

# Products and Software Working Group

Action items from ITSC-18

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# Web site

**Action 1.1:** Decide on a solution for working group user driven content and set up logins. This is needed because the group needs to add and edit content online without needing a web admin.

**Action 1.2:** As part of the ITWG website redesign, the SSSP (now PSWG) web content should be reviewed for inactive or non-relevant links.

- Status: **open**
- Bill Bellon and Leanne Avila are considering a re-vamp of the whole ITWG web site, using a Content Management System
  - this will affect all Working Groups
  - discuss during the conference!
- Other possibilities:
  - File sharing service (e.g., Dropbox)
  - User-driven forum (e.g., phpBB)
  - User-driven groups (e.g., Plone)

# Software packages and data

**Action 2.1:** Review currently available processing systems and software packages that can be obtained by the user community, and identify gaps. This is needed so that recommendations can be made to product and software development teams to add new features.

- Status: **closed**
- The co-chairs have produced an html document showing:
  - Direct broadcast packages
  - Level 1 packages
  - Level 2 packages
  - Visualisation and analysis tools
- Will be made available on the new web site, and circulated to WG members

# Software packages (2)

**Recommendation 2.1:** Request that EUMETSAT investigate the feasibility of releasing the official IASI Level 2 retrieval algorithm in software form.

**Action 2.2:** ITWG to request that IASI Level 2 software be made available.

**Action 2.3:** Investigate how IASI Level 2 software could be made available.

- status: **closed**
- EUMETSAT reported that they were not able to release the package (D. Coppens)
- Since ITSC-18, other packages have been made available, or are planned:
  - UW's "**CrIS, AIRS and IASI Hyperspectral Retrieval Software**" (v1.2 of the CrIS/AIRS/IASI dual-regression retrieval software released Sep 2013)
  - NOAA's **MIRS** software released as part of CSPP March 2014 (Sid Boukabara). Supports ATMS, AMSU, MHS.
  - Chris Barnet is working with the CSPP project at UW to release the NUCAPS software package to the DB community. Support for Metop IASI/AMSU/MHS retrievals and Aqua AIRS/AMSU retrievals; planned mid 2014.

# Software packages (3)

[Action 2.4](#): Send request to CIMSS for continued support for IAPP for Metop-B, and investigate feasibility of adapting it for Suomi NPP.

- Status: **closed**
- Request was sent. Reply received from Tom Achtor:
  - CIMSS is continuing to support IAPP. Does not have the resources to adapt IAPP for ATMS/CrIS, but other temperature/moisture retrieval algorithms will be included in CSPP (see [Action 2.2/2.3](#)).
- Also, see [poster 8p.06](#) by Szuchia Moeller
  - The CSPP project will look into including IAPP under the CSPP umbrella

# Availability of data

**Recommendation 2.3:** Request that GEOMETWATCH (GMW) clarify its policy on data and software availability and licensing. This is needed so that the user community knows what to expect from GMW data in future.

**Action 2.5:** Forward request for information to GEOMETWATCH.

- Status: **closed**
- Since ITSC-18 there have been various high-level discussions between EUMETSAT, NOAA, SSEC and others on the subject. (Direct request from PSWG not considered necessary).
- SSEC assessment at the present time is that:
  - nobody will get the STORM data for free
  - there is no plan to release the software for creating STORM products

# Issues affecting other ITWG working groups

**Recommendation 3.1:** RTTOV team to investigate improving memory usage related to the IR emissivity atlas.

**Action 3.1:** Send technical details and examples of memory usage to RTTOV team.

- Status: **closed**
- This was done. James Hocking will look at implementation for RTTOV v11.

**Recommendation 3.2:** CRTM to implement UWIREMIS database, as has been done for RTTOV

**Action 3.2:** Request CRTM team to add UWIREMIS database support (Allen Huang).

- Status: **open**

# Direct Broadcast reception

**Recommendation 4.1:** Working group to assemble and disseminate information on vendors for DB antenna systems and contact information.

**Action 4.1:** Assemble a list of DB vendors, contact information, and capabilities (Liam Gumley)

- Status: **closed**
- A list has been created. Will be put on the web site.



# Product validation

[Recommendation 5.1](#): Review sources of information on validation data for satellite products and ensure links are available on Working group website.

[Action 5.1](#): Review links on the validation section of the website and add any new sources of information.

[Recommendation 5.2](#): ITWG members should work with NOAA STAR Sounding validation team if they have temperature and moisture products they wish to validate or compare to other products.

[Action 5.2](#): Provide NOAA contact on the PSWG web site

- Status: **open**
- Dependent on web site re-vamp ([Action 1.1](#))

# Level 1 format issues

**Recommendation 6.1:** ATMS, VIIRS, and CrIS SDR calibration traceability must be improved to allow users to investigate detailed instrument performance

**Action 6.1:** Investigate ways to expose or save calibration information from the RDR files.

- Status: **closed**
- ATMS raw counts can be extracted from the “verified RDR”, which can be generated by CSPP. A note has been prepared for the PSWG web site (ask Nigel for details).

**Action 6.2:** In order to maintain a record of product provenance, create a set of guidelines for metadata to be associated with satellite products (Geoff Cureton).

- Status: **open**

# Level 1 format issues (2)

**Recommendation 6.2:** JPSS Project should investigate ways to streamline or improve data volume to reduce bandwidth needed for distribution.

**Action 6.3:** Send request to JPSS Program Scientist for CLASS to offer optional internal HDF5 compression.

- Status: **closed**
- The EUMETSAT **Compressed VIIRS format** is now mature, and gives a 6-fold reduction compared with the original VIIRS SDR. Java conversion tool is available. The format could be adopted more widely.
- The NOAA/NESDIS IDPS is implementing gzip internal compression for SNPP HDF5 files. It will be a user-selectable option at download time from CLASS. For VIIRS SDR files (the largest files) the compression is expected to reduce data volumes by more than 50%.
- gzip internal compression is an option in CSPP, or the user can add it using 'h5repack'.

# Infrared sounder FOV size

**Action 7.1:** Assemble the currently available studies on infrared sounder field of view size and write up a summary (Lydie Lavanant)

– Status: **open**

(This item is a perennial at ITSC meetings!)

# Visualisation and analysis

**Action 8.1:** Assemble a table of currently available software for visualization and analysis of satellite products

- Status: **closed**
- Co-chairs have produced a table for inclusion on the PSWG web pages (see also [Action 2.1](#))
- Includes links to WMO and NASA resources

**Action 8.2:** Create a Python cookbook for satellite products including Suomi NPP, EOS, POES, and Metop, in coordination with PyTroll developers.

- Status: **closed**
- Geoff Cureton has created a cookbook for handling the output of the CSPP VIIRS EDR
- To be made available via PSWG web pages

# Development of software packages

**Recommendation 8.1:** Collect lessons learned from working with NPP/JPSS and GOES-R algorithms and provide to NOAA/JPSS.

**Action 8.3:** Write an “ADL Lessons Learned” document and submit to JPSS Program (Graeme martin, Ray Garcia).

**Action 8.4:** Write a guide to “Compiling Portable Binary Code” and make available to ITWG online (Graeme Martin, Ray Garcia).

**Action 8.5:** Advertise on ITWG website and associated software package websites that users can contribute their own algorithms or software for product generation (Kathy Strabala).

- Status: all **open**
- Are there any useful lessons from the last 2 years?