



# *Land / cryosphere breakout*

## *Welcome and introduction*

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NOAA/NESDIS/STAR

Dial-in info:

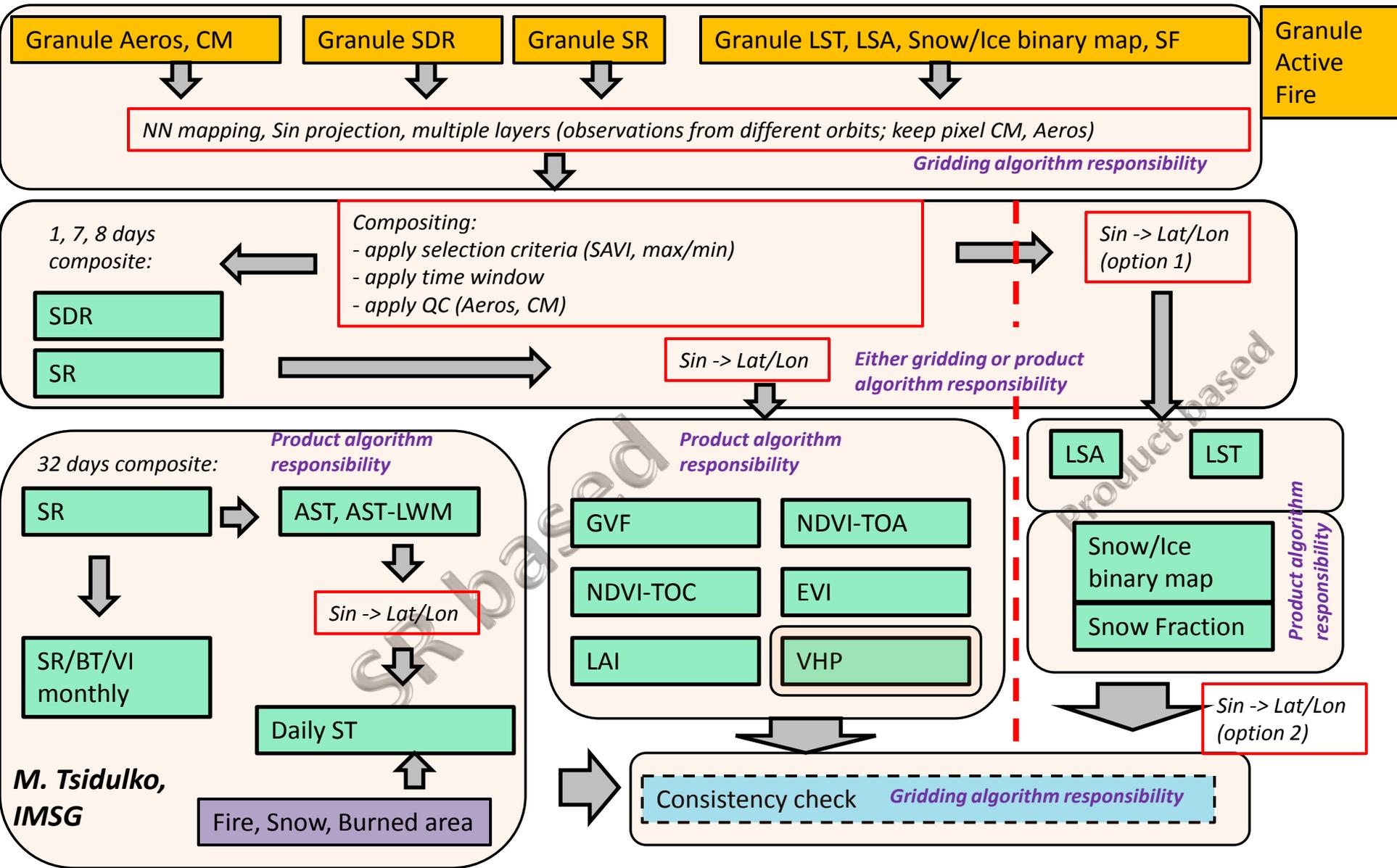
[http://www.star.nesdis.noaa.gov/star/meeting\\_2016JPSSAnnual\\_DialIn.php](http://www.star.nesdis.noaa.gov/star/meeting_2016JPSSAnnual_DialIn.php)



# Land / cryosphere algorithm status

- Algorithms are currently transitioning to Enterprise solutions
  - changes in retrieval algorithm, product content, format
  - see presentations from the NOAA JPSS Enterprise Workshop for details
  - [http://www.star.nesdis.noaa.gov/star/meeting\\_SJEAW2016.php](http://www.star.nesdis.noaa.gov/star/meeting_SJEAW2016.php)
- Preparations for reprocessing are ongoing
  - [http://www.star.nesdis.noaa.gov/star/meeting\\_JPSS2016\\_LDRW.php](http://www.star.nesdis.noaa.gov/star/meeting_JPSS2016_LDRW.php)
- Long-term product monitoring and maintenance continues
  - <http://www.star.nesdis.noaa.gov/jpss/EDRs/index.php>
- Product development is generally in sync with operational applications
  - NCEP/EMC land: consistent, gridded, global, 1-km composites
  - biophysical variables for terrestrial ecological studies
  - fire radiative power for smoke/air quality applications
  - National Ice Center (NIC), Navy, NWS Alaska
  - etc.
- NASA ST production / reprocessing ongoing
  - continuing coordination and synchronization for select algorithms
  - implementation challenges
    - NASA-unique SDR, formats, NDE vs. SIPS production systems

# Schematic view of proposed Land Enterprise System



# Enterprise implementation schedule

- Algorithm readiness
  - Surface reflectance: February 2017
  - VI, LST, LSA: August 2017
  - Active Fire – already operational
  - Surface Type – annual updates
  - Snow Cover / fraction – in transition
  - Ice Surface Temperature – in transition
  - Sea Ice Thickness/Age – in transition
  - Sea Ice Concentration – in transition
  - VIIRS polar winds – operational since May 2014
- Two-phased approach
  - granule-based products
  - global gridded composites
- JPSS-1 readiness in general is confirmed
  - Evaluated test datasets provided to STAR
  - Ran select algorithms in STAR environment
    - Further interaction with NDE needed for pre-launch testing

# Land /cryosphere algorithm readiness for reprocessing: general comments

- Test datasets of upstream products are needed for algorithm validation and verification
  - SDR, SR, AOT, VCM
  - Opportunity for accelerated product maturity
  - Training / validation datasets are needed
  - JPSS-1 cal/val plan and CEOS validation protocol, as applicable
- Reprocessing schedule is contingent on
  - Reprocessing of upstream products
    - Reprocessing should be done after evaluation by downstream product teams
  - Readiness of Enterprise algorithm and processing code
    - At least validated maturity Stage 2 level is required
      - Full global and seasonal sampling

# Agenda (am)

|             |  |                   |
|-------------|--|-------------------|
| 0830 – 0850 | <b><i>Introduction and welcome</i></b>               | Ivan Csiszar      |
| 0850 – 0910 | <b><i>Surface reflectance</i></b>                    | Eric Vermote      |
| 0910 – 0930 | <b><i>Terrestrial biophysical product suite</i></b>  | Marco Vargas      |
| 0930 – 0950 | <b><i>Land surface albedo</i></b>                    | Yunyue (Bob) Yu   |
| 0950 – 1010 | <b><i>Land surface temperature</i></b>               | Yunyue (Bob) Yu   |
| 1010 – 1030 | <b><i>Break</i></b>                                  |                   |
| 1030 – 1050 | <b><i>Active fire</i></b>                            | Ivan Csiszar      |
| 1050 – 1110 | <b><i>Surface type</i></b>                           | Xiwu (Jerry) Zhan |
| 1110 – 1130 | <b><i>Binary snow cover and snow fraction</i></b>    | Peter Romanov     |
| 1130 – 1150 | <b><i>Sea ice surface temperature</i></b>            | Mark Tschudi      |
| 1150 – 1210 | <b><i>Sea ice concentration</i></b>                  | Jeff Key          |
| 1210 – 1230 | <b><i>Sea ice characterization and thickness</i></b> | Jeff Key          |

# Agenda (pm)

|   |                  |
|---|------------------|
| 1330 - 1350 <i>Enterprise system status</i>             | Ivan Csiszar     |
| 1350 – 1410 <i>Suomi NPP reprocessing status</i>        | Jason Choi       |
| 1410 – 1430 <i>NASA Science Team</i>                    | Miguel Román     |
| 1430 – 1450 <i>CEOS Land Product Validation</i>         | Miguel Román     |
| 1450 – 1510 <i>Land product characterization system</i> | Gregory Stensaas |
| 1510 – 1530 <i>Break / poster session</i>               |                  |
| 1530 – 1550 <i>Vegetation Health Applications</i>       | Wei Guo          |
| 1550 – 1610 <i>NCEP Land Applications</i>               | Mike Ek          |
| 1610 – 1130 <i>National Ice Center Applications</i>     | Pablo C. Colón   |
| 1630 – 1650 <i>Open discussion and wrap-up</i>          |                  |

# Principal questions

- Is transition to enterprise processing on track?
  - science, format, dependencies
  - transition to “true” enterprise products
    - GOES-R, non-NOAA / foreign satellites
- Are we ready for reprocessing?
  - product-specific requirements
- Are the products ready to use? Are they used?
  - true operational applications
    - process for implementing operational use
    - demonstrated potential and impacts