

ITSC-17 Satellite Sounder Science Working Group

(co-chairs: Tony Reale, Lydie Lavanant)

(Chris Down, Hal Bloom, Nathalie Selbach, Anna Booton, Lihang Zhou, Zhaohui Cheng,, Jorg Ackerman, Kathy Strabala, Tom Ahtor, AK Sharma, Liam Gumley, Christelle Ponsard)

1. WG Mission

Discussion

General discussion concerning the scope and focus of the WG with concurrence that WG (through the web site) provides a valuable contribution (one-stop shopping) but needs more targeted focus to be more effective. Specifically, more emphasis toward a clear specification of respective product performance from global centers, requirements and users of such products, local processing capabilities using direct readout packages, routine dissemination of validation results, making available validation datasets and finally, making available ancillary (useful) datasets (atlas...) required for (or resulting from) product processing.

Recommendation 1

In the interest of a more targeted focus, no longer support site areas for Current Future Weather Satellite Programs, Operational Instrument Characteristics and Performance. These are adequately supplied by the WMO.

Recommendation 2

The Cal/val topic area currently provides capability (NPROVS) for direct inter-comparison of suites of global atmospheric sounding products produced by NOAA, EUMETSAT and UCAR (GPSRO), with capability to expand to include products from other global centers (ie, India ...).

This can also be expanded to validation campaigns (ie JAIVEX..) , special case study datasets involving “other” products/data (ie co-registered CALIPSO/CloudSat/AIRS as presented at ITSC, Smith) and/or derived from local processing packages. It is also proposed to add reports from inter-comparison products/methods.

Action:

A. Reale

L. Lavanant

2. SSSP Web Site Maintenance

Discussion

The target audience of this web site ranges from experts in the field of satellite remote sensing to those less familiar with the jargon and acronyms normally associated with this work.

To facilitate this varied audience, the WG agreed to investigate the potential to expand on the web-page functionality allowing all users to more readily search the site contents via theme, product, instrument or experiment types, agencies and contacts.

Areas including more ease of upkeep of the web-site also to be investigated and as feasible more simplification in upkeep of page content deployed. For example, an administrator only functionality with submit fields for data entry or a system of editable text files for web-page content can be considered.

Recommendation

Investigate (formal) the user base (audience), scope and goals of the Sub Group for Satellite Sounder Science and Products web page.

Provide feedback on the current page design and provide detail on potential upgrades to functionality, shape and design.

Determine the overall overhead for all potential changes and enhancements to the web site.

Provide recommendations for controlling information content on products and contacts for those products.

Action:

Co-chairs

Chris Down

Web-masters (Leanne and Bill)

3. Direct Broadcast Processing Packages Technical Sub-Group Merging into SSSP

Discussion

WG agreed that direct broadcast processing packages are a critical area of SSSP and the best interests of both the SSSP and existing ITSC technical sub-group on direct broadcast packages is served by absorption of the technical sub group into the ITSC SSSP WG.

Recommendation

Scientific Processing packages and Direct Readout areas merged into Direct Readout Scientific Processing Packages including absorption of direct broadcast technical sub-group.

4. Products and Processing Packages Summary Tables

Discussion

It was agreed that the SSSP group develop preliminary summary tables of the currently available products and direct broadcast packages.

Recommendation:

The WG (Anna/Natalie) will present a preliminary summary of the currently available products, initially focusing on sounding and trace gas, within the Products area of the web site. The goal is to provide users with a comprehensive technical overview detailing information such as, the required input data and data formats and science.

Action: Anna Booton, Nathalie Selbach

Similarly, CIMSS will append a table to the technical report "Report on DB Processing Packages" that presents supported functionality in a one page summary which will be appended to the SSSP direct broadcast processing package area.

Action: Kathy Strabala, Liam Gumley

5. Continued Support for IAPP

Discussion

It was agreed that support continue for IAPP in order to maintain its operational use at facilities such as the Satellite Application Facility on Climate Monitoring (CM-SAF).

Recommendation/Action:

CIMMS to continue the support and development of IAPP in order to maintain operational use at facilities such as the Satellite Application Facility on Climate Monitoring (CM-SAF). This support should include updates, for example, those that would affect the usability of the software in the case of instrument channel failure, as well as the inclusion of new sensors within the software package.

6. Metop-A HRPT Direct Broadcast

Discussion

There is currently a limited availability of Metop-A direct broadcast data.

Recommendation:

Contact EUMETSAT concerning a time table for expanding direct readout observations over areas currently not covered.

Action:

Jorg Ackermann
Christelle Ponsard

7 Metop-A/B Direct Broadcast Level-2 (IASI) Processing Package

Discussion

At present there is no publicly available EDR (Level 2) retrieval package available for Metop IASI direct broadcast, and we are unaware of any plans to develop or release such a package. Since Metop is still the morning satellite for the JPSS constellation, we believe it is imperative that such a package be funded and released for Metop, since it would be extremely beneficial for local applications of NWP assimilation, weather forecasting, and environmental monitoring.

Recommendation to IPO/JPSS: A Level-2 retrieval package for IASI should be funded and made available for IASI DB users.

8. Post Conference Summary of Product Presentations

Discussion

WG discussion identified need for formal review and synopsis of presentation concerning derived level-2 and 3 products be made within 3 months after conference. Synopsis would identify product areas discussed and recommend areas of focus for future solicitations (oral poster) for next meeting

Recommendation

Provide post conference synopsis of product area presentations. Recommend further level 2 algorithm developments where needed, product area priorities to be considered for solicitation/selection of product topic areas. Present the results of the continuing validation.

Action:

Co-chairs

9. Survey of Visualization Packages

Discussion/Recommendation:

Data analysis and visualization tools are used by most atmospheric scientists. There are many packages, both commercial and open source, available that provide tools and libraries for data analysis and visualization. The cost to purchase software and/or to develop useful tools can be large. Thus, a survey identifying available packages and their attributes would be a useful resource for atmospheric scientists; especially those tools that focus on capabilities for remote sensing data.

Recommendation:

Conduct a survey of our user community to provide a comprehensive table of available software packages for data analysis and visualization of atmospheric science data.

Action:

Tom Achtor

10. Data Rates

Discussion

As hyper-spectral and active remote sensing instruments are developed, product user's must stay aligned with the requirements in terms of the capacity for organizations to process, assimilate, and use this data.

Recommendation

Product user group's should study and have input into the architecture of such systems to determine their requirements for issues such as processing, IT infrastructure need, and methods to data mine or develop algorithms to better assimilate critical data from the large quantities of data that organizations may or not be able to process in the timeframes required by operational organizations.

Also this group should coordinate recommendations on issues related to and strategies for the increasing demands to process data onboard satellites and recapture the essence of the critical data for scientific research and data assimilation.

Action:

AK Sharma (to provide *NESDIS plans* to accommodate high data rates, processing and distribution systems)

11 Preparations for NPP

Discussion

NPP is approaching. IPO/JPSS has developed the Government Resource for Algorithm Validation Integrated Testing and Evaluation (GRAVITE) which is responsible for ongoing end to end pre-launch testing of level-1 and level 2 products. Continuous data stream testing is expected to begin during Spring (2010) and continue to launch.

Recommendation

IPO/JPSS provide timely updates on expected implementation schedules and concerns (including for IPOP)

Action (POC): **Lihang Zhou**

12 Preparations for Metop-B

Discussion

Metop-B is scheduled for April 2012. In support of currently avail inst processing packages it is mandatory to have the calibration datasets for Metop B instruments available prior (at least 1 year) to launch.

Recommendation

It is recommended that EU make calibration dataset available after concurrence with NOAA via the EU web site.

Action :

Jorg Ackermann
AK Sharma

13. Interface to WMO web site

Discussion

WMO developed a web site (highly advanced) with similar mission concerning satellite product information, satellite instrumentation and agencies.

Recommendation

It is recommended to promote WMO web site and co-ordinate WMO and SSSP synergy for coherent information dissemination.

Action:

L. Lavanant
A. Reale
J. Lafeuille