

Land Report Back

Chris Justice (VIIRs)

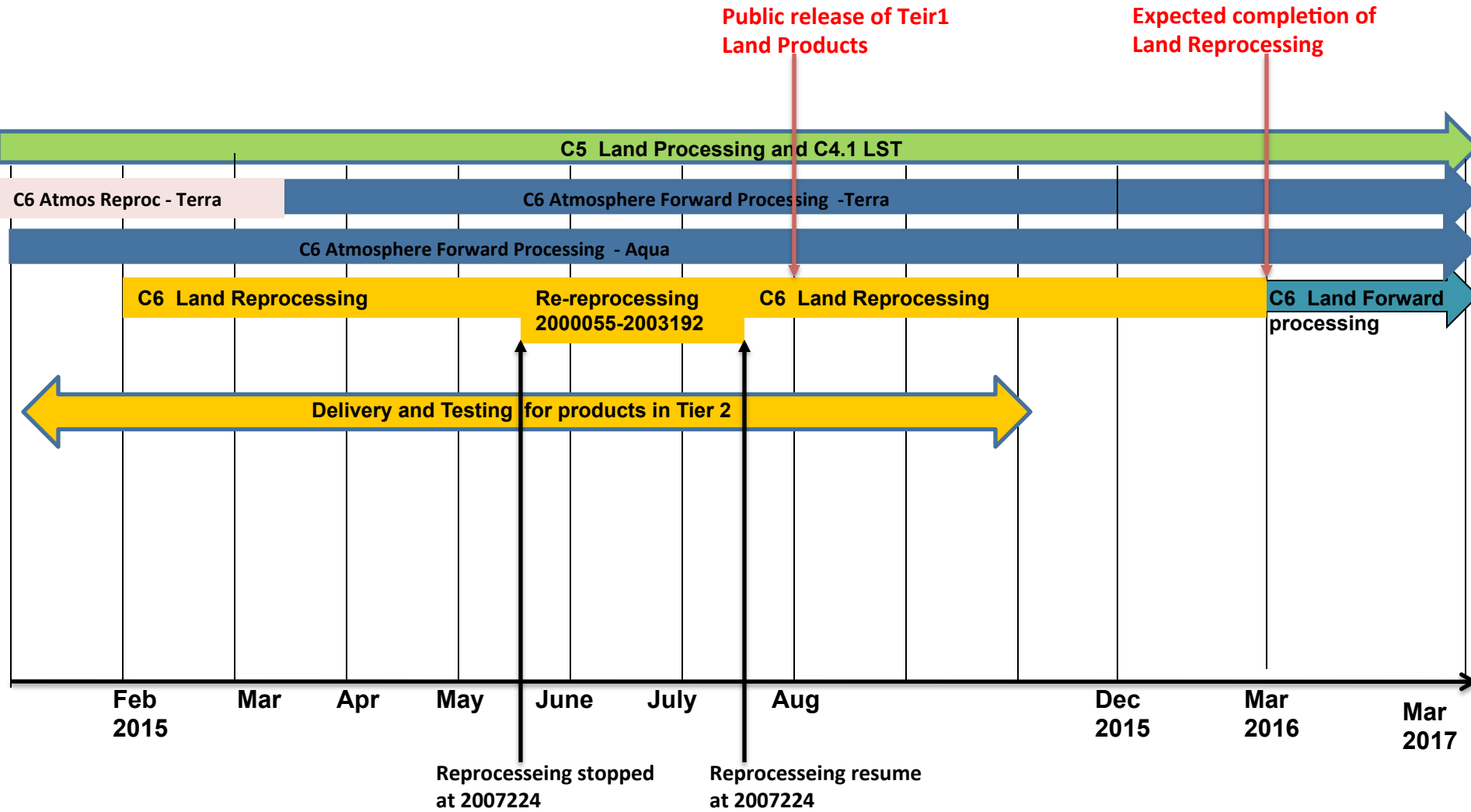
and

Steve Running (MODIS)

Status

- MODIS maintenance is proceeding without any major problems
 - Collection 6 is in process and will be completed March 2016 (Tier 1)
 - Discussion needed re. Collection 6.x and 7
 - MODLAND group will update their web pages
- VIIRS NASA Land Products are in various stages of development
 - L1 reprocessing underway
 - Phased approach is being adopted based on product readiness
 - ATBD's are being completed for the Phase 1 products
 - Waiting for EDOS>NASA L1b to be completed (Aug 2015) before starting production
 - LANCE NRT products for Fire, Corrected Reflectance and SR will follow shortly thereafter (Sept 2015)
 - GSFC MERRA-2 will be evaluated for use with VIIRS LST
 - VIIRS Land Web Site – important to help the community understand the differences between NASA and NOAA Land products

C6 Land Reprocessing Timeline



NASA's Land SIPS is currently developing science-quality Suomi NPP Land science products to enable extension of the records of the following EOS products. A finalized production schedule has been established based on science team readiness, as well as priorities with respect to current integration, testing, and production activities.

✓ Completed Task; *Product integration has begun; **Product integration has completed and testing has begun; *** Product integration and testing has completed.

	Heritage MODIS ATBD	Land SIPS Production Status	Same Algorithm as JPSS ATBD	Algorithms Delivered to the Land SIPS for Processing	Draft ATBD Delivered for Review	Delivery of User's Guide	Products Delivered to DAAC
Surface Reflectance	✓	✓	✓	1-Mar-15	15-Jun-15	15-Jul-15	30-Sep-15
LAI/FPAR	✓	Prototype**	No	30-Aug-15	1-Sep-15	1-Sep-15	28-Feb-16
Snow Products	✓	Prototype*	No	30-Aug-15	30-Aug-15	30-Aug-15	26-Feb-16
MAIAC	✓	New	No	30-Aug-15	30-Sep-15	30-Sep-15	29-Dec-15
BRDF/Albedo	✓	Prototype***	No	30-Sep-15	30-Sep-15	28-Mar-16	28-Mar-16
Burned Area	✓	New	No	30-Nov-15	30-May-15	30-Jan-17	31-Dec-16
Active Fires	✓	✓	✓	30-Dec-14	30-Jun-15	30-Jun-15	29-Mar-16
Vegetation Index	✓	New	No	30-Dec-15	31-Jan-16	1-May-16	30-Apr-16
LST & E	New	New	No	1-Jan-16	30-Sep-15	1-Aug-16	31-Dec-16
Ice Products	✓	New	No	30-May-16	30-May-16	30-May-16	26-Nov-16
Phenology	New	New	No	30-Nov-16	31-Oct-16	31-Oct-16	29-Apr-17

Instruments

- Thanks to Jack X MCST and VCST (KUTGW)
 - VIIRS: request continued communication with NOAA SDR team to avoid L1/SDR LUT divergence - so we facilitate higher order product RTO as and if NOAA allows
- MODIS could run through Terra (2022) and Aqua (2022?)
 - Nice presentation from Terra Flight System Manager
 - Terra Decision with HQ - Land team endorses maximum platform longevity – the science case is clear
- Will eventually need a replacement for MODIS Terra
 - Sentinel 3a (2015),b,c, (10 am) OLCI pointing/ SLSTR will be available but for Land will require considerable development to merge with VIIRS
 - Request ! - once JPSS-1 (2017) is up and running (2018+) move NPP to 10 am overpass – science justification can be made

Team Issues Arising

- MODIS
 - MODIS CMG – gap-filled products being considered across the board (modeling community)
- VIIRS
 - Revisit gridding and sinusoidal projection now rather than later – needs further discussion
 - Direct Readout common versions of land algorithms (e.g. fire) needed by the community for GSFC DRL (NASA) and Wisconsin DB (NOAA) – to avoid confusion

VIIRS Land ATBD Outline

1.0 Introduction

1.1 Science/Applications Rationale for the Product

1.2 Intended user community

2.0 The Algorithm

2.1 Technical Background and Heritage

2.2 Algorithm Description

2.3 Product Description

3.0 Product Inputs

3.1 Spectral Bands

3.1 Masks, Thresholds and Ancillary Data

4.0 Product Accuracy /Uncertainty

4.1 Uncertainty Estimate

4.2 Validation Approach

5.0 Data Format

5.1 Format

5.2 QA Metadata

6.0 Product Publications

7.0 References

AVHRR>MODIS>VIIRS (1981>)

Long Term Data Record

- A unique record – “satellite equivalent to the Keeling Curve” (w. all due respect to Landsat)
- CDR Land LTDR - Vermote et al. – considerable effort to develop a consistent cross-calibrated SR, LAI/FPAR product and associated data inputs and accuracies (NASA Measures> NOAA CDR – latter requires considerably more documentation)
 - Additional CDR’s are needed
- NASA Measures ESDRs
 - Continuous Fields AVHRR > MODIS- Sohlberg, DiMicelli et al.
 - Vegetation Indices AVHRR > MODIS– Didan et al.
 - NASA ESDR name is used broadly e.g. VIIRS ESDR’s
- Outreach - Running/Justice proposing a joint-instrument Land Special Edition on exploiting the data record to identify significant ‘trends’ (next 2 years) to include results from ST projects

Issues for HQ consideration

- Land community ‘enthusiastic’ that we will soon have NASA VIIRS science products
 - The Team will need to get them right in terms of data quality, distribution and documentation
 - JPSS needs to be merged into the NASA VIIRS data stream – are the necessary arrangements in place?
- VIIRS Product Validation needs a strategy and funding
 - Suggest NASA explore SNPP-JPSS Validation co-funding opportunities
 - CEOS LPV playing a critical role as ECV’s continue to get attention and international data sets are coming on line (e.g. ESA CCI’s)
- Some MODIS products not currently being continued with NASA VIIRS
 - Could benefit from a ‘formal review’ of NASA’s Continuity Products based on Earth Science and Applied Science Program priorities – which would be brought under the Senior Review (programmatic) rather than ROSES (experimental) ?
 - Strategic Planning needed for multi-decadal Long Term Data Records – is this something the Decadal Survey should consider ?
 - Missions to Measurements – where are we on that spectrum?

Issues for Team Leaders

- Meeting format too long – shorter meeting would keep people and be more cost effective
- Suggestion 18 months rather than annual meetings and 2.5 days rather than 3.5 days
 - Discipline ‘science highlights’ presentations rather than individual project reporting
 - Discipline meetings to focus on in-depth discussion of issues