
Third Workshop on the Okhotsk Sea and Adjacent Areas

4 – 6 June 2003 --Vladivostok, Russia



Co-sponsored by PICES, TINRO-Center and Census of Marine Life



Third Workshop on Okhotsk Sea and Adjacent Areas

Welcome and Opening

0900 - 0910

Session 1 (Climate variation)

- 0910 - 0930 Interannual changes of air temperature over the Okhotsk Sea and adjacent areas by the results of wavelet analysis.
Ustinova, E. & Shevchenko, G.
- 0930 - 0950 The influence of atmosphere processes on the water circulation off the west Kamchatka coast.
Samko, E., Glebova, S.Y. & Petruk, V.M.
- 0950 - 1010 EOF and wavelet analysis of satellite SST data in the Northern Pacific
Shevchenko, G., Tshay, Z. & Puzankov, C.
- 1010 – 1035
(Invited) Does the fresh water supply from the Amur River flowing into the Sea of Okhotsk affect the decadal variation of the sea ice?
Tachibana, Y., Ogi, M. & Danchenkov, M.A.

Session 2 (Physical and chemical processes)

- 1055 - 1120
(Invited) Importance of the tide for water exchange and vertical mixing around the Kuril Islands.
Kono, T.
- 1120 - 1140 Tides in the Sea of Okhotsk from TOPEX/POSEIDON sea level data.
Shevchenko, G., Romanov, A. & Bobkov, A.
- 1140 - 1200 Water masses and circulation pathways in the Okhotsk Sea observed using profiling floats.
Riser, S., Ohshima, K. & Volkov, Y.
- 1200 - 1220 Relationships between nitrate and phosphate concentrations as a tracer of the northern Okhotsk Sea waters.
Vanin N.S., Nedashkovskiy A.P. & Khen G.V.



Session 2 (Physical and chemical processes)

- 1220 - 1240 Chemical parameters distribution in the Kuril Basin of the Okhotsk Sea in winter 2003: Role of the anticyclonic eddies.
Andreev, A., Chastikov, V., Gladyshev, S., Kantakov, G. & Shevchenko G.
- 1240 - 1300 Deep water formation in the Derugin Basin of the Sea of Okhotsk.
Salyuk, A., Winckler, G. & Pavlova, G.Y.
- 1300 – 1400 LUNCH BREAK
- 1400 - 1425
(Invited) Interannual variability of the ventilated water masses in the Okhotsk Sea.
Gladyshev, S.V., Khen, G.V. & Kantakov, G.A
- 1425 – 1445 Physical processes in the bottom waters and instability over trenches in the subarctic North Pacific.
Muratov, L. & Muratova, O.
- 1445 - 1505 The ρ -, T -, S - fine structure on the P1W WOCE Section in the Okhotsk Sea in summer.
Vologdin, V. N., Darnitskiy, V. B. & Yurasov, G. I.
- 1505 - 1525 Specifics of intraannual variability of environmental parameters in the Aniva Bay.
Shevchenko, G.V., Budaeva, V.D., Makarov, V.G., Kantakov, G.A. & Chastikov, V.N.
- 1525 - 1545 BREAK
- 1545 - 1605 Sea surface eddy detection on IR- satellite images under cloudy conditions.
Alexanin, A.I. & Alexanina, M.G.
- 1605 - 1625 Methane flux in the seas of Okhotsk and Japan.
Mishukova, G., Mishukov, V. & Obzhirov A.
- 1625 – 1645 “Car-jam” effect and concentration anomalies in rising bubble plume.
Maksimov, A. O.
- 1645 - 1705 Aerosol research of the Okhotsk and Japan seas area of Russia.
Mishukov, V.



Session 3 (Biological variability)

- 0930 - 0950 Pinniped resources in the Okhotsk Sea.
Kuzin, A.E., Perlov, A.S. & Shvetsov, E.P.
- 0950 - 1010 Seasonal and annual dynamics of nektonic community in the western Kamchatka region.
Merzlyakov, A. Yu.
- 1010 - 1030 Interannual variation of the Pacific herring stocks in connection with last years cooling.
Melnikov, V.I. & Loboda, S.V.
- 1030 - 1055 (Invited) Distribution of juvenile chum and pink salmon in the Okhotsk Sea in autumn.
Seki, J., Gorbatenko, K., Volvenko, I. & Fukuwaka, M.
- 1055 - 1110 BREAK
- 1110 - 1130 The biological indices of wild and hatchery Pacific salmon fry of Sakhalin Island and Primorskiy Region.
Mitrofanov, Y. & Dogadova, O.V.
- 1130 - 1150 Nekton communities of the upper epipelagic layer of the southern Okhotsk Sea - current status and tendencies of long-term dynamics.
Starovoytov, A.N., Temnykh, O.S., Glebov, I.I. & Sviridov, V.V.
- 1150 - 1210 Measurement of bio-optical properties and its application to ocean color remote sensing in the Okhotsk Sea.
Saitoh, S., Suzuki, H., Sasaoka, K. Nakatsuka, T. & Wakatsuchi, M.
- 1210 - 1230 The accuracy of chlorophyll "a" concentration estimates of the SeaWiFS satellite color scanner from the data for Sea of Okhotsk in the spring-summer time.
Shtraikhert, E.A. & Zakharkov, S.P.
- 1230 - 1250 Use of multi-sensor remote sensing to detect seasonal and interannual variability in chlorophyll *a* distribution in the Sea of Okhotsk.
Matsumoto, C., Saitoh, S., Takahashi, F. and Wakatsuchi, M.
- 1250 - 1400 LUNCH
- 1400 - 1420 Determining factors of the spatial distribution of phytoplankton in the Okhotsk Sea-A study by the ecosystem model-D17.
Okunishi, T. & Kishi, M.J



Session 3 (Biological variability) continued

- 1420 - 1440 Distribution patterns for the gonatid squid *Gonatus madokai* in the Okhotsk Sea in spring.
Katugin, O.N., Merzlyakov, A.Yu., Vanin N.S. & Volkov A.E.
- 1440 - 1510 Distribution and biomass of Boreopacific gonate squids in the Okhotsk Sea and Pacific waters off the Kuril Islands in winter period.
Zuev, M.
- 1510 - 1530 Migrations of Pacific cod (*Gadus macrocephalus*, Gadidae) in the Okhotsk Sea.
Savin, A.B.
- 1530 - 1600 Recent state of the macrobenthos on the Okhotsk Sea shelf of Sakhalin Island.
Nadtochy V.A. & Budnikova L.L.
- 1600 – 1620 The Sea of Okhotsk: A window on the Ice Age Ocean
Hays, J.D. & Morley, J.J.
- 1620 - 1640 Current status of cetaceans in the Okhotsk Sea.
Doroshenko, N.V. & Yazvenko, S.B.

Session 4 (Human influences)

- 0930 - 0950 Killer whales and Greenland turbot fishery in the Sea of Okhotsk.
Karyakin, K.A.
- 0950 - 1010 Biological prerequisites for macrophytes' cultivation in the coastal waters of the northern Okhotsk Sea.
Krupnova, T.N.
- 1010 - 1030 Estimation of some parameters of habitat of marine ecosystems in areas of gas and oil deposits development.
Moyseychenko, G.V. & Blinov, Y.G.
- 1030 - 1050 The influence of drilling in Northeast Sakhalin offshore gas-oil deposits area on the radioactive contamination of sea environment.
Borisenko, G. & Moiseychenko, G.V.

BREAK



Session 4 (Human influences) continued

- 1110 - 1130 Influencing of coast oil-fields on contamination by oil hydrocarbons of North-East Sakhalin Shelf.
Stenina, N.V.
- 1130 - 1150 Increasing of methane fluxes in the Sea of Okhotsk in 2002.
Obzhirou, A., Salyuk, A. & Salomatin, A.
- 1150 – 1200 Experimental study of oil degradation in the Sea Of Okhotsk.
Mishukov, V.

Poster Session

Session 5 (Okhotsk Sea Synthesis)

North Pacific Ecosystem Status Report – Okhotsk Sea chapter

This session will allow Session convenors and participants an opportunity to identify and to discuss the most important points to be included in the North Pacific Ecosystem Status Report:

- Background
- Highlights (Summary)
- Critical factors causing change in the Okhotsk Sea
- Status and Trends of:
 - Climate/Hydrography
 - Chemistry
 - Plankton
 - Phytoplankton
 - Zooplankton
 - Fish and commercial invertebrates
 - Seabirds
 - Marine mammals
- Issues
- Key questions and data needs
- Contributors
- References

Publication

More than 90 abstracts were submitted to the workshop indicating a high level of scientific interest in the Okhotsk Sea.

- Abstracts/Proceedings in PICES Scientific Report Series
- Desire for Special Issue on Okhotsk Sea Ecosystem (physics to whales)



Posters

Session 1

Anemobaric effect on the water area of the La Perouse Strait.
Bobkov, A.A. & Tsepelev, V. Yu.

Dynamics of temperature and solar shine of cold period at coast of the Far East.
Grichkovskaja, N.V. & Platonova, V.A.

Variability of the West Kamchatka Current During 1995-2002.
Khen, G. V. & Vanin, N.S.

The interannual variability of the water temperature of the Okhotsk Sea.
Luchin, V.A., Zhigalov, I.A. & Plotnikov, V.V.

Variability of ice-conditions in the Sea of Okhotsk in the second half of 20th century: a relationship with the Bering-Chukchi Sea system.
Muktepavel, L.S., Plotnikov, V.V. & Colony, R.L.

Typification of thermal structures in the Japan Sea by the satellite information.
Nikitin A.A. & Kharchenko A.M.

Last isolation of Kuril Island as a result of postglacial transgression.
Pletnev S. P.

Session 2

Wind wave fields and swell in the sub-arctic front zone.
Polyakova, A.M. & Sugak, S.S.

Regional satellite monitoring of Far East Seas: modern state and perspectives of development. *Alexanin, A.I., Alexanina, M.G. Bolovin, D.A., Herbeck, F.E., Gromov, A.V., Gorin, I.I., Naumkin, Y.V., Fomin, E.V. & Epstein, Y.S.*

Diagnostic current calculation for the Sea of Okhotsk.
Fayman, P.

Assessment of the Amursky Bay waters by arsenic contents in the seawater.
Grebenyuk, E.A. & Gorelkin, M.I.

Calculation of the ULF (ultra low frequency) electro-magnetic field parameters over typhoon zone.
Kontorovsky, S.E.



Session 2 (continued)

Simulation of the thermohaline dynamics of the Sea of Okhotsk

Korochentsev, V.I., Korochentsev, V.V., Kochetova, V.A., Shevkun, S.A., Titov, E.M. & Gubko, L.V.

Satellite radar sensing of the Okhotsk Sea ice cover: from Kosmos-1500 Real Aperture Radar to Envisat Advanced Synthetic Aperture Radar.

Mitnik, L., Dubina, V.A. & Gurvich, I.A.

Development of ice cover in the Okhotsk Sea in 2002-2003 as viewed by Aqua AMSR-E and Envisat ASAR.

Mitnik, L.M., Dubina, V.A., Fishchenko, V.K. Mitnik, M.L. & Golik, A.V.

Okhotsk Sea waters around Cape Krilion: Satellite and mooring station observations.

Mitnik, L.M., Shevchenko, G.V., Dubina, V.A. & Sophienko, Y.A.

Intermediate water masses of the Kuril Island zone and the adjacent areas

Moroz, V.V.

Sea currents variability on the Sakhalin northeastern shelf (by instrumental observations)

Shevchenko, G.V. & Rybalko, S.I.

Experimental study of dynamic processes in fall season 2002 in the Aniva Gulf, Southern Sakhalin

Shevchenko, G., Chastikov, V. & Kantakov, G.

Diapycnal entrainment of shelf waters into intermediate depths across the Sakhalin continental slope (Sea of Okhotsk).

Sosnin, V., Tishchenko, P., & Biebow, N.

Application of independent gauges of temperature of model "Pirate - 2000" for studying temperature conditions in a benthonic layer in northern part of sea of Okhotsk in 2002.

Tjurnin, V.B.

About connection of ice processes of Chukchi and Bering seas.

Vasilevskaya, L.N., Muktepavel, L.S. & Tzhuravleva, T.M.

Features of the waters circulation in northwestern Pacific under influence of the atmospheric baric systems

Vlasova, G.A. & Sugak, S.S.

Tidal fronts in the Okhotsk Sea.

Zhabin, I., Vanin, N. & Zuenko, Y.



Session 3

Microsporidian infestation of the Walleye Pollock musculature in the Okhotsk Sea.

Aseeva, N.L., Mikhailov, S.V. & Motora, Z.I.

Feeding of juvenile *Pleurogrammus azonus* in the southern part of the sea of Okhotsk and in the Pacific Waters of the Kuril Islands in August, 2002.

Kosenok, N.S.

Food supply for sea urchin *Strongylocentrotus droebachiensis* in the coastal part of the Sea of Okhotsk.

Krupnova, T. & Pavlyuchkov, B.A.

Disorder of symmetry in the marine star-fishes of the Amursky Bay.

Mitrofanov, Y. & Dogadova, O.V.

Feeding habits of Pacific halibut *Hippoglossus stenolepis* in the western North Pacific.

Moukhametov, I.N. & Orlov, A.M.

Distribution Of The Foraminifera In Sea Of Okhotsk

Pletnev S.P & Annin, V.K.

Nutrients and Chlorophyll-"a" Distribution in Aniva Bay, Sea of Okhotsk During 2001-2002.

Propp, L.N. & Gavrina, L.Yu.

The development of malacofauna and reconstruction paleoenvironmental changes in coastal areas of Sakhalin during the Holocene.

Rakov and Gorbunov

Developing of the regional ocean color chlorophyll *a* algorithms for SeaWiFS for Okhotsk Sea.

Salyuk, P. & Akmaykin, D.

Migrations of Pacific cod (*Gadus macrocephalus*, Gadidae) in the Okhotsk Sea

Savin, A.B.

Distribution of phytoplankton in the coastal waters of Sakhalin Island (the Sea of Okhotsk) in summer 2001.

Selina M.S., Morozova T.V., Stonik I.V. & Orlova T.Yu

Distribution and age structure of *Metridia okhotensis* in the Okhotsk Sea during year.

Shebanova, M.

Fauna of parasitic copepods (Lernaeopodidae) from salmonid and some cyprinid fishes from fresh waters of the Russian Far East (Pacific Basin).

Shed'ko, M.B., Shed'ko, S.V., Atrashkevich, G.I., Pospheov, V.V., Vinogradov, S.A.



Session 3 (continued)

Peculiarities ontogenetic and seasonal migrations of bathyals commercial fishes in the Okhotsk Sea and adjacent waters of northwestern Pacific.

Tuponogov V.N.

Localization of spawning areas of *Thysanoessa raschii* in Sea of Okhotsk in the spring.

Volkov, A.F.

Zooplankton as a food supply for salmon fry in the north of Tauai Bay in summer season of 2001-2002.

Zharnikova, V.D.

The results of investigations of golden king crab, *Lithodes aequispinus*, from eastern coast of Sakhalin Island.

Zhivoglyadova, L.A.

Model and main indexes of primary production of the North Sakhalin coastal waters

Zvalinsky, V.I.

Session 4

The fisheries in the eastern Sea of Okhotsk.

Balykin, P.A. & Terentyev, D.A.

Characteristics of benthic communities at the North-East Sakhalin Island shelf.

Belan, T.A., Oleynik, E.V. & Belan, L.S.

The status of endangered western gray whales (*Eschrichtius robustus*) off northeast coast of Sakhalin and the discovery of a new major gray whale feeding area in 2001, based on aerial survey data.

Blokhin, S.A. & Yazvenko, S.B.

Marine mammal mitigation and monitoring program for the 2001 Odoptu 3-D seismic survey, Sea of Okhotsk, Sakhalin Island: a possible future industry standard.

Johnson, S.R. & Yazvenko, S.B.

Results of potential oil spill modeling in Aniva Bay and La Perouse Strait.

Bogdanovsky, A., Kochergin, I.E., Arshinov, I.A., Budaeva, V.D., Makarov, V.G., Mishukov, V.F., Rybalko, S.I. & Tunegolovets, V.P.

Pacific herring (*Clupea pallasii* Val.) distribution grounds on northeastern Sakhalin Shelf.

Ivshina, E. & Nemchinov, O.



Session 4 (continued)

Comparative modeling of marine environment impact produced by dredging works planned within the first stage of Sakhalin-1 project.

Kochergin, I.E., Bogdanovsky, A.A., Rybalko, S.I., Mischenko, M.V., Arkhipov, B.V., Solbakov, V.V. & Koterov, V.N.

Assessment of the environmental quality of the shelf and the slope top horizons of eastern Sakhalin in relation with the heavy metals content in bottom sediments.

Kovekoudova, L.T.

Petroleum hydrocarbons in the marine environment near operating oil producing platform MOLIKPAQ.

Lishavskaya, T., Mocshenko, A. V., Konovalova T. V. & Chernova A. S.

Some observation results of the Sakhalin Bay ecosystem.

Oleynik, E. & Belan, T.A.

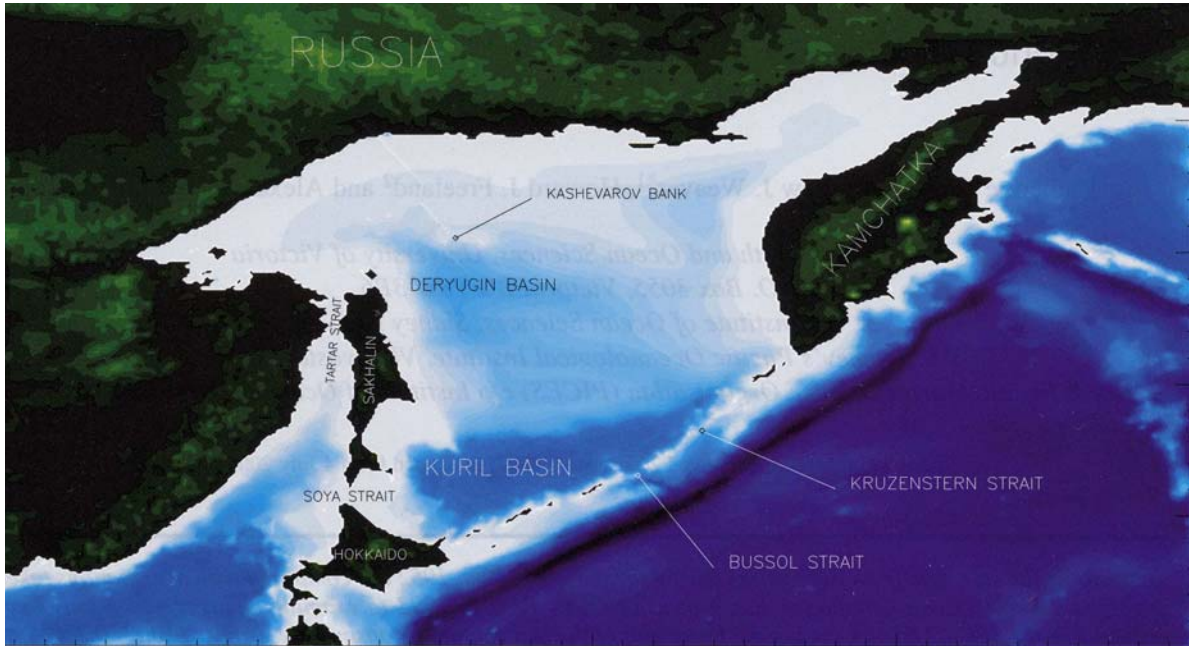
Current state of stock abundance and fisheries of walleye pollock (*Theragra chalcogramma*) in the eastern Sea of Okhotsk.

Varkentin, A.I. & Sergeeva, N.P.

Biological properties of snow crab, *Chionoecetes opilio* and walleye pollock, *Theragra chalcogramma* in the southwest area of the Okhotsk Sea in summer.

Yanagimoto, T. & Mito, K.

NOTES....



Bathymetry of Okhotsk Sea and adjacent areas in 2003ⁱ

ⁱ Hill, K.L., Weaver, A.J., Freeland, H.J. & Bychkov, A. Evidence of change in the Sea of Okhotsk: implications for the North Pacific. *ATMOSPHERE-OCEAN* 41: 49-63.

Front Cover: Section of Gerhard Müller's 1754 map of the North Pacific Ocean. From Hayes, D. 2001. *Historical Atlas of the North Pacific Ocean*. Douglas & McIntyre Publishers, Vancouver, Canada.