

Trip Report to Noumea and Papeete to attend the
"PIXILES 90 Workshop"

19 -24 November 1990

by

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SUMMARY

This report mainly presents some remarks with regards to SOPAC's activities, present and potential, following my participation in the workshop. A full account of the workshop papers will be found in the proceedings.

Introduction and Objective

During the course of my leave from Techsec, I participated in the "PIXILES 90" workshop because of my personal interest in the development of SOP AC cooperation with French organisations and territories in the Pacific, because a new French expert is coming soon to Techsec for Remote Sensing activities whom I want to help make a quick start, and for more personal reasons.

This report is presented at the suggestion of the Director.

PIXILES 90 WORKSHOP

The workshop was held in Noumea (19 -21 November) and in Papeete (22 -24 November). It was sponsored by IFREMER and ORSTOM, and organised by SPT (Station Polynesian de Teledetection) and LITICAL (Laboratoire de traitement d'images de Caledonie). Its subject was: Remote Sensing and Insular Environments in the Pacific: integrated approaches.

Attendance

attended two days in Noumea and all three days in Papeete.

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The workshop was attended by about 110 persons: 24 from France, 42 from New Caledonia and French Polynesia, and 32 from Australia, New Zealand, Fiji, Tonga, Papua New Guinea, Cook Islands, Vanuatu and Solomon Islands.

Over 68 papers were presented, together with an extensive poster session. Instant translation services were provided (French/English). The island delegations presented remote sensing activities in their countries.

Points of Particular Interest

Training and equipment

Training sessions were held by GOT A during the workshop, and presented two PC-based image processing systems, OIOACTIM and MULTISCOPE.

When it comes to upgrade SOPAC's MICROBRIAN system, close attention should be paid to alternative solutions, as MICROBRIAN is relatively very expensive. One of these alternatives worth investigating might involve running MICROBRIAN on our SUN computer, according to Ms Debby KUCHLER.

ORSTOM uses OIOACTIM extensively and GOTA uses both. GOTA is the French organisation for the promotion of Remote Sensing, something comparable to AKLIS in Australia. Both ORSTOM in Montpellier and GOT in Toulouse offer to provide training in remote sensing techniques to SOPAC personnel if desired.

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Regional co-operation

Although most presentations were on work conducted on a national basis, the growing use of SPOT images leads to some regional cooperative projects. Participants from Australia and New Zealand particularly stressed that point.

Participants were invited by SPT to further contribute to the elaboration of Pacific standards for the preparation of space nautical charts where full hydrographic standards cannot be met for lack of time and money. As a starter, the nautical chart -prototype Pacific standards -of the atoll of MANIHI was presented, at the scale of 1/50.000 with an absolute precision of 50 metres.

Dr Nick ROLLINGS, from the Royal Melbourne Institute of Technology has shown an interest in cooperating with SPT and SOPAC in view of preparing a nautical chart -Pacific Standards -of the atoll of Tarawa.

Dr Rollings is a person whose advice would be most valuable if Techsec has to prepare a GIS project. Three hints about GIS:

- * **"Garbage in, garbage out"**,
- * **A GIS project is a combination of:**

Software, Hardware, Staff, Data

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GIS, Remote Sensing and differential Global Positioning System go together.

Aerial Photography

1. Mr CHAMPONIER (Service de l'Urbanisme, Papeete), presented a very interesting paper on the preparation of aerial photograph mosaics in the atoll of Matahiva, using a SPOT image in Papeete instead of standard procedures involving overseas facilities, which are much more costly and difficult to use in atoll environments for lack of ground control points.

The mosaic is at the scale of 1/20.000. The procedure is considered low tech, low cost, and particularly recommended in the archipelagic environment of the South Pacific.

A special machine is used in Papeete to get rid of glare effects on photos of lagoon waters, which is most effective.

Mr CHAMPONIER presented to me an interesting air photo collection management system for French Polynesia using DBASE III.

2. Another point of interest is that many people are interested in scanning aerial photographs, and in integrating air photo derived data into GIS. Dr Railings uses a SHARP 450 scanner for that purpose.

Sigma Poe Rava

This GIS application has been developed by SPT for the Service de la Mer

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et de l' Aquaculture in Papeete to administer the Pearl Culture industry development in the Tuamotu atolls.

It combines the SPOT data to provide precision positioning of coastlines and coral heads with a GIS system on PC-AT, to manage pearl farm administrative and geographical information at the scale of 1/10,000, where there is no base map.

The software used is INTERGRAPH.

Note: this could be one argument for cooperation with French Polynesia when they enter SOPAC.

Their major difficulties with this system are the data logging on board small vessels, and the strenuous work by scuba divers to regularly visit the underwater farming deployments. These could benefit our laptop data logging system and of an experience of surveying the rope-anchor-oyster bundle arrays with a side scan sonar. There are hundreds of farms. Other SOPAC countries are in the same business of pearl farming.

List of Documents Collected

"PIXILES 90" abstracts.

GDTA brochures and training programmes

RMIT training programme.

AKLIS training programme.

DIDACTIM and MUL TISCOPE brochures.

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- Air photo mosaics of the atolls of MATAIVA (using SPOT) and of AHE (conventional).
- SPOT image prepared for the air photo mosaicing of the atoll of Mataiva.
- Space nautical charts of the atolls of Manihi (prototype Pacific standards).
- Space nautical chart of the atolls of Ouvea and of Apataki (Hydrographic standards).
- SPT and LA TICAL brochures.
- Catalogue of SPOT IMAGE products and services.
- Bottom types and bathymetry of the Aitutaki atoll lagoon from SPOT data.
Paper by Loubersac, Lemaire et al. (at the SOPAC library).

OTHER WORK

I spent half a day working with M. Larue, F. Missegue, M. Lebris with M. Larue and J. Daniel at ORSTOM, outlining the details of a special agreement about GEOMER and computer support to Techsec. I spent a day visiting SPT, the Service de l'Urbanisme, and the Mission Hydrographique de Polynesie Francaise in Papeete.

NEW CALEDONIA'S EEZ MAPPING PROJECT

A meeting was held at ORSTOM to launch a comprehensive mapping project of the **EEZ** of New Caledonia. Participants were:

Service des Mines, New Caledonia ORSTOM IFREMER

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Mission Hydrographique du Pacifique.

was invited to attend.

This project starts early February 1991 with the first meeting of a technical working group to delineate the project.

The territory of New Caledonia is very keen on conducting this project over the next few years, and on doing it in cooperation with SOPAC.

This project should bring in the region the new RV A T ALANTE with her SIMRAD EM12 equipment and procedures (multibeam echosounder and seafloor imaging).

This project should result in the data being processed and archived in Noumea on SUN computers, using IFREMER-developed software (REGINA, TRISMUS, TRIAS, and ARCHIPEL).

Note: I think it will become appropriate for Techsec to eventually show an interest in the implementation of these high-tec procedures in Noumea. Indeed this will be the start-up of a South Pacific-based seafloor mapping facility. SOPAC will not be able to run such a system on its own for long.

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