valid input values before using them to calculate difference median. : Change valid rang
for Brights from -10..35 to -4..33. Calculate sst4 : first and use sst4 instead of Reynolds
sst calculation. Comment : out, instead of just ifdef, old algorithms. Fix index to Ref arr
(22-23-ref). : Put alternate sst (with Reynolds only) in Bright26 place (product 4 in Q2).

modsst.mice : Add input nlw_678_max, cloud screening check using band
: Add MsKeywords to pass msbin keywords from radiance correction file to msbin. : A
channel 14 and remove channel 21. : Improve f0: the earth is closer to the sun in the wir

: Add bright26 to the Q2 file and fix bright27,28, and 28.. : Fix setting of 11b_bands_rea
Add mirror side 2 multiplier to radiance corrections. : Add code for cloud test from moc
but it's currently ifdef'd out.

modsst.mice : Allow ReprocessingPlanned to be specified in the pcf file. :
Write out the CorVer string, which describes the actual correction set that : is used, as a
attribute.

modsst.mice : Fix default for reprocp. Change default limits for 22-23-ref.
Change first : product in Q2 from Pixel_Num to ref. Write intflags to product 10 in Q2.
Remove quality bit descriptions. Fix doavg4 and doavg8. Fix index to : ref2223.

modsst.mice : Fix use of mirror side in doavg1 and doavg2 options. Fix
mirrorside index. : Capitalize SDS attributes. Change group (scan) calculation to make i
one : based. Fix line number parameter to ascdscsub. Change when debugs are : printed.
Change sst4 to use band numbers from mice table and calc which : coeff set to use (from
the band numbers specified). Change alternate sst4 : to use 22,23 (instead of 20,23) and
appropriate coeffs from file instead : of hard coded coeffs.

modsst.mice : N by N box is causing ghost clouds so don't use it.

modsst.mice : Write out mirror side as a character attribute.

modsst.mice setsstmeta.rat : Allow ReprocessingActual metadata field to b
specified in pcf file.

modsst.mice setsstqual.rat setuplog.rat : Add keywords for new quality
algorithm: dthi and dtlo to check sst4-sst : difference; t2223rhi and t2223rlo for 22-23-r
thresholds. Put : 22-23-ref and 22-23 values in Q2 slots 8 and 9. Add different quality :
algorithms for day and night.

modsst.mice setuplog.rat : Change keywords LATS to SATZONES.

setsstmeta.rat : Allow ReprocessingPlanned to be specified in the pcf file.

setsstmeta.rat : Put local granule ID version in commoninout include file.

setsstmeta.rat : sname is now set in mcf.

setsstqual.rat : Add satz and uniformity to quality algorithms.

setsstqual.rat : Change night quality algorithm.

setuplog.rat : Add REFSSTTH to the processing log.

setuplog.rat : Add USEREY, USEMED, and USEMED4 to processing metadata.

setuplog.rat : Show CLDQUAL in the command line metadata.

msbin :

binit.rat : Comment out special check to not bin bad flh or cfe.

binit.rat : Fix binside (only bin one mirrorside) option.

binit.rat : Make sure quality array is initialized to 4 (greater than the worst possible). : These cases don't change the way it works, one is ifdef'd out, the other : is for files that don't have quality info so they all become zero anyway; : this is just to make it look consistent.

binit.rat : Remove garbage line from bad edit session.

binit.rat getqual.rat msbin.mice setuplog.rat : Add ability to bin new sst q2 products.

binit.rat hdf-iom.c msbin.mice : Add option to bin only one mirror side.

binit.rat hdf-iom.c msbin.mice setuplog.rat : Add CLDQUAL option to use cloud mask to determine quality. Fix setting of : IsAVHRR flag. Check for both Long_name and long_name attribute. Don't : or together the cloud mask field, just use the value from the first best pixel.

getqual.rat setuplog.rat : Fix handling of OCF3 input file.

hdf-io1.rat : Comment out quality bit description.

hdf-io1.rat : Fix flag attributes.

hdf-io1.rat hdf-iom.c : Fix flag attributes.

hdf-io1.rat hdf-iom.c msbin.mice : Fix flag attributes. Add file ID to an error message. Remove possibility : of indexing error.

hdf-iom.c : Don't look for mirror side attribute if binning both sides.

makefile : Don't look for includes from the modcol directory.

msbin.mice : Add ability to bin OCF3 products.

msbin.mice : Fix (swap) quality bytes before using them.

msbin.mice : Fix ability to bin SST Q2 file. : Allow ReprocessingActual metadata field to be specified in pcf file.

msbin.mice : Fix default string for Reprocessing Planned metadata.

msbin.mice hdf-iom.c : Get command line keywords from input file (originally from radiance : corrections file). Bin all of Q2, not just 'bands being used'. Note: : keywords for each input file (from radiance corrections) are appended : to the end of proc_con, so the value in proc_con is the one that : was used for that file.

msbin.mice setsbinmeta.rat : Allow ReprocessingPlanned to be specified in pcf file.

setsbinmeta.rat : Allow ReprocessingActual metadata field to be specified in pcf file.

setsbinmeta.rat : Put local granule ID version in commoninout include file.

setsbinmeta.rat : Quit after any error.

setsbinmeta.rat : sname is now set in the mcf.

setuplog.rat : Add all command line options to log attribute.

setuplog.rat : Bin all of Q2, not just 'bands being used'.

m_{spc} :

b_{initspc}.rat : Fix quality check; with modis quality, less is best.

m_{spc}.mice : Allow ReprocessingActual metadata field to be specified in pc
file.

m_{spc}.mice : Allow ReprocessingPlanned to be specified in the pcf file.

m_{spc}.mice : Check array index before using it (split if statement).

m_{spc}.mice : Exit with error from settbinmeta.

m_{spc}.mice : Fix default for reprocessing metadata.

m_{spc}.mice : Make l2_flagnames big enough for all 32 possible flags.

m_{sstcloud} :

m_{cloud}.mice : Allow ReprocessingPlanned and ReprocessingActual to be
specified in the pcf : file.

m_{cloud}.mice : Fix default for ReprocessingPlanned. Exit with error from
settbinmeta.

m_{cloud}.mice : Make l2_flagnames big enough for all 32 possible flags.

m_{tbin} :

makefile : Alpha debugging options (currently commented out).

makefile : Increase Olimit so mtbin will optimize.

makefile : Increase Olimit.

mtbin.mice : Allow ReprocessingActual metadata field to be specified in p
file.

mtbin.mice : Allow ReprocessingPlanned to be specified in the pcf file.

mtbin.mice : Correct end of year tests for normal/leap years. : Use same
sequence of tests for both start and end date.

mtbin.mice : Correct error check.

mtbin.mice : Exit with error from settbinmeta.

mtbin.mice : Fix default string for reprocessingPlanned. : Make sure error
values aren't reset to good before exit.

mtbin.mice : Make l2_flagnames big enough for all 32 possible flags.

mtbin.mice : Make sure there aren't too many lines written out.

readaer-mod :

makefile modis-read.sh readem.f readit.mice : Change dimension order in l
files (now should be correct). : Update program for current Rayleigh file format.

readcal-mod :

clean doall : Remove csh reference.

corread.f : Fix use of file name. Change RadFact to hold spectral and mirror side : corrections. Add corVer and MsKeyWords. Change to reflect C order : instead of Fortran. Change dimension order.

getcorrections.rat : Update header. Change RadFact to hold spectral and mirror side corrections. : Add CorVer and MsKeyWords. Fix use of file name.

makefile : Link in len_str from binshr.

setup.col setup.sst : Change to tcsh. Touch infiles.

readdet-mod :

detread.f : Re-order band declarations in HDF file.

readpol-mod :

makefile : Support file moved.

polread.f : Modify AM12, AM13 coefficient calculation per H. Gordon.

polread.f : Re-order band declarations in HDF file.

polread.f : Restore previous calculation form [+2 instead of -1] (f,g output files).

reformat-mod :

wang3read.f : Change dimension order in HDF files (now should be correct)

reformat-ndt :

makefile reformat.mice : Implement updated Carder NDT tables.

read.c : Don't rearrange NDT data array before writing HDF file.

B.4 Team Interactions

C. Future Activities

C.1 Processing Development

Would like to make a proper cross-scan correction using corrections to bands 15 & 16. Also need to correct bands 13 and 14 nLw in such a (consistent) way so that the FLH products are not adversely effected.

Need to redo everything (interdetector diffs, mirror side corrections, cross-scan changes, and spectral calibrations) for SST and color, since now we're back on A side electronics and working under a different set of LUTs.

C.2 Matchup Database

Continued work with D. Clark to collect MOBY and MOCE data. Will continue developing code to extract 5x5 boxes of MODIS pixels for MAERI and buoy matchups.

C.3 Systems Support

Nothing notable.

C.4 Team Interactions

Weekly telecons with MCST, PIP and Oceans. Intermittent telecons with QA representative. Continued interactions with MODIS ocean PI's to coordinate algorithm and QA updates.

