Joint 4th Workshop on Asian Dust and Ocean EcoSystem (ADOES) with Asian SOLAS

（18-22 May 2009, Je Ju, Korea）

First Circular

（13 Jan. 2009）

Organizers:

- CNC-IGBP-SOLAS
- LASG, Institute of Atmospheric Physics, Chinese Academy of Sciences
- Ocean University of China

Sponsors:

- China Association for Science and Technology
- Seoul National University

Workshop Background

Mineral dust originated from desert is of considerable scientific importance because of its role on human health, traffic and climate through a range of possible influences and mechanisms, such as global radiation balance, cloud processes, and atmospheric chemistry. It is also possible to impact upon ocean biogeochemical cycling and ecosystem, and consequently may affect climate through its influence on marine primary productivity.

Asian dust has been receiving increasing attention not only due to its local effects, but the environmental consequences in their downwind areas such as Japan, Korea, Hawaii and the west coast of North America，even the subarctic region and Europe through the long range transportation of the dust. Every year, 10 to $>10^2$ Tg of soil-derived mineral aerosol are transported from the arid East Asian, which contribute

to 5%～40% of the global dust release estimation. Asian dust can also deposit large amounts of mineral nutrients (e.g. nitrogen, iron) into the coastal and Pacific Oceans, and impacting surface biological productivity and the air–sea exchange of CO_2. For the subarctic Pacific, an important HNLC (high nitrate low chlorophyll) region in the northern hemisphere, transport and deposition of mineral dust from Asia appears to be the major source of Fe. Although phytoplankton growth in this region has been shown to be stimulated by Fe enrichment of the surface waters, the establishment of a causal relationship between Asian dust passages and phytoplankton bloom events in the region has been difficult, and the understanding of connection between Asian dust and the marine ecosystem remains little.

To promote the study on Asian dust and its effect on ocean ecosystem, Asian Dust and Ocean EcoSystem (ADOES) is proposed to be a new ad hoc task team under the frame of international Surface Ocean-Lower Atmosphere Study (SOLAS). The initiative of ADOES was suggested by Chinese scientists in the SOLAS open science meeting held in Halifax, in Oct., 2004 and it was approved by SSC of SOLAS on the IGBP congress held in Cape Town in May, 2008. From 2005 to 2007, three international workshops have been held in China to address the scientific questions. ADOES is related to various SOLAS activities, particularly 1.4(Iron and Marine Productivity), 1.5 (Ocean-Atmosphere Cycling of Nitrogen), 2.1(Exchange Across the Air-Sea Interface) and 3.3(Air-Sea Flux of N_2O and CH_4). The goal of ADOES is: To quantitatively understand the deposition flux and bioavailability of Asian dust, and its impact on biogeochemical processes and ocean ecosystem in order to provide scientific bases for the mechanism of eolian dust-ocean ecosystem-radiative gases-climate change.

Objectives and Themes of the Workshop

To improve the understanding of the transport processes, especially the changes in physical and chemical properties of dust particles during their transport from source regions to the ocean, and the impacts of nutrient-rich dust particles on different marine

ecology systems, the potential feedback of marine ecosystems to dust deposition, some major themes related to Asian dust are proposed:

- **Physical and chemical variations of dust aerosol during its downwind transportation**
- **Transport path and layer of dust and its deposition flux to northern Pacific Oceans**
- **Impacts of dust on biogeochemistry and ocean ecosystem**
- **Feedback of marine ecosystems to dust deposition**

The comparative studies of the effects of Asian dust and Sahara dust on the global ocean, and additionally the different effect of dust on open sea and coastal ocean should be promoted.

The regional cooperation on SOLAS among Asian countries (Japan, Korea etc.) and other countries (USA, Canada, Australia, EU etc.) in the world should be enhanced, including the exchange of personnel and information, coordination of field observations, and application of joint research projects, to make more contributions to SOLAS. The ideas and proposal of joint research in the frame of ADOES will be discussed.

Dates：18^{th} –22^{th} May, 2009

Venue：**Je Ju, Korea**

Abstract and Presentation

- Authors are encouraged to submit an abstract of about 300 words in English for oral presentation or poster. The abstracts should be submitted via email to the **Workshop Secretariat** by 15 Feb., 2009
- 25 minutes for each oral presentation, including questions and comments.

Scientific Committee

- Chairs:

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Shi-Zuo Feng Ocean University of China, China

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Workshop Secretariat

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Feedback Form

- Please fill in and send the form to Workshop Secretariat by **15 Feb., 2009** via email. This will ensure you can be arranged for presentation.
- **Chinese participants please send to Miss Jin-Hui Shi, engroup@ouc.edu.cn**
  Foreign paticipants please send to Miss Na Xu, xuna@post.iap.ac.cn or Miss Zheng Lin (Jenny), jennylin@lasg.iap.ac.cn

Title(Ms., Mr., Prof., Dr. or other):	
Family Name:	Given Name:
Affiliation (this will occur on your badge):	
Postal address:	
Tel:	Fax:
E-mail:	
Date of my arrival at/ departure from Je Ju:	
Passport information (name on the passport, passport no., date of issue, etc.):	
Preferred presentation mode (oral or poster):	
Presentation Title:	
Abstract :	
Suggestion (if any):	