Fiji Land Information System

FLISnews

Newsletter of the Fiji Land Information Council
Issue 29 March 2002

EDITORIAL

NEW YEAR GREETINGS to you all. This is the 29th issue of FLISnews.

Again we have completed the first quarter of 2002. Since January, work at FLIS seems to be progressing well. This is in line with its 2002 Work Plan and Training Programme. Both are vital documents that provide the framework for projects to be implemented and also training for the staff in 2002. The documents are simply guide lines and are subject to changes.

As of to date FLIS is continuing to develop its operation in line with its objective. One being Data Verification whereby Data cleansing and verification is still required to be done to allow agencies to share common data for more effective and efficient land information services. Priority should be given to address these issues as other enhancements and development required, have significant dependency on the data quality and consistency.

The participation shown in the first meetings of the Fiji Land Information Council [FLIC] and the GIS and Remote Sensing Interested Group were excellent. One significant item discussed by the FLIC was the need to review it's Term of Reference (TOR).

It was unfortunate that the Support Centre again lost the services of two competent staff early in the year. Staff changes have to be made to fill in these positions.

The Editorial Committee once again remind us of the fact that FLISnews plays a vital role in the development of LIS/GIS/RS technologies in Fiji and your contributions in future editions are most welcomed.

END OF AN ERA....

STATE LANDS HANDED OVER

THE MINISTRY OF LANDS is in the process of transferring all files pertaining to lessees of former State Schedule A and B Land to the Native Land Trust Board.

Director of Lands, Mr Barma Nand says all the tenants on the transferred lands will have to pay NLTB and not the Lands Department.

The new arrangement came into effect on May 10th this year.

"As of November 30, 2000 all the State Schedule A and B Land had reverted to Native Land therefore any enquiries and payment of land rentals should be made to the NLTB," Mr. Nand said. He added all the tenants holding current leases will continue to enjoy the full term of their lease under the current term and conditions although NLTB is the new lessor.

The Department of Lands is still continuing with the internal works on updating files, updating data in the computer system and photocopying of files.

STATUTORY STAFF (L-R) : MS ROMILA, MR. SAIDORA & MS. ATELINA WORKING ON THE PROJECT.

DEPARTURES FROM FLISS

ILIATIA NAVUNISARAVI Senior Technical Officer Policy….. **& UMA SHANKAR** Senior Technical Officer System Support (GB)…….the positions they held prior to their new appointments as ….Survey Data Preparation Analysts, at EDS NZ Ltd.

These officers were granted "leave without pay" wef. April 2002, for a period of 1 year thus leading to their attachment to EDS NZ Ltd.

The company that has been contracted by Land Information New Zealand (LINZ) to perform all Survey and Titles data conversion activity.

They are working on a project called **Land*online*** automation Programme**.**

The Land Information New Zealand (LINZ) are in the process of implementing a **Land*online*** automation programme. As part of this project, Survey and Titles data are being converted to digital format to provide digital access to records….

CONGRATULATIONS!!….to both of you on your new assignments….

The Editorial staff wishes you both the best in all your future endeavours and also a big "Vinaka Vakalevu!! on your individual contributions to the Fiji Land Information System Support Centre and also to the Ministry as a whole."

Speaking at a farewell function hosted by workmates, Ilaitia said "Two of the key factors towards the success of the whole FLIS programme is attributed to its comprehensive Training Programme and the team effort produced by its staff".

NEW ZEALAND IT DIRECTORS' SUMMIT 2002

RATU JONE SENILOLI……Senior Systems

Analyst Programmer (FLIS) attended the NZ IT Directors' Summit for 2002 from Wednesday April 10th – Friday April 12th in Queenstown, New Zealand. This Summit is specifically designed for senior IT decision makers from leading New Zealand Organisations. The 3day program includes:

- Keynote presentation: providing valuable insight into current & future trend
- Conference Sessions: corporate case studies area opportunity to gain knowledge of IT practices undertaken by other organisations.
- Workshops: these hands-on sessions for smaller groups give delegates the chance to participate in focussed discussion.
- One-to-one meetings: these are business meetings between delegates.

Ratu Jone went on to report on how grateful he was to be given an opportunity

to learn from and exchange information with other IT directors, for it also offers a ground to build a great networking opportunity with vendors and delegates on a social & professional level from leading NZ organisations.

2003 SOUTH PACIFIC GAMES MAPPING PROJECT

IN THE BEGINNING OF THIS YEAR 2002, the Cartography Section started the SPG 2003 Mapping Project. It's main aim was to digitally produce A3 size maps of Suva, Deuba and Nadi in which the games are likely to be held.

It had taken Carto office approximately 3 months to complete the designing and the final cartography of the above maps.

The draft copy of the Suva Venues and Village can be viewed on their web site: www.spg2003.com

MRS A. TAKALA, TO I MAPPING IN FRONT OF HER WORKSTATION WITH SUPERVISOR, N. KUMAR STO (CARTO)

ENJOY A LIGHT MOMENT!!

LADY, I DON'T WANT TO HURT YOU….ARGHH! A burglar broke into a woman's home in Durban, South Africa and tried to strangle her, but soon found out that this would–be victim is a world class karate expert.

After pummelling him for a while, she grabbed her chain connected fighting sticks and fractured his skull.

SCANNING SURVYEY PLANS

TECHNICAL OFFICERS PENIASI BALABALA & SHAMEER ALI AT THE FINAL PREPARATORY STAGE OF SURVEY PLANS BEFORE SCANNING.

MULTI-TEMPORAL IMAGE OF NASINU TOWN, FIJI

MRS S. TUIVANUAVOU IN HER JOYOUS MOOD BEFORE HER PRESENTATION IN ONE RECENT GIS/REMOTE SENSING USER FORUM

Introduction

Nasinu, a recently declared town is located along the Kings Road between Suva City and Nausori town. The population of Nasinu has grown intensively in the past 20 years due to low cost housing built within the area. SOPAC was asked to assist after a consultant read the article “Inexpensive Land Cover Change Detection for Pacific Island Countries” in Newsletter No. 03/ 2000. As a result, the Nasinu Town Council requested for the visualisation and mapping of squatter settlements growth over the township. The work was carried out as a project involving students attending the French funded Remote Sensing lectures and exercises at USP.

Method:

The team selected aerial black and white photographs of Nasinu of the following years, 1973, 1986 and 1998. These photographs are of different scales and subsequent different resolution, but the only image source available.

The photos were first scanned with best available resolution, which is 600 dots per inch and then geometrically rectified. The rectification process employed ERDAS rubbersheeting module whereby transformation equation for each area between three ground control points are automatically made. This allows rectifying the central perspective of an aerial photograph in one rectification process. The cadastral layers of the Fiji's Lands Department were used as reference, which were available as DXF files and displayed as ERDAS annotation layer. After rectification of the different photographs ERDAS module Mosaic stitched them together to one layer for each of the three years.

The next step was the combination of the three image layers to one three-layer image file. The corresponding ERDAS module Layer Stack requires for this step that all image layers not only have the same projection, but they also must have the same pixel resolution. This process was already performed during the geometric correction, but is mentioned here to explain the huge file size of low-resolution images. The 1973 layer was assigned the blue band, the 1986 layer was assigned the green band and the 1998 layer was assigned the red, the colour of the display.

Finally the multi temporal image and the three black and white image layers were imported to MapInfo. This allows Nasinu Town Council to carry out the analysis work in MapInfo environment. This again makes it easy to attach Access database storing the analysis results during the on screen digitising.

Results

The multi temporal image visualises the change of housing area. Based on the fact that a) vegetation absorbs sunlight and b) clearings and corrugated iron roofs reflects sunlight, both of the latter can be easily separated from "un-touched" and vegetation covered areas. Linking the layers to different colour displays, these areas show up bright while vegetation-covered areas are dark. A roof, which was built between 1986 and 1998, will be shown dark in the blue and in the green channel but bright red in the red channel and the result is red in the multi temporal image. A roof which was built in or before 1973 will have a white colour because it has high reflection in all three colour layers which then add up to white. A roof built between 1973 and 1986 will have a high reflection in both the green and the red layer and will have a mixed colour from both layers.

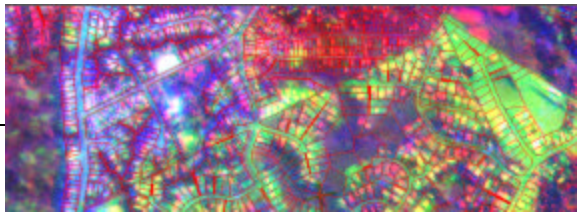
In areas where buildings are to be erected the vegetations is cleared and has a high reflectance, however, the reflectance is less a few years later, because the vegetation will cover the area again. This results in high reflection in the specific channel only. Areas in green colour therefore are cleared between 1973 and 1986, areas in blue colour before 1973 and areas in red between 1986 and 1998.

The result is a product, which can be analysed with MapInfo software. If all single layers including the multi temporal image are loaded, an operator can screen the multi temporal image and switch to any single year layer. He is able to perform on-screen digitising and can create a clear picture of development in time.

Recommendation

Urbanisation will increase in Pacific Island Countries and analysis of controlled or uncontrolled area development will help improve planning. Multi temporal images allow quantitative analysis to be carried out with simple software. Other areas besides Nasinu should be analysed where multi temporal images will be an essential tool.

MULTI – TEMPORAL DATA OF PART OF NASINU.



NOTE: NOT TO SCALE

ENJOY A GOOD LAUGH

A robber walks into a bank, produces a gun & points to the teller saying, "Give all the money or you'll be Geography". The teller looks up and say, "Don't you mean History?". The robber replies, "Don't change the subject"

NEW STAFF TO FLISS CENTRE

MRS MEREONI BUATOKA Senior Technical Officer (Policy)...the position she took over from Ilaitia Bulai Navunisaravi after he left for New Zealand in March this year.

Mrs Buatoka who is originally from Nairai Is, in the province of Lomaiviti has been in the Public Service since March 1976, and most of her years of service is spent in Computing Section of Lands and Survey Dept.

Mrs Buatoka was with Statutory Section for a year prior to her new appointment. She indicated that through the FLIS Training Programme she had the opportunity to take up several part–time computer and management studies at the University of the South Pacific.

PAULA MUAYARA Act. Senior Technical Officer (Design/Development) at FLIS is originally from Buca village, in the province of Cakaudrove. He has been in the Public Service since June 1974.

Paula, was appointed to FLISS on March 2002 to replace Joe Uluibua, who has been posted to act on Uma Shankar's position as STO (System Support) in Government Buildings.

Mr Muayara's academic qualification coupled with his 28 years of work experience in the service is a great asset to his new posting at FLISS.

TRAINING UPDATES

The **FLIS 2002 Training Programme** has reached a decade since FLIS establishment in early 1992.
The development of FLIS 2002 Training Programme shows our continued commitment towards the development of our manpower resources.
It must be clear from the outset that this Training Programme is developed for all the FLIS member agencies.
All FLIS Training Programmes have been developed in close consultation with member agencies to ensure all their training needs are accommodated. The year 2002 Training Programme is no exception and it is hoped that this Training Programme will fully cover all span of FLIS training needs.

The following recommendations are vital for the training and development of FLIS manpower resources. Their implementation would help strengthen FLIS member agencies in-house manpower resources for the continuity and sustainability of their individual Information System and the Fiji LIS as a whole. This would require the total support and cooperation of the identified agencies:-

1. Fiji Land Information System (FLIS) Member Agencies
   That the FLIS member agencies ensure that a "System Support" position is created or contact personnel identified within their respective organization. The position should be fully in charge of their computer systems and for their future background development and enhancement. Personnel appointed should have an "IT" background with computer science qualifications from a recognized training institution.

   That all member agencies ensure that at least one staff member receives training in the following areas in the

Year 2002:- Window Orientation, Microsoft Office Courses and Windows NT.

That all member agencies ensure that at least one staff persue studies in the following disciplines:- Geographical Information Systems (GIS), Information Technology (IT) and Networking at University level.

That all member agencies are committed towards training and development of their in-house manpower resources with special budgetary allocations to fund some courses for the success of their individual Information System.

2. Department of Lands & Surveys

- The Department's Training Division had conducted its first In-house Computer training at Lautoka on the 7th – 10th May 2002.
  The course covered:-
  - Microsoft Word (Advance Level)
  - Microsoft Excel (Introductory Level)

- A total of 22 participants went through this Computer course, and according to Training co-ordinator, Inia Saula a similar programme will be held in Suva & Labasa soon.

TELECOM FIJI & USP JOINED FORCES IN TRAINING INITIATIVE

A three-year joint training initiative valued at $250,000 between Telecom Fiji and USP result in improved planning and management of the Country's telecommunications systems. Telecom Fiji and USP cooperated on GIS training and development over last three years. Closing session of this initiative will be held in GIS Teaching Lab, Geography Department at USP on Monday, 8 of April at 15:00.

Telecom Fiji, a corporate organization, has the taken the lead on investing in education for its workers and the community by working with USP. As part of a multi-year training agreement, Telecom Fiji will assist in the continued development of the Geographical Information Systems (GIS) education infrastructure at USP. This agreement saw Telecom Fiji funding hardware and software upgrades and specialized software support training in return for a local base for its future GIS training and education needs. Its total commitment to the project is about $250,000. Of this, about $60,000 went to fund new hardware, $10,000 to training for key USP and Telecom Fiji staff and the remainder covered software purchases and licensing.

During the joint initiative GIS Unit of Geography Department received 20 new PC Workstations for GIS Teaching Lab, and GeoMedia Pro and Web Enterprise Intergraph software with unlimited number of installations.
Three weeks training course in GeoMedia Pro, GeoMedia Web Enterprise and Automation of GeoMedia were conducted by instructors from Intergraph New Zealand for Telecom Fiji, USP, Fiji Land Information System, and Fiji Department of Statistics staff. A five weeks training in Visual Basic by FNTC will enable the automating and customisation of GeoMedia.

The USP-Telecom GeoMedia Training agreement will see Telecom Fiji GIS staff use the facilities of the GIS Unit in the USP Geography Department to conduct their staff training. In return, Telecom Fiji provided the software and hardware resources to allow the GIS Unit to offer licenses of GeoMedia Professional as part of its software portfolio.

The training of Telecom Fiji staff, which will take place outside of the normal school semester, represents a number of advantages to Telecom Fiji's training plans. The agreement will allow Telecom Fiji GIS staff to adapt to the new software quickly and effectively. The larger facilities at USP will allow Telecom Fiji to train larger groups of people at once. The idea of getting staff "off site" is important too. If staff tries to train at their own work site, it has been shown that day-to-day activities or demands get in the way of effective learning.
There are several benefits to the GIS Unit, Geography Department at USP. First, funds from the agreement allowed the Unit to upgrade their hardware. Second, the GeoMedia software package will be available to students taking GIS courses within the Geography Department. The GeoMedia software package will help to broaden the base of software the students are exposed to and are available to students taking GIS courses

within the Geography Department. Practices of Advanced GIS course (GE308) and Project in GIS course (GE308) will be based on the usage of the GeoMedia software. Postgraduate students may carry out a research in their respective application areas by utilize geo-modeling operation and extensions of the GeoMedia. The GeoMedia Web solution is intended to use for creation of life Internet map of the USP campus and for distance educations in remote USP campuses.

Speaking at the presentation ceremony marking the beginning of the agreement, Telecom Fiji's Chief Executive, Mr. Winston Thompson said the sponsorship would make it possible for USP to provide training services for the new state-of-the-art Intergraph GeoMedia software-the latest generation in GIS. The software makes it possible for the user to select databases designed for different GIS systems and integrate them for analysis.

Mr. James Britton, the former Director of the University Geography Department's GIS Unit said, “Beyond the advantages this training will bring to Telecom staff, this project will benefit all USP GIS students in that they will have exposure to high-end GIS software that USP could not normally afford to purchase or maintain."

f you wish to be included in our mailing list please complete the following and fax or send it to us at:

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The opinions expressed within FLISNews do not necessarily reflect the views of the Fiji Land Information Council or the Government of Fiji.

PUBLICATION NOTE

*The idea behind the **FLISnews** is to provide an avenue for the dissemination of information amongst the many varied groups interested in the Land Information Systems, both in Fiji and overseas.*

It is also the intention of the editorial staff that the newsletter be informative to the user community at large especially the many allied agencies.

Contributions on local, national and international news will always be welcomed and

serious attention will be paid to constructive criticisms.

Please forward all correspondence to:-

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