

VAP Development: Initiation, Development, Evaluation and Release

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ABSTRACT

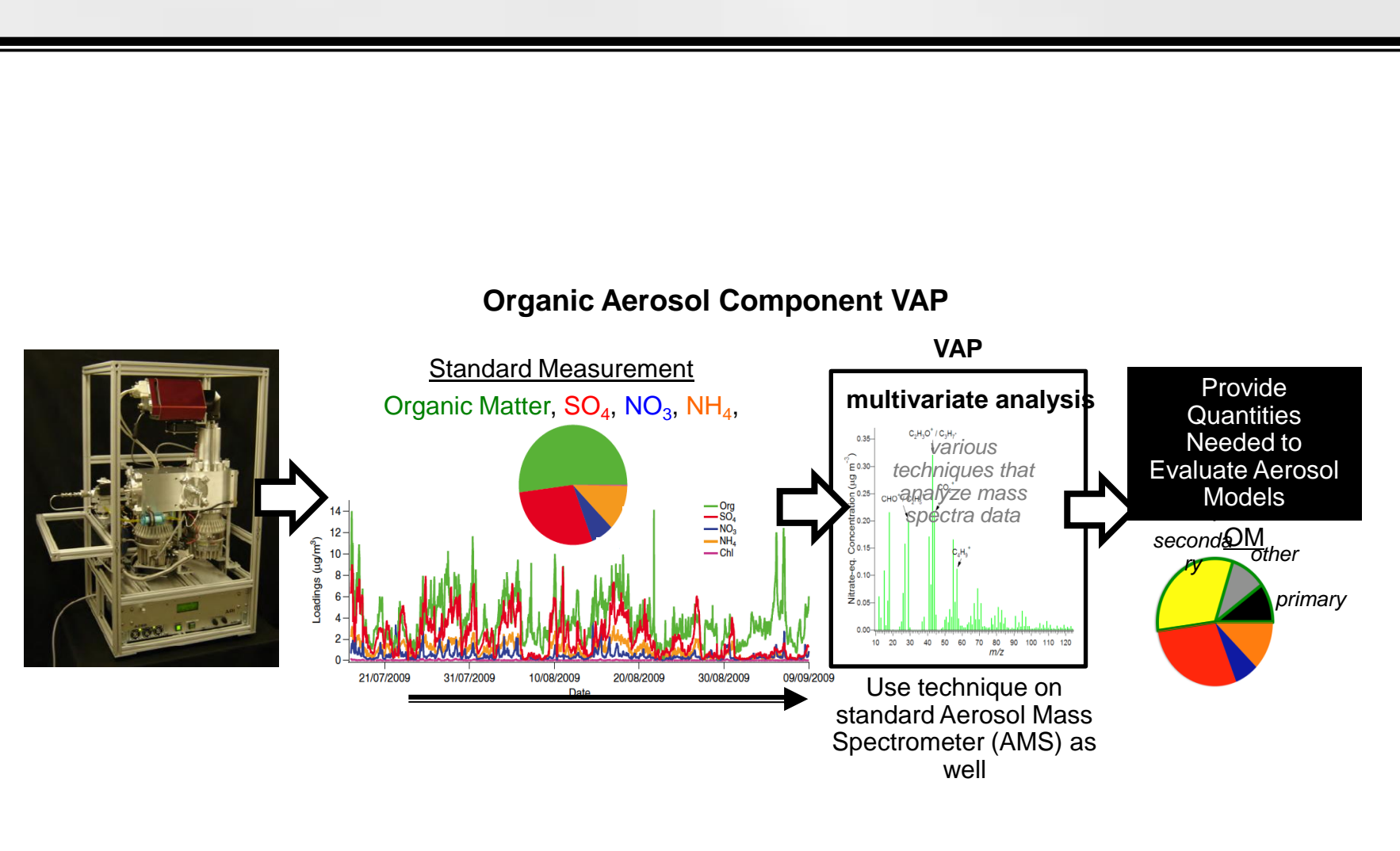
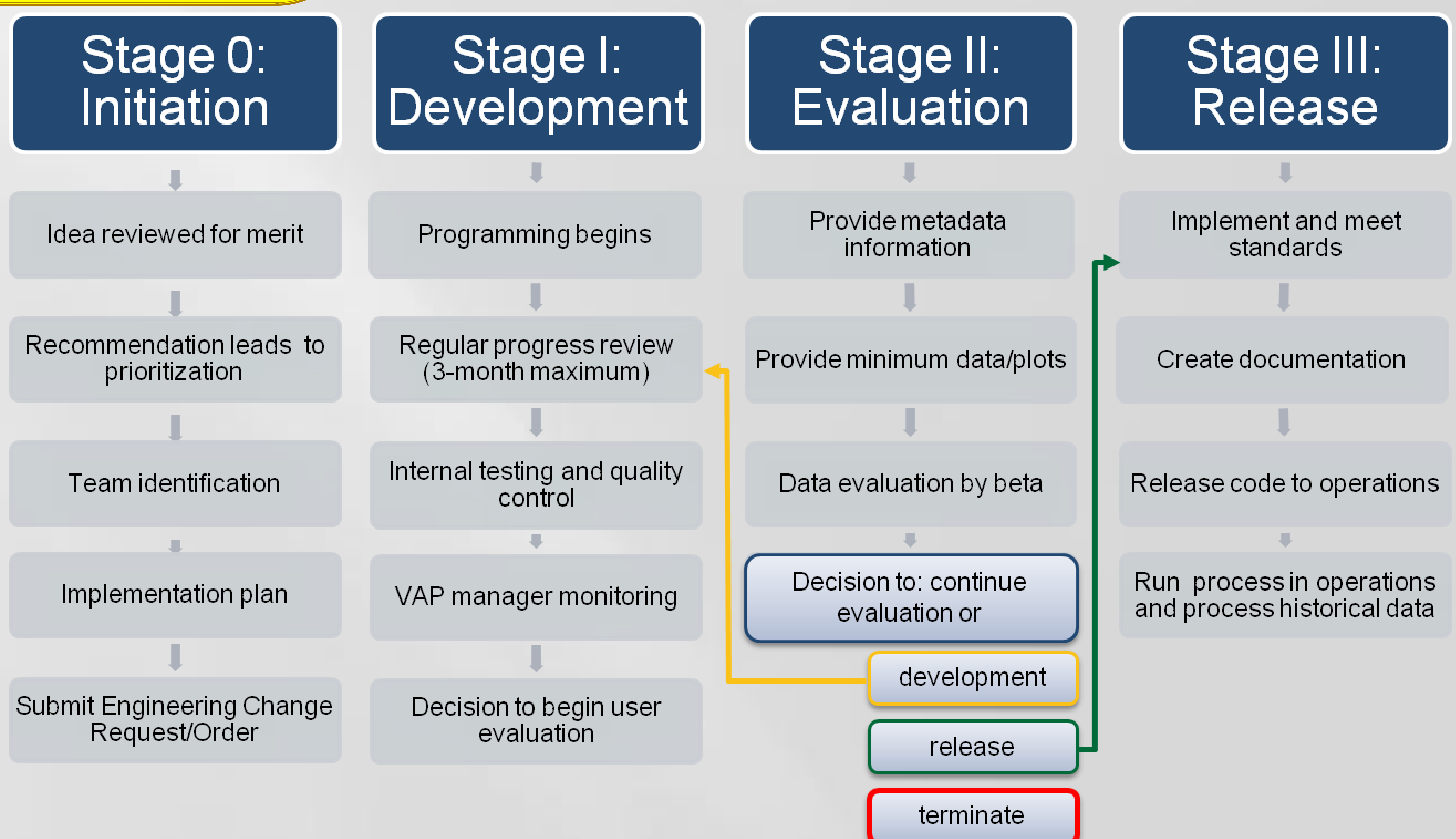
ARM value-added products (VAPs) provide an important translation between the instrumental measurements and the geophysical quantities needed for scientific analysis, particularly model parameterization and development. The production of VAPs is the responsibility of the ARM infrastructure (translators and developers) with guidance from the ASR science working groups. In recent years, a review of the VAP development process has helped to identify improved pathways for the timely delivery of quality-controlled data products important for scientific inquiry and advancement. This poster outlines the pathway from a geophysical quantity produced from an individual scientist's retrieval algorithm to a production-level product provided by the ARM infrastructure

TAKE HOME MESSAGE

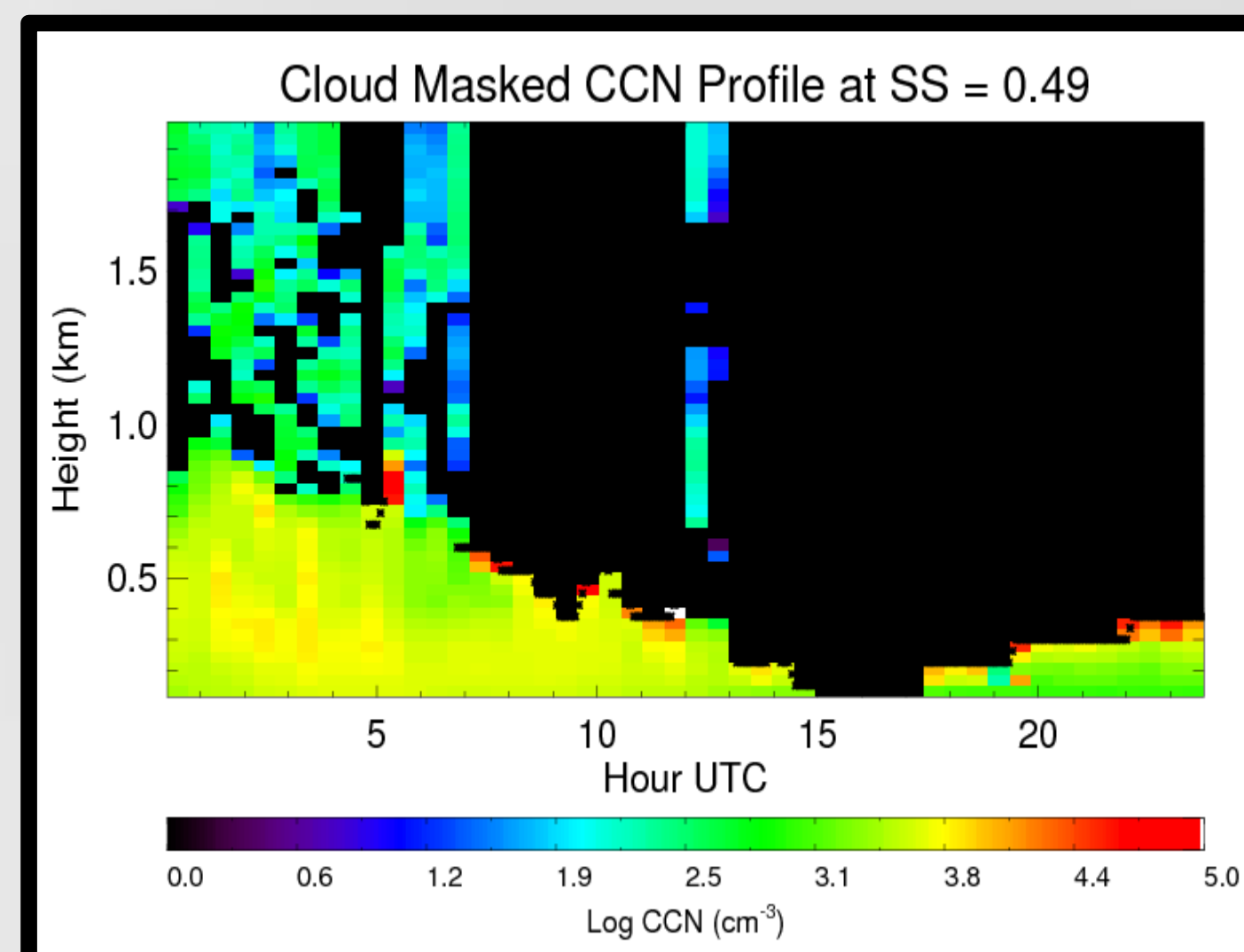
- 1) Newly formalized framework for development of VAPS through four different stages: Initiation, Development, Evaluation and Release.
- 2) Evaluation stage requires a minimum of three beta-users. ASR science team members will be asked to evaluate initial products relevant to their research areas.
- 3) Decision tree at conclusion of six month evaluation stage may lead to: Further evaluation, continue development towards official release, terminate further development but release dataset, terminate further development and withdraw VAP.

VAP DEVELOPMENT IDEAS

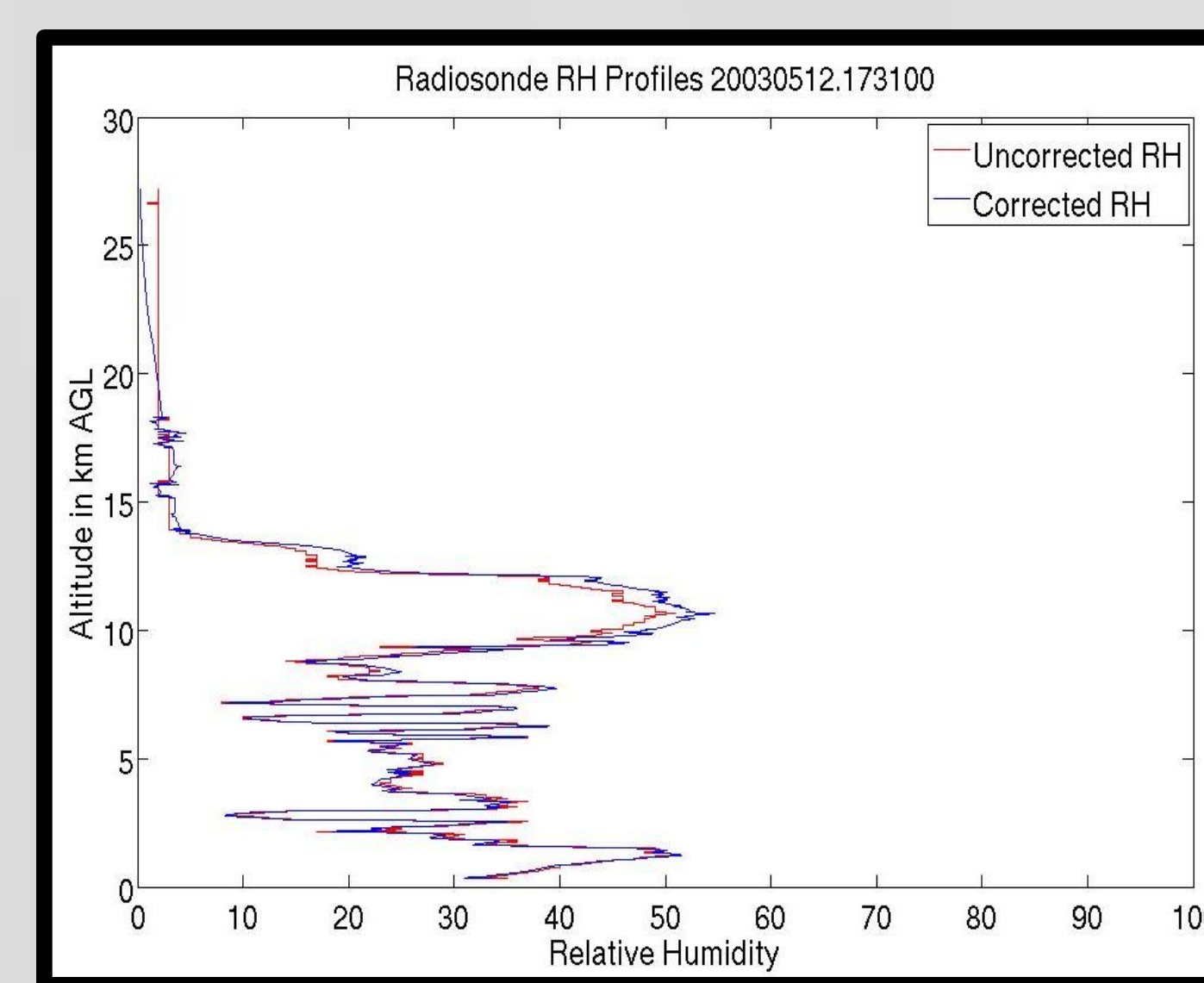
- Proposed by members of the ASR science team
 - Generally robust, peer-reviewed algorithms
 - Prioritized by ASR working groups
 - Implemented by translator/development team
- Translators:
- Aerosol Life Cycle
Connor Flynn, Jerome Fast
 - Clouds and Precipitation Interaction
Sally McFarlane, Shaocheng Xie, Jerome Fast
 - Cloud Life Cycle
Michael Jensen, Shaocheng Xie



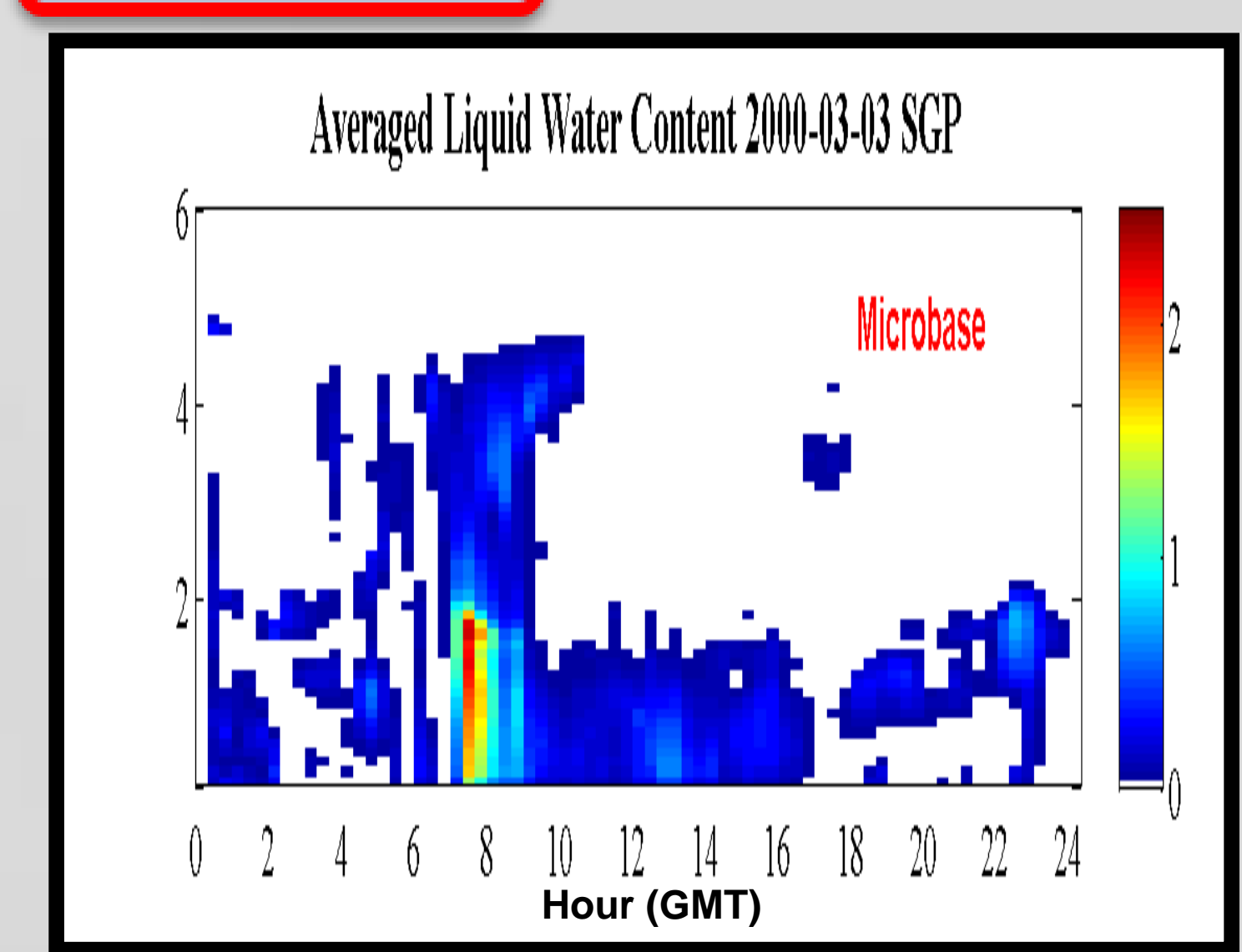
INITIATION STAGE - Organic Aerosol Component Analysis is primarily based on multivariate analysis of the AMS organic mass spectral (MS) matrix.



DEVELOPMENT STAGE - CCN profile below cloud base derived from the Raman Lidar extinction for Jan 4, 2007 at SGP using the surface-measured CCN at 0.49% supersaturation and the surface measured humidification factor



EVALUATION STAGE - The sonde-adjust VAP produces data that corrects documented biases in RS-80, RS-90 and RS-92 radiosonde humidity measurements.



RELEASE STAGE - Microbase provides time-continuous information on cloud location, liquid and ice water contents, and effective droplet sizes as a function of height

REFERENCES

Jensen M, S Collis, J Fast, C Flynn, J Mather, S McFarlane, J Monroe, C Sivaraman, and S Xie. 2011. [VAP Development: Initiation, Development, Evaluation, and Release](#). DOE/SC-ARM/TR-093

ACKNOWLEDGEMENTS

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