

DIMENSIONS

PERFORMANCE UNDER FIRE

Away from the glare of the media coverage in East Timor, HODSU and Geocomp Systems software performed critical backstage work to lead the way for safe beach landings. Its a story of ships, surveyors and software.

Lt Ross Bowden, Petty Officer David Jacklin and Able Seaman Craig Maher make up the Hydrographic Office Detached Survey Unit (HODSU). As the Navy's "out and about" survey group they are accustomed to preparing their equipment for surveying and mapping remote coastal areas around Australia. But last year, their most memorable assignment came by telephone. Ross Bowden tells:

Deploy yourselves

"The call came through on September 17. We were given 10 hours notice to get to Darwin to join a naval vessel to East Timor. In Darwin we boarded the supply ship HMAS SUCCESS and sailed the next day."

"On September 20 we arrived in Dili on the same day that the Army landed via RAAF Hercules aircraft to secure the airport."

"We were anchored off Dili Harbour, ready, waiting for the army to get from the airport to the wharf and secure that too."

This happened at about 1600 hours and our Light Utility Boat (LUB) was lowered into the water."

Priority 1

HODSU's first priority was to establish a safe route from the harbour entrance to the wharf.

"We needed to confirm that the 25-year-old chart compiled from Indonesian data was accurate."

"Our first survey lines found that there was a big difference between the charted position and the real-life position. In simple terms, if our larger vessels had used GPS information to navigate into the harbour, they would have run aground on several shoals."

"We continued gathering data in GeoNav until 1800. The sky was dark by then, but it was light enough for us to keep working because Dili was still on fire."

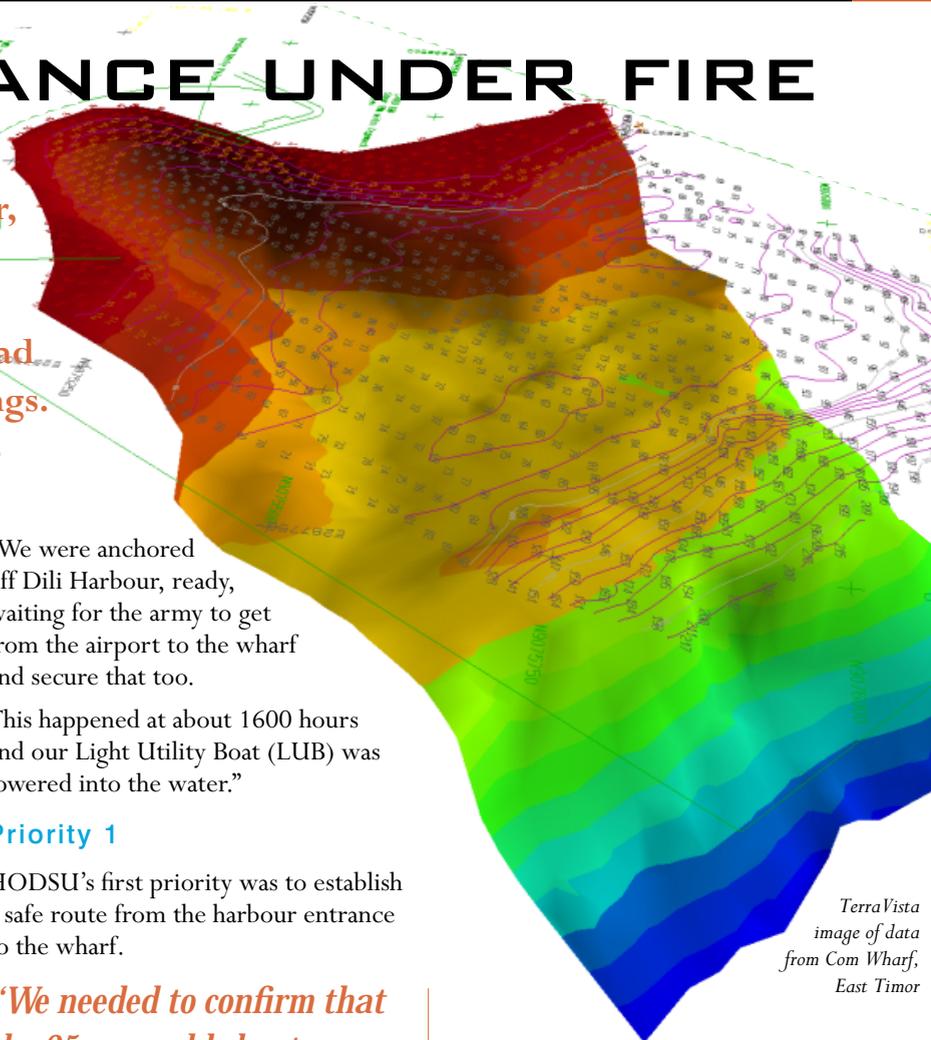
Results on the double

"Back on board HMAS SUCCESS that night, we found that the positional error was in the order of 600m to the east, and 100m to the north ... pretty significant when you realise that the harbour is only 400-500m wide and about 900m long, with a 200 m wide entry between the shoals".

The unit created a basic chartlet by analysing the GeoNav data. They had enough information about significant shoals and the route to be used for safe navigation. At 2230 they relayed this information to all the incoming ships so that they could find the safe passage through the channel and at 0600 the next morning, the HMAS JERVIS BAY arrived with 300 troops.

This would be the first of many A3 chartlets that HODSU would produce

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TerraVista
image of data
from Com Wharf,
East Timor



Exhibitions coming up

Mining Indonesia 2000
5 to 8 April 2000
Jakarta International Exhibition Centre

Engineers Field Day 2000
4 to 6 May 2000
Panthers World of Entertainment
Penrith, NSW

United Nations Regional Cartographic
15th Conference for Asia and the Pacific
11 to 14 April 2000
Shangri-La Hotel, Kuala Lumpur

Training

Jerry Cresp has been conducting Terramodel training sessions in Brisbane and Wollongong. And see our back cover story on Jerry's recent trainees all the way from the tiny kingdom of Bhutan.

ADDtoCAD announces GeoRead

GeoRead, now available from ADDtoCAD, imports Geocomp data including contours, directly into AutoCAD R14 or 2000.

GeoRead is suited to companies, such as architects, who have AutoCAD drawing offices but get their survey or civil engineering data from external Geocomp users in Geocomp format.

For more information, including pricing and trial copies, see www.addtocad.com or ring Brad McCurtayne on 03 9596 0820.

Alternatively, Geocomp users can readily convert data to AutoCAD using the standard DXF conversions.

Web sites

One of many sites about Bhutan
www.bootan.com

Australian Hydrographic Office:
Charts and Notices
www.hydro.navy.gov.au

ADDtoCAD
www.addtocad.com



"I find this a very refreshing website, don't you?"

(East Timor continued)

over the next 10 weeks for all of the INTERFET beach landings on East Timor. As per regulations, they were labelled "Not for Navigation. Use as a guide only".

Gearing up

In Timor, all surveys were conducted in a four-metre aluminium LUB equipped with an Odom Hydrotrac echosounder, using a Klein 595 sidescan sonar. The sonar was fitted to the side of the vessel.

"Because we need 240 volts to run our equipment and charge up batteries, etc., we had to be based aboard large ships."



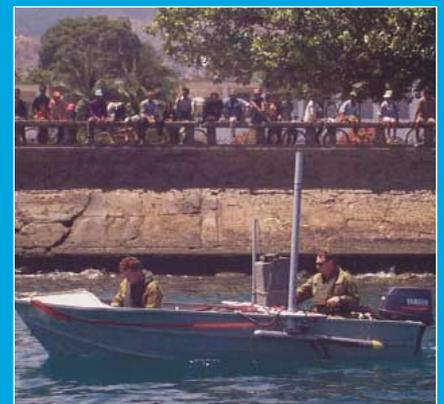
So the LUB was winched up and down from the base ship each day. It was rigged each morning and de-rigged each evening. The car batteries needed recharging nightly.

"All up, we loaded 300-400 kg of equipment into the boat each morning, not including 200 kg of personnel," says Bowden.

"We had 7 car batteries to power the echosounder, computers and sonar. Add in the safety gear, 60 litres of fuel, 20 litres of water. Plus copious amounts of sunscreen."

Reliable under pressure

"In terms of software, we use a Geocomp Systems duo: GeoNav for the data collection and Terramodel for fairsheet compilation," Bowden explains. "We've used this combination all over Australia and the Antarctic because it's fast, reliable and flexible. In East Timor, it performed extremely well under pressure."



"Our equipment was ruined by the end of the 10 weeks, but our software operated without a glitch."

The team surveyed beaches all along the north and south coast. This included Com wharf, Karabela wharf and Oecussi wharf (in the enclave).

"We left East Timor on December 3. We'd completed 1,100 nautical miles of soundings, without a day off." Bowden calculates. "Just missed the big concert, but glad to go home."

EXPERT ADVICE



SNIPPETS

Terramodel hints

DTM formation

When you create a DTM, always view your links (Settings/Link Settings/Display Links) to make sure that the formation of the DTM is correct. Once you are happy with the DTM formation, generate a boundary (DTM/DTM Edge) to fix the formation of the DTM.

Converting to AutoCad DWG or DXF

When making these kinds of conversions, modify your mapping files to make sure that colours, linetypes and fonts have been transferred to your requirements.

You can find these files in your TMDWIN directory:

- DXFOPCO.MAP & DXFIPCO.MAP
Maps Terramodel colours to Autocad colours
- DXFOFPO.MAP & DXFIPFO.MAP
Maps Terramodel fonts to Autocad fonts
- DXFOPLT.MAP & DXFIPLT.MAP
Maps Terramodel linetypes to Autocad linetypes

Vertical exaggeration

In your Profile and Xsect views, always tick "use vertical exaggeration".

If you don't do this, some functions, such as vertical curves, will not function as expected. If you do not want to exaggerate the view, set vertical exaggeration = 1.

Geocomp hint

Did you know that you can configure all of these in Geocomp?

- Survey: feature coding, scale factor, vertical collimation error, control points.
- Plot: styles, preview, language, output, pens, line widths, colours, paper size, title blocks, symbols, linetypes, hatching.
- Units: bearings and distances for entry, co-ordinate order, bearing, distance and area rounding.
- SDS: menus, background colour, external applications, keys.
- DTM: features, breaklines, smoothing, boundaries.
- Road: templates, plot styles.

Winner's exit creates opportunities

Denita MacDonald left Geocomp Systems late last year to pursue work in another field. She has not just vacated the reception desk, but also as reigning 1999 winner, leaves a gaping vacuum in the Geocomp Systems footy tips competition. Her new employers are probably unaware of her tipping talent and Carlton-supporting fervour ... they are in for a surprise. Geocomp Systems' staff wish her the very best in her work endeavours and with this year's tips.

Tipper changes tactics

Melbourne: tipping watchers today reported that Mr Bill Lazaris is "taking a year off" from his usual out-of-hours Grand Prix and MCG hosting activities. Mr Lazaris declined to comment, saying only that he is having a more "domestic year, renovating his house, and settling into newly married life."

Insiders see this move as part of a calculated strategy, enabling him to listen to expert footy commentary while seeming to wield a paintbrush, in a bid to set the standard in this year's Geocomp Systems tipping competition. Stay tuned.

Brad Quick, software developer, speaks ...

Brad Quick and Barry Smith are the Directors of Geocomp Systems. Brad talks to Dimensions about the company's history and life in business.

Q. How did it all begin?

A. I completed my surveying degree in 1979, and straight away began a Masters of Surveying Science at University of Melbourne. During this time, I began doing volume calculations for private companies. In 1981, Survey Computing Consultants began, born out of the demand for computed volumes and plots.

We were using paper tape, 5.25 inch floppys and mini computers. One of our first purchases was a HP 7580B A1 8-pen plotter.

I am the only one remaining of the original seven that started up the

company, a combination of people from the industry and former students. Barry Smith joined in the early nineties, bringing GeoNav with him.

Q. You've been running a business ever since leaving university. Wouldn't you rather just write programs?

A. I've had to learn about running a business on the job, and I enjoy it. Sure, I could join a big company and cut code, but I couldn't do it for the rest of my life. Programming can be very isolating.

I see my job as solving problems for a wide range of clients. I can generally understand a given problem pretty quickly and then write software to solve it.

And we have to make sure its right, of course. In the construction industry, there is pressure on each day to get something done. If we get a volume



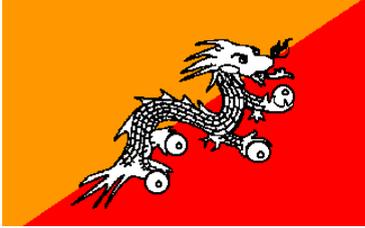
wrong, we could end up in court. I get a buzz out of doing a job right and on time.

Q. Any news on Geocomp V.10?

A. Yes, its progressing well. I can happily announce that we have just sent out the Beta CD version for final testing and review.

IN ACTION

THE ROAD TO BHUTAN



Bhutan is a mountainous, landlocked country, tucked in between India and China. There are 6 main urban settlements, but most of Bhutan's 6 million people live in the countryside, farming rice, wheat, maize, barley, fruit, and some spices.

The high road

The capital city Thimphu (pop.40 000) is situated at an elevation of about 1600 metres. A 7-hour journey downhill will take you to the next largest city, Phuntsholing (pop.25 000), 180 km distant. Along the way, you will pass the massive Chukpa hydro-electric scheme, which also supplies power south to India. "We both studied engineering in India," says Rinzin.

Building a network of roads became vital after the Tibetan border was closed in 1960, with most roads heading south to India. Indeed, the national highway was built by the Indian government and Bhutan is gradually taking over its maintenance.

"Our country is divided into 20 districts and we have road access to all but one," Kezang says.

"The only way in is by one day's walk or pony journey. A road is under construction."

Enter Geocomp Systems

"We had heard about Geocomp Systems from UK and US consultants who were working in Bhutan on Asian Development Bank projects," says

A week-long journey from Bhutan to Melbourne brought 2 engineers, Rinzin and Kezang, to study Terramodel with Jerry Cresp. They talk about life, work, and roads in Bhutan.

Kezang. "We have an ADB grant for infrastructure improvement projects like roads, drains, and water supply."

Three other Bhutanese engineers learned Geocomp in Melbourne. Then last year, Paul Fulton travelled to Bhutan to teach Terramodel.

"The countryside has steep grades with very little flat land," says Paul. "The government is giving people titles to land they have occupied, setting up the allotments using Terramodel."

"Until our engineers began using Geocomp, we drew up all of our plans manually," says Kezang. "The ADB project is enabling us to computerise."

"We will use the software for road designs and constructing missing links in the urban road network."

Isolated no more

Jerry Cresp explains "The country's first internet connection went in about 18 months ago, so I'll be able to provide support for their projects."

"We have tried our level best, working day and night, to learn the software," Kezang says. Rinzin grins widely, saying "We'll send lots of email to Geocomp!"



GEOCOMP SYSTEMS

2-6 Albert Street
Blackburn 3130
Australia

Tel: +61 3 9877 8400
Fax: +61 3 9877 8411
Email: support@geocomp.com.au
info@geocomp.com.au
Web site: www.geocomp.com.au

Upgrade & Support Help Hotlines

Toll free: 1800 800 754 (in Australia)
Email: support@geocomp.com.au

8.30 am-6 pm EST every working day

For help with all queries about using our software, including:

- installation
- systems compatibility
- converting data
- applications.

2 hour response time

We aim to respond to your call 95% of the time within 30 minutes, and 100% of the time within 2 hours.

Staff

DIRECTORS	Barry Smith Brad Quick
SALES MANAGER	Paul Fulton
TRAINING/CONSULTING	Jerry Cresp
CLIENT SERVICES MANAGER	Bill Lazaris
CLIENT SERVICES ENGINEER	Garth Coverdale

Products

Geocomp Systems supports:

GeoCalc	GeoNav	Geocomp TerraVista
Terramodel		Paydirt®
Trenchwork		

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