

6th INTERNATIONAL WORKSHOP ON SAND/ DUSTSTORMS AND ASSOCIATED DUSTFALL

7-9 SEPTEMBER 2011, ATHENS, GREECE

ORAL SESSIONS

WEDNESDAY, 7TH

Registration	08:30 - 09:00
Welcome	09:00 - 09:15
George Kallos	09:15 - 09:30
<i>The Desert dust and its impacts: General considerations</i> (PDF)	

SESSION I: DUST PRODUCTION/TRANSPORT CHARACTERISTICS AND IMPACTS – CLIMATOLOGY

CHAIRS: W. LAU (USA), T. GAO (CHINA), G. KALLOS (GREECE)

1. W.K.-M. Lau, K.-M. Kim, P. Colarco, and A. Dasilva	09:30 - 10:00	
<i>Saharan dust radiation-cloud-precipitation-dynamics interactions</i> (PDF)		
2. Kyu-Myong Kim and W.K-M Lau	10:00 - 10:15	
<i>The role of African easterly wave on dust transport and the interaction between Saharan dust layer and Atlantic ITCZ during boreal summer</i>		
3. A. Gkikas, E.E. Houssos, C.J. Lolis, A. Bartzokas, N. Mihalopoulos and N. Hatzianastassiou	10:15 - 10:30	
<i>The regime of dust episodes over the Mediterranean basin from contemporary satellites</i>		
4. C. Tsamalis, A. Chédin and S. Peyridieu	10:30 - 10:45	
<i>Global dust altitude seasonal climatology based on CALIPSO observations</i> (PDF)		
COFFEE BREAK		10:45 - 11:15
5. Tao Gao and Weiwei He	11:15 - 11:30	
<i>Impacts of climate abnormality on remarkable dust storm increase of the Hunshdak Sandy Lands in northern China during 2001-2008</i> (PDF)		
6. Yaacov Mamane, Cinzia Perrino, and Osnat Yossef	11:30 - 11:45	
<i>Transport and transformation of mineral particles along the East Mediterranean coast – A review</i> (PDF)		
7. G. Stenchikov, M. Zampieri, R. Abida	11:45 - 12:00	
<i>Assessing regional dust climate impact in Middle East, North Africa, and Mediterranean</i> (PDF)		
DISCUSSION SESSION I	12:00 - 12:30	
LUNCH BREAK		12:30 - 14:30

**SESSION 2:
PHYSICAL AND OPTICAL PROPERTIES OF DESERT DUST –
REMOTE SENSING**

CHAIRS: A. PAPAYANNIS (GREECE), O. TORRES (USA), G. STENCHIKOV (SAUDI ARABIA)

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| 1. A. Papayannis, P. Kokkalis and the EARLINET team | 14:30 - 15:00 |
| <i>Systematic coordinated Saharan dust profiling over Europe in the frame of the EARLINET and EARLINET-ASOS project (2000-2011) (PDF)</i> | |
| 2. L. Mona and G. Pappalardo | 15:00 - 15:15 |
| <i>Quantitative evaluation of dust modeled profiles with EARLINET database: first results (PDF)</i> | |
| 3. C. Tsamalis, A. Chédin and S. Peyridieu | 15:15 - 15:30 |
| <i>Towards the daily observation of dust aerosols infrared optical depth and altitude from IASI and AIRS with one spot resolution: comparison with MODIS and CALIPSO (PDF)</i> | |
| 4. O. Torres, H. Jethva, Ch. Ahn | 15:30 - 15:45 |
| <i>Long range transport of Saharan Dust: The April 2011 dust storm over Western Europe</i> | |
| 5. E. Giannakaki, D. Balis, V. Amiridis | 15:45 - 16:00 |
| <i>Vertical resolved separation of aerosol types using CALIPSO level-2 products (PDF)</i> | |
| COFFEE BREAK | |
| | 16:00 - 16:15 |
| 6. N. Benas, N. Hatzianastassiou, C. Matsoukas, A. Fotiadi, N. Mihalopoulos, I. Vardavas | 16:15 - 16:30 |
| <i>Aerosol shortwave daily radiative effect and forcing based on MODIS Level 2 data: Study of Saharan dust events in the Eastern Mediterranean (Crete)</i> | |
| 7. M. Kafatos, H. El-Askary and A. K. Prasad | 16:30 - 16:45 |
| <i>Multi sensor observations on the implications of desert dust transport to the Nile Delta, the Indo-Gangetic Basin and Himalayan Glaciers</i> | |
| 8. Barak Herut, Eyal Rahav, Ilana Berman-Frank | 16:45 - 17:00 |
| <i>Impact of dust on biogeochemical processes in the East Mediterranean Sea, case studies and gaps of knowledge</i> | |
| DISCUSSION SESSION 2 | 17:00 – 17:30 |

THURSDAY, 8TH

SESSION 3: DIRECT AND INDIRECT EFFECTS OF DESERT DUST – RELATIONSHIP WITH AIR QUALITY AND HEALTH

CHAIRS: Z. LEVIN (ISRAEL/CYPRUS), C. MITSAKOU (GREECE), A. DI SARRA (ITALY)

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| 1. Zev Levin, Karin Ardon-Dryer, Amit Teller
<i>Ice nucleation by dust particles in the Eastern Mediterranean; their impact on cloud and precipitation development</i> (PDF) | 09:00 - 09:30 |
| 2. S. Solomos, G. Kallos
<i>The role of dust on cloud-precipitation cycle</i> (PDF) | 09:30 - 09:45 |
| 3. A. di Sarra, L. de Silvestri, C. di Biagio, D. Meloni, I. Mavilia,
F. Monteleone, G. Pace, D. Sferlazzo
<i>Shortwave and longwave radiative effects of Saharan dust in the Central Mediterranean Sea</i> | 09:45 - 10:00 |
| 4. E. Gerasopoulos, M. Gratsea, S. Kazadzis, V. Amiridis, M. Vrekoussis,
E. Liakakou
<i>Dust impact on urban air quality</i> (PDF) | 10:00 - 10:15 |
| 5. D. Santos, M. J. Costa, A. M. Silva, and R. Salgado
<i>Regional modeling of Saharan desert dust – Aerosol indirect radiative forcing</i> | 10:15 - 10:30 |
| COFFEE BREAK | 10:30 - 11:00 |
| 6. C. Spyrou, G. Kallos, C. Mitsakou and C. Kalogeri
<i>Radiative effects of desert dust on weather and climate</i> (PDF) | 11:00 - 11:15 |
| 7. G.P. Gobbi, H. Wille, R. Sozzi, S. Frey, A. di Giosa, F. Costabile,
F. Angelini, and F. Barnaba
<i>The impact of Saharan advections on Rome PM levels and the LIFE+ “DIAPASON” project</i> (PDF) | 11:15 - 11:30 |
| 8. C. Mitsakou, G. Kallos, C. Spyrou
<i>Saharan dust levels in Greece: Impacts on urban environment and human health</i> (PDF) | 11:30 - 11:45 |
| 9. P. Nastos, A. Godelitsas, Ch. Zarkadas, K. Potiriadis,
E. Chatzitheodoridis, A. Karydas
<i>Saharan dust in red rain precipitated over Athens, Greece on February 24th 2006</i> | 11:45 - 12:00 |
| DISCUSSION SESSION 3 | 12:00 - 12:30 |
| LUNCH BREAK | 12:30 - 14:30 |

**SESSION 4:
DUST MODELING AND OPERATIONAL FORECASTING**

CHAIRS: N. HUNEUS (FRANCE), Y.-S. CHUNG (S. KOREA), J. MORCRETTE (UK)

1. N. Huneus et al. **14:30 - 15:00**
Global dust model intercomparison in AeroCom phase I

2. M. Astitha and J. Lelieveld **15:00 - 15:15**
Global modelling of desert dust emissions – sources and parameterization schemes
([PDF](#))

**3. F. Guarnieri, F. Calastrini, C. Busillo, M. Pasqui, S. Becagli, M. Chiari,
F. Lucarelli, S. Nava, R. Udisti** **15:15 - 15:30**
*Saharan dust outbreaks on the Mediterranean Basin by means of atmospheric emission,
dispersion model chain* ([PDF](#))

**4. P. Kishcha, C. Carnevale, G. Finzi, E. Pisoni, M. Volta, S. Nickovic,
P. Alpert** **15:30 - 15:45**
*Improving air pollution modeling by using Saharan dust forecasts: A case study over
Northern Italy*

5. Jean-Jacques Morcrette, A. Benedetti, L. Jones, J.W. Kaiser, M. Razinger **15:45 - 16:00**
The ECMWF/MACC aerosol analysis and forecast system: Focus on dust

COFFEE BREAK **16:00 - 16:15**

**6. J.-P. Chaboureaud, C. Flamant, C. Kocha, C. Lavaysse, F. Marnas, J. Pelon
and K. Schepanski** **16:15 - 16:30**
*Verification of Meso-NH dust forecasts against lidar observations during the FENNEC
campaign in June 2011*

7. T. Lekas, G. Kallos, J. Kushta, S. Solomos, C. Spyrou **16:30 - 16:45**
Impacts of dust on aviation ([PDF](#))

8. M. E. Brooks, Y. Pradhan, D. Walters, B. Johnsons, R. Dumelow **16:45 - 17:00**
Operational dust storm forecasting at the Met Office ([PDF](#))

DISCUSSION SESSION 4 **17:00 – 17:30**

WORKSHOP DINNER **20:30**

FRIDAY, 9TH

SESSION 5: GROUND MEASUREMENTS, CHEMICAL PROPERTIES OF DUST AEROSOL

CHAIRS: N. MIHALOPOULOS (GREECE), J. CHABOUREAU (FRANCE), E. GERASOPOULOS (GREECE)

1. N. Mihalopoulos, S. Kleanthous, G. Kouvarakis, A. Gkikas,
E. Vasiliadou, C. Theodosi, C. Zoubali, N. Hatzianastassiou
Interannual variability of dust over the Eastern Mediterranean ([PDF](#)) 09:00 - 09:30
2. S. Nava, G. Calzolari, M. Chiari, F. Lucarelli, F. Calastrini, F. Guarnieri,
S. Becagli, R. Traversi, R. Udisti
Saharan dust impact in central Italy: main results from many year elemental data records
([PDF](#)) 09:30 - 09:45
3. Y.-S. Chung and H.-S. Kim 09:45 - 10:00
*Trend of dust storm days and variation in dust and carbon monoxide concentrations
during dust storms observed at Cheongwon, Korea* ([PDF](#))
4. Chun-xing Hai, Bao-yuan Liu, Ye Zhao, Jing Wang, Rui-rong Zhou,
Yi Fang, C.-x. Hai, J. Wang, R.-r. Zhou, Y. Fang, B.-y. Liu, Y. Zhao
*Development of a particulate collection instrument for soil wind erosion in the near
surface layer* 10:00 - 10:15
5. Tao Gao and Wei Yan 10:15 - 10:30
*Northern China Dust Storms Definitions, Climate Controls and Spring Seasonal forecast
signals* ([PDF](#))
- COFFEE BREAK 10:30 - 11:00
6. M. Marconi, D.M. Sferlazzo, S. Becagli, R. Traversi, G. Pace, A. di Sarra,
C. Bommarito, G. Calzolari, M. Chiari, C. Ghedini, F. Lucarelli, D. Meloni,
F. Monteleone, S. Nava, and R. Udisti
*Saharan dust aerosol over the Central Mediterranean Sea: chemical characterization,
seasonal evolution, and optical properties* 11:00 - 11:15
7. E. Remoundaki, A. Papayannis, P. Kassomenos, E. Mantas, P. Kokkalis,
R.E. Mamouri, and M. Tsezos 11:15 - 11:30
*Major dust transport events over Athens during 2010: contribution in PM_{2.5}
concentrations*
8. V. Amiridis, E. Marinou, E. Gerasopoulos, S. Kazadzis, M. Gratsea,
E. Liakakou, R. Mamouri, P. Kokkalis, A. Papayannis, N. Kouremeti,
E. Giannakaki, D. Balis, A. Bais 11:30 - 11:45
*The past is a guide to the future: Overview of dust and ocean productivity in the
coastline of Africa* ([PDF](#))
- DISCUSSION SESSION 5 11:45 - 12:15
- GENERAL DISCUSSION – CONCLUSIONS – TO DO 12:15 - 13:00

END OF PRESENTATIONS

POSTER PRESENTATIONS

The posters will be available during all days of the workshop

1. **João Sousa, Ana Cristina Carvalho, Paulo Melo-Gonçalves, Alfredo Rocha, Joana Monjardino and Francisco Ferreira**

Principal component analysis for PM_{10} and $PM_{2.5}$ concentrations in the Iberian Peninsula

2. **N. Papagiannopoulos, E. Giannakaki, D. Balis**

On the retrieval of aerosol mass concentration profile using lidar and sun-photometry data ([PDF](#))

3. **S. Schrader, B. Vogel, H. Vogel, S. Norra, P. Suppan, Y. Wang, G. Tang**

Model simulation of a dust storm event in April 2006 in Northern China with the model system COSMO-ART ([PDF](#))

4. **M. Korras-Carraca, A. Gkikas, C.D. Papadimas, and N. Hatzianastassiou**

Saharan and Arabian Peninsula dust optical properties from MODIS Aqua Deep Blue over 2002-2010

5. **Thuraya M Saeed, Hassan Al-Dashti**

Aerosols optical and physical characteristics and direct radiative forcing measurements during a dust storm

6. **J.L. Gómez-Amo, A. di Sarra, M. Cacciani, M.R. Perrone**

The role of vertical distribution of aerosol properties in the atmospheric energy budget during a desert dust event in the Central Mediterranean ([PDF](#))

7. **M. Abdel Kader, A. Pozzer, M. Astitha, L. Barrie, J. Lelieveld**

Assessment of dust removal mechanisms in EMAC model

8. **K. Špoler Č., Nataša S. Mahović, I. Kavčič, and Zvezdana Bencetić Klaić**

Saharan dust in Croatia ([PDF](#))

9. **P.G. Kosmopoulos, D.G. Kaskaoutis, A.K. Prasad, P.R. Sinha, A.R. Rashki**

Spatial and vertical distribution of Sahara dust event over eastern Mediterranean in winter using remote sensing observations ([PDF](#))

10. **G. Pace, W. Junkermann, M. Cacciani, G. Casasanta, C. di Biagio, N. di Genova, A. di Sarra, D. Mateos, D. Meloni, V. Tramontana, G. Zanini**

Desert dust effects on ozone photolysis during the MINNI-MORE campaign

11. **Tao Gao and Jingwei Han**

Evolutionary characteristics of the atmospheric circulations for frequent and infrequent dust storm springs in northern China and the detection of potential future seasonal forecast signals

12. **Chaboureau, J.-P., E. Richard, J.-P. Pinty, C. Flamant, P. di Girolamo, C. Kiemle, A. Behrendt, H. Chepfer, M. Chiriaco, and V. Wulfmeyer**

Long-range transport of Saharan dust and its radiative impact on precipitation forecast: a case study during COPS