

INTERVIEW WITH D.SC. SHOICHI OSHIMA OF THE JAPAN HYDROGRAPHIC ASSOCIATION

Hydrography in Japan

In spite of modern communications and connections by air, Japan still is for most people from Europe and America, a “far away country”™. Hydro international is in the fortunate position to have very good contacts in Japan via dr. Shoichi Oshima, who served as Editorial Advisory Board (EAB) member since the start of Hydro international. The term of an EAB member is officially limited to two years and therefore dr. Shoichi Oshima is now leaving the EAB. On the occasion of his withdrawal he agreed to be interviewed and inform readers on some more details of hydrography in Japan.

Can you briefly inform our readers on your career and the way you became involved in hydrography?

In 1964, I became involved in hydrography as a magnetic surveyor of the Hydrographic Department of Japan, immediately after graduation from university, having studied geophysics. Next I participated in aero-magnetic surveys, coastal hydrographic surveys, ocean bottom geophysical surveys and volcanic/seismic researches offshore. In 1983 I started the Continental Shelf Surveys to delimit the Japanese area of sovereignty as Head of the CSS Office. Since this seagoing period I have been transferred to rather administrative works and consequently lost the salty taste! But the high tide of my life was the busy three years from 1997 to 2000 as the Hydrographer of Japan. In this period in my career I took part in the activities of IHO and UN as a member of various committees and working groups. Needless to say, I also enjoyed the fascinating opportunity to work for the Hydro international magazine as a member of EAB.

The direct reason to opt for a seagoing career is a somewhat strange but classic story. I was standing one day next to an important professor in a toilet of the university. The professor spontaneously asked me: “How do you like sea-going research?”™ I reacted very positively, because I still hated the boring chain of daily routines in my youth. Following his advice, I visited an old building in Tokyo. I liked it from the start; it was the premises of the Hydrographic Department.

Japan, being a large archipelago and much dependant on shipping, creates by nature an enormous amount of hydrographic work. Can you give some information on the work, done by government and by private enterprises?

Yes, our country is very much dependant on import/export, which implies sea traffic. As a consequence, Japanese ports are most of the time very busy. To meet the growing demand of shipping, major ports are also confronted with harbour construction activities. In the final phase of these works, the civil engineering contractor conducts an accurate bathymetric survey to confirm that the contract specifications have been met. The Hydrographic Department (HD), being a governmental organisation, accepts these depth data for chart corrections. When depth sounding is needed outside the construction area, the HD conducts accurate depth sounding to improve chart reliability.

How does the nature of the waters surrounding Japan (shallow, deep to very deep, volcanic and sometimes steep slopes) influence the surveying methods? Does the data rapidly decline and does it require re-surveying?

As Japan is situated along an active convergent zone, there are deep trenches on the Pacific side of the Island. In the Japan Sea there are a large number of faults, folds and canyons. They are the result of tectonic compressive stress caused by the eastward drift of the Pacific Plate. We have two under-sea chains of volcanoes. One stretches from the south side of Tokyo to the Marinas. The other extends from Kyushu in a south-westerly direction, fringing the East China Sea. In general the seabottom around Japan is irregular, and seismicity/volcanic activity is high. But we also have shallow bays and inland seas, where we can see active sea traffic associated with industry and fishing. Except for the limited area of some river mouths, we can rely on the old depth data because there is no significant natural change of depth. But we still show old leadline sounding data on the charts for some areas; re-survey with modern and accurate sounding methods is urgently needed.

Can you give some information on the type and amount of offshore survey work carried out by private companies to serve, for instance, oil and gas exploration/exploitation, dredging etc.?

In Japan there are only very limited oil and gas exploration/exploitation activities. Up to the present most of the basic survey activities in this field are carried out by government research workers. I see a minor expectation in the East China Sea, but in the other Japanese waters oil and gas potentials are low. Under-sea cable laying and maintenance around Japan require accurate offshore surveying by private companies. Japan Marine Science and Technology Centre, which is an academic, semi-government organisation, has a very large drilling ship (over 50,000 tons) under construction to investigate the Earth’s™ Crust. The future academic programme for this large drilling ship will hopefully provide us with in-depth knowledge on our environment, much deeper than ever before.

Is there a Japanese “Hydrographic Association”™ or the like and if so, can you give some details on her activities?

In Japan we have two groups. One is academically orientated on oceanographic research (name: Japanese Ocean Survey Society). They have once a year a scientific congress (200-300 attendants) and they also publish once a year a bundle of scientific reports. The administrative work is taken care of by the Japanese Hydrographic and Oceanographic Department.

The second group consists of hydrographic companies (about 100 companies); their name is “Ocean Surveys Association”™. They look after work safety conditions (e.g. they publish safety instructions for diving). However the most important activity of the group is the preparation of an annual proposal. This proposal is presented to the government, e.g. to port construction authorities and the Hydrographic and Oceanographic Department, which approves the proposal/suggestion and the associated budget. These proposals include environmental research and coastal zone management.

How is Hydrography organised in Japan? We know that the Japanese Selfdefence Forces (JSF) are doing hydrography, but there is also a Japan Hydrographic Association. How are they related?

I am not familiar with the JSF activities, but most of the hydrographic activities are controlled by the Hydrographer of Japan, the Director General of the Hydrographic and Oceanographic Department (HOD) of Japan Coast Guard (JCG). In the case of hydrographic survey work, backed up by the government, the survey results should be presented to HOD, in accordance with the law on Hydrographic activities. It goes without saying, that these data are the basis for chart updating.

The Hydrographic Association is a private institution, closely linked to HOD, the activities of which are: chart printing and distribution, marine information services, hydrographic training and basic research. During budget constraints of the Government, HOD stopped chart printing and passed it to JHA, which was allowed to use the printing plates, produced by the Government.

For Dredging Projects hydrographic surveying is an important pre and post activity. Does Japanese Dredging Companies do the survey work themselves or do they mostly outsource the work?

Yes some of the dredging companies do accurate surveys to monitor and confirm the dredging results, but not all do so. The latter companies out-contract hydrographic surveying to the survey companies.

Japan is one of the leaders in electronic chart technology. Is that industry driven or did the Hydrographic Association play an important role?

The major player in the field of electronic charts has been the HOD, i.e. the government. In close co-operation with the IHO committee on electronic charts, the HOD has been producing ENC data for the sea around Japan. HOD has also been cooperating with the East Asian countries in electronic chart production to assist them. Private companies have developed ECDIS in close co-operation with the HOD. JHA have been a good co-partner to the HOD in electronic chart reproduction and dissemination. Some years ago the parent organisation of the Hydrographic Department changed its name from Maritime Safety Agency to Japan Coast Guard (JCG), following the example given by the USA. On April 1st this year the Hydrographic Department (HD) changed its name to Hydrographic and Oceanographic Department (HOD), as part of a reorganisation to meet present day requirements. The HOD has maintained a research laboratory to sharpen their edge.

How is the electronic chart situation at present in Japan? Can or may Japanese ships sail without paper charts? Or is the ENC still considered as an aid to navigation?

All the planned electronic charts for the sea adjacent to Japan have already been published. But the new Japanese rules and regulations on navigational aids, including electronic charts have not come into force yet. As a consequence ships still have paper charts on board.

What are for the Japanese hydrographic companies the most important hydrographic events, conferences and/or exhibitions?

Most of Japanese hydrographic companies are also running land surveys. A big event for them is a domestic surveying and mapping exhibition, where hydrographic items are a minor, but nevertheless interesting part. As to the international events, there is a considerable interest in them but usually they visit such events to look for new items and collect useful information, not as exhibitors.

You have been a member of the FIG/IHO Advisory Board on the Standards of Competence for Hydrographic Surveyors. What is your interest in training and education? Do you have any comments on the Advisory Board’s work?

My interest in hydrographic survey training is on the point of balancing: the balancing of the old good techniques with the new technologies. Both have positive aspects. But there is a tendency to require full knowledge of both, which misleads the hydrography of the future. A chain of lengthy (and sometimes boring) lectures are not attractive to young people with strong bodies. I recommend the Advisory Board to keep in mind, that “the simplest is the best”™.

Is there any message from the Japanese survey community to the survey world in general?

The environmental aspect of our work as hydrographers is becoming more and more important. Hydrographic offices can supply the GIS-readable basic data and hydrographers should be more concerned about this and take more initiative on this aspect.