Committee for Operational Processing Centers (COPC) Meeting

10-JPSS-1 LAUNCH & EARLY ORBIT ACTIVITIES

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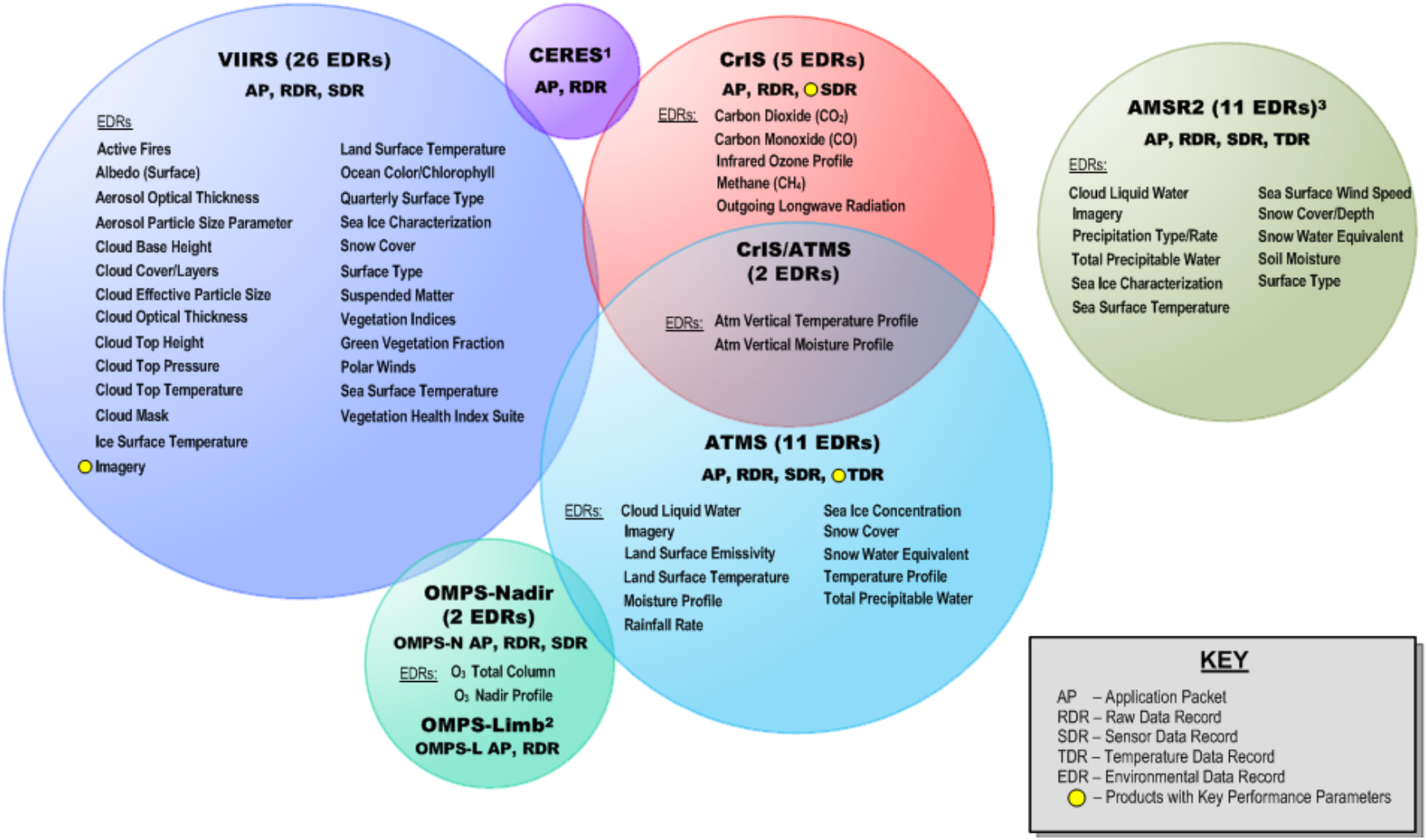
National Environmental Satellite, Data, and Information Service
U.S. National Oceanic and Atmospheric Administration
U.S. Department of Commerce

November 7, 2017

Preparing for Launch: JPSS-1

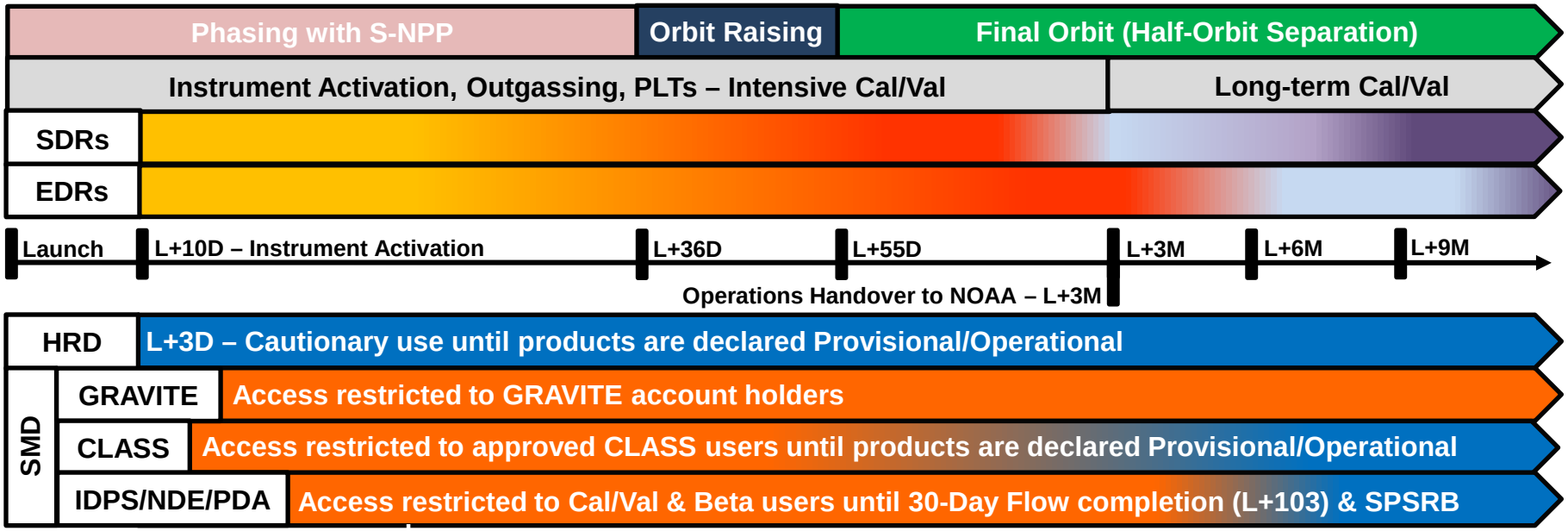
Launch Date:
Nov. 10, 2017
4:47AM ET
Vandenberg AFB

JPSS Program Data Products



JPSS-1 Data Release Plan

Launch Date: November 10, 2017



S-NPP VIIRS First Light – 11/21/11

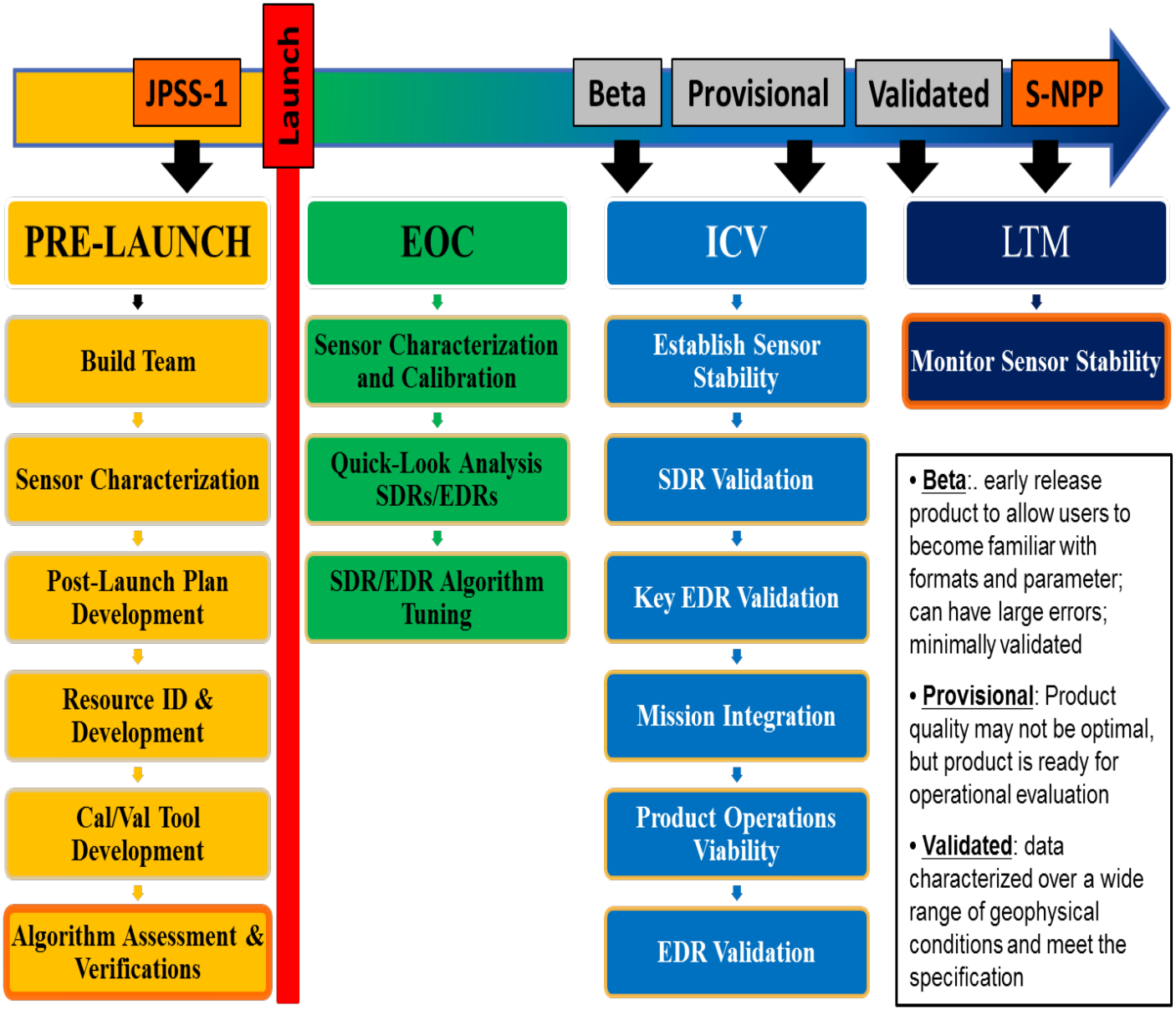
Approximate Times for JPSS-1 First Public Images

Advanced Technology Microwave Sounder	L+11 Days
Visible Infrared Imaging Radiometer Suite (VIS/NIR & DNB)	L+25 Days
Cross-track Infrared Sounder	L+56 Days
Visible Infrared Imaging Radiometer Suite (SW/MW & LW IR)	L+57 Days
Ozone Mapping Profiler Suite	L+57 Days

Phasing		Outgassing		Validated Maturity	
Orbit Raising		Initial Checkout		External Distribution	
Final Orbit		Provisional Maturity		Internal Distribution	

Updated: Cole Rossiter; 10/31/2017

Cal/Val Process Overview



JPSS-1 Cal Val Timeline

All Products follow the NESDIS Satellite Products and Services Review (SPSRB) process to be made Operational to the user community.
EDRs will be made available operationally once they reach Provisional Maturity.

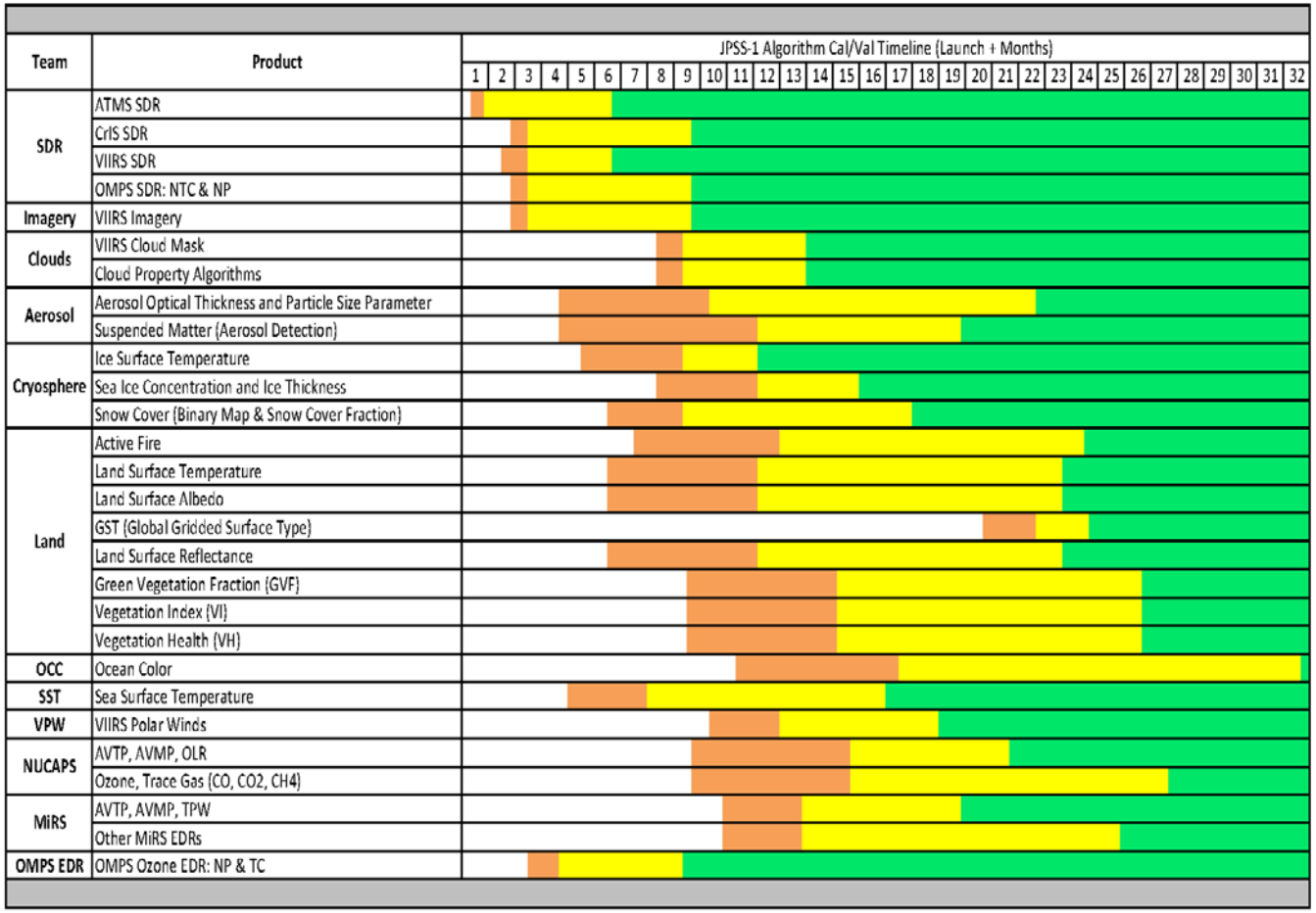


Figure courtesy of NESDIS/STAR

JPSS-1 Cal Val Timeline

All SDRs and VIIRS Imagery EDRs are expected to be ready for operations by L+90 days (includes KPP-related reformatting requirements). Assumes nominal conditions post-launch.

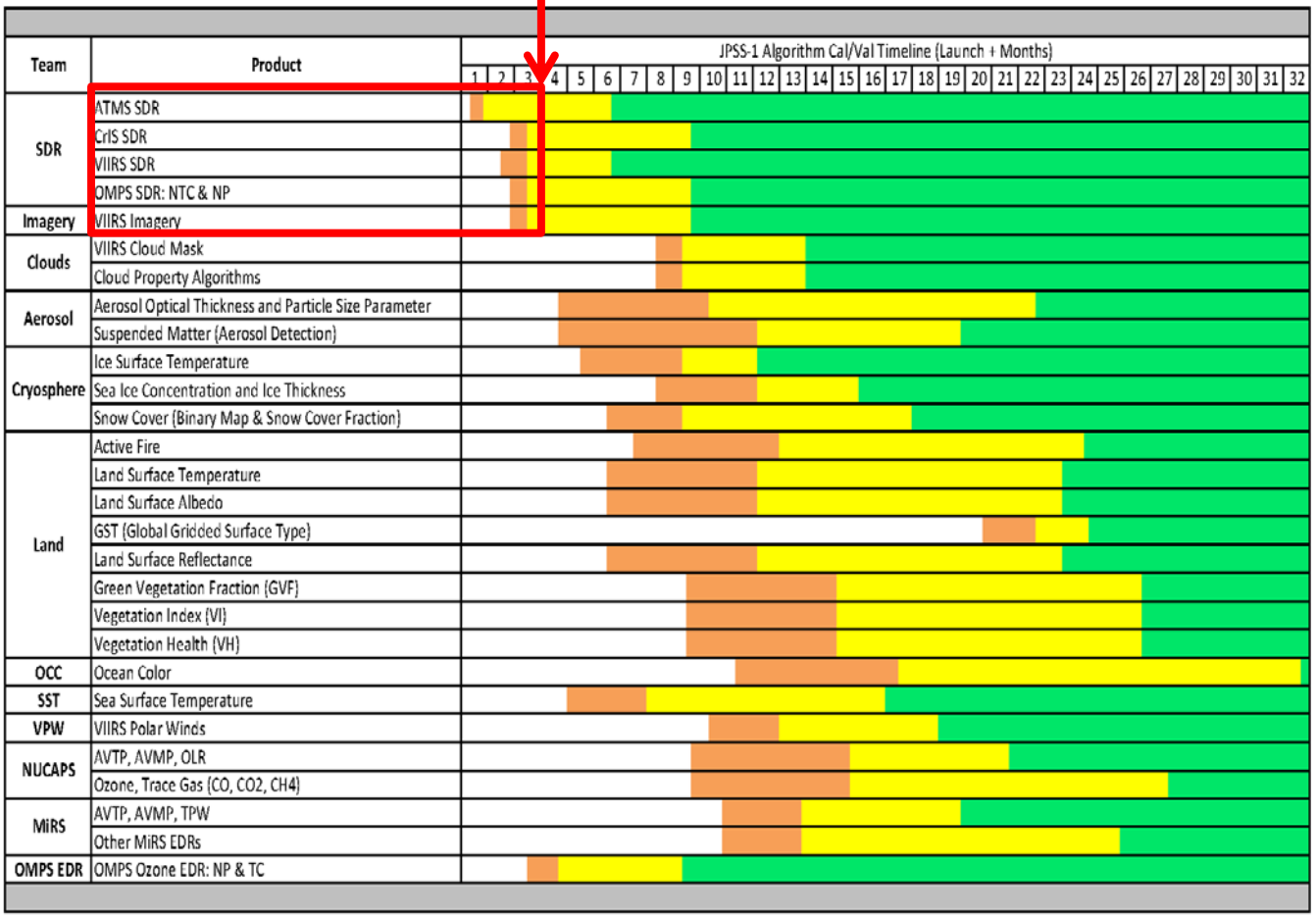


Figure courtesy of NESDIS/STAR

JPSS-1 KPPs Cal/Val Timeline

Launch	Post-Launch Testing: 90 Days			Operations		
	L+0 to L+10 Spacecrift Performance Tests	**L+10 to L+43** Instrument Activation and Outgassing **L+43 to L+68** Instrument Testing	**L+68 to L+90** Instrument "Operationally Ready" **L+85 to L+90** Operational Acceptance & Handover to NOAA/OSPO	3-months	3-months	
				L + 90 d	L + 6 m	L + 9 m

ATMS	L+11: Initial Power-On	**L+20: Beta** RDR/SDR Check	**L+36: Provisional** TDR to SDR Conversion; TDR/SDR Bias Char; Geo Accuracy Eval; PCT update as needed		**L+6M Validated**
CrIS	L+12: Initial Power-On L+12 to L+43: Outgassing L+43: Door Deploy		**L+68: Beta** RDR/SDR Check; Upload EngPkg	**L+90: Provisional** Data Pattern Verify; Geo Check; Noise Char; Uncertainty Upload EngPkg	**L+9M Validated**
VIIRS	L+10: Initial Power-On L+10 to L+43: Outgassing L+24: Nadir Door Open; L+45: Cryoradiator Door Open		**L+60: Beta** RDR/SDR Check; DNB aggregation mode Verify; Geo Accuracy; Noise and SNR analy	**L+90: Provisional** Lunar Cal; LUTs update	**L+6M Validated**
OMPS	L+10: Initial Power-On L+10 to L+44: Outgassing L+44: Diffuser Wheel Open		**L+68: Beta** RDR/SDR Check; Dark Cals; Solar Cals; EV Co-location Tests; Noise Char	**L+90: Provisional** Weekly Dark Cals; Bi-Weekly Soloar Cals; LUTs update	**L+9M Validated**
Imagery	L+10: Initial Power-On L+10 to L+43: Outgassing L+24: Nadir Door Open; L+45: Cryoradiator Door Open		**L+70: Beta** Verify requirement; Verify spatial resolution;	**L+90: Provisional** Analyze Imagery quality; Determine striping, banding, noise	**L+9M Validated**

Pre-Beta | Beta | Provisional | Validated

Figure courtesy of NESDIS/STAR

JPSS-1 Cal Val Timeline

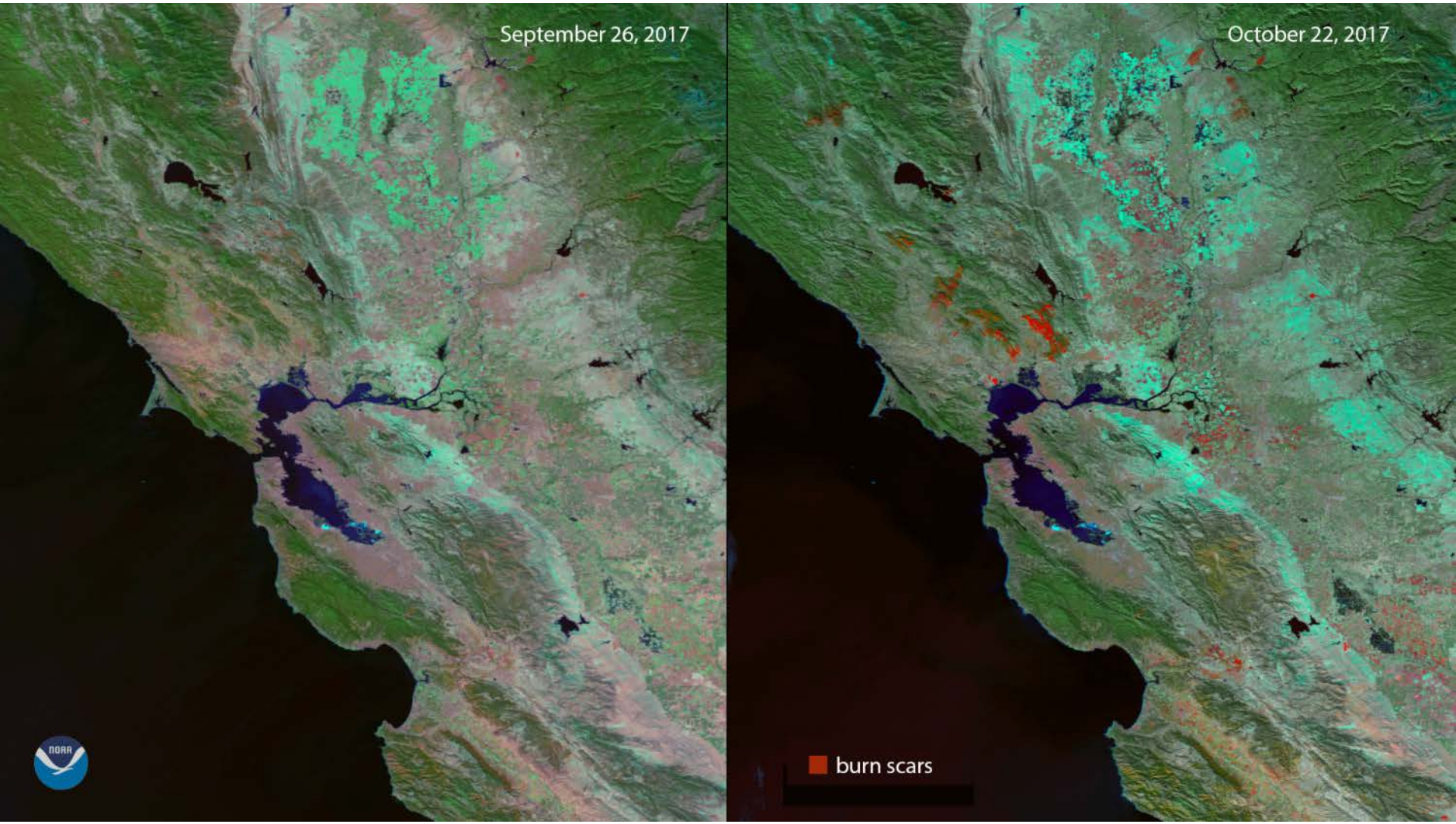
All other EDRs will roll-out as they mature.
This is a conservative schedule. After launch and the initial calval of the SDRs, we will revisit the EDR timeline and accelerate where possible.

Figure courtesy of NESDIS/STAR

Summary

- NESDIS will be generating and distributing all required Data Products from both S-NPP and JPSS-1
- We welcome interested users to attend our lifecycle reviews (e.g., Algorithm Readiness/Product Maturity Reviews, Operational Readiness Reviews, etc)
- CalVal Plans for all data products available here: https://www.star.nesdis.noaa.gov/jpss/Docs
- NESDIS is transitioning to higher quality, Enterprise Algorithms for all EDRs. This transition is nearly complete for S-NPP – only remaining products not in operations are the land products (surface reflectance, vegetation indices, land surface temperature, and land surface albedo).
    - JPSS-1 will not require a transition because Enterprise Algorithms will be used to generate the data products.
- JPSS-1 is expected to be as good as or better than S-NPP.
- JPSS-1 Data Products are expected to be promoted to operations and reach higher levels of maturity faster than on S-NPP.

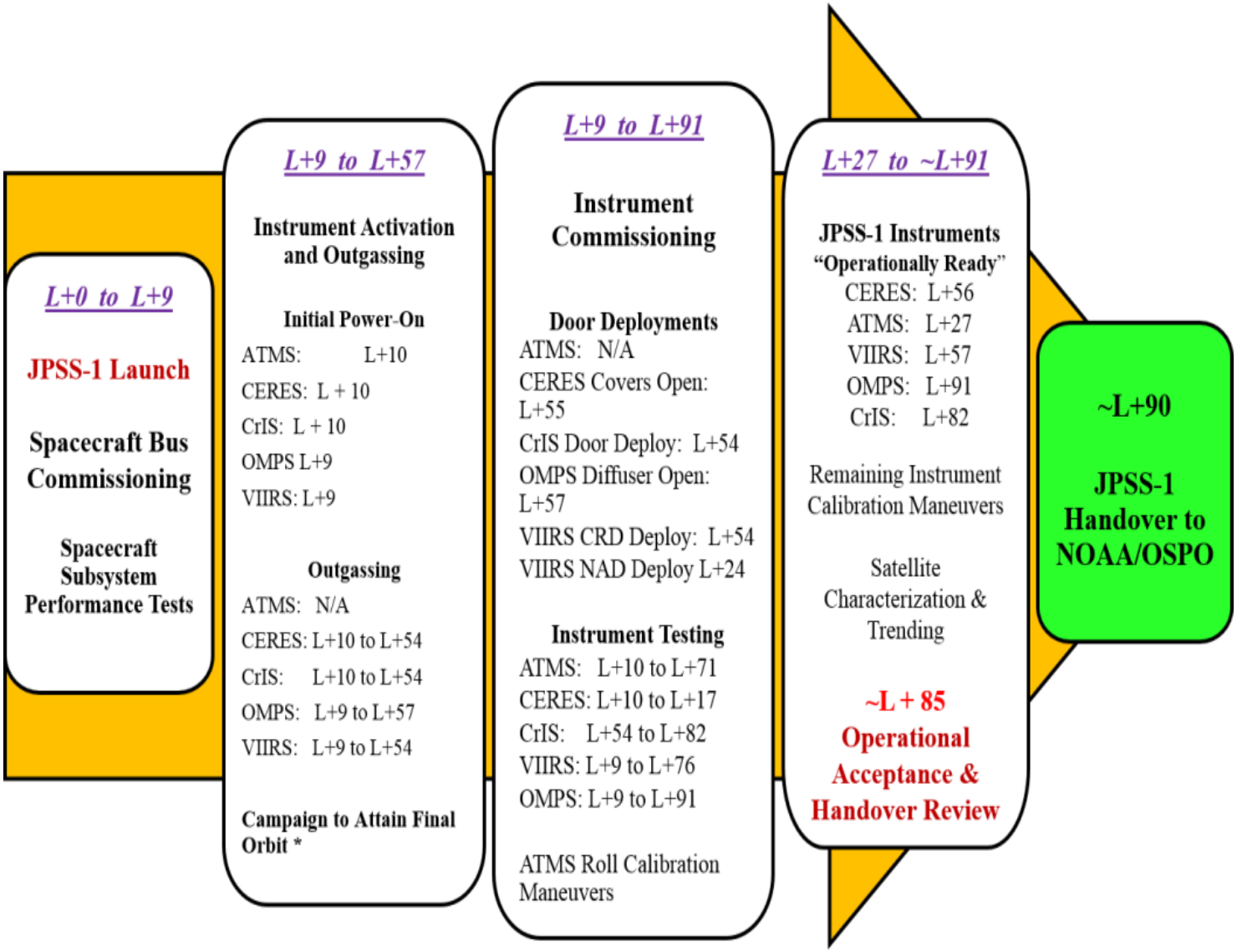
California Wildfires Leave Burn Scars



Images Courtesy of NOAA Environmental Visualization Laboratory

Thank You!

Timeline: Launch to Operational Handover



- Dependent on JPSS-1 final orbit attainment campaign

JPSS-1 Pre-Handover Data Release Plan

(Updated 10/31/2017; Based on Nov 10, 2017 Launch Date)

- Stored Mission Data (SMD)
  - Government Resource for Algorithm Verification, Independent Test, and Evaluation (GRAVITE): Access controlled by accounts. Calibration/Validation (Cal/Val) users primary access starting from instrument turn-on.
  - Comprehensive Large Array-data Stewardship System (CLASS): Restricted access until data reaches provisional maturity. Users can request early access through the CLASS help desk. AMP Lead is approver of early-access requests.
  - IDPS/NDE/PDA Ops: No JPSS-1 data distribution on NDE/PDA ops until 30 day test is complete or if OSPO is directed to do otherwise
    - Once 30 day test is complete and SPSRB approves each product is ready for operations, JPSS-1 products will be promoted to Ops (starting with KPPs).
  - IDPS/NDE/PDA I&T: J1 data will flow on I&T from instrument turn-on.
    - Approved CalVal Users (STAR, EMC, NCO, OSPO/PALs, EUMETSAT) have access as soon as the instruments are turned-on and products are generated.
    - Approved Beta Consumers (557th WW, AWIPS, AWIPS-DD) have access on completion of the beta validation period.
- High Rate Data (HRD)/Direct Readout (DRO) Data
  - Downlink starts at L+3 days and instrument data will flow once each one is turned-on.
  - Restricted use until NOAA releases First Light, Cautionary use until products are declared provisional/operational