

W1 MEQ Workshop (including laboratory demonstration) — Review of selected harmful algae in the PICES region: I. *Pseudo-nitzschia* & *Alexandrium* and HAB-S Meeting

Co-Convenors: *Tatiana Orlova (Russia) and Mark Wells (U.S.A.)*

This workshop is the beginning of an annual series in which harmful algal bloom (HAB) species that impact all or most countries in the North Pacific are discussed in detail. In 2005, we will focus on two genera, *Pseudo-nitzschia* and *Alexandrium*. Topics will include detection methods, ecosystem comparison, and new advancements in physiology and ecology from each of the member countries. In particular, we would like to stress those factors which need additional study in order to develop a predictive capacity for these HABs. Specific subjects will include: a comprehensive listing of both macro- and micro-nutrient requirements, toxin production, light and temperature requirements, environmental conditions, species and strain variability, cyst formation, shellfish species impacted, modeling, and genetics. We will document our knowledge on the ecophysiology of these HAB species as a result of this workshop. During future workshops we anticipate discussing additional HAB species, including: *Cochlodinium*, *Heterosigma akashiwo*, *Dinophysis*, *Heterocapsa*, *Chattonella*, *Gymnodinium catenatum*, and *Karenia mikimotoi*. This workshop will be preceded by a ½-day laboratory demonstration on detection techniques for algal toxins.

W1 (MEQ) Workshop

Thursday, September 29, 2005 13:00-18:00

13:00-18:00 **Laboratory demonstration on detection techniques for algal toxins**

Friday, September 30, 2005, 08:30-18:00

08:30-08:40 **Mark Wells and Tatiana Orlova**
Welcome and introduction

08:40-09:25 **Charles G. Trick** (Invited)
Occurrence and effects of *Alexandrium* species in the environs of the North Pacific (W1-2422)

09:25-09:45 **Satoshi Nagai**
Microsatellite markers reveal population genetic structure of the toxic dinoflagellate *Alexandrium tamarense* (Dinophyceae) in Japanese coastal waters (W1-2572)

09:45-10:00 **Shigeru Itakura, Satoshi Nagai, Yukihiko Matsuyama and Mineo Yamaguchi**
Notes on *Alexandrium* bloom occurrence in Japanese coastal waters (W1-2266)

10:00-10:20 **Coffee Break**

10:20-10:35 **Ruixiang Li and Mingyuan Zhu**
The distribution and HAB formation of *Alexandrium* spp. in Chinese coastal waters (W1-2289)

10:35-10:50 **Changkyu Lee, Ensub Cho, Jongkyu Park, Changhoon Kim, Wolae Lim and Giyoung Kwon**
Occurrence of *Alexandrium* species in Korean coastal waters (W1-2597)

10:50-11:05 **Tatiana Orlova, Marina Selina and Inna Stonik**
Species of the genera *Alexandrium* from the east coast of Russia (W1-2281)

11:05-11:20 **Vera L. Trainer, B-T.L. Eberhart, J.C. Wekell, N.G. Adams, L. Hanson, F. Cox and J. Dowell**
Paralytic shellfish toxins from *Alexandrium* in Puget Sound, Washington, U.S.A. (W1-2445)

- 11:20-12:30 **Discussion and recommendation**
- 12:30-14:00 **Lunch**
- 14:00-14:45 **Stephen S. Bates** (Invited)
Biology of the diatom *Pseudo-nitzschia*, producer of the ASP toxin domoic acid (W1-2508)
- 14:45-15:00 **Shigeru Itakura, Satoshi Nagai, Yukihiro Matsuyama and Mineo Yamaguchi**
Notes on *Pseudo-nitzschia* bloom occurrence in Japanese coastal waters (W1-2266)
- 15:00-15:15 **Ruixiang Li and Mingyuan Zhu**
The distribution and HAB formation of *Pseudo-nitzschia pungens* in Chinese coastal waters (W1-2288)
- 15:15-15:30 **Jinhui Wang, Nina Lundholm, Øjvind Moestrup, Yutao Qin and Ren Xu**
Preliminary study of *Pseudo-nitzschia* spp. in the Yangtze estuary (China) (W1-2236)
- 15:30-15:45 **Changkyu Lee, Ensub Cho, Jongkyu Park, Changhoon Kim, Wolae Lim and Giyoung Kwon**
Occurrence of *Pseudo-nitzschia* species in Korean coastal waters (W1-2597)
- 15:45-16:00 **Tatiana Orlova, Marina Selina and Inna Stonik**
Species of the genera *Pseudo-nitzschia* from the east coast of Russia (W1-2281)
- 16:00-16:20 **Coffee Break**
- 16:20-16:35 **William P. Cochlan, Julian Herndon and Nicolas C. Ladizinsky**
Inorganic and organic nitrogen uptake capabilities of the toxigenic diatom *Pseudo-nitzschia australis* (W1-2436)
- 16:35-17:45 **Discussion and recommendation**
- 17:45-18:00 **Summary and conclusion**

HAB Section Meeting

Saturday, October 1, 2005 8:30-18:00

- 08:30-09:00 **Hak-Gyoon Kim and Vera Trainer**
Welcome, goals of HAB Section meeting

Special Talks

- 09:00-09:30 **Gennady A. Kantakov, Marina S. Selina, Inna V. Stonik and Tatiana Y. Orlova**
Oceanological conditions and HAB monitoring in Aniva Bay, Sea of Okhotsk during 2003 (W1_HAB_Section-2510)
- 09:30-10:00 **Mark L. Wells, Charles G. Trick, William P. Cochlan, Margaret P. Hughes and Vera L. Trainer**
Domoic acid: The synergy of iron, copper and the toxicity of diatoms (W1_HAB_Section-2427)
- 10:00-10:30 **Coffee Break**
- 10:30-11:00 **Mingyuan Zhu and Ruixiang Li**
Why the time of large scale HAB of *Prorocentrum* in the area south of Yangtze River Estuary changed in spring of 2005 (W1_HAB_Section-2238)

Database: HAE-DAT talks

- 11:00-11:30 **Hak-Gyoon Kim, Tatiana Orlova, Vera L. Trainer, Charles G. Trick, Yasunori Watanabe and Ming-Yuan Zhu**
Participation in the Intergovernmental Oceanographic Commission's Harmful Algae Event Database (HAE-DAT): The first year of PICES involvement (W1_HAB_Section-2599)
- 11:30-12:00 **Henrik Oksfeldt Enevoldsen, Monica Lion and Benjamin Sims**
Progress in the development of an international collaborative harmful algal event data base: The joint IOC-ICES-PICES HAE-DAT (W1_HAB_Section-2579)
- 12:00-13:30 **Lunch**

Discussion of HAE-DAT effectiveness and country reports

- 13:30-14:00 **Hak Gyoon Kim**
Korea report
- 14:00-14:30 **Tatyana Y. Orlova**
Russia report
- 14:30-15:00 **Charles G. Trick**
Canada report
- 15:00-15:20 **Coffee Break**
- 15:20-15:50 **Ming-Yuan Zhu**
China report
- 15:50-16:10 **Vera L. Trainer**
U.S.A. report
- 16:10-18:00 **Discussion including possible HAE-DAT modifications, goals of the HAE-DAT practical workshop (October 2), and future data efforts**

HAB Section Meeting, continued
Sunday, October 2, 2005 09:00-12:30

HAE-DAT practical workshop

- 09:00-12:30 **HAE-DAT entry of HAB data for the year 2001**

Please bring

- your country's HAB data for the years 2000 and 2001
- laptop computer

