



Ocean Colour Climate Change Initiative

PM19, Hamburg

ECV Processing Status (PML)

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et al.



- v3.0 released start of Sept
 - PUG, portal, download services all updated then
- Major improvements:
 - Inclusion of SeaWiFS 1km LAC and VIIRS
 - 7 day composites as input to bias maps
 - updated Polymer
 - => 7% coverage increase



- NASA released MODIS r2014.0.1 a few hours after v3.0, updating calibration to correct trends
 - Updates from 9/Jun/2014 onwards, so v3.0 only partially impacted
 - Still lots of garbage in the data..
- Data ready to go
 - re-ran with r2014.0.1 inputs in Nov/Dec
 - various annoying issues and QC got us to Jan
 - document updates and release then knocked out by CMEMS V3 delivery & pneumonia (not sure which was less fun)
 - Will push this through asap – please action me!
 - Obs4MIPS also pending on this release ; another action please!



V3 download status and LTP



- Downloads running well
 - V3 essentially taken over from older versions already
 - Since v3.0's release, 600k files downloaded. 597k were v3.0.
 - Usual EU downloaders, but now clearly sustained international interest (USA, Japan, China, Middle-East, India)
- LTP data:
 - v1 and v2 are live at CEDA, have metadata (feedback given 29/Nov), integrated and "DOI in next few days" (12 Dec), "ooh, we did it already but didn't tell you" (today)
 - V1: 10.5285/E32FEB53-5DB1-44BC-8A09-A6275BA99407 (see <http://dx.doi.org/10.5285/E32FEB53-5DB1-44BC-8A09-A6275BA99407>)
 - V2: 10.5285/b0d6b9c5-14ba-499f-87c9-66416cd9a1dc (see <http://dx.doi.org/10.5285/b0d6b9c5-14ba-499f-87c9-66416cd9a1dc>)
 - v3: John started the process of nagging CEDA about archiving. Pushed them today, negotiations starting..



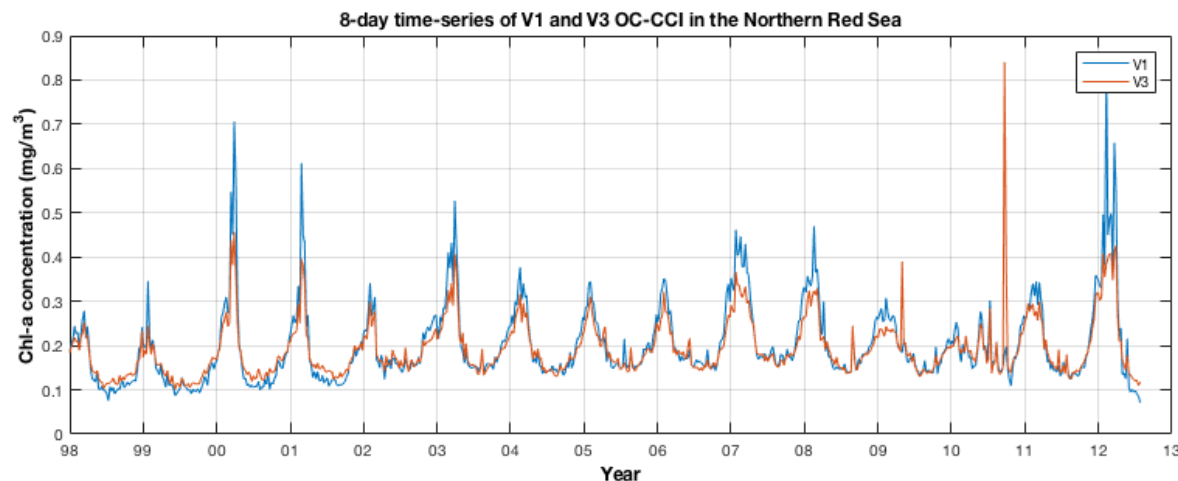
- LTP code:
 - As planned and presented, would now like to push the code for non-active / released versions to github
 - This wouldn't include code we don't have distribution rights for (primarily POLYMER)
 - This doesn't present a risk of someone taking over without spending a lot of effort, with which they could actually just rewrite it. It mostly gives transparency.
 - All ok with this?
 - License? (Creative Commons attribution / share-alike?)



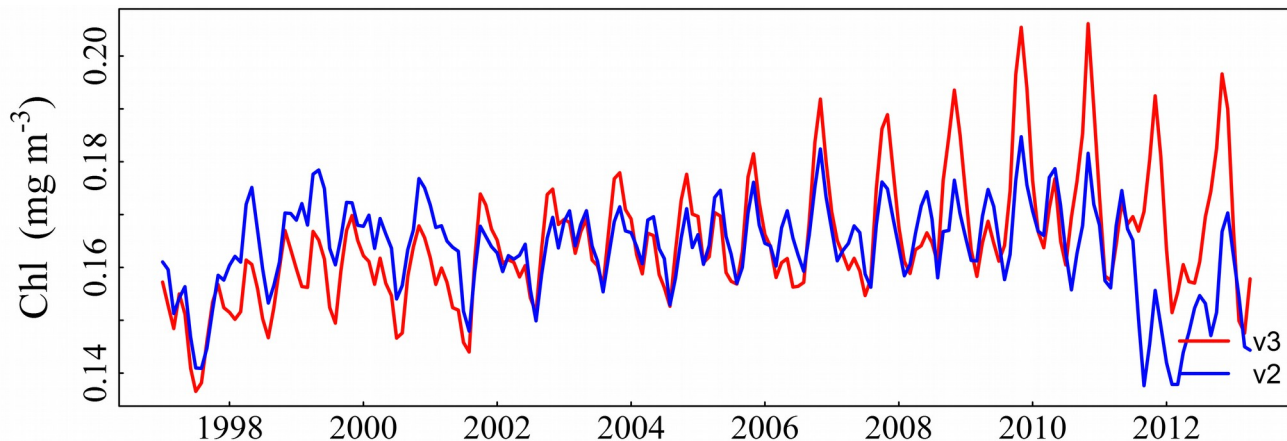
- Relatively quiet..
 - Presumably users are now mostly familiar with how to acquire and process the data
- 3 queries worth discussion here



- John Gittings (King Abdullah Uni)
 - Some big spikes/outliers in v3 but not in v1
 - Apparently associated with missing data?
 - Maybe some of the “red blobs” (dust events) were missed?
- Investigate further? (if so, who? 🏃)



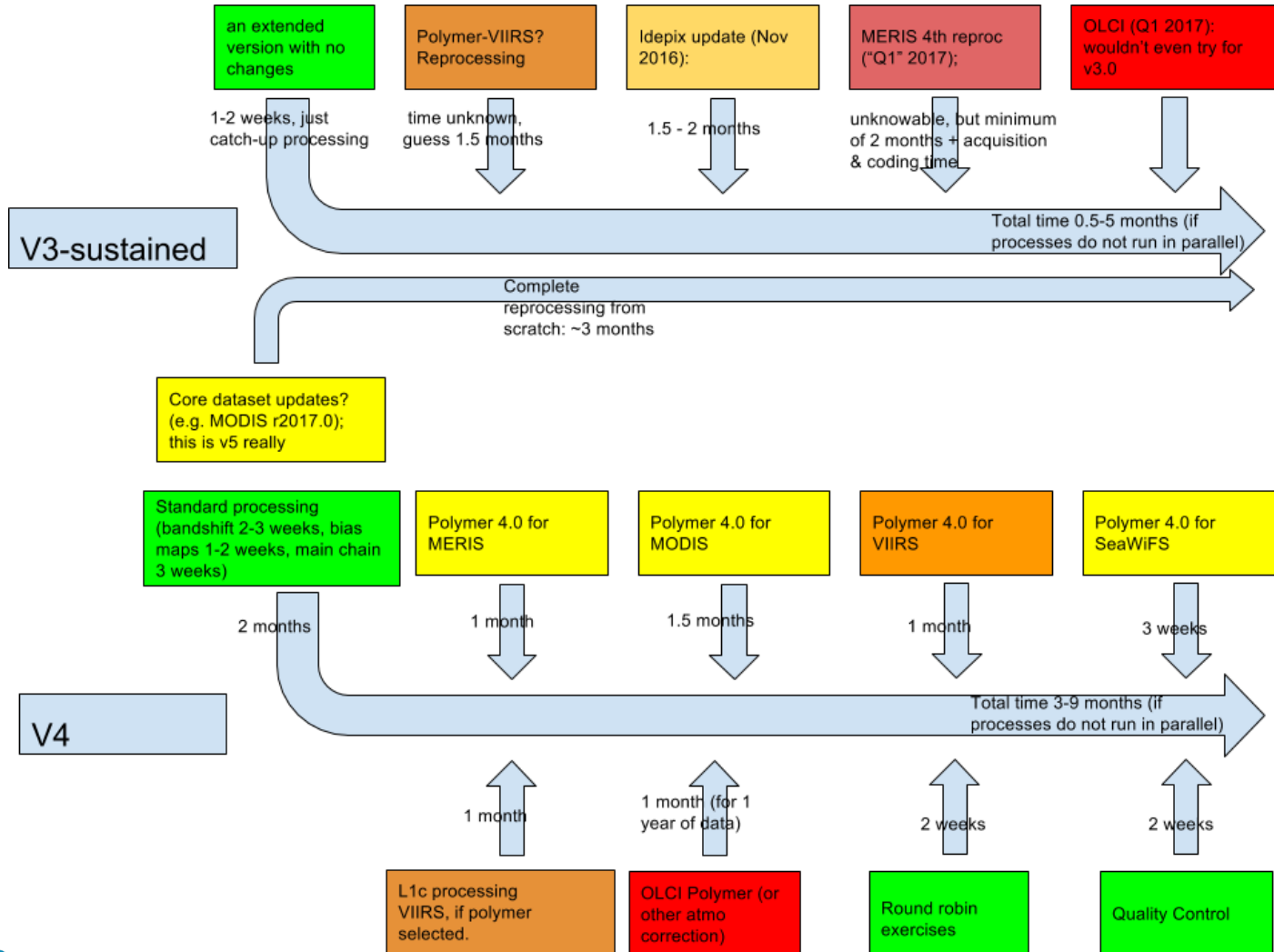
- Matthew Hammond (Phd, Southampton Uni)
 - “Noticed a difference in trends between v2 and v3. Shows when plotting a global median time series for both versions until the end of 2013”
- Trend difference likely to be r2014.0 (n.b. not r2014.0.1)
- Larger values are harder to explain; could be from VIIRS, but more likely from the case-2 Polymer / higher coverage
- Worth a deeper dig? (if so, who? 🏃)



- David Ford (MO, yesterday):
 - Pleased with ease of use (backward compatibility)
 - Issue in coastal regions
 - “..using the CCI V3 chlorophyll for developing data assimilation for the North-West Shelf. Generally results are promising, but [...] particular coastal regions where SPM may dominate, that the satellite observations are a poor match for in situ data, and so are steering the model in the wrong direction.”
 - Wants to use the RMS uncertainty values as a filter
 - Also interested in removing the bias; wants to know how best to do so
- Do we want to address the SPM regions? Should we consider filtering on uncertainty too?



V4.0 status



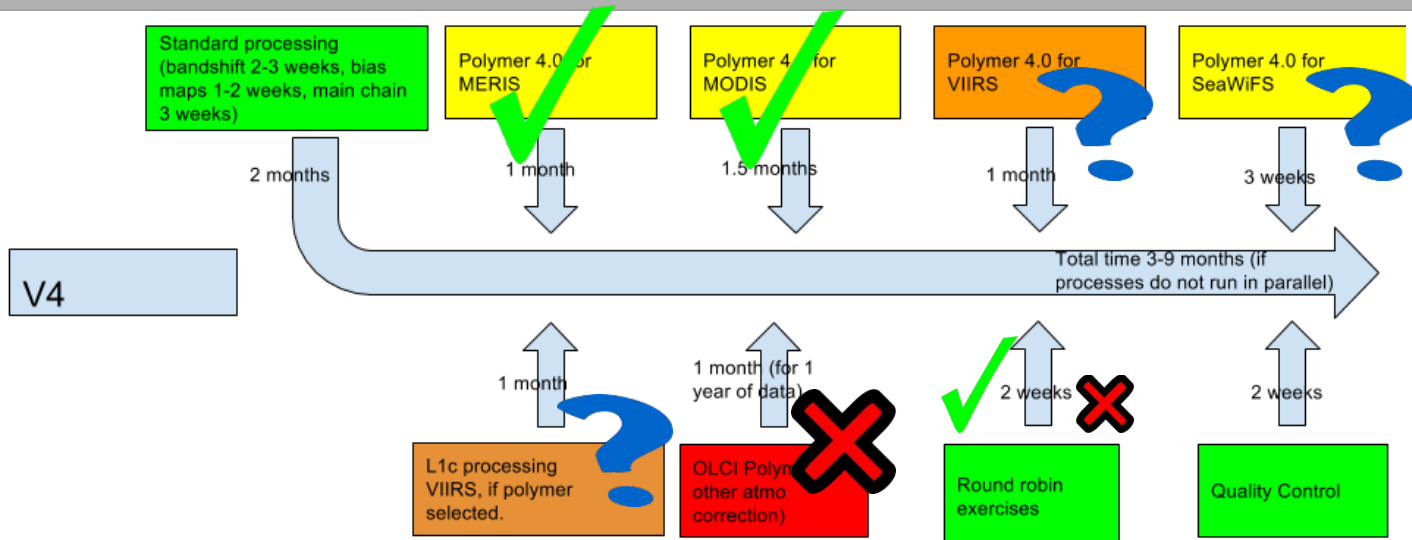
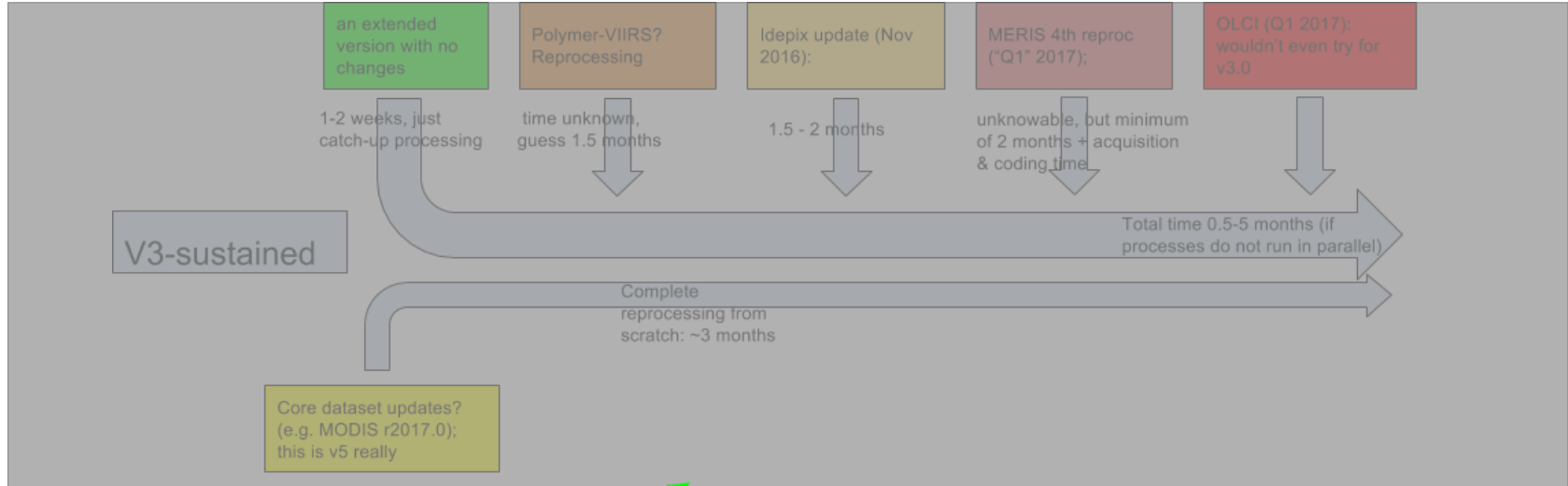
- L2 status:
 - POLYMER MODIS complete
 - POLYMER MERIS complete
 - I2gen VIIRS available
 - I2gen SeaWiFS available
 - If we're switching horses on I2gen, now is the time to decide
- Updated Idepix generation:
 - MERIS complete (thanks BC!)
 - SeaWiFS complete
 - MODIS running (no difficulties expected, short run)
 - VIIRS pending (no difficulties expected)



- L3 status:
 - Binning dependent on Idepix availability, which is being created
 - MERIS binning tested; others basically the same
- Some performance issues due to counting of cloud nobs
 - This was initially requested by Hajo a year or two ago, but also discussed last meeting as the source of some basic pixel flagging info
 - Marco looking at speedups, but it's easy to omit this initially and paste it in later, so it won't delay us
- Further processing needs binned data
 - Wanted to be further along (IW RR), but Andrei could only do so much while I was out of action :/
 - Rest of the code is basically ready, though will need test runs for changed parts



V4.0 status



- Current plan still on track, but now need to make some choices

1) More Polymer? (VIIRS and SeaWiFS)

- Adds processing time (and probably some debugging time)

2) Switching to OLCI (=MERIS) bands

- Yes, finalise today. Tempted to retain other bands. See next slides.

3) Switching to MERIS as a reference? (vs SW or MODIS)

- Think so, but TBD in this meeting. See next slides.

4) Inclusion of OLCI

- Unlikely for v4.0.
- Consistent reprocessed data just being released, but only limited spatiotemporal coverage.
- => could add some coverage for limited periods and areas, worst case as a v4.1?

5) Crazy stuff

- turn on 1km? Timing would be very tight and likely impossible if we go for more Polymer, files would be huge (daily > 20GB) and there are blemishes that are hidden by coarse 4km. But we could now ;)



OLCI / MERIS bands



- Use main OLCI bands
 - N.B. wavelengths might change..
- Poorly supported “extra” bands like 620
 - Difficult as we can't consistently provide them, nor bias correct them
 - Skip?
- Maintain SeaWiFS bands for easier backward compatibility?
 - More space, but I like the idea

MODIS	OLCI	MERIS	SeaWiFS	VIIRS
	400			
412.5	412.5	412.5	412	410
443	442.5	442.5	443	443
469				
488	490	490	490	486
	510	510	510	
531				
547				
555	560	560	555	551
	620	620		
645				
667	665	665	670	671
	673.75			
678	681.25	681.25		
	708.75	708.75		
				746
748	753.75	753.75		
	761.25	760.625		
	764.375		765	



- MERIS has serious banding effects
 - Caused by multiple overlapping cameras not quite being corrected (due to smile?), resulting in a visible step change
 - These are visible in the bias maps
 - The bias maps then feed into the data
- Can visually see bands being added to otherwise clean data in normal v3.0 SeaWiFS
- OLCI has the same design and same issue
- This is quite a problem!



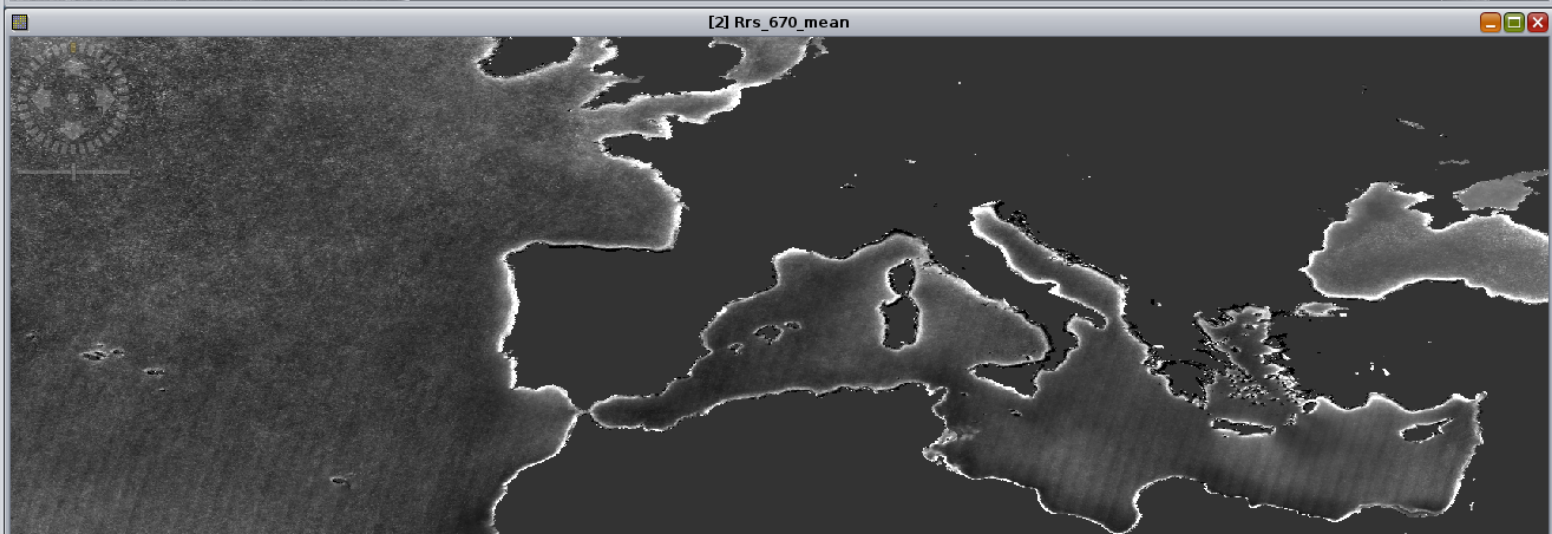
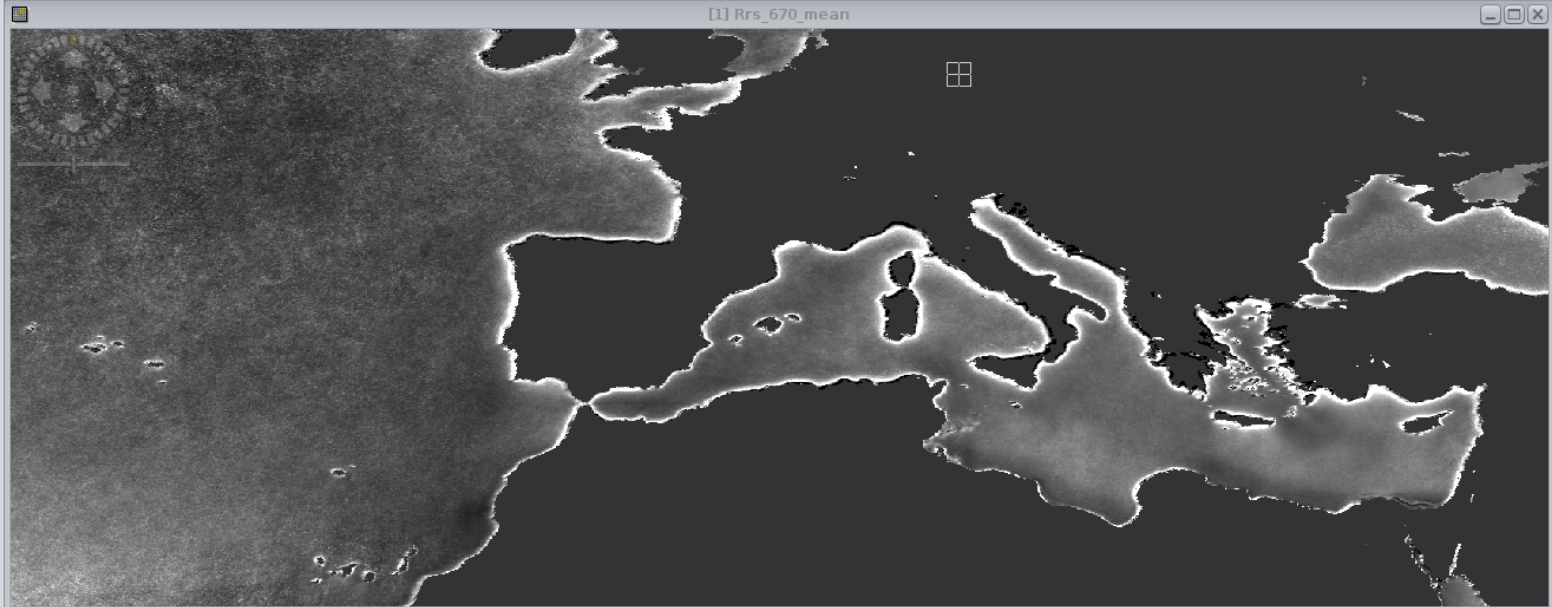
MERIS 670



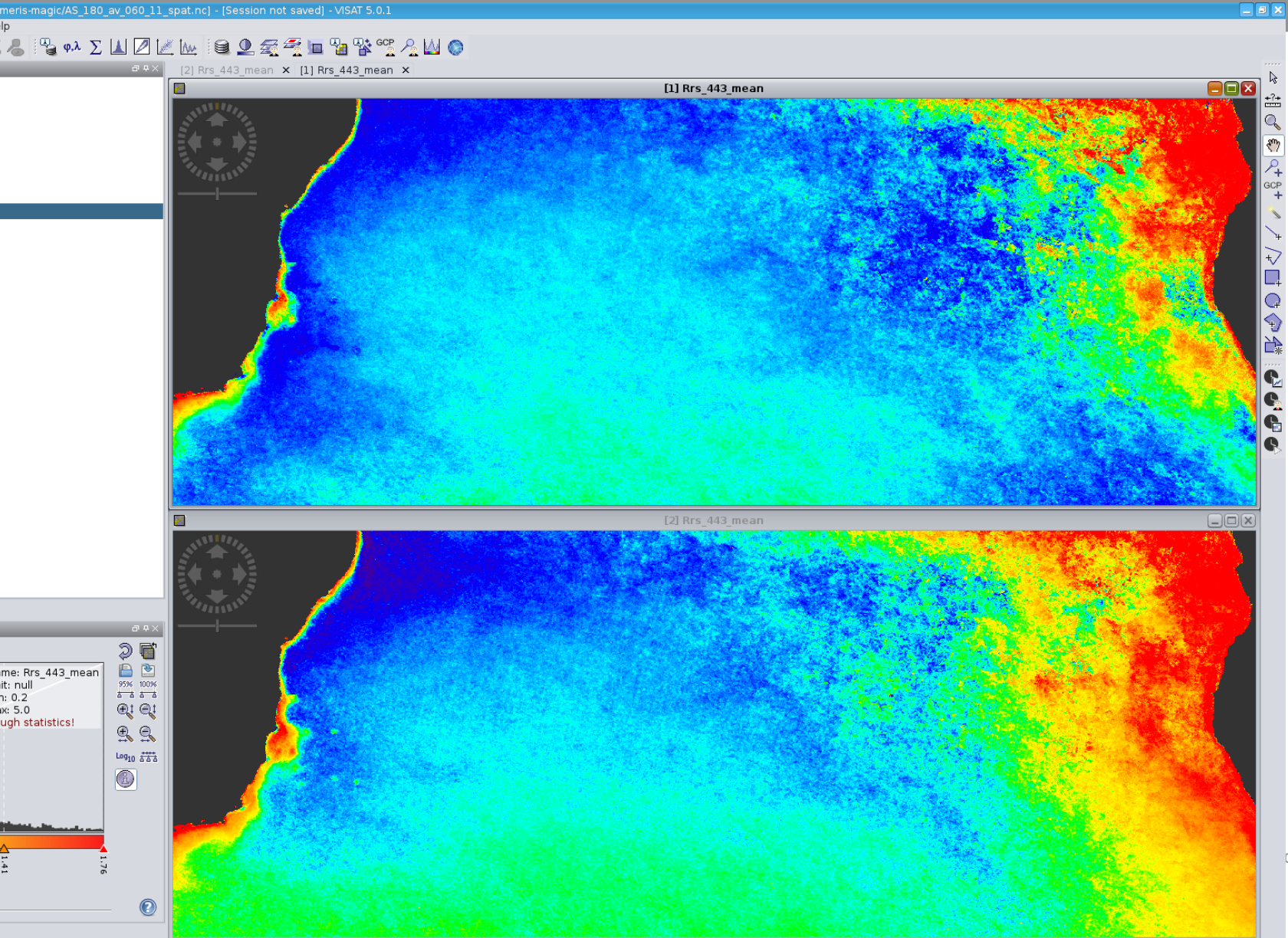
ris-magic/MS_180_av_060_11_spat.nc] - [Session not saved] - VISAT 5.0.1



[1] Rrs_670_mean x [2] Rrs_670_mean x



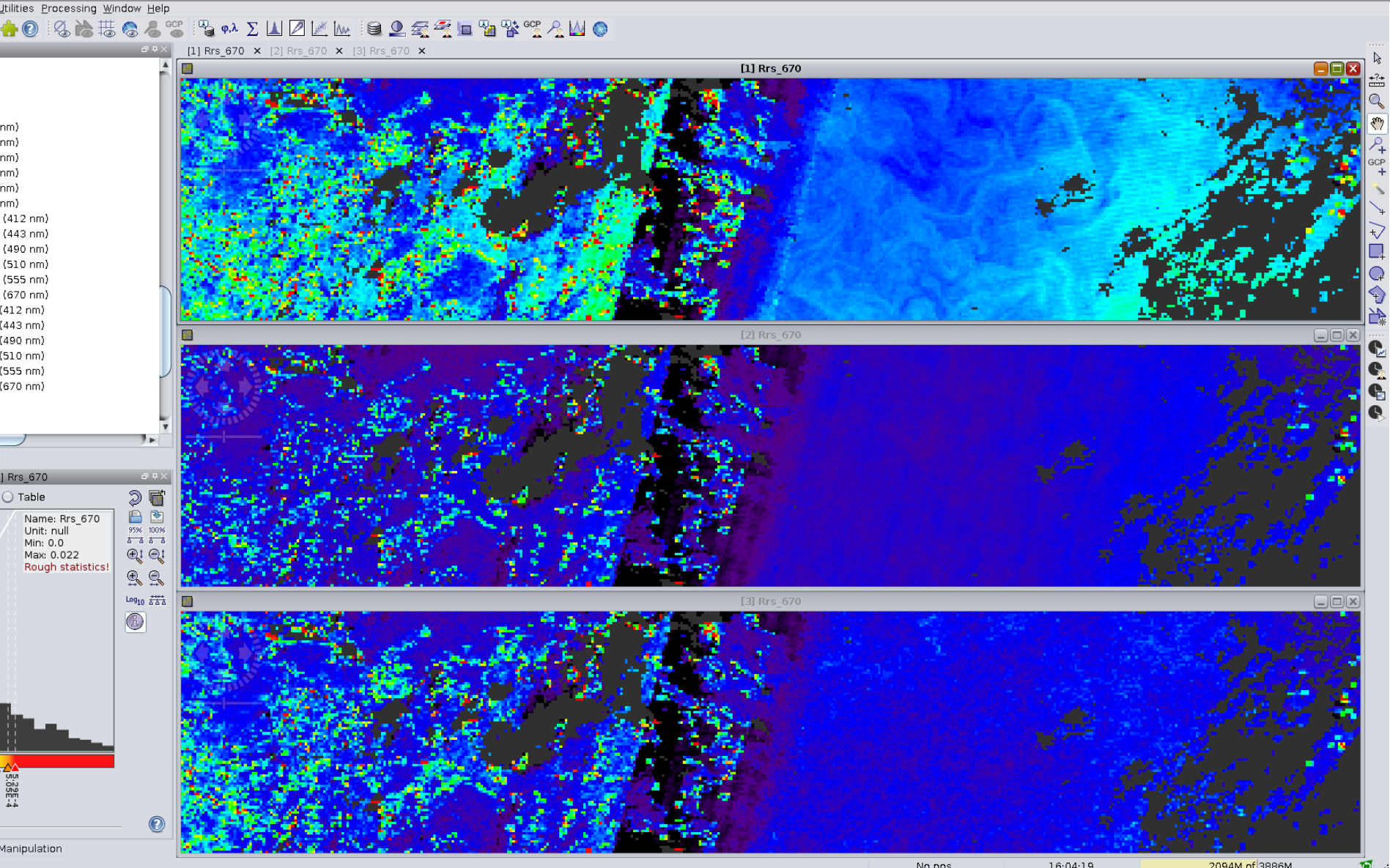
MERIS 443



- Looks good for the normal period (2003-2007)
 - Clean maps, nice (but different) correction
- MODIS overlaps with everything
- BUT, later MODIS shows clear across-track banding
 - And this feeds into the 2012+ period (also in v3.0!)
- Probably the “best” non-SeaWiFS solution, but also far from ideal



All 3 references, 670



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