

A workshop associated with the IGBP Fast Track Initiative (FTI) on “Upper Ocean Nutrient Limitation: Processes, Patterns and Potential for change”

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Over the past 2 decades a number of significant advances have furthered our understanding of the processes responsible for patterns of microbial nutrient limitation in the upper ocean and subsequent consequences for marine biogeochemistry. Moreover, given past changes and the potential for significant perturbation of limiting nutrient inputs to the ocean over the remainder of the century, it was felt to be an opportune moment for the community to attempt a clarification of the current state of knowledge.

The workshop was attended by 19 participants from 10 countries and four

continents. A wide range of different disciplines were represented from microbiologists to paleo-oceanographers, reflecting the theme of the FTI cross-cutting IGBP projects including SOLAS, IMBER, AIMES and PAGES. Given the topics to be covered, a number of pre-workshop reports were prepared, with material on these presented during the first day of the workshop.

Subsequent discussions were focused towards synthesising this material alongside additional novel insights coming from the group. The participants continued to focus on four broad themes: 1) the concepts and definitions of nutrient limitation, 2) patterns of limitation in the modern ocean, including the development of a new database of prior published results, 3) expected changes in the future and finally 4) the potential implications of such changes.

Contributing to the SOLAS Mid-Term Strategy theme Atmospheric control of nutrient cycling and production in the surface ocean

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Overall the range and level of expertise facilitated a dynamic environment for stimulating and productive cross disciplinary discussions, which will hopefully be reflected in the quality of the outputs. The group are currently working towards the first of these, the submission of a major review to a high profile journal within the first half of 2011.

Further details on the FTI and the workshop are available at http://ocean.stanford.edu/IGBP_FTII/. All attendees are thanked for their participation alongside IGBP, the US Ocean Biogeochemistry Programme, EU-COST 735 and SCOR for the funding which made the meeting possible.



Joint 5th workshop on Asian Dust and Ocean Ecosystem (ADOES) with Asian SOLAS / WESTPAC¹ / METMOP² / SALSA³

29 November – 2 December 2010, Nakasaki, Japan

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Professors Mitsuo Uematsu (Japan), Gang Yi Shi (China), and SoonChang Yoon (Korea) began the workshop by first welcoming the 33 participants from Japan, China, Korea, and the United States, and then outlining the workshop objectives for the group.

The workshop goals were to improve the scientific understanding of the processes controlling the origin, transport, physicochemical nature and effect of Asian dust on ocean biogeochemistry. Additionally, the meeting was intended to enhance regional cooperation among the ADOES group and with other similar SOLAS initiatives around the world.

The first goal was accomplished with the presentation of 21 science talks over two days. These were delivered by both senior researchers and students and presented a comprehensive coverage of essential

problems facing ADOES and other studies of ocean-dust interactions.

Enhancing collaboration and coordination of work within ADOES and with other dust studies was discussed in an afternoon session on the second day to end the formal workshop. This included a brief overview by Professor William Miller about the SOLAS Mid-Term Strategy and the role of ADOES as a leader and model for excellent regional scientific collaborations in promoting these plans.

Professor Huiwang Gao presented a concise overview of initiatives that ADOES could pursue in the coming year including the ability for samples to be collected for distribution on upcoming Chinese cruises. Further discussion identified, as a minimum, the following action items:

1) Invite someone from the Australian Dust group to the ADOES/WESTPAC workshop to be held in Busan, S. Korea, 28-31 March, 2011 (20 December abstract deadline).

2) Determine the feasibility and possible availability of a “Dust Standard” to be used by the ADOES group and international dust community. The National Institute of Environmental Studies (Tsukuba, Japan) is now trying to sample the dust in Mongolia.

3) Continue the intercomparison of analytical results currently underway on seawater and aerosol filter samples collected during the R/V Hakuho Maru cruise (KH-10-1) between the Japanese and Chinese groups.

It is clear from the successful 5th ADOES workshop activities in Nagasaki that the ADOES group is making good progress in addressing the important scientific questions related to the interactions between Asian dust and ocean ecosystems.



¹IOC/WESTPAC (IOC Sub-Commission for the Western Pacific), ²METMOP (Marine Ecosystem Transit from Marginal seas to Open Pacific), ³SALSA (Development of Seamless Chemical Assimilation System and its Application for Atmospheric Environmental Materials)