

6th SALGEE Workshop: MSG Land Surface Applications: Connection of climate and biosphere

Darmstadt (Germany), EUMETSAT Head Quarter
14 October 14:00 - 17 October 12:00 2019



Summary of the general discussions: Expressed opinion and recommendations for the next SAGEE activities

The general Discussion of the 6th SALGEE Workshop is chaired by: Jose Prieto, Luis Pessanha, Julia Stoyanova, Christine Traeger-Chatterjee. It was opened by its Secretary, Dr. Julia Stoyanova with the question how the Workshop has met participants' expectations? What are their needs and what they expect from the SALGEE in the future?

Athanassios Karagiannidis, NOA, Greece – Paid attention on the problem with the detection of coastal fires in Greece and expect the improved FIR product to be more relevant.

Erdem Erdy, TSMS, Turkey – The workshop was very useful event for the users providing the opportunity to see new products of LSA SAF, H-SAF, CM SAF. My Decoding and Visualization Software for NPP/JPSS Active Fire Product will be available for use by the community. Regarding our future work, we will try to obtain information for real fires over Turkey and validate Fire products.

Jose Prieto, EUMETSAT – Suggested to Athanassios Karagiannidis to prepare a case study for fires over Greece. It will be also relevant Armenia to prepare a case study for fires.

Luis Pessanha, LSASAF – Proposed Athanassios Karagiannidis to prepare a Report for LSASAF about the fire products behavior.

Iannis Proestos, Energy, Environment & Water Research Center, Cyprus – I learned a lot from the workshop, especially about the products of L-SAF, H-SAF, CM SAF and would be able to use some of them in the models. I see that we need more training and I would suggest some courses to be focus on the problems of modelers.

Christine Traeger-Chatterjee, EUMETSAT – You could suggest EUMETSAT what kind of training for modelers is relevant, because we do not much experience in this matter.

Francesco Fusto, Centro Funzionale Multirischi della Calabria, Italy – We would intend to test the new applications for Fires and Drought analysis for our region. The idea is to use indexes from ground observations and satellite data as those presented during the Workshop and if possible to develop a new one for the purposes of the Multirisk Center in Calabria.

Christine Traeger-Chatterjee, EUMETSAT – This was a nice and useful SALGEE workshop with the opportunity to link the activities on promoting the use of LSA SAF and CM SAF products.

Piotr Strużuk, Institute of Meteorology and Water Management, Poland, HSAF – He accents on some differences between the new and old Evapotranspiration products. Put the question about the quality of the new ET product because during the day black spots are appeared on the images.

Celia Gouveia, LSASAF – In response to this problem in ET, she suggested a comparison with the calculated reference evapotranspiration to be made. Your response on solar radiation, evapotranspiration products to LSASAF is welcome

Christo Georgiev, NIMH Bulgaria – These workshops are very useful for the metrological services and other users in the region of South Eastern Europe. Our countries are in quite different level regarding the satellite data application and we need such forums for exchange of experience through participants' presentations and discussions. All SALGEE meetings include presentations from leading scientists and product developers and help the participants to obtain essential knowledge on the land surface applications.

Yousef Abu Asad, Palestinian Meteorological Office –We cooperate with our Palestinian Authorities on the problems of drought monitoring and the participation in this workshop will help us to improve our understanding in this field. I am ready to send the data free for a case study.

Jose Prieto, EUMETSAT – In each next of the six SALGEE workshop new topics are included and this was the best SALGEE regarding the programme. The involvement of the participants is essential for the success of this project. The ideas of case studies are very promising; especially in some locations as Armenia. For Iran it would be interesting to make case study with the Indian Meteosat mission.

Piotr Strużuk, Institute of Meteorology and Water Management, HSAF – This SALGEE workshop was a wonderful time for discussion on LSA SAF, H-SAF, CM SAF applications and especially how to use this products for biophysical purposes. What was missing, these are presentations for precipitations, snow cover, frost from H-SAF. This is promising for the future in addition to the main topics of biosphere and climate applications, the use of radiation products also to be discussed.

Mahnaz Khazaei, Meteorology office of Iran – Very useful workshop, I have gained a lot of knowledge and now I have much more experience.

Luis Pessanha, LSA SAF – Thanks to Eumetsat for organization of this event. Special congratulations for Jose Prieto, who is a very special person that can motivate the people to work. The key point is to make efforts to use the products as much as possible. The level of SALGEE presenters contributes to achieving this goal and the level of the work of this user Group is increasing in each next workshop. We are really ready to use MTG data but the data volume is problem. Good idea is to involve the representatives from H-SAF, LSA SAF, CM SAF in the future SALGEE activities. I agree an overview of H-SAF will be useful to be presented in the workshop. Thanks to the participants for sharing us their experience.

Khaledatef Alsalammen, Jordan – The difference in levels between our countries in using satellite data is obvious. Attending this workshop, now it is a challenge for me to work for improvement our level to be the same as in the other contries.

Weidong Xu, Kings College UK - LSASAF – Very exciting to see Eumetsat HQ. Attending the Workshop, discussions and exchange ideas, it is a privileged to be here and to obtain feedback for our product. Thanks for give them that are very useful for us in order to improve the quality of LSA SAF FRP product.

Tianran Zhang, Kings College UK – Useful meeting, nice to look on the FRP performance over different areas (Greece, Bulgaria), also quite interesting to know how the people are interesting on CO2 emission. Really useful is the presentation for validation. Up to now we did not have the chance to see such results.

Luis Pessanha, LSA SAF – The SAF products have to be used, if not there is no a product.

Jose Prieto, EUMETSAT – Each next SALGEE workshop add a new topic and now it covers a wide scope of environmental applications.

Julia Stoyanova, NIMH Bulgaria - LSA SAF – Preparing SALGEE we make efforts each time to go more deep in a specific problem and covering a wide scope of problems related to satellite applications for land surface analyses, and thus being more useful for participants, from one side, and also in exchange of knowledge between experts. What makes impression for me is the great responsibility of both lecturers and participants in their contributions in the SALGEE work. We are a coupled system, Eumetsat and the users of satellite products that is why I consider as our responsibility to start working still now for the next SALGEE. Following the discussions we will focus our future work to a more close cooperation with H-SAF.

All presentations and materials are distributed among the participant in the 6th SALSEE workshop 2019 through a ftp link.

Sofia
28 November 2019

SALGEE Secretary:

/Assoc. Prof. Dr. Julia Stoyanova (Georgieva)/
NIMH-Bulgaria

06th SALGEE Workshop 2019 Agenda

MSG Land Surface Applications: Connection of climate and biosphere

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14 October 2019

13:30 14:00 **Registration at EUMETSAT HQ**

INTRODUCTION

Chair: Luis Pessanha

14:00 14:10 SALGEE towards biogeophysical and biogeochemical connection between climate and biosphere

Julia Stoyanova, NIMH Bulgaria - LSA SAF

14:10 14:20 LSA-SAF Program during CDOP-3 Phase and preparedness for MTG
Luis Pessanha, LSA SAF

14:20 14:30 The role of satellite data in climate monitoring
Christine Traeger-Chatterjee, EUMETSAT, CM SAF

14:30 14:40 EUMETSAT Satellite missions - Preparation for MTG
Jose Prieto, EUMETSAT

Topic 1: Satellite products for land surface state & anomalies analyses

General Overview

14:40 15:10 LSA-SAF operational products characteristics, performance, and expected evolution

Luis Pessanha, IPMA - LSA SAF

15:10 15:40 CM SAF products for land surface analyses
Anke Duguay-Tetzlaff, Meteo Swiss -CM SAF

15:40 16:10 **Break**

Chair: Christine Traeger-Chatterjee **Energy & Water cycles related products**

16:10	16:30	Development of CDRs within the Land Surface Temperature CCI project <i>Darren Ghent, NCEO, Univ Leicester, UK</i>
16:30	17:00	Evapotranspiration and surface fluxes products <i>Françoise Meulenberghs, RMI Belgium – RMI Belgium - LSA SAF,</i>
17:00	17:20	The H-SAF Soil Moisture product overview and discussion on its practical use <i>Piotr Struzuik, Institute of Meteorology and Water Management Poland - HSAF</i>
17:20	17:50	Thematic discussion
<i>Chairs: Jose Prieto, Luis Pessanha, Julia Stoyanova, Christine Traeger-Chatterjee</i>		

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Topic 2: Terrestrial drought monitoring

Chair: Julia Stoyanova

Assessment and monitoring agricultural & ecological drought

09:00	09:20	H SAF soil moisture data services <i>Wolfgang Wagner, TU Wien</i>
09:20	09:50	Agrometeorological consulting in Germany - methods and products by DWD <i>Thomas Leppelt, DWD, Germany</i>
09:50	10:10	LST as a climatic index of drought monitoring and impact assessment <i>Julia Stoyanova, NIMH Bulgaria – LSASAF</i>
10:10	10:30	Use of Satellite data for drought monitoring in Armenia <i>Zara Petrosyan, Service of the Hydrometeorology, Armenia</i>
10:30	11:00	Break
11:00	11:40	Applications of H SAF soil moisture data <i>Wolfgang Wagner, TU Wien</i>
11:40	12:00	Extreme heat and drought in summer in Germany – signs in early spring. <i>Christine Traeger-Chatterjee, EUMETSAT CM SAF</i>
12:00	12:10	Using Satellite data for Crop Monitoring in Armenia <i>Hasmik Panyan, Service of the Hydrometeorology and Active Influence on Atmosphere Phenomena, Armenia</i>

12:10 12:30 Assessing Agricultural Droughts by Combined Satellite Vegetation and Evapotranspiration Signal from LSA SAF
Bostjan Muri, Slovenian Environment Agency - LSASAF

12:30 14:00 Lunch Break

Monitoring European Forest (sustainability and disturbances) using satellites

Chair: Celia Gouveia

14:00 14:20 Spectral response of the forest cover under drought and thermal stress
Jose Prieto, EUMETSAT

14:20 15:00 Forest health and disturbance monitoring through Earth Observation, new needs and new opportunities
Piter Beck, EC-JRC, Italy

15:00 15:20 Assessing drought impacts on vegetation activity and productivity using remote sensing data
 Monitoring vegetation conditions and disturbances using satellite derived Climate Data Records
Celia Gouveia, IPMA – LSASAF

15:20 15:40 Break

15:40 16:00 Monitoring of forest cover disturbances during natural hazards by meteorological satellites (to be transferred after L.Giglio talk)
Julia Stoyanova, NIMH Bulgaria - LSASAF

Topic 3: Fires: Risk assessment, Detection, Emissions

Chair: Jose Prieto

Fire detection and Biomass burning effects

16:00 17:00 Insights from two decades of developing satellite-based fire climate data records and their use and abuse (*Internet talk*)
Louis Giglio, Univ.Maryland, USA

19:00 Social event

16 October 2019

Topic 3: Fires: Risk assessment, Detection, Emissions

Chair: Weidong Xu

Fire detection and Biomass burning effects (continue)

- 09:00 09:20 Fire detection capabilities with Meteosat
Jose Prieto, EUMETSAT
- 09:20 09:40 Major advances of LSASAF FRP products
Weidong Xu, Kings College UK - LSASAF
- 09:40 10:00 New LSASAF Fire Emission product
Tianran Zhang, Kings College UK - LSASAF
- 10:00 10:15 Fire activities and fuel consumption
Weidong Xu, Kings College UK - LSASAF
- 10:15 10:30 Decoding and Visualization Software for NPP/JPSS Active Fire Product
Erdem Erdy, TSMS, Turkey
- 10:30 11:00 **Break**
- 11:00 11:20 Global agricultural fire trends analysis using MODIS and VIIRS, with focus on China and India
Tianran Zhang, Kings College UK - LSASAF

Fire Risk

Chair: Christo Georgiev

- 11:20 11:50 Susceptibility to forest fire triggering and propagation in the region of Calabria, south Italy
Francesco Fusto, Centro Funzionale Multirischi della Calabria, Italy
- 11:50 12:10 Quality monitoring of the new LSA SAF Fire Risk Map product over south-eastern Europe
Julia Stoyanova, Christo Georgiev, NIMH Bulgaria - LSASAF
- 12:10 12:30 Detection of dry intrusions as fire risk indicators and increased ozone concentrations in the environment of wild fires
Christo Georgiev, NIMH Bulgaria

12:30 14:00 **Lunch Break**

Carbon cycle and Climate: Vegetation as a carbon sink

Chair: Shaun Quegan

14:00	14:40	The role of the land surface in the Earth's carbon cycle: observations and modelling <i>Shaun Quegan, Univ Sheffield, UK</i>
14:40	15:10	The new 10-day LSA SAF Gross Primary Production (MGPP) product: Its role in global drought monitoring <i>Beatriz Martínez Díaz, Univ Valencia, Environmental Remote Sensing Group, Spain – LSASAF</i>
15:10	15:30	On the modeling of Net Primary Productivity <i>Julia Stoyanova, NIMH Bulgaria – LSASAF</i>
15:30	16:00	Break
16:00	16:20	Assessing drought impacts on vegetation activity and productivity using remote sensing data <i>Celia Gouveia, IPMA, Portugal – LSASAF</i>
16:20	17:00	New prospects for measuring forest biomass from space <i>Shaun Quegan, Univ Sheffield, UK</i>
17:00	17:30	Thematic Discussion

Chairs: Jose Prieto, Shaun Quegan, Luis Pessanha, Julia Stoyanova, Christine Traeger-Chatterjee

17 October 2019		
Topic 4: Regional applications		
<i>Chair: Piotr Strużuk</i>		
09:00	09:15	Overview of The Drought and Fire Observatory and Early Warning System (DISARM) project <i>Athanassios Karagiannidis, National Observatory of Athens</i>
09:15	09:45	Practical use of H-SAF and Land-SAF products in agriculture service <i>Piotr Strużuk, Institute of Meteorology and Water Management – HSAF</i>
09:45	10:00	Monitoring and Forecasting Fire hazard and drought in the Eastern Mediterranean and Cyprus <i>Iannis Proestos, Energy, Environment & Water Research Center, Cyprus</i>

10:00	10:10	Jordan vulnerability and water resources <i>Khaled atef Alsalammen, Jordan</i>
10:10	10:20	Needs and expected benefit for Palestinian meteorological office from using satellite information <i>Yousef Abu Asad, Palestinian Meteorological Office</i>
10:20	10:30	I.R. of Iran meteorological organization studies in the fields of workshop subjects <i>Mahnaz Khazaei, Meteorology office of Iran</i>
10:30	11:00	Break
11:00	12:00	General Discussion <i>Chair: Jose Prieto, Luis Pessanha, Julia Stoyanova, Christine Traeger-Chatterjee</i>



List of lecturers & participants

06th SALGEE Workshop 2019

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1. Assoc. Prof. Dr. Julia Stoyanova (Georgieva)

SALGEE Secretary
National Institute of meteorology and Hydrology
Sofia
Bulgaria

2. Dr. Luis Pessanha, LSA SAF

IPMA – LSASAF, SALGEE Steering Group
Lisbon
Portugal

3. Dr. Christine Traeger Chatterjee

Training Officer
EUMETSAT

4. Prof. Shaun Quegan

University of Sheffield
United Kingdom

5. Dr. Louis Giglio

Research Professor
University of Maryland
USA

6. Prof. Christo Georgiev

National Institute of meteorology and Hydrology
Bulgaria

7. Celia Gouveia

Célia marina Pedroso Gouveia
Senior Researcher IPMA
Invited Assistant Professor: IDL, University

8. Beatriz Martínez Díaz

PhD Researcher
University of Valencia
VALENCIA, SPAIN

9. Dr. Weidong Xu

Kings College
London
United Kingdom
United Kingdom

10. Dr. Tianran Zhang

King's College, London

11. Anke Duguay- Tetzlaff

Federal Office of Meteorology and Climatology MeteoSwiss – CM SAF
Switzerland

12. Dr. Darren Ghent

National Centre for Earth Observation (NCEO)
University of Leicester
United Kingdom

13. Prof. Wolfgang Wagner

Vienna University of Technology (TU Wien)
Vienna,
Austria

14. Dr. Thomas Leppelt, DWD - cancelled

Deutscher Wetterdienst
Frankfurter Str. 135
Offenbach am Main
Germany

15. Dr. Franvoise Gellens- Meulenberghs

Royal Meteorological Institute
Brussels
Belgium

Pietr Beck
European Commission
Joint Research Centre, JRC
Italy

16. Francesco Fusto
Centro Funzionale Multirischi della Calabria
Catanzaro
Italy

17. Piotr Struzik
Dr. Eng. Piotr Struzik
Institute of Meteorology and Water Management, H-SAF
Krakow
POLAND

18. Athanassios Karagiannidis
Institute of Environmental Research & Sustainable Development, National Observatory of Athens
Lofos Koufou, P.Penteli
Athens
Greece

19. Khaled atef Alsalammen
Jordan Amman Airport
Meteorological Department
Jordan

20. Iannis Proestos, PhD
Energy, Environment & Water Research Center (EEWRC)
The Cyprus Institute
Nicosia
Cyprus

21. Zarmandukht Petrosyan
Service of the Hydrometeorology and Active Influence on Atmosphere Phenomena
Yerevan
Armenia

22. Hasmik Panyan
Service of the Hydrometeorology and Active Influence on Atmosphere Phenomena
Yerevan
Armenia

Yousef Abu Asad

Palestinian Meteorological Office
Ramallah - Palestine

23. Erdem Erdy

Turkish State Meteorological Service
Ankara
TURKIYE

24. Bostjan Muri

Slovenian Environment Agency, ARSO
Ljubljana,
Slovenia

25. Mahnaz Khazaei

Kermanshah meteorology office
Kermanshah
I.R. of Iran

26. José Prieto

Training Officer
EUMETSAT