

PICES

North Pacific Marine Science Organization (PICES)
Seventh Annual Meeting

Program

October 14 - 25, 1998

Fairbanks, Alaska, U.S.A.

14th - 15th October, 98 (Wednesday - Thursday)

MODEL Workshop (09:00 - 17:30)
Working Groups 11, 12, 13 & 14 Meetings (09:00 - 17:30)

16th October, 98 (Friday)

SMALL PELAGIC SPECIES AND CLIMATE CHANGE IN THE NORTH PACIFIC OCEAN
(09:00 - 17:30)

(REX Workshop: Topic 8)
Co-Convenors: Douglas E. Hay (Canada), Qi-Sheng Tang (China), Tokio Wada (Japan), Jin-Yeong Kim (Korea), Vladimir I. Radchenko (Russia) & Larry Jacobson (U.S.A.)
(Papers to be presented over two days.)

Richard D. Brodeur, M.T. Wilson, G.E. Walters & I.V. Melnikov. Forage fishes in the Bering Sea: distribution, species associations, and biomass trends

Larry D. Jacobson, R. Serra, D. Boyer, M. Cisneros, R. Felix, R. Guerva, J.Y. Kim, Y. Matsuura, M. Niquen, J. de Oliveira, C. Porteiro, R. Sanchez, A. Uriarte & T. Wada. Biological production, variability, and standards for sustainable yield in the great sardine and anchovy stocks

Jin Yeong Kim. Relationship between mackerel, *Scomber japonicus*, population biomass and environmental factors in the Korean waters

Hiroshi Nishida. Effect of short-term fluctuation of water temperature on fish-catch by set-net fishing around Awa-shima Island, the Sea of Japan

Seiji Ohshimo. Acoustic estimation of biomass of the small pelagic fishes in the East China Sea

Vladimir I. Radchenko. Scale and causes of growth of the Pacific herring abundance in the western Bering Sea in the 1990s

Yasunori Sakurai, J.R. Bower, J. Yamamoto & H. Nakao. Which is responsible for fluctuating squid catch rates - fishing or climate change?

Tokio Wada & Y. Oozeki. Japanese sardine recruitment project: investigation of population structure and recruitment in the Japanese sardine

Douglas E. Hay & P.B. McCarter. Changes in the timing and distribution of herring spawn in British Columbia: An impact of climate change?

MONITOR Workshop (09:00 - 17:30)

Working Groups 11 & 12 Meetings (09:00 - 17:30)

3rd Meeting of JGOFS North Pacific Task Team (09:00 - 17:30)

17th October, 98 (Saturday)

REX Workshop (09:00 - 17:30) (see 16th schedule for list of presentations)

MONITOR Workshop (09:00 - 17:30)

Working Groups 8, 11 & 12 Meetings (09:00 - 17:30)

3rd Meeting of JGOFS North Pacific Task Team (09:00 - 17:30)

18th October, 98 (Sunday)

Task Team Meetings (09:00 - 12:00)

BASS, REX, MODEL and MONITOR Task Teams

TCODE Meeting (09:00 - 17:30)

Working Group 8 Meeting (09:00 - 17:30)

CREAMS-PICES Workshop (09:00 - 17:30)
CCCC Implementation Panel/Executive Committee Meeting* (13:00 - 17:30)
Science Board Meeting* (18:30 - 21:30)
Registration (17:00 - 20:00)

19th October, 98 (Monday)

Registration (07:30 - 08:30)

Opening Session (08:30 - 11:00)

Opening / welcome address by the Honorable Fran Ulmer, Lieutenant Governor of the State of Alaska.

Welcome address by Joan Wadlow, Chancellor, and Mark Hamilton, President, of the University of Alaska.

Remarks by Chairman.

Remarks by representatives of contracting parties.

Announcements.

Keynote lecture by Dr. William Pearcy: What is the carrying capacity of the North Pacific Ocean for salmonids?

Governing Council Meeting* (11:00 - 12:30)

Finance & Administration Committee Meeting* (13:30 - 17:30)

CONTROLLING FACTORS FOR LOWER TROPHIC LEVELS (ESPECIALLY PHYTOPLANKTON STOCKS) (13:30 - 17:30)

(Biological Oceanography Committee: Topic 2)

Co-Convenors: Vera Alexander (U.S.A.), Akira Taniguchi (Japan) & Paul J. Harrison (Canada)

Akihiro Shiomoto. Controlling factors for phytoplankton biomass in the subarctic North Pacific

Karl Banse. Phytoplankton fall blooms in the open western and eastern subarctic Pacific: added iron or relaxed grazing?

Paul J. Harrison, P. Boyd & R. Goldblatt. Is there a connection between dust and fish? How is bottom up and top down control turned on and off?

Suzanne Strom. Microzooplankton in the subarctic Pacific: temporal variation and its significance for grazing control of phytoplankton

Takashige Sugimoto & K. Tadokoro. Interdecadal variations of plankton biomass in the North Pacific

Kazuaki Tadokoro & T. Sugimoto. Importance of low saline advected water from the Okhotsk Sea for spring blooming of phytoplankton in west side of the North Pacific Ocean

Katsuyuki Sasaki, K. Kawasaki & K. Nakata. The change of chlorophyll *a*, nutrients and photosynthesis from subtropical to transition region in June around Kuroshio Extension

Terry E. Whitledge & D.A. Stockwell. Deep phytoplankton uptake and growth on the southeast Bering Sea shelf in 1997 and 1998

Jun Nishioka, S. Takeda & C.S. Wong. Change in the concentrations of iron in different size fractions during a phytoplankton bloom in control ecosystem enclosures

SCIENCE AND TECHNOLOGY FOR ENVIRONMENTALLY-SUSTAINABLE MARICULTURE (13:30 - 17:30)

(Marine Environmental Quality Committee: Topic 5)

Convenor: John E. Stein (U.S.A.)

Conrad Mahnken. The status of aquaculture in North Pacific rim nations - Was Peter Larkin right?

Victor V. Ivin. Studies on biodeposition of kelp mariculture

Colin D. Levings, S.F. Cross & S.J. Gormican. A preliminary examination of the transfer of oxytetracycline (OTC) from farm fish to fauna adjacent to a net-pen operation in British Columbia

- Lee W. Harrel. Perceptions, attitudes and biological realities associated with wild fish and fish held in artificial culture facilities
- Gregory T. Ruggione & D.L. Alverson. Potential effects of farmed salmon on wild salmon stocks in the Pacific Northwest
- J. Roderick Forbes. Meeting global protein requirements - balancing aquaculture production
- Ronald W. Hardy. Global feed requirements to sustain expansion of aquaculture production
- Ann Skriptsova. The experimental cultivation of unattached form of *gracilaria verrucosa* in lagoons of the Sea of Japan (Russia)
- Thomas A. Flagg, C. Mahnken, J. Colt, D. Maynard & R. Iwamoto. The endangered species act and the changing role of artificial propagation
- Dan Cheney. Ecological impacts of molluscan shellfish culture

PAPERS FOR THE FISHERY SCIENCE COMMITTEE (13:30 - 17:30)

Convenor: Chang-Ik Zhang (FIS Chairman)

- Kenji Asano & Y. Kiyomoto. Fishing ground formation of small pelagic fishes and marine environment in the East China Sea
- V.A. Belayev & S.P. Bomko. Migration routes and distribution of Japan mackerel (*Scomber japonicus*) in the north western Pacific
- John F. Dower, T.J. Miller & F. Juanes. Biological-physical coupling in the ecology of larval fish
- In Ja Yeon & H.K. Cha. Growth and mortality of southern rough shrimp, *Trachypenaeus curvirostris* in the west coast of Korea
- Jie Zheng & G.H. Kruse. Do male tanner crab (*Chionoecetes bairdi*), undergo a terminal molt at morphometrical maturity?
- Tomio Miyashita. Life history parameters of Risso's dolphins in the Pacific coast of Japan
- A. Yu. Zhigalin & V.A. Belayev. Russian fishery of far-east sardine in the Pacific waters and Okhotsk Sea in 1974-1993 years (start and finish)
- Lyudmila G. Sedova, N.M. Aminina, Y.E. Bregman & A.V. Podkorytova. Impact of some artificial foods on sea urchins *Strongylocentrotus intermedius* gonads development and their roe quality
- Galina I. Victorovskaya, V.V. Evdokimov & M.V. Kalinina. Stocks of regular sea urchins at the northern-west coast of Sea of Japan can be enhanced
- V.D. Dzizurov, L.V. Zhiltsova & V.N. Kulepanov. Influence of natural-antropogeneous factors on a condition of laminaria deep

Welcoming Reception (19:00 - 21:00)

20th October, 98 (Tuesday)

Finance & Administration Committee Meeting* (08:30 - 12:30)

PAPERS FOR THE MARINE ENVIRONMENTAL QUALITY COMMITTEE (08:30 - 12:30)

Convenor: Richard F. Addison (MEQ Chairman)

- Dong Beom Yang, J. Yu, D.H. Lee, K.T. Kim & J.S. Yang. Distribution and persistence of organophosphorus pesticides in some estuarine environments of Korea
- Kwang-Woo Lee, S.H. Lee & G.H. Hong. A geochemical budget of radioactive Pu in the East Sea (Japan Sea)
- E. Shumilin, V. Camacho Ibar, J. Carriquiry, D. Sapozhnikov, S. Kalmykov & Yu Sapozhnikov. Lead-210 chronology of trace element accumulation in sediment core from the Upper Gulf of California
- Lev M. Gramm-Osipov, V.N. Gramm-Osipova & Y.A. Gerasimenko. The changing of Cu and Zn speciation under interaction river waters with seawaters (thermodynamics analysis)

Arkady Alekseev, E. Shumilin, C. Green Ruiz, D. Sapozhnikov, F. Paez-Osuna & D. Rodriguez Meza. An assessment of anthropogenic contamination of sediments in subtropical La Paz Lagoon, Southern Baja California

L.N. Luchsheva & A.I. Obzhurov. An effect of natural hydrocarbon pollution on a winter microalgae "blooming" in Novgorodskaya Bay of Peter the Great Bay (Japan Sea / East Sea)

Dmitry L. Aminin, I.G. Agafonova, J.R. Oh, S.H. Kahng & S.H. Lee. Biochemical monitoring of coastal zones using oyster biomarkers

Irina G. Agafonova, D.L. Aminin, S.W. Joon, J.R. Oh, S.H. Kahng & S.H. Lee. Sea urchin embryos as a model for ecotoxicological monitoring of marine pollution

Hideo Sekiguchi. Characteristics of communities: new indices incorporating data of abundance and biomass

V.V. Evdokimov. Polyculture as a possible technique to clear the polluted waters and to increase the productivity of coastal communities

CLIMATE CHANGE AND CARRYING CAPACITY OF THE NORTH PACIFIC: RECENT FINDINGS OF GLOBEC AND GLOBEC-LIKE PROGRAMS IN THE NORTH PACIFIC (08:30 - 17:30)

(FIS Committee/CCCC Program Joint Session: Topic 7)

Co-Convenors: Anne B. Hollowed (U.S.A.), Ian Perry (Canada) & Takashige Sugimoto (Japan)

Roger Harris. GLOBEC and GLOBEC-like research programmes in the Atlantic

Alex Smirnov, E.T. Burden & N.P. Smirnov. Environmental change in the North Atlantic region and the health of terrestrial and marine biotic resources

Vadim V. Navrotsky. On the explanation of relations between climate change and population dynamics

Chang Ik Zhang & J.B. Lee. The impacts of climate changes on the marine fisheries resources in Korea

Kaoru Nakata. Long term fluctuations of the biomass and size composition of copepods in the Kuroshio and the Japanese slope water in relation to climate

Mitsuyuki Hirai & T. Goto. Effects of hydrographic conditions on the formation of spawning grounds for sardine, *Sardinops melanostictus*, in the Japan Sea

Makoto Kashiwai, T. Wada, D. Ware, C. Robinson & O. Yamamura. Carrying capacity change of Oyashio Shelf ecosystem with disappearance of Japanese sardine

Orio Yamamura. Temporal variability of food-web structure in the Oyashio-Kuroshio transition region

Kenneth L. Denman, M.A. Peña & S.P. Haigh. Modelling the response of the planktonic foodweb to climate variability in the subarctic Pacific

David L. Mackas. Season, size and depth partitioning of copepod production in the subarctic Pacific

Richard D. Brodeur, P.T. Strub, F. Schwing, M. Ohman & H. Batchelder. Retrospective data analysis in the U.S.-GLOBEC northeast Pacific (NEP) Program

Albert J. Hermann & H. Batchelder. Modeling activities within the U.S.-GLOBEC northeast Pacific Program

Kerim Aydin. Pacific salmon carrying capacity, ecosystem structure, and density dependent predator-prey interactions on the high seas

Anne B. Hollowed, S.R. Hare & W.S. Wooster. Pacific basin climate variability and patterns of northeast Pacific marine fish production

Sergei A. Gorbarenko, I.G. Gvozdeva, A.V. Artjomova & J.R. Southon. The high resolution paleoceanography of the far northwestern Pacific, Okhotsk and Bering Sea during the last 45 thousand years

Boris N. Kotenev, A.S. Krovnin & V.V. Maslennikov. Changes in year-class strength of pollock stock in the Russian EEZ of the Bering Sea in relation to climatic variations in the North Pacific

J.J. Goering, S. Henrichs, T.K. Rho, S. Smith, T.E. Whitledge, C.T. Baier, R.D. Brodeur, D.M. Blood, J.M. Napp, J.J. Cullen, R.F. Davis, J.D. Schumacher, P.J. Stabeno, G.L. Hunt, Jr. & G.L. Swartzman. Southeast Bering Sea carrying capacity (SEBSCC): ecosystem dynamics research in a marginal sea

Vidar G. Wespestad & B.A. Megrey. On relationships between cannibalism, climate variability, physical transport and recruitment success of Bering Sea walleye

Bernard A. Megrey. Application of fuzzy logic to forecasting Alaska walleye pollock recruitment

CARBON CYCLE IN THE NORTH PACIFIC OCEAN (08:30 - 17:30)

(POC/BIO Joint Session co-sponsored by JGOFS: Topic 4)

Co-Convenors: Shizuo Tsunogai (Japan) & C.S. Wong (Canada)

Robert M. Key. Radiocarbon in the North Pacific: What we have learned since GEOSECS

C.S. Wong, F.A. Whitney, W.K. Johnson, D. Crawford & E. Wong. Carbon flux in the subarctic northeast Pacific

Paulette P. Murphy, D.E. Harrison, R.A. Feely, T. Takahashi, R.F. Weiss & R.H. Gammon. Variability of $p\text{CO}_2$ in the subarctic North Pacific: a comparison of results from four expeditions

Yukihiro Nojiri. Seasonal and spacial characteristics of $f\text{CO}_2$ in the northern North Pacific monitored by a ship-of-opportunity

Kyung-Hoon Shin, S. Noriki, M. Itou & S. Tsunogai. Carbon cycle studied with settling biogenic particle in the western north Pacific

Noriko Nakayama, S. Watanabe & S. Tsunogai. Directly obtained CO_2 exchange rate at the sea surface from carbon and its isotopes

Shizuo Tsunogai & S. Watanabe. Role of the northwest Pacific in the absorption of atmospheric CO_2 specifically "continental shelf pump" working in the East China Sea

Shu-Lun Wang, C.T. Chen, G.H. Hong & C.S. Chung. Carbon dioxide and related parameters in the East China Sea

Paval Ya. Tishchenko, G. Yu. Pavlova, A.N. Salyuk & A.S. Bychkov. Carbon dioxide and dissolved oxygen in the Japan Sea: estimation of biological and thermal effects

Akihisa Otsuki, S. Watanabe & S. Tsunogai. Carbonate system of the Sea of Okhotsk controlled by sea ice formation

Igor P. Semiletov, P. Ya. Tishchenko, J.P. Christensen, I.I. Pipko & S.V. Pugach. On carbonate system of the Chukchi Sea and Bering Strait

Takashi Midorikawa, N. Hiraishi, K. Nemoto, K. Ogawa, T. Umeda, H. Hagai, N. Kubo & M. Ishii. Effects of biological production and air-sea interaction on seasonal variations of carbon dioxide in the subarctic North Pacific

Akihiko Murata, M. Honda, Y. Kumamoto, M. Kusakabe, K. Nemoto, T. Hiraishi, T. Midorikawa & H.Y. Inoue. Surface seawater $p\text{CO}_2$ distributions in subarctic water of the western North Pacific

Banquet (19:00 - 22:00)

21st October, 98 (Wednesday)

PAPERS FOR THE BIOLOGICAL OCEANOGRAPHY COMMITTEE (08:30 - 12:30)

Convenor: Patricia A. Wheeler (BIO Chairman)

M. Angélica Peña. The effect of fluctuations in the input of nitrate on phytoplankton biomass and production: a model analysis

Alex Ross, M. Gibbs & J. Davis. The response of phytoplankton and nutrient dynamics to climate variability in a complex coastal system

A. Tsuda, K. Suzuki, S. Takeda, J. Nishioka, M. Takahashi & C.S. Wong. Experimental study of the responses of marine pelagic community to nutrient input using a mesocom macrozooplankton and

- microzooplankton dynamics
Woong-Seo Kim & J.S. Kim. Evaluation of copepod grazing as a controlling factor of phytoplankton in Masan Bay, Korea
Hae Jin Jeong, J.H. Shim, J.S. Kim, J.Y. Park, C.W. Lee & Y. Lee. The feeding by a mixotrophic thecate dinoflagellate *fragilidium cf. Mexicanum* on red-tide dinoflagellates
Kyung-Hoon Shin, T. Hama, N. Yoshie, S. Noriki & S. Tsunogai. Production and fate of phytoplankton outside Ishikari Bay, Hokkaido, Japan

CONTAMINANTS IN HIGH TROPHIC LEVEL BIOTA - LINKAGES BETWEEN INDIVIDUAL AND POPULATION RESPONSES (08:30 - 17:30)
(MEQ & BIO Committees Joint Session: Topic 6)

Co-Convenors: *Richard F. Addison (Canada) & Linda Jones (U.S.A.)*

- Ross J. Norstrom.** Persistent organic pollutants in arctic marine mammals
Peter S. Ross & R.F. Addison. Marine mammals at the top of the food chain: ecological sentinels
John E. Stein, M. Arkoosh, T. Colléer & E. Casillas. Estuarine pollution and juvenile salmon health
Kimberlee B. Beckman, G.M. Ylitalo, M.M. Krahn, R. Towell & J.E. Stein. Organochlorine levels and immune system function in northern fur seals (*Callorhinus ursinus*) from St. George Island, Alaska
Todd M. O'Hara & V. Woshner. Contaminants and health assessment research in arctic Alaska wildlife: biologists, veterinarians, and subsistence hunters take on the challenge
Robert B. Spies. Research and monitoring in the wake of the Exxon Valdez oil spill: the long-term dividends
Cynthia T. Tynan. Effects of climate change on the transport, pathways, and availability of contaminants
Sandie O'Neill, J. West, L. Johnson & M. Myers. Chemical contaminant exposure and associated biological effects in Puget Sound fishes

DECADAL VARIABILITY OF THE NORTH PACIFIC CLIMATE (08:30 - 18:00)
(Physical Oceanography & Climate Committee: Topic 3)

Co-Convenors: *James E. Overland (U.S.A.) & Masahiro Endoh (Japan)*

Sub-session on Atmospheric Patterns

- Shoshiro Minobe.** Bidecadal and pentadecadal climatic oscillations over the North Pacific
David W.J. Thompson & J.M. Wallace. The arctic oscillation
Koji Yamazaki & Y. Ohhashi. Variability of the Eurasian pattern and its interpretation by wave activity flux
J. King, R.J. Beamish, G.A. McFarlane, D. Noakes & R. Sweeting. Synoptic wind flow patterns off the west coast of North America in relation to recent changes in Pacific salmon catches
Ming-Yu Zhou & Y. Liu. Decadal variability of aerosol characteristics and deposition of crustal substances and pollutants in ocean areas near China
Sergey M. Varlamov & N.A. Dashko. Stable local wind patterns over the Sea of Japan and Okhotsk Sea, derived from the high resolution ECMWF operational analysis and forecasting system

Sub-session on Atmosphere - SST/Ice Coupling

- Hisashi Nakamura & T. Yamagata.** Observed association between SST and atmospheric anomalies in the North Pacific decadal climate variability
Andrei S. Krovnin & N.V. Klovach. Changes in abundance of salmon stocks in the context of climatic variations in the North Pacific region
Mark Johnson & A. Proshuntisky. Decadal variability of the Arctic Ocean and the Gulf of Alaska
Seiji Yukimoto, M. Endoh, Y. Kitamura, A. Kitoh, T. Motoi & A. Noda. Two distinct interdecadal modes of the Pacific in a coupled GCM

Jia Wang & M. Ikeda. Seasonal and interannual variability of sea-ice cover in the arctic and subpolar regions, 1900-1997: Signatures of AO, NAO and ENSO?
Meiji Honda & H. Nakamura. Influence of Okhotsk sea-ice extent anomalies upon the atmospheric circulation over the North Pacific: implications to the decadal climate variability
Kiyotaka Ohtani. Interannual change in residence time of the sea ice in the eastern Bering Sea

Sub-session on Ocean Response

Kimio Hanawa. Decadal/interdecadal scale variations found in the North Pacific
Yoshihiko Sekine. On the teleconnection processes around the North Pacific with reference to the decadal variations in atmosphere and ocean
V.A. Luchin, A.V. Savelyev & V.I. Radchenko. Long-periodical climatic waves in the western Bering Sea and their effect on biological productivity
Konstantin A. Rogachev. New regime shift in the North Pacific: back to the strong subpolar gyre
David L. Musgrave. A temperature minimum in the Gulf of Alaska
Stephen C. Riser. Interannual variations in North Pacific intermediate water in the N. Pacific subtropical gyre

PAPERS FOR THE PHYSICAL OCEANOGRAPHY & CLIMATE COMMITTEE (18:00 - 18:20)

Convenor: Paul H. LeBlond (POC Chairman)

Sergey Gladyshev & G.V. Khen. Transformation of the brine bottom water in the Gulf of Anadyr in summer-fall 1995

CLIMATE CHANGE AND CARRYING CAPACITY OF THE NORTH PACIFIC: RECENT FINDINGS OF GLOBEC AND GLOBEC-LIKE PROGRAMS IN THE NORTH PACIFIC (cont'd) (13:30 - 17:30)

(FIS Committee/CCCC Program Joint Session: Topic 7) -

Co-Convenors: Anne B. Hollowed (U.S.A.), Ian Perry (Canada) & Takashige Sugimoto (Japan)

Jack Helle. Ocean Carrying Capacity Program

Dean A. Stockwell & T.E. Whitledge. GLOBEC 1998: Preliminary monitoring data from the Gulf of Alaska

Thomas Weingartner. The Gulf of Alaska GLOBEC long-term observation program (LTOP)

Bruce Finney. Long-term variability in sockeye salmon abundance in the Gulf of Alaska and California current systems

R.J. Beamish, G.A. McFarlane & R. Sweeting. The impacts of decadal scale changes in climate on the Strait of Georgia ecosystem

Susan E. Allen, C. Vindeirinho, R.E. Thomson & D.L. Mackas. Upwelling currents around a shelf-break canyon and influences on zooplankton

Claire L. Smith & M.G. Foreman. Progress report on the development of a biophysical model for the west coast of Vancouver Island

Ruben J. Veefkind, M.J. Whitticar, J.N.C. Whyte & R.I. Perry. Measuring the stable carbon isotope ratio of individual fatty acids, a novel tracer in marine foodweb studies?

Stephen R. Okkonen. Altimeter observations of the mesoscale eddy-field along the shelfbreak in the central Bering Sea

Extravaganza Dinner II (time TBA) (pre-purchased tickets required)

22nd October, 98 (Thursday)

Governing Council Meeting* (08:30 - 12:30)

CCCC Implementation Panel Meeting (08:30 - 12:30)

TCODE Meeting (13:30 - 17:30)
Scientific Committee Meetings (13:30 - 17:30)
Physical Oceanography and Climate Committee
Biological Oceanography Committee
Marine Environmental Quality Committee
Fishery Science Committee

23rd October, 98 (Friday)

SCIENCE BOARD SYMPOSIUM: THE IMPACTS OF THE 1997/98 EL NIÑO EVENT ON THE N. PACIFIC OCEAN AND ITS MARGINAL SEAS (08:30 - 17:30)
(Science Board: Topic 1)

Co-Convenors: Howard J. Freeland (Canada), William Peterson (U.S.A.) & Al Tyler (U.S.A.)

James J. O'Brien. The big picture in the North Pacific in 1977-98

Jingyi Wang. Predictability and forecast verification in the El Niño events

James E. Overland, J.M. Adams & N.A. Bond. Atmospheric anomalies in 1997: links to ENSO?

Robert L. Smith, A. Huyer, P.M. Kosro & J.A. Barth. Observations of El Niño off Oregon: July 1997 to present

William R. Crawford, J. Cherniawsky, M. Foreman & P. Chandler. El Niño sea level signal along the west coast of Canada

Howard J. Freeland & R. Thomson. The El Niño signal along the west coast of Canada - temperature, salinity and velocity

Thomas C. Royer & T. Weingartner. Coastal hydrographic responses in the northern Gulf of Alaska to the 1997-98 ENSO event

Henry J. Niebauer. ENSO events and "regime shifts" in the North Pacific and Bering Sea

Vladimir I. Ponomarev, V.Yu. Arhipchuk & E.I. Ustinova. The ENSO signal in the northwest Pacific

Andrei S. Krovnin, G.P. Vanushin, M.Yu. Kruzhalov, M.A. Bogdanov, B.N. Kotenev & V.V. Maslennikov. The state of the far east seas during the 1997/98 El Niño event

Nathan J. Mantua. 97/98 ocean climate variability in the northeastern Pacific: how much blame does El Niño deserve?

William T. Peterson. Hydrography and zooplankton off the central Oregon coast during the 1997-1998 El Niño event

Patricia A. Wheeler. Effects of the 1997-98 El Niño on nutrients and chlorophyll off the coast of Oregon and northern California

Frank Whitney, D. Mackas, D. Welch & M. Robert. Impacts of the recent and past El Niño events on nutrient supply, primary production and plankton distribution off the B.C. coast

Stacy L. Smith & S.M. Henrichs. Phytoplankton collected by a sediment trap deployed in the middle shelf domain of the southeast Bering Sea during 1997

Kristen L.D. Milligan, C. Levings & R. DeWreede. Data compilation and preliminary time series analysis of abundance of a dominant intertidal kelp species in relation to the 1997/1998 El Niño event

G.A. McFarlane & R.J. Beamish. Large numbers of sardines return to British Columbia waters

Cynthia T. Tynan. Redistributions of cetaceans in the southeast Bering Sea relative to anomalous oceanographic conditions during the 1997 El Niño

Akihiko Yatsu, J. Mori, H. Tanaka, T. Watanabe, T. Meguro, Y. Kamei & Y. Sakurai. Stock abundance and size compositions of the neon flying squid in the central North Pacific Ocean during 1979-1998.

Closing Session (17:30 - 18:30)

24th October, 98 (Saturday)

Science Board Meeting* (08:30 - 17:30)
Finance & Administration Committee Meeting* (18:00 - 20:00)

25th October, 98 (Sunday)

Governing Council Meeting* (13:30 - 17:30)

Poster Session (throughout the duration of meeting)

Science Board Symposium:

1. **O.B. Feschenko.** New point of view on El Niño mechanism
2. **Skip M. McKinnell.** Did Canadian sockeye invade the United States?... Another story from the 1997 El Niño
3. **Craig McNeil, D. Farmer & M. Trevorrow.** Dissolved O₂ and N₂ measurements at Station P4 during the 97-98 El Niño
4. **Kenneth H. Morgan.** Impact of the 1997/1998 El Niño on seabirds of the N.E. Pacific
5. **Vadim P. Pavlychev.** Sharp changes of hydrometeorological conditions in the northwestern Pacific in period of 1997/1998 El Niño event
6. **John Piatt & D. Roseneau.** Biological effects of the 1997/1998 El Niño in Lower Cook Inlet, Alaska

POC Topic Session:

1. **Young-Jean Choi, Y.H. Lee & J.-H. Oh.** Decadal variability of rainfall in East Asia
2. **Nina A. Dashko & S.M. Varlamov.** Peculiarities of seasonal precipitation distribution over the Japan and Okhotsk Sea and restoring of precipitation fields by regression between the ECMWF model output data and the sums of precipitation on coastal stations
3. **Larissa A. Gayko.** Peculiarities of year to year variability of air temperature and water temperature in the north western Japan Sea
4. **Victor I. Kuzin, V.M. Moiseev & A.V. Martynov.** The response of the North Pacific circulation model to varying surface boundary conditions
5. **Kang-Hyun Lee.** The effect of the development of anoxic water on benthic flux as monitored from an incubation experiment
6. **Kengo Miyamoto & K. Hanawa.** Reconstruction of sea surface wind fields in the northern hemisphere for the period from 1899 to 1997
7. **Konstantin A. Rogachev.** Why is no deep water formed in the north Pacific: evidence from a regime shift phenomena
8. **Anatoly N. Salyuk & V.I. Ponomarev.** Wavelet analysis of climatic variability in oceanographic data sets in Japan (East) Sea
9. **Tatasuro Watanabe & A. Nakata.** Seasonal variation of water mass structure in the north eastern Japan Sea
10. **Haruya Yamada.** Movement of Japan Sea proper water

POC Paper Session:

1. **Ludmilla K. Kramareva.** Considerations on the eddies associated with subarctic front of the northwest Pacific Ocean
2. **Ludmilla K. Kramareva.** Nonstandard eddy of the northwest zones of the Pacific Ocean
3. **Vyacheslav Lobanov, A. Nikitin & M. Danchenkov.** Characteristics of anticyclonic rings in the

- northwestern Japan Sea
4. Vladimir V. Plotnikov. Long-term variability of the Bering Sea ice conditions
 5. Vladimir V. Plotnikov. Space-time relations of ice conditions in the Bering and Okhotsk Seas
 6. G.A. Vlasova & F.F. Khrapchenkov. Analysis of the water circulation in the Kuril region by the types of the atmospheric circulation

POC/BIO Session:

1. Takashi Midorikawa, N. Hiraishi, K. Nemoto, K. Ogawa, T. Umeda, H. Hagai, N. Kubo & M. Ishii. Effects of biological production and air-sea interaction on seasonal variations of carbon dioxide in the subarctic North Pacific
2. Akihiko Murata, M. Honda, Y. Kumamoto, M. Kusakabe, K. Nemoto, T. Hiraishi, T. Midorikawa & H.Y. Inoue. Surface seawater pCO₂ distributions in subarctic water of the western North Pacific

BIO Topic Session:

1. S.P. Zakharkov, T.Yu. Orlova, N.S. Vanin & E.A. Shtrakhert. Phytoplankton in the northeast part of the Okhotsk Sea after ice thawing

BIO Paper Session:

1. Richard D. Brodeur, C.E. Mills, J.E. Overland & G.E. Walters. Evidence for a recent increase in jellyfish in the Bering Sea, with possible links to climate change
2. Richard D. Brodeur, M. Doyle, J.M. Napp, P.J. Stabeno, J.D. Shumacher & M.T. Wilson. Fronts and fish: interannual differences in frontal structure and effects on pollock and their prey
3. I.I. Cherbady & I.N. Samatova. Primary production of *Ahnfeltia tobuchiensis* (*Ahnfeltiales*, *rhodophyta*) population in the Bay of Izmena, Kunashir Island
4. Hong-wu Lee, S. Ban, Y. Ando, T. Ohta & T. Ikeda. Negative effect of diatom diets on egg production and hatching success in marine copepod *Pseudocalanus newmani*
5. Kazuya Nagasawa, S. Abe-Saito. Distribution of Dall's porpoises (*Phocoenoides dalli*) in the northern North Pacific Ocean and Bering Sea on high-seas salmon surveys
6. L. Popova. The influence of hydrochemical environmental factors on the productive indices of *Ahnfeltia tobuchiensis* (*Ahnfeltiales*, *rhodophyta*) population in the Bay of Izmena (Kunashir Island)
7. I. Yakovleva. Sensitivity of subtidal *Chondrus crispus* to ultraviolet B radiation and the role of synthesis of micosporine-like amino acids in photoacclimation

Fishery Paper Session:

1. Norihisa Baba, S. Tanaka, H. Kato & T. Kasuya. Migration course of small cetaceans by satellite tracking
2. V.A. Belayev & G.A. Oktyabrsky. Conception of perspective forecast of pelagic community in the Kuroshio Region
3. Suam Kim, S. Kang & D. Kang. Investigation of chum salmon habitats in the North Pacific by measurements of stable isotope in otoliths
4. Toshiya Kishiro. Life history parameters of Risso's dolphins off the Pacific coast of Japan
5. S.Yu. Leontiev, A.M. Orlov & A.A. Abramov. A new data on biology of shortraker rockfish, *Sebastes borealis* (*Scorpaenidae*, *teleostei*) in the North Pacific Ocean

MEQ Topic Session:

1. Myung W. Han, Y.C. Park, S.G. Son & I.H. Lee. The development of anoxic water in Lake Shiwha
2. T.N. Krupnova & V.A. Pavluthscov. Effects of restore feeding base on growth and reproduction of the sea urchin *Strongylocentrotus intermedius*
3. S.I. Maslennikov & I.A. Kashin. Culture of crabs on mariculture installations in an open water area

FIS/CCCC Topic Session:

1. Tomonori Hamatsu & K. Yabuki. Spawning biomass and maturation of walleye pollock in the Pacific coast of eastern Hokkaido
2. Thomas C. Kline, Jr. Carbon and nitrogen isotopic composition of Prince William Sound pelagic biota shift on annual time scales: a tool for monitoring changes in oceanographic forcing

Schedule

Time		Events			
Wed.	14 th 09:00 - 17:30	MODEL Workshop		Working Groups 11, 12, 13 & 14 Meetings	
Thurs.	15 th 09:00 - 17:30	MODEL Workshop		Working Groups 11, 12, 13 & 14 Meetings	
Fri.	16 th 09:00 - 17:30	REX Workshop	Working Groups 11 & 12 Meetings		MONITOR Workshop
Sat.	17 th 09:00 - 17:30	REX Workshop	Working Groups 8, 11 & 12 Meetings		MONITOR Workshop
Sun.	18 th 09:00 - 12:30 13:30 - 17:30 17:00 - 20:00 18:30 - 21:30	REX, BASS, MODEL & MONITOR Meetings		TCODE Meeting	Working Group 8 Meeting
		CCCC IP/EC Meeting*			
		Registration			
		Science Board*			
Mon.	19 th 07:30 - 08:30 08:30 - 11:00 11:00 - 12:30 13:30 - 17:30 19:00 - 21:00	Registration			
		Opening Session			
		Governing Council*			
		BIO Topic	MEQ Topic	FIS Papers	F & A Meeting*
		Welcoming Reception			
		FIS/CCCC Topic			
Tues.	20 th 08:30 - 12:30 13:30 - 17:30 19:00 - 22:00	FIS/CCCC Topic	POC/BIO Topic	MEQ Papers	F & A Meeting*
		FIS/CCCC Topic		POC/BIO Topic	
		Banquet			
Wed.	21 st 08:30 - 12:30 13:30 - 17:30 TBA	MEQ/BIO Topic	POC Topic & Papers (08:30-18:20)		BIO Papers
		Extravaganza Dinner II			
		FIS/CCCC Topic		FIS/CCCC Topic	
Thurs.	22 nd 08:30 - 12:30 13:30 - 17:30	CCCC Implementation Panel Meeting		Governing Council*	
		BIO Meeting	FIS Meeting	MEQ Meeting	POC Meeting
Fri.	23 rd 08:30 - 17:30 17:30 - 18:30	Science Board Symposium (1997/98 El Niño Event)			
		Closing Session			
Sat.	24 th 08:30 - 17:30 18:00 - 20:00	Science Board*			
		F & A Meeting*			
Sun.	25 th 13:30 - 17:30	Governing Council*			

* Closed Session

Fri. & Sat. 16-17th 09:00-17:30
 Sunday 18th 09:00-17:30

3rd Meeting of JGOFS North Pacific Task Team
 CREAMS-PICES Workshop