

SALGEE GENERAL DISCUSSION

6 April 2011, Antalya, Turkey



Satellite Applications in Land surface analyses Group for Eastern Europe

Discussion Topics

- ❖ **SALGEE in support to LSA SAF**
- ❖ **Up to date Activities**
- ❖ **Workshop Overview**
 - ✓ Discussion on WS Topics
 - ✓ Discussion on Training
- ❖ **Future Activities**
 - ✓ Discussion on LSA SAF Products Visualization
 - ✓ Discussion on Partnership & Projects
 - ✓ Discussion on regional & Global Partnership
- ❖ **Recommendations**
- ❖ **Next Workshop 2013**
 - ✓ Suggestions & Discussion

❖ SALGEE in support to LSA SAF

/SALGEE Secretary overview/

SALGEE has been established in December 2009 as a starting point for collaborative effort between EUMETSAT, LSA SAF and the NMSs of South Eastern and Eastern Europe to ensure sustainability of further improving the quality and use of MSG/EPS satellite data and products.

- **Gathering experts & Exchange of knowledge.**
- **Promotion of products.**
- **Facilitate the product use.**
- **Feedback to developers focused on products' quality improvement.**
- **To search mechanisms for regional and global partnership.**

PREPOSITIONS

- Increasing interest from SEE countries in using Land SAF products.
- Achievements in processing, use and validation of fire products:
 - ✓ **Bulgaria:** Validation of operational FIR product since 2007 and continue on the next product releases;
 - ✓ **Turkey:** Validation of FIR since 2006; Google Earth implementation for FIR visualization.
- Bulgaria has initiated 1st Drought & Fire Workshop, 7-10 September 2009, Sofia. The course ended with a special session with National Institutions responsible for fire prevention in Bulgaria.

SALGEE ACTIONS

- NIMH of Bulgaria took the obligation to initiate and coordinate the activity of SALGEE with the support of EUMETSAT & LSA SAF.
- In December 2009 Turkey took responsibility to host the 2nd Drought & Fire WS.
- SALGEE Terms and References (ToRs) were specified and agreed during a phone Conference with EUMETSAT & LSA SAF in Feb 2010.
- During the EUMETSAT Annual Conference in Córdoba, 20 - 24 September, 2010, “on-site” meeting was held for preparation of the WS in Antalya, Turkey.
- The SALGEE Secretary in cooperation with the Chairs for EUM & LSA SAF elaborated the WS Format & Programme.

Participants

As a consequence of the 1st WS 'MSG Applications: Drought & Fires', 7-10 Sep 2009 in Sofia, we have invited to participate:

- Southeastern Europe countries
- DAWBEE countries are included
/Azerbaijan, Georgia, FYR of Macedonia, Ukraine/



Presentations and Discussions: *Lectures Topics*

- Detection of drought & pre-fire conditions.
Specific regional assessments and practices.
- Detection of thermal anomalies by:
 - Geostationary MSG and polar orbiting NASA satellites Aqua/Terra
 - Different algorithms/platforms (MPEF FIR, Land SAF, NASA, Italy CRPSM, Indian INSAT-3D).
- Introduction of LSA SAF fire related products.
- ECVs as a result of biomass burning & ECOCLIMAP database.
- Fire weather forecasting, both short range and seasonal.
- Introduction into Australia system for fire forecast & monitoring.
- Introduction to the Roma Univ. CRPSM - Italy & India Space Application Centre

Open the Discussions on Topics & Content of Presentations.....

❖ Discussion on WS Topics

Aydin Ertürk: Are there plans for enlargement of the topics for the next WS?

Luis Pessanha: The programme of this workshop is quite comprehensive and good for LSA SAF.

Julia Stoyanova: FRP will be a next topic that will be more broadly considered. Step by step we can enlarge the WS scope. Now the main problem is validation of the fire product.

Jose Prieto: We can not change the scope of SALGEE WS before move ahead on the 1st set of topics. LSA SAF coordinate these activities and decide the direction, because SALGEE supports LSA SAF. Our task is to filter the activities among other working groups.

Ibrahim Sönmez: Propose to give more attention to drought (meteorological, hydrological). Drought is phenomena that needs to add additional lectures to reflect its complex nature, like assessment of soil moisture as detected by satellites.

Ivan Csiszar: Drought should be considered in the context of fire problem.

Julia Stoyanova: Drought has a broad meaning, we might include the topic of soil moisture (SM) that will not change the scope of the WS programme.

❖ Discussion on WS Topics

Luis Pessanha: Better to focus more on new LSA SAF products, e.g. evapotranspiration (ET).

Julia Stoyanova: ET is closely related to SM, so we can add it in the scope of SALGEE in terms of Drought & Fire problems.

Luis Pessanha: Just try to get all product together, e.g. ET, Albedo, etc.

Ivan Csiszar: Less presentation on fire detection for the next WS, more on validation and user reports regarding the use of fire products.

Ibrahim Sönmez: Validation of new FIR product version and comparison between various versions requires new ground data, so better to have tools that can easily reproduce the fire detections for historical data. Common methodology between countries should be accepted.

Luis Pessanha: Necessary to have new polygons for products validation on Europe in order to avoid the criticism that it is performed only over the same areas.

Ivan Csiszar: Validation web sites can be fixed for exchange of validation information. There one can put data, can look for data and give feedbacks.

❖ Discussion on WS Topics

Luis Pessanha: This is a 2nd approach and we can apply onsite validation, which is more reliable.

Chandra P. Singh: Good idea is the next WS to be focus broadly on validation. Fire is also related to climate.

Luis Pessanha: We do reprocessing , so this is a common practice.

Sauli Joro: Reprocessing is in the line with EUMETSAT practice and there are new climate group. Climate SAF requests for MGS data reprocessing for climate purposes.

Jose Prieto: DAWBEE is a possibility for regional partnership, so we would like reports on validation products in future WSs and any other forums, where SALGEE can report progress.

Luis Pessanha: New applications are needed to be develop in the middle of the CDOP2, so we would like to receive validation reports from time to time. To keep control, we need feedbacks.



Presentations and Discussions

Training Perspectives

- Level of experience in SALGEE countries: Poster Sessions with demonstration of practices in SEE and EE countries.
- Training aspects:
 - Use of operational satellite products,
 - New generations MSG, US, India satellites.
 - **Case studies over various geographical areas.**
- EUMETSAT Training programme & EumeTrain project.
- National Training resources.

How can SALGEE support the Application of satellite technology in participating countries?

Discussion & Suggestions of Training.....

❖ Discussion on Training

Jose Prieto: Training can be performed through regional partnership, like DAWBEE project for example. The DAWBEE countries where EUMETSAT can perform validation studies and provide their feedback. Based on their reports, new algorithm can be developed.

Oleksii Kryvobok: The problem for the DAWBEE countries is that there are no people to work on these data.

Chandra P. Singh: We can prepare some case-studies for the next workshop to be presented.

Christo Georgiev: After launching MSG, EUMETSAT put a lot of resources during the last years to provide users with training on weather forecasting applications (as rapid cyclogenesis, severe convection). This SALGEE workshop was a good opportunity to start introduce in our region fire weather forecasting practice. Bulgaria and Romania have infrastructure to perform studies following the experience in Australia, presented by G. Mills and then we can transfer our knowledge to other countries in the region. For the DAWBEE countries, software for LSA products should be provided and additional special training should be given.

❖ Discussion on Training

Julia Stoyanova: A good opportunity for SALGEE would be the involvement in the EumeTrain project, *e.g* organising a dedicated training week.

Jose Prieto: Could make efforts to organise a training week on Drought & Fires through a EumeTrain - SALGEE collaboration.

Chandra P. Singh: We can prepare some case-studies for the next workshop

Christo Georgiev: After launching MSG , EUMETSAT put a lot of recourses during the last years to provide users with training on weather forecasting applications (as cyclogenesis, convection). This SALGEE workshop was a good opportunity to start introduce in our region fire weather forecasting practice. Bulgaria and Romania have infrastructure to perform studies following the experience in Australia, presented by G. Mills and then we can transfer our knowledge to other countries in the region.

Jose Prieto: In the frame of SALGEE , there are no funds for development of software, money are given only for training. Other sources should be found.



The First Direction: Focused to the User community

1. To strengthen the use of MSG/ EPS products.
2. To facilitate the countries of the region with the Visualization.
3. The validation of FIR product and give feedback to EUMETSAT.

The First Direction: Focused to the User community

1. To strengthen the use of MSG/EPS products

- **Two Training Workshops on MSG applications on Drought & Fire (2009; 2011).**
- **To help initiation or improving the quality of services in fire weather forecasting among National Meteorological Institutions (SALGEE WS 2011):**
 - ✓ *Australian Experience.*
- **Contribution to implementation of DAWBEE project:**
 - ✓ *Now 4 countries are involved,*
 - ✓ *Other countries (e.g. Moldova, Belarus) might be included.*

The First Direction: Focused to the User community

2. To facilitate the countries of the region in Land products Visualization

- **DAWBEE visualization software (for these stations) has been developed.**
- **Following SALGEE suggestion, the DAWBEE software process also FIR product in GRIB2 format**
- **11 countries will run this software for real time operational purposes /4 of them participate in our WS/.**

❖ **As a second step** we can propose DAWBEE software to process some LAND SAF products, e.g. LST, FRP, FAPAR, FVC.

❖ So, EUMETSAT might plan some new investment for improvement of the DAWBEE software.

❖ Discussion on LSA SAF Products Visualization

Ibrahim Sönmez: We need EUM to provide some standard for visualisation and data inferring in the same way.

Luis Pessanha: We asked EUMETSAT to make tools for the conversion from HDF5 to GRIB-2 format for the LSA SAF products.

Carla Barroso: The visualisation procedure could be included as a topic in the training activities.

Aydin Ertürk: MSG view software developed in Turkey can be useful.

Sauli Joro: ECMWF also provides a free software for HDF visualisation.

The First Direction: Focused to the User community

- Active Fire Monitoring (FIR) product:
 - 1st version: Jul/Aug 2007, MSG2 Full Scan
 - 2nd version Jul/Aug 2008, MSG2 Full Scan, MSG1 RSS
 - 3rd version: Aug/Sep 2009, MSG2 Full Scan, MSG1 RSS
 - 4rd version: 24 March 2011, MSG2 Full Scan, MSG1 RSS

3. The validation of FIR product and give feedback to EUMETSAT

- **Bulgaria has contributed the developers of MPEF FIR product with the following shortcomings:**

2008: There was a displacement of 1 row & 1 column between the fire pixel coordinates published at <p://ftp.eumetsat.int/pub/OPS/out/simon/FIRE/> and what we obtain after visualization of the GRIB-2 file.

2009: For the RSS FIR files, a displacement of the image by 9.5 degrees in the GRIB-2 file.

2011: After switching to CAP format on 24 March 2011, a displacement of the image by 9.5 degrees in the RSS FIR GRIB-2 files has been reported. This error was fixed by EUM at the same day.

The First Direction: Focused to the User community

3. The validation of FIR product and feedback to EUMETSAT

▪ **Reporting EUM on the quality of FIR product regarding geolocation of fire pixels. Countries using FIR product can assist in following aspects:**

- To provide EUM with a list of the locations of thermal anomalies repetitions, which are not confirmed by ground observations over SEE & EE. To check existence of any land surface features, producing such false alarms.
- To provide EUM with a list of the locations of missed large fires by the algorithm. **Any other EUMETSAT requirements ??...**

The First Direction: Focused to the User community

3. The validation of FIR product and feedback to EUMETSAT

- **To issue any recommendations about validation methodology.**
- **Coordinated activities among countries using FIR product and EUMETSAT: asking for EUMETSAT support.**

The Second Direction: To gather experts and product developers to improve the products

Plans for Partnership

- 1. In the field of Validation of fire product we can perform parallel use and comparison of the three algorithms: MPEF FIR; LSA SAF; Italy-CRPSM and evaluate their performance for the territories of different countries.**
- 2. Possibilities for validation activities of FRP product. GOF-C-GOLD contribution of SEE region. Contribution to Land Cover Change-Climate Change Initiative. Possible LSA SAF support to GCOS programme ??...**
- 3. To consider the possibility for collaborative projects on these and other related problems.**

Discussion & Suggestions

❖ Discussion on Partnership & Projects

Luis Pessanha: We would be interested for validation of our Fire product. The strategy of LSA SAF is to provide the products and receive the feedback from the users.

Ivan Csiszar: The GOFC-GOLD reprocess the data from NOAA satellites. EPS is other thing.

Luis Pessanha: From EPS we will have soon Albedo . If anybody would like to contribute development we can make committeemen with LSA-SAF .

❖ Future Activities /SALGEE Secretary overview/

The Third Direction: Regional & Global Partnership in the frame of SALGEE

1. SALGEE workshops are forums of exchange of knowledge and experience between representatives of satellite agencies, research groups and National Meteorological Institutions.
2. Are there any resources to initiate some kind of regional and/or global partnership??.....

❖ Discussion on regional & Global Partnership

Ivan Csiszar: Recommend collaboration with the Friburg University user community.

Actions:

1. Validation activities of FIR product and feedback to EUMETSAT. Bulgaria (Turkey, Italy) to work on this in the scheme of their presentations on the WS.
2. EUMETSAT to consider the possibility to fund validation studies in SEE.
3. EUMETSAT to consider the possibility to support software updates for LSA SAF products processing & visualization.
4. Proposals for the place of the 3th SALGEE WS in 2013.

Any other country suggestions and readiness to take responsibility

❖ Recommendations /SALGEE Secretary overview/

- ❖ *Participation of SALGEE in the discussions about changing formats and any other issues with potential influence on satellite products application by the users.*
- ❖ *Formal participation of SALGEE in EumeTrain Project. Preparation of Drought & Fire illustration materials: Case Studies over different geographical regions.*
- ❖ *To organise EumeTrain Week on Satellite Land Surface Applications*
- ❖ *Other DAWBEE countries (Moldova, Belarus) might be involved in SALGEE.*
- ❖ *EUMETSAT to consider the possibility to update software in order to process & visualize some LAND SAF products (e.g. LST, FRP, etc.), or any other specific HDF5 software to be installed on DAWBEE stations.*
- ❖ *To start working on recommendations about MPEF FIR validation methodology among countries using the product and EUMETSAT.*

❖ **Recommendations** /SALGEE Secretary overview/

- ❖ *To provide SALGEE community /using FIR product/ with a more detailed description of CAP messages.*
- ❖ *Get access to H-SAF Soil Moisture product for using in connection with the LSA SAF activities.*
- ❖ *SEE NMSs to initiate activities for improving their expertise for Early Warning of Drought and pre-fire conditions as well as issuing fire weather alarms.*
 - *Severe weather forecasts /drought features, vegetation/fuel moistening, risk of fire/ . Exchange knowledge through EUMETSAT Training Programme /Bulgaria, Romania/.*
 - *Transborder considerations.*
- ❖ *SALGEE participation in EU initiative in Forest fire management /Italy, Bulgaria/.*
- ❖ *Some biospheric applications to be considered in perspective with applications in agriculture, forestry, ground modeling /Bulgaria, Turkey/.*

Suggestions.....

Chandra P. Singh: I would recommend Web site of SALGEE to be developed.

Giovanni Laneve: Support will be needed for performing validation studies and developing a web site for SALGEE.

Luis Pessanha: Next LSA SAF workshop will be organized in Portugal close to Lisbon, in the autumn. Coming SALGEE WS might be also considered for Portugal, but this should be discussed with LSA SAF Management.

Jose Prieto: The place of the WS will be further discussed and we have time to take the final decision at a later stage.

SALGEE FINAL DISCUSSION

7 April 2011, Antalya, Turkey



Luis Pessanha: LSA SAF much appreciate the SALGEE initiative that make links between Developers and Users. This WS was very successful. The presentations were useful and can help us and you (participants) when go back to improve the products and their use. We will go to CDOP2 and will produce new products and the SALGEE activities would complement their application.

Julia Stoyanova: I would like to thank again to all lecturers accepting our invitation to attend the SALGEE Workshop and for their contribution in our activity. Regarding the future work, we can continue with validation process concerning the three aspects of fire: drought-fire detection-climate relations. Other important topic is fire weather forecasting. When we manage to progress with the validation, in parallel we will succeed to enlarge the scope of our activities.

Jose Prieto: Workshop materials are already copied by some of the participants . To get a CD-copy, please send message to EUMETSAT postal address. In addition I will ask you for WS evaluation by internet. I would like to remark to the efforts given by all involved as voluntaries in the SALGEE activity and hopefully this activity will continue in the next years. We will work for the organisation of the next WS.

Luis Pessanha: Arrangement of a WEB place or FTP place for SALGEE would be useful. It is your initiative and we will see how LSA SAF would help you for doing this.

Ibrahim Sönmez: We thank to all of you for attending this WS in Antlya.

Discussion on Visualiation

ISom –

LP –

Karla –

Aydin –

Discussion on validation product

LPes –.