


PICES

North Pacific Marine Science Organization (PICES)
F o u r t h A n n u a l M e e t i n g

p r o g r a m

 OCTOBER 16-22, 1995

Qingdao, People's Republic of China

Day / Time		Events			
16th 08:30 - 11:00		Opening Session			
11:00 - 12:30		Governing Council*			
13:30 - 17:30		Science Board Symposium (Carrying Capacity)			
19:00 - 20:30		Reception ¹			
17th 08:30 - 12:30		POC Topic Session	FIS Papers	F & A Meeting*	
13:30 - 17:30		MEQ Topic Session	BIO Papers	F & A Meeting*	
18th 08:30 - 12:30		BIO Topic Session	MEQ Papers		TCODE Meeting
13:30 - 17:30		BIO Meeting	MEQ Meeting	POC Meeting	FIS Meeting
19th 08:30 - 12:30		FIS Topic Session	POC Papers	Governing Council*	TCODE Meeting
13:30 - 17:30		BIO Meeting	FIS Meeting	MEQ Meeting	POC Meeting
20th 08:30 - 17:30		Bering Sea Symposium			
17:30 - 18:30		Closing Session			
21st 08:30 - 17:30		Science Board*			
22nd 13:30 - 17:30		Governing Council*			

* Closed Session

¹ Co-hosted by the Ministry of Agriculture and Qingdao Municipal Government

16th Oct., 95 (Monday)

Registration (08:00 -)

Opening Session (08:30 - 11:00)

Welcome / Opening Address by Mr. Zhang, Deputy Minister of Ministry of Agriculture of China; Mr. Sun, Deputy Director of National Natural Science Foundation; and Mayor of Qingdao

Remarks by Chairman

Remarks by representatives of contracting parties

Announcements

Keynote lecture by Prof. Jilan Su: Kuroshio and the East China Sea Circulation

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

MARINE CARRYING CAPACITY: FACT OR FICTION? (13:30 - 17:30)

(Science Board: Topic 1)

Co-convenors: Alec D. MacCall (U.S.A.) and Makoto Kashiwai (Japan)

M. Kashiwai. History of carrying capacity as an index of ecosystem productivity

A.D. MacCall. Carrying capacity in simple theoretical population models

L.M. Dickie. Measuring carrying capacity using biomass spectrum

S. Chen & M. Zhu. Model on carrying capacity of scallop

V.V. Navrotsky. Pros and cons of carrying capacity

O.F. Gritsenko et al. The problem of criteria for carrying capacity of the North Pacific for salmon

J.J. Polovina. Is interannual variation in the spatial distribution of tuna catches an indicator of spatial variation in oceanic and coastal carrying capacity?

D.W. Welch. Evolutionary evidence for a finite marine carrying capacity for salmonids

Reception¹ (19:00 - 20:30) - co-hosted by the Ministry of Agriculture and Qingdao Municipal Government

17th Oct., 95 (Tuesday)

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

CIRCULATION IN THE SUBARCTIC NORTH PACIFIC, AND ITS MARGINAL SEAS, AND ITS IMPACT ON CLIMATE (08:30 - 12:30)

(Physical Oceanography & Climate Committee: Topic 2)

Co-convenors: Ming-Yu Zhou (China) & John F. Garrett (Canada)

- K. Hanawa. Strengthening of wintertime midlatitude westerlies over the North Pacific since mid 1970's and decadal variability of the North Pacific
- H.I. Ustinova. The influence of meteorological fields of the forming variability of the sea surface temperature on the Northwestern Pacific
- N.S. Vanin. Large-scale variability of the thermohaline water structure in the North Pacific along 50-N
- M. Endoh. Tracer studies in North Pacific sub-surface and intermediate layers with subarctic/subtropical circulations and isopycnal mixing in an MRI OGCM
- X.B. You et al. An application of a three-dimensional coastal ocean circulation model to the South China Sea
- Y.C. Yuan. The circulations east of Taiwan and in regions west and east of the Ryukyu Islands during early summer 1985
- Y.Q. Pan. The formation and evolution of the East Sea dense water and Changjiang diluted water diffusion and their relations with Taiwan warm current
- H. Zhang. The surface flux of carbon dioxide over the shelf edge region in the East China Sea
- K. Kim. Changes in deep water characteristics in the East Sea (Sea of Japan): a regional evidence for global warming?

PAPERS FOR THE FISHERY SCIENCE COMMITTEE (08:30 - 12:30)

Introduction.

- J. Helle. Size decreases and older age at maturity in chum salmon in North America
- O. Yamamura. Density-independent niche dynamics in demersal fish assemblages: are fish communities saturated?
- R.J. Beamish. Density-dependent effects and regime shifts
- Y.L. Lan et al. Population dynamics of some main commercial fishes in the East China Sea and Yellow Sea
- V.N. Valova & V.V. Czigir. Influence of feeds composition and stocking densities on relative number of salmon trout
- S. McKinnell. Density-dependent effects of ocean sockeye abundance on adult body size of British Columbia sockeye stocks
- Y. Hiyama. Density dependent effects on growth and recruitment in some fish and squid populations in the Sea of Japan
- J.G. Fang et al. Study on cultivation carrying capacity of kelp *Laminaria japonica* in Sungo Bay
- J.Y. Kim & J.I. Kim. A density-dependent effect on the reproduction caused by the decrease in sardine population off Korea
- N.G. Chupysheva. The influence of stocks density of grey urchin *strongylocentrotus intermedius* and Pacific bay scallop *patinopecten yessoensis* on size and weight characteristics of species and biomass of population
- K. Watanabe. Changes in the relative abundance of demersal and benthopelagic fishes around the coast of Hokkaido, observed in the data from trawlers and Danish seiners

- S.C. Riser. Ventilation and deep water formation in the Japan Sea: a new assessment based on recent tracer measurements
- T.A. Zadonskaya. The main features of interaction between physical and biological processes in coastal, shelf and deep basin waters
- J.Y. Zang. The methane distribution in coastal marine waters

- W.M. Smoker & A.J. Gharret. Genetic and environmental variation of fitness traits in pink salmon
- D.W. Welch. Thermal limits and oceanic migrations of Pacific salmon
- V.I. Radchenko. Density-dependent effects on growth and maturing of pink salmon during marine anadromous migration
- J.Y. Deng et al. Study on dynamics of the stock recruitment relationship (SRR) of penaeid shrimp in the Bohai Sea

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

SOURCES, TRANSPORT AND IMPACT OF CHEMICAL CONTAMINANTS (13:30 - 17:30)

(Marine Environmental Quality Committee: Topic 5)

Co-convenors: Jia-Yi Zhou (China), Richard F. Addison (Canada) & John E. Stein (U.S.A.)

- R.Y. Liu & J.Y. Liu. Impact of the three gorges project on the estuarine environment and living resources of the Changjiang River
- Y. Gao et al. Sources, transport and air/sea exchange of atmosphere trace substances over the East China Sea and their implications for regional biogeochemical cycles
- S. Harada et al. A strategy for assessing the effects of contaminants on marine ecosystem: case of Tokyo Bay and possibility of model development in East China Sea
- S.D. Hahn. Estimation of surface circulation in winter in the East China Sea and the Yellow Sea regions as a role of contaminant transport for real time service
- X.K. Lu. River input of nutrients into the East China Sea and their biogeochemical character
- D.B. Yang et al. On the chemical contaminants of surface sediments in the southern part of the Yellow Sea
- M.Y. Zhu et al. Effects of Aquaculture on the Sango Bay ecosystem
- S.S. Ma. Analysis of nutrient condition of Rushan Bay in China in August

PAPERS FOR THE BIOLOGICAL OCEANOGRAPHY COMMITTEE (13:30 - 17:30)

- S. Yoo. Primary productivity of the East China Sea
- A. Taniguchi & Y.O. Kim. Seasonal variation of excystment ability of the cyst population of the planktonic oligotrich ciliate *strombidium conicum*
- Y.I. Zuenko & L.N. Bokhan. Regression correlations in summer mezoplankton community off southern Kuril Islands (North-West Pacifica)
- S. Harada et al. Variations in the transfer efficiency from photosynthetic and bacterial carbon production into zooplankton during a shift of zooplankton dominance from copepoda to doliolida
- D.L. Mackas. Year-to-year changes in zooplankton community composition off the west coast of Canada
- H. Guo & Z. Yu. The characteristics of the photoplankton communities in the prawn ponds and the relationship with shrimp disease
- A.P. Kassatkina. Appearance of planktonic anomalies in Far-Eastern seas and in adjacent waters of the Pacific Ocean
- N.T. Dolganova. Vertical distribution of mesoplankton in the Japan Sea
- M.A. Shebanova. Vertical distribution of the copepods *metridia okhotensis* and *metridia pacifica* in the south part of the Okhotsk Sea in summer

Y.Q. Chen. The impact of pollution on ecosystem in Changjiang River estuarine area,

1989, 1994
K. Taki. Distribution and life cycle of *Euphausia pacifica* hansen in the coastal water off Sanriku, Northeastern Japan
D. Lluch-Belda. Variability of marine living systems

18th Oct., 95 (Wednesday)

TCODE Meeting (08:30-12:30)

FACTORS AFFECTING THE BALANCE BETWEEN ALTERNATIVE FOODWEB STRUCTURES IN COASTAL AND OCEANIC ECOSYSTEMS. (08:30 - 12:30)

(Biological Oceanography Committee: Topic 3)

Co-convenors: Rong Wang (China) & Makoto Omori (Japan)

Address and review of the subject by convenors.

- T. Weisse. The link between the classical food chain and the microbial food web: the role of keystone predators
- H. Seki. Stability and importance of detritus food chains in the marine food web
- W.S. Kim. Trophic interactions in the planktonic food webs
- H. Sugisaki. Food webs of zooplankton and micronekton communities in the two cold water masses around Japan
- A.M. Orlov. Foodweb in demersal fish community in the pacific continental slope waters off the north Kurils
- R.I. Perry et al. Stable carbon isotopes identify different food-webs between shelf and slope regions west of Vancouver Island

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

- K.D. Jenkins. Relationships between trace metal bioaccumulation, metabolism and higher level effects in coastal benthic ecosystems
- C.D. Levings et al. Movements of the starry flounder *Platichthys stellatus* in relation to its role as a sentinel species for contaminants in northeastern Pacific estuaries
- H. Yamada & K. Takayanagi. Distribution and behaviour of butyltin compounds in Aburatsubo Bay and adjacent waters in Japan
- V.F. Michoukov et al. Experimental study of oil degradation in the Sea of Okhotsk
- F.G. Lin et al. Study on degradation of petroleum by marine filamentous fungi
- J.P. Wu et al. ¹⁵N/¹⁴N isotope ratios in the subarctic northeast Pacific ecosystems: nitrate utilization and trophic structure
- L.N. Luchsheva. Estimation of mercury content in the ecosystem of western part of the Bering Sea
- P.M. Verbost et al. Stress parameters in fish: their use in monitoring
- E.N. Shumilin. Biogeochemical processes controlling material transport in some estuarine and coastal areas of northern Pacific
- Y.Q. Chen. An ecological study on harmful bloom in Zhoushan fishing area

- Z.L. Xu et al. Analysis of ecological eigenvalue of plankton during red tide occurrence in the Xianshan Gulf, Zhejiang in 1988
- W.J. Cretney et al. Sources, fate and trends of contaminants in the Strait of Georgia: chemostratigraphy and chemometrics
- B.M. Sanders et al. Detection of proteotoxicity of environmentally exposed mussels using the cellular stress response

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

19th Oct., 95 (Thursday)

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

TCODE Meeting (08:30 - 12:30)

DENSITY-DEPENDENT EFFECTS ON FLUCTUATIONS IN THE ABUNDANCE OF MARINE ORGANISMS (08:30 - 12:30)

(Fishery Science Committee: Topic 4)
 Conveners: Vidar G. Weststad (U.S.A.) & Yasunori Sakurai (Japan)

- T.J. Quinn II. Expression of density dependence in population models
- T. Wada. Role of density-dependent effects on the population fluctuation of Japanese sardine, *sardinops melanostictus*
- O.S. Temnykh. The peculiarities of asia pink salmon growth at the different abundance
- B.A. Megrey. Interannual trends in maturity for Gulf of Alaska walleye pollock: is there evidence for density-dependence?

PAPERS FOR THE PHYSICAL OCEANOGRAPHY AND CLIMATE COMMITTEE (08:30 - 12:30)

- V.V. Plotnikov. Conformity of space-temporal structure of the far east seas ice conditions
- R.H. Huang. Ice motion vectors derived from image sequence of NOAA satellite
- S. Bai. Sea ice in the Bohai Sea of China
- Y. Nagata. Salinity balance in the dense water formation area of the Okhotsk Sea
- A.L. Figurkin. Interannual variability of temperature conditions at shelf Okhotsk water in spring, 1983-1995
- Y. Kawasaki. Recent changes in water characteristics around the Kuril region during summer
- N.S. Vanin. Mesoscale structure and water dynamics of the subarctic frontal zone near emperor sea mounts chain

- R.A. de Szoeki. Long-period baroclinic rossby waves in the North Pacific
 S.M. Varlamov. The role of oceans surface temperature anomalies in formation of short-range climate variability in simple coupled atmosphere - ocean model
 T.C. Royer. Interdecadal changes hydrography in the Gulf of Alaska
 J.Y. Wang. A study on the verification method of the marine environment forecasts in the Northwest Pacific

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

20th Oct., 95 (Friday)

Bering Sea Symposium (08:30-17:30):
OCEANOGRAPHY AND FISHERIES OF THE BERING SEA
 Co-convenors: James E. Overland (U.S.A.), Richard J. Beamish (Canada) & Al Tyler (U.S.A.)

- J.E. Overland. Introduction
 V.V. Plotnikov. Some estimations of the space-temporal structure of ice concentration, age, and shapes in the Bering Sea
 V. Alexander. Interannual variability in the Bering Sea ice cover and its influence on primary production and related processes in the marginal ice zone
 K. Mito. Food web structure of demersal fish community in the eastern Bering Sea
 Q.S. Tang & X. Jin. Oceanography and living marine resources in the Aleutian Basin in summer
 A.A. Balanov. Taxonomic and trophic structure of mesopelagic nekton community of Bering Sea
 J. Zheng. Changes in mortality, growth, recruitment, and spatial distribution of crabs in the eastern Bering Sea: density-dependent effects or environmental regulations?
 P.A. Livingston. Comparison of the role of walleye pollock in groundfish food webs of the eastern Bering Sea, Aleutian Islands and Gulf of Alaska
 G.A. Antonelis. Inter-island variation in the diet of female northern fur seals *Callorhinus ursinus* in the Bering Sea
 A.I. Boltnev. Northern fur seal and steller sea lion as indicators of changes in ecosystem of Bering Sea
 G.L. Hunt. General Discussion and Summary
 A.S. Naidu. The past 60 Ky history of productivity and bottom water formation of the East Bering Basin: evidence from carbon isotopes of *Uvigerina peregrina*
 T.E. Whitledge. Dissolved silica in Bering Sea deep and bottom water
 V.A. Luchin. The Bering Sea oceanographic data massive and some results of its processing

G.V. Khen. Spatial-temporary characteristics of the warm intermediate waters of the deep Bering Sea

Closing Session (17:30 - 18:30)

21st Oct., 95 (Saturday)

Science Board* (08:30 - 12:30 & 13:30 - 17:30)

22nd Oct., 95 (Sunday)

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

Poster Session (throughout the duration of meeting)

Biological Oceanography Committee:

1. V.I. Dulepov. Production processes in populations of animals in Okhotsk Sea
2. E.P. Dulepova. Role of plankton predators in trophic webs in epipelagic of western part of Bering Sea
3. X.G. Gu et al. The ecological study on phytoplankton in maximum turbid zone of Changjiang estuary
4. H. Guo & Z. Yu. The characteristics of the phytoplankton communities in the prawn ponds and the relationship with shrimp disease
5. K. Hirakawa et al. Copepod assemblage as food for larval Japanese anchovy, *Engraulis japonica*, around the Tsushima Straits, Southwestern Japan Sea
6. N.Z. Jiao et al. Size-fractionated chlorophyll, primary production and new production in the East China Sea
7. V.N. Kulepanov. The cultivation and the induced mutagenesis in the red alga *Gracilaria verrucosa* (Huds.) Papenfus
8. W.C. Liu & R. Wang. Abundance and distribution of particulate organic matter in the East China Sea
9. B.W. Lu & R. Wang. Distribution characteristics of surface layer chlorophyll *a* on different spatial scales in the East China Sea
10. D.L. Mackas et al. Aggregation of euphausiids and hake along the outer continental shelf off Vancouver Island
11. M.M. Mullin. Demography of calanus off southern California: What do chlorophyll and macrozooplanktonic biomasses tell us?
12. X.R. Ning et al. Distribution and abundance of photosynthetic picoplankton and the environmental limitation in the Xiangshan Bay of Zhejiang
13. O.A. Shatilina & A.G. Pogodin. Influence of hydrometeorological factors on formation of food base elements of planktonic organisms in northern part of the Japan Sea
14. W. Shaw & R.I. Perry. Zooplankton data taken at face value - the potential for errors
15. X.Q. Shen et al. A study on the pelagic ecosystem in the frontal region of Changjiang estuary

16. E.N Shumilin. Where on the globe can we expect strongest global environmental changes?
17. T. Sugimoto & K. Tadokoro. Interdecadal variations in zooplankton biomass, chlorophyll concentration and their physical environment in the subarctic Pacific
18. A.F. Volkov. Changes in plankton community of Okhotsk Sea
19. Z.L. Xu et al. An ecological study on zooplankton in maximum turbid zone of estuarine area of Changjiang (Yangtze) River
20. Z.L. Xu et al. An ecological study on zooplankton in plume frontal zone of Changjiang (Yangtze) River estuarine area III vertical distribution of dominant species
21. Q.L Yan & D. Ma. Testing contaminated sediment acute toxicity in Jinzhou Bay with marine amphipods

Fishery Science Committee:

1. V.A. Belyaev. Productivity of generations of mass commercial fish (Northwest Pacific) and climate changes
2. I.S. Berman & A.M Orlov. Conditions of existence and functioning of bottom fish communities on the continental slope of the north-west Pacific
3. Y.Q. Chen. Ecological profile in the Hangzhou Bay and Zhousan fishing area
4. Y.Q. Chen. Fisheries status in estuarine frontal zone of Changjiang (Yangtze) River and adjacent water
5. Z. Chen. A review of the size of demersal fish stocks in the investigation areas of continental shelf southwest of Nansha Islands and its development feasibility
6. H.Y. Dang. Biomass and productivity of marine macrobenthos of the East China Sea
7. N.A. Dashko & S.M. Varlamov. Hydrometeorological regime over the Okhotsk Sea as applied to navigation and fishing
8. S.Z. Dou and B. Luo. Patterns of food utilization of twelve species of flatfishes co-occurring in the Bohai Sea of China
9. G.S. Gavrilova. The abundance and distribution of commercial sea urchins in Peter the Great Bay (Japan Sea)
10. L.A. Gayko. Selection of parameters for physico-statistical schemes of long-period prediction of productivity of mariculture farms (for Posjet Bay, Sea of Japan)
11. I.S. Gusarova. Marine algae community in sublittoral zone from some regions of the Northern Pacific
12. O.A. Ivanov. Second winter of the pink salmon in the sea
13. W.M. Jiang & W. Sheng. Predation on juvenile penaid prawn *Penaeus orientalis* and fish juveniles by perch *Lateolabrax japonicus* in the estuaries of the Bohai Sea
14. V.V. Lapko. Mesopelagic fishes as the most important item of the epipelagic fish community of Okhotsk Sea
15. C.L. Lin et al. Long-term variation of oceanic front in western of the east China Sea and fisheries
16. Q. Liu & D. Chen. Comparison of two virtual population analysis methods
17. J.W. Lu et al. Studies on characteristics and successions of fishery resources structure in the China Sea
18. L.G. Paymeeva. Influence of the irrational trade and phytophagy upon the state of kelp beds of laminaria japonica aresch. f. longipes (Miyabe et Tokida) yu. Petr. by the coast of the Northern Primorye (The Japan Sea)
19. M.V. Sukhoveeva. & N.G. Klockhova. New species of algae macrophytes of eastern Kamchatka
20. M.V. Sukhoveeva. Macrophytobenthos of sublittoral of the Prymorye region (The Japan Sea)

21. D.W. Welch & P.H. Ostrom. Latitudinal variation in $\Delta^{15}\text{N}$ and $\Delta^{13}\text{C}$ along 180°W : Implications for over-winter migration of chum salmon (*O. keta*)
22. A. Yatsu. Internal variation in neon flying squid abundance and oceanographic conditions in the central North Pacific

Marine Environmental Quality Committee:

1. G.X. Cai & A.R. Beaumont. Tetraploid induction in the mussel *Mytilus edulis* using a new chemical, 6-dimethylaminopurine (6-dmap) during early development
2. Y.N. Fu & Y.L. Xu. Releasing of PAHs from coal-ash in seawater
3. L.M. Huang et al. Studies on basic organisms construction and environment status in Zhujiang estuary and its adjacent sea areas
4. H.W. Ju & Z. Zhang. Variations and distributions of dissolved inorganic carbon dioxide in the East China Sea
5. X.K. Lu et al. Partial pressure of carbon dioxide in the East China Sea and carbon flux at the interface between air and sea
6. V.F. Michoukov & S.G. Sagalaev. Experimental study of water carbonate system in largest river estuaries of West Pacific
7. G.V. Moiseyenko. Influence of drilling mud pollution on zooplankton and Bering Sea water biotesting
8. Y.X. Song et al. Modern sedimentation features of the sea area around Changshan archipelago
9. Y.G. Wang & Y.E. Bao. The impact of grain size of sediment on marine environmental quality
10. L.V. Zhiltsova & V.D. Dzizyurov. Analysis of data on metal accumulation in *Amblysetia tobuchiensis* in starka strait
11. M.J. Zhou. Ecological environment of Changjiang River estuary
12. X.D. Zhu et al. Benthic foraminifers as indicators of marine pollution: an example from Lianyungang Port, Jiangsu, China

Physical Oceanography and Climate Committee:

1. N.V. Bulatov & H.I. Ustinova. Thermal and dynamic structure of waters off the south coast of Honshu
2. V.B. Darnitskiy. Boundary effects of different scales observed while interaction of sea currents and seamounts in the Pacific Ocean
3. L.A. Gayko. Spatial-temporal distribution of water temperature at the area of the maricultural natural reserve "Zaliv Vostok" (Sea of Japan)
4. V.V. Gorbachev & S.I. Chepel. Software of measurements by CTD measuring complex in a mode of scanning on a depth during a motion of a vessel
5. T.R. Kilmatorov & V.A. Kuzmin. Whether local properties of cabbeling effect in marine waters can influence global properties of the climatic system
6. V.I. Kuzin & A.D. Nelezin. Diagnosis of two Kuroshio paths
7. V.I. Kuzin & V.M. Moiseyev. Diagnoses and adaptation current calculations in the North Pacific
8. V.P. Pavlichev. Space-time variability of hydrological conditions in the region of interaction of Kuroshio and Oyashio in summer of 1986-1989
9. V.I. Ponomarev et al. Observational evidence for recent long-term changes in the northwestern Japan Sea
10. E.V. Samko & Y.V. Novikov. The structure of frontal zone of Oyashio current
11. S.V. Simonenko. The macroscopic kinetic energy of fluid motion

12. G.A. Vlasova. Vertical structure of currents in the South-Kuril ridge
13. L.P. Yakunin. The ice of the Sea of Japan
14. I.A. Zhabin. The stratification conditions for double-diffusive processes in the North Pacific along 50°N

Bering Sea Symposium:

1. P. Dell'Arciprete et al. Pollock spawning density distribution in the southeastern Bering Sea
2. B.S. Dyakov & A.A. Nikitin. On temperature variability of water regime in the northwest part of Bering Sea
3. D.N. Kim et al. The distribution of zooplankton and stomach contents of walleye pollock, *Theragra chalcogramma*, in the Bering Sea
4. V.V. Maximenkov & L.V. Piskunova. The feeding and food relationships of some fish juveniles and adult three-spine stickleback in estuaries and coastal waters of the Karaginsky Bay (Bering Sea)
5. V.V. Plotnikov. Use of simple probabilistic models for prognostic evaluations of some characteristics of the Bering Sea ice conditions
6. E.V. Samko. Water structure and currents of Kamchatka and Bering Sea regions in summer 1993
7. W. Shaw et al. Biochemical analysis of zooplankton from the southeastern Bering Sea
8. O.V. Shevtsova & A.P. Nedashkovsky. Changeability of carbon dioxide system components in northwestern part of the Bering Sea
9. A.V. Tyler & G.H. Kruse. Conceptual modeling of red king crab year-class strength in the Bristol Bay region of the Bering Sea
10. A.F. Volkov. Specific features of feed of Bering salmon in summer period