Cooperation in Oceanography between Japan and France since 1960s

Teruhisa Komatsu

President of the Société francojaponaise d'Océanographie de Japon





History of cooperation in oceanography between France and Japan

It started in late 1950s after the World War II.

In 1958, Bathyscaphe FNRS-III visited Japan to carry out deep-sea expeditions in Japan Trench and Kuril Trench with Japanese scientists.





In 1950s, French scientists were leading the deep-sea research using manned submersibles.

Dives of FNRS III in 1958

Date	Depth	Pilot	Passenger
14 June 1958	1 200 m	Houot	Mr Husaka (Journal <i>Asahi Shimbun)</i>
20 June 1958	3 000 m	Houot	Prof. Sasaki (Prof. Physical Ocean
26 June 1958	1 000 m	O'Byme	Prof. Pérès
5 July 1958	1 610 m	O'Byme	Prof. Pérès
18 July 1958	2 800 m	Houot	Prof. Niino (Prof. Biology)
30 July 1958	3 000 m	O'Byme	Prof. Kumagori (Prof.Physical Ocean.)
3 August 1958	1 000 m	Houot	Mr. Hayashida (Photo. Asahi Shinbun)
7 August 1958	2 300 m	O'Byme	Prof. Kubo (Prof. Crustacea)
11 August 1958	760 m	Houot	Prof. Chiba

Prof. Tadayoshi Sasaki boarded on the FNRS-III.

Prof. Sasaki cautioned that radioactive wastes must not be dumped even in deep sea floor because of deep water current



They dived to a bottom depth of 3000 m in Japan Trench on 20 June 1958.



Front page of the Asahi Shinbun on 21 June 1958

Prof. T. Sasaki and his colleagues founded the Société franco-japonaise d'Océanographie de Japon on 7 April 1960

to stimulate scientific exchanges between Japanese and French individuals and groups working on oceanography and fisheries

The secretary office was at the Masion francojaponaise at Ochanomizu in Tokyo.

Bathyscaphe "Archimède" succeeded to dive at a bottom depth of 9,545 m



off Kuril Archipelago on 15 July 1962

Publication of SFJO, La mer was created in August 1963



La mer Tome 1, N° 1, Août 1963

千島海溝の海水の化学成分について*

---深海潜水艇「アルキメデス」号の採水による海水---

佐々木忠義**·小沢敬次郎**·大久保 勲***

Etude chimique de l'eau relevée de la fosse des Kouriles par le bathyscaphe français "Archimède"

Tadayoshi Sasaki, Keijiro Ozawa et Isao Okubo

Résumé: On montre le résultat de l'analyse chimique des eaux que le bathyscaphe "Archimède" a relevées en diverses profondeurs lors sa plongée jusqu'à 9,545 m près de l'Archipel du Japon, en comparaison avec le résultat de l'Expédition "JEDS-II" effectuée par le navire hydrographique de l'Observatoire Météorologique "Ryofumaru" et celui obtenu par le navire russe "Vityaz".

Cooperative studies on deep sea floor around Japan after Bathyscaphe

- 1984 KAIKO-Project R/V "Jean Charcot": Xavier Le Pichon, Kazuo Kobayashi
- 1985 KAIKO-Project R/V "Nadir", Submersible "Nautile": Xavier Le Pichon, Kazuo Kobayashi
- 1989 KAIKO-Tokai Project R/V "Yokosuka" Submersible "Shinkai 6500": Xavier Le Pichon, Kazuo Kobayashi
- 1994 KAIKO-Nankai Project R/V "Yokosuka" Submersible "Shinkai 6500": Xavier Le Pichon, Jiro Segawa
- 1996 KAIKO-Nankai Project R/V "L'Atalante", R/V "Hakuho-maru": Xavier Le Pichon, Jiro Segawa
- 2000 KAIKO-Seize Project R/V "Nadir" 3D Multichannel Reflection Survey: Xavier Le Pichon, Hidekazu Tokuyama
- 2007 SFJ-KAIKO Project: Pierre Henry, Hidekazu Tokuyama
- 2010 KAIKO-NanTroSEIZE Project: Pierre Henry, Juichiro Ashi

Cooperation in Fisheries Science

Oyster is very important sea food in France and Japan!

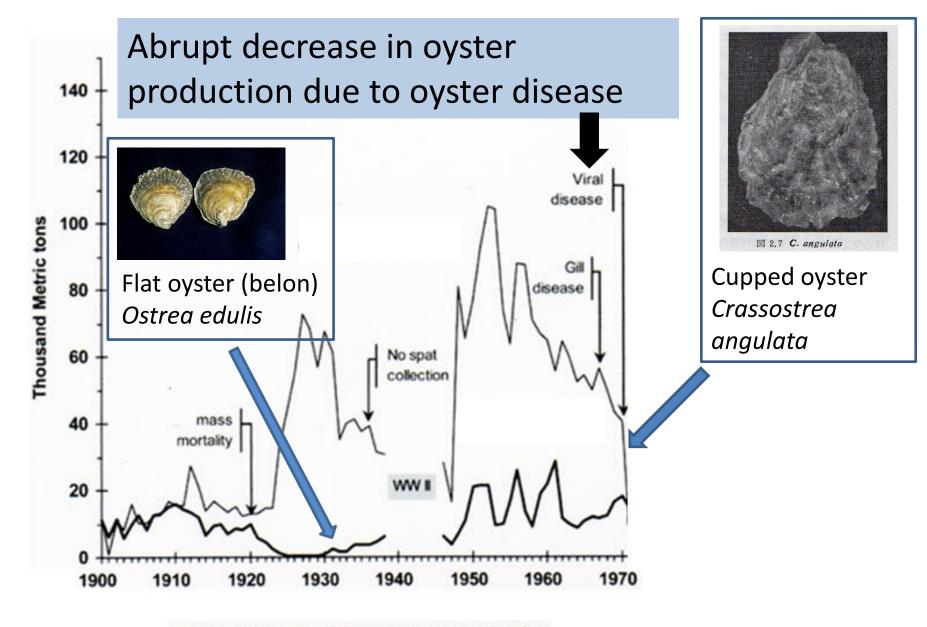








In France, one person consumes about 2 kg of raw oyster per year



Historical trends of French oyster production

(Buestel et al., 2009)



Prof. Takeo Imai

In 1966, Dr. P. Trochan, Director of La Tremblade Institute, approached Prof. T. Imai of Tohoku Univ. on export of oyster seeds.



Mr. Marc Depuis, Conseiller Scientifique

Is it possible to export oyster seeds from Japan to France?

Preparation of oyster seeds export







Dr. Kunio Goto of Miyagi Fisheries Experimental Station



Fisheries







Pathological examination of oyster seeds for exportation

20 cases of oyster seeds (40 kg/case) were exported in 1966年. Good growth and low mortality. 80 cases were exported in 1967. 10,000 cases for the next year were reserved in this year.





Preparation of shipment

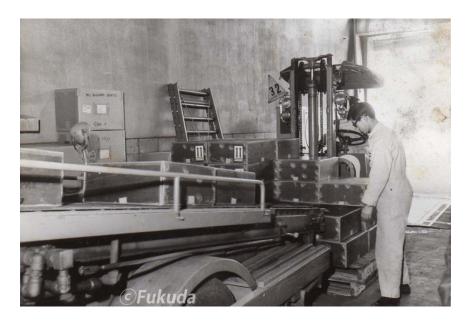


French TV covered preparation of oyster seeds in Mangoku Ura in April 1960





Quarantine





Preparation of shipment



Agriculture and Forestry. This is the first time that items are shipped to Europe by air especially in a large quantity. A secret lies in a special waterproof carton box created by Yoshito Shimizu, president of Fuji Air Transport Co., Ltd., a forwarding agency of the live cargoes. Together with Takashi Takahashi, president of Koyo Trading Company, a shipper, the two have been testing the best ways of to the French west coast from Paris. When they have grown up to a full size after one to one and a half years, Japanese oysters will become a real treat for gournets in France. Many more tons will be airlifted to Paris from time to time



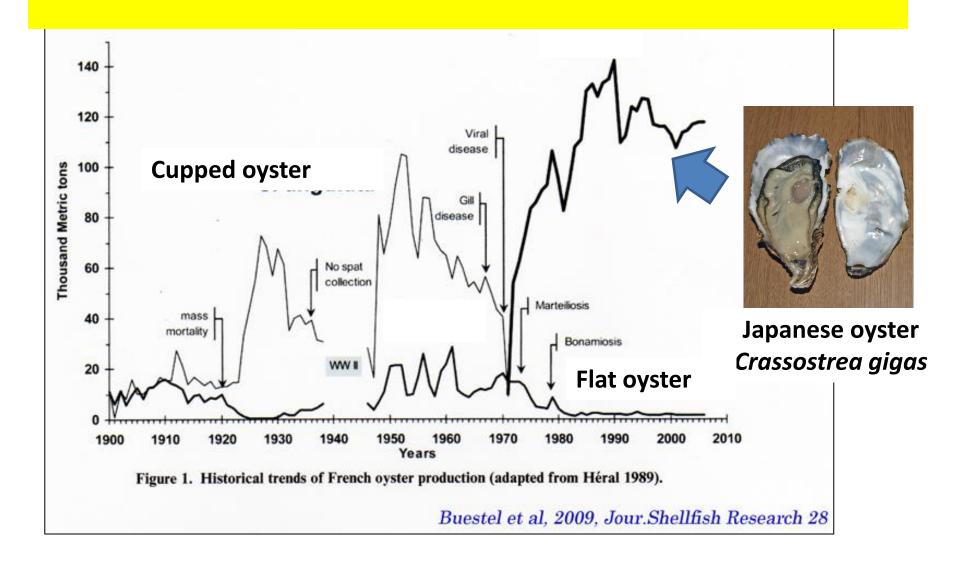
10 million of oyster seeds were sent from Sanriku to France by air cargo in 1969 "Shipping and Trade News 1969"





Prof. François Doumange of Univ. Montpellier proposed use of return flight to bring eel seeds from France to Mayer of Ishinomaki

Recovery of oyster production in France



Exchange of scientists in Fisheries Science

1970: Drs. Joël QUERELLOU and Arnaud MULLER-FEUGA (CNEXO-COB: Centre National pour l'Exploitation des Océans-Centre Océanologique de Bretagne) came to Laboratory of Prof. Uno, Tokyo Univ. Fisheries (TUF) in 1970 to study aquaculture and shellfish culture in Japan.

1973-1976: Dr. Yasuyuki KOIKE (TUF) has been to CNEXO-COB to apply a seed culture method of abalone developed in Japan to French abalone and to study ecology of cultured abalone after releasing in nature.

Dr. Kiyoshi KONDO (TUF) has been in Univ. Bretagne Occidentale (UBO) to study Physical Oceanography as student of French Government Scholarship

1974: Prof. Tadashi NOMURA of Tohoku Univ. visited Laboratory of Prof. Albert LUCAS (UBO).

1977: Dr. Tomoyuki MIURA (TUF) has been to CNEXO-COB to study taxonomy and ecology of polychaete as student of French Government Scholarship

Dr. Mikio MORIYASU (TUF) has been to Univ. Montpellier II to study marine biology as student of French Government Scholarship

1978-1984: Dr. Hiroki YAGI has been to IFREMER-Centre de Brest to study physiology of king prawn growth as student of French Government Scholarship.

1979: Dr. Masato IIZAWA (TUF) has been to Laboratory of Prof. Amanu, Univ. de Science et Technique du Languedoc de Montpellier to study aquaculture as student of French Government Scholarship.

- 1982-1990: Dr. Yves HENOQUE (Paris VI) has been to Maison franco-japonaise to study shrimp culture methods.
- 1983-1991: Dr. François SIMARD has been to Lab. of Prof. Yusho ARUGA (TUF) to study seaweed culture.
- 1983-1986: Prof. Denis Bailly (U. Grenoble) has been to Kagoshima Univ. to study Sociology of Fisheries.
- 1986-1988: Dr. Catherine MARIOJOULS (INRA-PG) has been to Lab. of Prof. Uno and Ogasawara, and Fisheries Experimental Station of Hiroshima Prefecture, and Lab of Prof. Nomura (TU).
- 1988-1992: Prof. Hubert J. CECCALDI (Ecole Pratique des Hautes Etudes) has stayed at Maison franco-japonaise (MFJ) as the director of MFJ.

Visits of French delegations to Japan

March-April 1977: 17 French researchers from CNEXO, ISTPM (L' Institut Scientifique et Technique des Pêches Maritimes), Univ. de Caen visited Japan with attendance of Profs. UNO, Yasuyuki KOIKE and Tomoyuki MIURA to collect information on shellfish cultures

October 1978: Jen-Yves LEGALL (CNEXO-COB) visited Lab. Of Prof. UNO, TUF to make an internship and information exchange for pearl culture and finfish culture with attendance of Prof. UNO and Y. KOIKE

1985: Jean-Claude DAO (CNEXO-COB) and Albert LUCAS (UBO) visited Tohoku and Hokkaido to make an internship for scallop culture and Tateyama, Chiba to make an internship for abalone culture with attendance of Profs. UNO and KOIKE, and Catherine MARIOJOULS

September 1989: 10 persons from Brittany visited Seto Inland Sea to know seaweed culture and finfish culture with attendance of Profs. UNO and TAKAGI and Masion franco-japonaise (MFJ) to have a seminar with Prof. and Director of MFJ and researcher F. SIMARD at MFJ.

Cooperative researches on shellfish cultures since early 1970s



Drs. J. C. Dao and D. Buestel of CNEXO-COB at Moura facing Mutsu Bay, Aomori in April 1977 to survey shellfish culture methods in Japan



Mutsu Bay



Now in Brittany

Techniques of shellfish and crustacean cultures from Japan to France from 1970s to 1980s



Release of cultured abalone seeds in nature supervised by Japanese scientists



Present abalone culture in Brittany

Prof. H. J. Ceccaldi founded the Société franco-japonaise d'Océanographie in France in 1984











with Y. Henoques, C. Mariojours, F. Simard, J. M. Thiérry, A. Nishida, N. Lucas and D. Bailly



Prof. H. J. Ceccaldi had been Director of Maison franco-japonaise from 1988 to 1992



Seminar on oyster cultures with French delegation of IFREMER and ISTPM and Japanese scientists at Maision franco-japonaise at Ochanomizu in 1990

Cooperation in Marine Science

1992-1993: Dr. Teruhisa KOMATSU (Univ. Tokyo) has been to Lab. Alexandre MEINESZ, Univ. Nice-Sophia Antipolis to study ecology of tropical seaweed invaded in Mediterranee as a post-doc researcher of French Government Scholarship

1998-2004: Dr. TANAKA (Tohoku Univ.) has been to Station Zoologique, Villefranche sur Mer, Paris VI as a post-doc researcher of French Government Scholarship

2007-2008: Prof. Hiroki YAGI (Otaru University of Commerce) visited University of Mediterranee as a visiting Professor.

2008: Prof. Hisayuki ARAKWA (Tokyo University of Marine Science and Technology: TUMSAT) visited University of Mediterranee as a visiting Professor.

2008-2013: Dr. Mathias Girault (Université de la Méditerranée, Centre d'Océanologie de Marseille) has been Doctor course student at TUMSAT as a research student of MEXT Scholarship

Dr. H. Tanoue from National Fisheries Univ. to Univ. Marseille as a Post-doc of French Government Scholarship in 2014

France-Japan Joint Seminar on management and restoration of coastal ecosystem at Nice and Marseille with support of CNRS and JSPS in 1994



La délégation japonaise reçue par l'adjointe au maire dans la salle du conseil municipal de Nice

France-Japan Joint Seminar on management and restoration of coastal ecosystem in Tokyo and Misaki with support of CNRS and JSPS in 1995



Le colloque franco-japonais sur la restauration de l'environnement marin littoral à la Maison franco-japonaise de Tokyo en novembre 1995

Discover of invading species in the Mediterranean Sea, Caulerpa taxifolia, at Enoshima Aquarium at the visit of French delegation



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Biological Invasions 5: 275–277, 2003.
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Invasion note

But next time?: unsuccessful establishment of the Mediterranean strain of the green seaweed *Caulerpa taxifolia* in the Sea of Japan

Teruhisa Komatsu^{1,*}, Tomoji Ishikawa¹, Nobuyuki Yamaguchi², Yukiko Hori² & Hideo Ohba³ ¹Ocean Research Institute, The University of Tokyo, 1-15-1, Minamidai, Nakano-ku, Tokyo 164-8639, Japan; ²Enoshima Aquarium, 2-17-15, Katase-kaigan, Fujisawa-shi 251-0035, Japan; ³Department of Aquatic Biosciences, Tokyo University of Fisheries, 4-5-7, Konan, Minato-ku, Tokyo 108-8477, Japan; *Author for correspondence (e-mail: komatsu@ori.u-tokyo.ac.jp; fax: +81-3-53516542)

沿岸域生態系の再生に向けてフランスと日本の取り組み

日時: 2月5日金 13時30分~18時

場所:東京日仏会館ホール(JR山手線恵比寿駅東500m)

東京都渋谷区恵比寿3-9-25 電話03-5424-1141 ● **入場無料**(開場:13時)同時通訳付き

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開会挨拶 主催者代表: 13時30分から13時40分

杉本 隆成 (東京大学海洋研究所教授・実行委員会委員長)

第1部 沿岸域生態系保全・修復への取り組み:13時40分から14時30分

中田 英昭 (東京大学海洋研究所助教授):沿岸生態系の機能とその評価 (20分)

アレクサンドル メネーズ (ニース大学理学部教授・プロバンスアルブコートダジュール州 政府経済社会委員会環境部会委員長):南仏海岸の埋め立てと生態系の保全 (30分)

第2部 沿岸域生態系の再生のための試みと社会:14時30分から15時20分

小川 一紀 (大阪市立大学工学部教授・生態系工学研究会):大阪湾の事例:生態系の環境管理(15分)

風呂田利夫 (東邦大学理学部助教授):東京湾の事例:三番瀬の保護(15分)

工藤 孝浩 (神奈川県水産総合研究所研究員):海と森をつなぐ市民運動 (20分)

●休 憩 (15時20分から15時40分)

15時40分から16時10分

ベルナール カラオラ (沿岸域・湖岸域保存所顧問):沿岸域生態系の保存と社会 (30分)

●総合討論:16時10分から17時40分

司会 小松輝久 (東京大学海洋研究所助教授)

コメンテーター (各10分)

トーマ ベルシェール(フランス国立海洋開発研究所):衛星・潜水艇による沿岸環境のモニタリング

上嶋 英機 (中国工業研究所海洋環境部長):沿岸生態系の修復技術

シャルルフランソワ ブドレスク (エックスマルセイユ第2大学教授): 自然保護区設置と沿岸生臓系ジャンクロード ルフェブル (バリ自然史博物館教授): フランスにおけるエコシステムの修復技術

イブ エノック(フランス国立海洋開発研究所):沿岸環境の管理

● 閉会あいさつ (17時40分から) 杉本 隆成

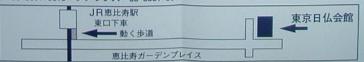
人間活動の増大に伴う埋立や汚染の進行により、沿岸域の環境と生態系は危機に頻している。沿岸域の持続的利用を可能にするためには、生態系の現状をよく認識し、これまでに損われた部分についてはその修復と再生をはかる必要があり、技術的・社会的な取り組みが緊急の課題となっている。これらの沿岸域生態系をめぐる問題とその再生に関するフランスと日本のいくつかの試みををわかりやすく紹介しながら、今後どのようなことが必要かについて、専門家、行政の担当者、市民を交えながら一緒に考えてみたい。

主 催/「沿岸域の生態系と環境の再生を目指す日仏研究交流」実行委員会

協催/生態系工学研究会

後 援/笹川日仏財団、中国工業技術研究所

連絡先/〒164-8639 東京都中野区南台1-15-1 東京大学海洋研究所漁業測定部門 小松気付電話 03-5351-6515 ファックス 03-5351-6514



Year of France in Japan, 1999

Dr. Y. HENOCQUE Dr. T. BELSHER Prof. A. MEINESZ

Prof. C-F. BOUDOURESQUE Dr. B. KARAOLA

Colloque international franco-japonais à la Maison franco-japonaise de Tokyo le 5 février 1999, l'année de France au Japon et de la mer

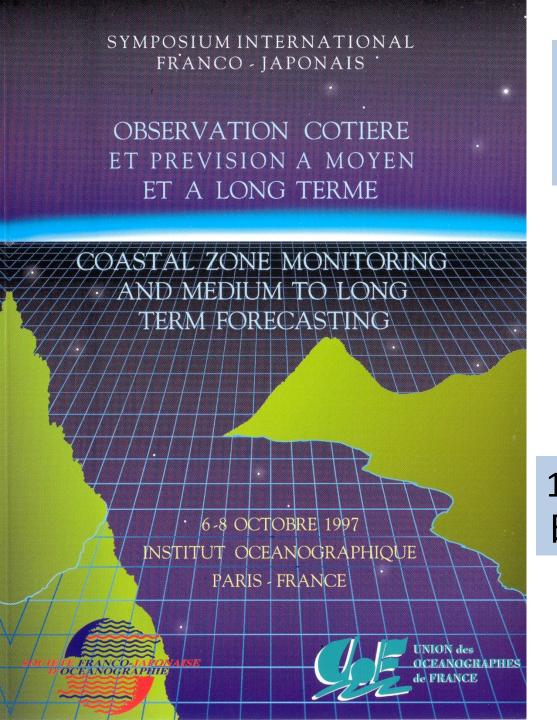
France-Japan Joint Symposium on Oceanography organized by SFJO of both countries

France-Japan Joint Symposium on Oceanography

Year	Number	Theme	Place
1983	1	Aquaculture	Montpellier
1984	2	Aquaculture	Sendai
1985	3	Coastal Management and Littoral planning	Marseille
1988	4	General Oceanography	Shimizu
1989	5	Founding an algal park in Seto Inland Sea	Hiroshima and Higashino
1990	6	Coast line and conflicts	Tokyo
1990	7	Determination of biological recruitment at sea	Tokyo
1991	8	Determing factors of the growth in aquaculture Economy and management of fisheries Co-development of fisheries and leisure in coastal zones	Nantes

France-Japan Symposium on Oceanography

Year	Number	Theme	Place
1991	9	Oceanic fluxes	Tokyo
1992	10	Biotechnology and environment	Tokyo
1997	11	Coastal zone observation and the medium and long term forecasting	Paris
2005	12	Mutual new understanding for research in oceanography and fisherie in France and in Japan	Tokyo
2008	13	Global change: interactions mankind/marine environments	Marseille and Paris
2010	14	Towards sustainable use and management of the oceans	Kobe and Tokyo
2013	15	Marine productivity: perturbation and resilience of coastal socio-economic systems	Boulogne sur Mer and Marseille



France-Japan Joint Seminar in Paris in 1997

1997年10月パリにおける 日仏セミナーの開催

15th France-Japan Symposium on Oceanography in 2013





Dinner with attendance of Consul of Japan in Marseille in 2013



Support from France to Fishermen in Sanriku Coast after the tsunami disaster in 2011

Tsunami on 11 March 2011



東日本大震災の津波により被害を受けた養殖用いかだや家屋の破片 を海から引きあげる漁師たち=6日、宮城県東松島市

2011/05/18 09:31 (Kyodo)



Fishing boat stranded on the land on 20 March 2011 (Ministry of Agriculture, Forestry and Fisheries)

Oyster culture facilities were destroyed

Cooperation for recovery of Sanriku coastal fisheries

- Proposition of alms by the presidents of SFJO France and French Association of Promotion of Aquaculture just after 11 March
- SFJO Japon orgnized Committee for Recovery of Aquaculture in Sanriku Coast damaged by the tsunami, which received alms and purchased materials with the alms
- Starts of OKAESHI Project and Ganbaro Japon in France
- Proposal to Research Fund of Maison franco-japonaise on "France-Japan cooperative study on sustainable development of coastal areas for recovery of Sanriku Coast damaged by the tsunami" was accepted in March 2012

Donation of microscopes and plankton nets for oyster seeds collection to Miyagi Fisheries Technology Center on 29 July 2011













Young fishermen sampled oyster larvae for collecting oyster seeds with the plankton nets and counted their numbers with binoculars in August 2011

Donation from France and SFJO Japon

- Miyagi Prefecture (Miyagi Fisheries Technology Center and Miyagi Fishermen Cooperative)
 - 9 binocular microscopes
 - 5 plankton nets
- Iwate Prefecture (Iwate Fisheries Technology Center and Iwate Fisheries Promotion Center)
 - 8 binocular microscopes
 - 5 plankton nets

Donors: SFJO France and Japan, French Association for Promotion of Aquaculture, Rotary Club Marseille Saint-Jean, Fondation Air Liquide

Visit and encouragement of Prof. Catherine Mariojouls, President of French Association of Promotion of Aquaculture in Dec. 2011





Visit and encouragement of Prof. Hubert Ceccaldi (SFJO) and Dr. George Stora (COM) in Feb. 2012





Exchange of shellfish culture fishermen between Japan and France by Ganbaro Japon (Salon of Aquaculture)

Shellfish culture fishermen in Iwate and Miyagi invited by Committee of Shellfish Culture in South Brittany Province, Prof. D. Bailly and Ganbaro Japon participated in National Salon of Aquaculture from 11 ro 12 September 2011

Presentation of Aquacultures in Iwate and Miyagi at the salon Discussion with members of Committee of Aquaculture in South Brittany Visit to oyster culture and seed culture facility



岩手県水産技術センター高橋氏提供

OKAESHI Project in France



Okaeshi Project members



They chartered jet for sending materials in July because oyster spawns in August



They sent buoys and rope



They have never forgotten the aide from Japan in 1960s to save oyster culture in France

(TV Program of Discovery of Wonder in the World broadcasted in January 2012)

Aide from France to fishermen in Sanriku Coast in 2011 after the tsunami



(TV Program, "Discovery of Wonder in the World" broadcasted in January 2012)

French delegation members in 2012

- Prof. D. Bailly, Univ. Bretagne Occidentale, Fisheries Economy
- Prof. C. Mariojouls, Agro-Paris Tech, Fisheries Economy
- Dr. Director J. Prou, IFREMER La Tramblade, Coastal Management
- Mr. O. Laban, President of Aquitaine and Arcachon Regional Committee of Shellfish Culture
- Two researchers of Univ. Bretagne Occidentale
- Eight shellfish fishermen funded by French Government

Visit to Sanriku



Taro Fishermen's
Cooperative on 1 October
2012



Osawa Fishermen's Cooperative on 2
October 2012





Miyagi Fisheries Technology Center on 3
October 2012



Mangoku-ura Fishermen's Cooperative on 3 October 2012

Newspaper, Asahi Shinbun reported the visit

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仙台育英が決勝へ

4でサヨナラ勝ちした聖光

仏の力キ生産者50年前の恩返し沿岸部に資料贈る

沿岸部に資材贈る

では、フランス一のカキ生産を誇るアルカション湾の種ガキ生産者や研究者ららんが、日仏海洋学会の小池康之さんと共にやって来た。カキの場で大ぶりのカキをほお張ると「クリーミーで、おいしい」と声を上げた。フランスのカキ養殖は15元と輸入していたポルトガルガキが相次いで伝染トガルガキが相次いで伝染トガルガキと輸入していたポルトガルガキが利力でによりので大きがあり、大半が死滅するオリヴィエさん(右から2人を連入していたポルトガルガキが相次いで伝染トガルガキが利力では多いで伝染を調査の種ガキを見せてもらっオリヴィエさん(右から2人

石巻市の万石浦で種ガキを 取材する仏国営放送=1969 年4月、福田民治さん撮影

(2012年10月4日付け朝日新聞)

France-Japan Joint Seminar on Recovery of Coastal Fisheries in Sanriku Coast





At Tohoku National Institute of Fisheries on 4 October 2012

Lecture meeting "Oyster cultures of France and Japan towards the recovery of Sanriku" to public



M. Olivier Laban



Dr. Jean Prou



Discussion

Two important members of SFJO are awarded

 Prof. Hubert J. Ceccaldi was awarded Order of the Rising Sun by the Government of Japan in 2006

 Prof. Tadashi Nomura was awarded Officier de Palme Academique by the Government of France in 2013

Remarks

- The Sociétés Franco-japonaises d'Océanographie de Japon and France sustain and reinforce the exchange and cooperation of oceanographical studies between two countries.
- We acknowledge Governments of France and Japan to provide not only study funds for cooperative studies but also scholarships to students, post-docs and young researchers who promote future collaboration in oceanography between two countries.
- Different cultures between two countries foster new approaches to oceanography independent of those of Anglo-Saxon.

Differences in eyes to the sea from France and Japan based on French painting and Japanese print



Japanese print

Impressionist