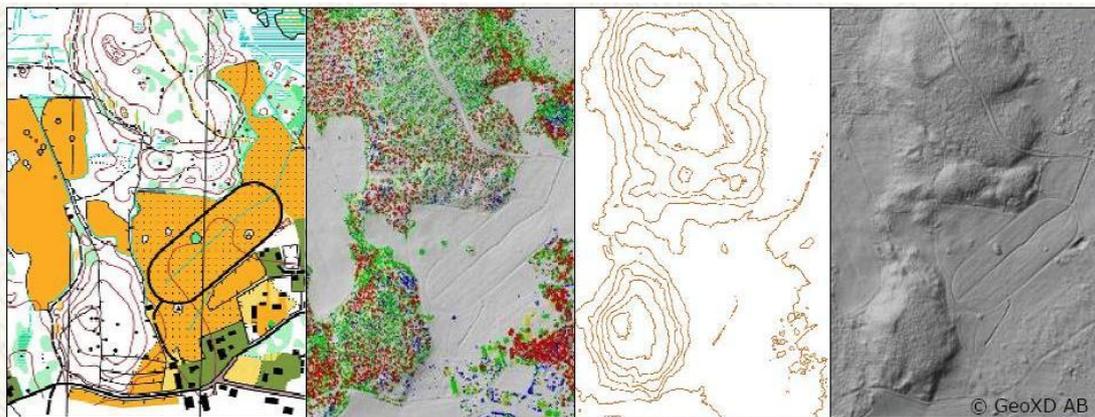


5.2 Annual Report 2010

Mapping - Adrian Uppill

In August 2010 I attended the International Conference on Orienteering Mapping at Trondheim, Norway. The theme of the conference was on the use of data from laser scanning for orienteering base maps, together with a terrain walk to see how such data may assist field work.

Contour lines extracted from laser scanning are now used as the primary source for preparing base maps in many countries and indeed all the maps used for the 2010 World Orienteering Championships in Norway were prepared from laser scanned data. Laser scanning appears to be very good at producing accurate, detailed contour lines even in areas of relatively dense tree canopy. Other useful products of laser scanning such as hill shading, vegetation density and vegetation height can also be used for preparing base maps.



ICOM and Open Nordic Map Meeting, Trondheim 11-13 August 2010

During the terrain walk it became apparent that mappers must be selective in the amount of information to be used as too much data may become confusing and time wasting. Laser derived contour lines can be so detailed that it is now necessary for a skilled mapper to 'smooth out' the contours. It was also noted that laser data may not actually save time, however the mapping should be more accurate. At present mappers are mostly using digital aerial photography with contours extracted from laser scanned data.

Laser scanned data can be imported into the latest versions of OCAD to prepare base map material. Other software and firms are also able to extract base map products suitable for orienteering mapping.

Several presenters reported the problem of over-mapping particularly by new or inexperienced mappers. The Latvian presenter warned of over-

mapping rendering some maps to be illegible at 1:15000 and therefore leading to such maps being printed at 1:10000, even 1:7500, for the map to be legible.

The over-mapping issue is a timely reminder that all orienteering maps must be prepared in accordance to the mapping specification ie the map must be legible at 1:15000 assuming spot colour, off set printing. Mappers need to be well versed with the mapping specifications particularly the mapping principles of generalisation and simplification.

It is also worth noting the ongoing discussion on the scale to use for Long Distance events. At both the International and National level there is pressure for some Long Distance course maps to be printed at a scale of 1:10000 for Elite classes instead of the required scale of 1:15000. The IOF Map Commission have to date rejected such requests for map deviations on the grounds that if permitted there would then be a flood of applications for 1:10000 map scale for Long Distance and in time the 1:15000 scale may disappear. The IOF Map Commission considers the 1:15000 scale should remain as it will force course planners to design challenging navigation courses ie long legs, rather than a lot of fine map reading.

The demand for 1:10000 scale Long Distance courses appears to come about for two main reasons:

- over mapping rendering the map to be illegible at 1:15000 and or
- inferior print quality necessitating that a 1:10000 scale be used for the map to be legible

Orienteering Australia policy states that for elite long distance courses of the Australian Championships the map scale shall be 1:15000. It is only in cases where the map is particularly detailed that approval may be given for a 1:10000 map scale to be used.

During the 2010 Australian Orienteering Championship Carnival held in SA, a Mapping Technology Workshop was held with some 28 mappers attending. The workshop included presentations on advances in digital photogrammetry & photography, using laser scanning for base maps, an update on the ISOM2000 revision, OCAD tips and practical examples on using GPS for mapping.

In October 2010 the IOF published new guidelines for using non-offset printed maps for use in World Ranking Events. Although spot colour offset printing is still required for the highest-level of IOF Foot Orienteering events ie World Championships, non-offset printing methods, such as laser printing, may now be used for World Ranking Events but only with the

approval of the IOF Map Commission. The rule change has come about because of improved digital printing technologies, both hardware and software, which can now produce a printed map virtually indistinguishable in quality from the traditional spot colour, off-set printed map. However it is only the latest of the professional digital printing machines that can print high quality maps.

The print quality of maps remains a vital consideration for any orienteering event particularly for Championship and NOL events. Unfortunately the print quality of maps for some events during the last 12 months failed the legibility test or print standard normally expected for an orienteering competition map. In the Technical News June 2010, map quality and other general issues with mapping requirements were listed.

For many years map statistics have been collected from member associations. However the returns were generally incomplete or not supplied at all. In an attempt to gather meaningful statistics 'Form 6 Map Statistics' was simplified for the collection year 2009. This resulted in returns from all associations except for one.

A summary of map statistics for 2009 indicate that at least 121 maps were produced covering an area of 528km².

Table 1. Number of maps produced

Type / Assoc	SA&NT	ACT	TAS	VIC	WA	NSW	QLD	AUST
ISOM	6	5	1		2	21	7	42
ISSOM	2	2	0		4	11	0	19
Misc Colour	12	0	0		18	0	21	51
Misc B&W	0	0	0		0	0	0	0
Total Foot	20	7	1		24	32	28	112
ISMTBOM	4	0	0		0	2	3	9
TOTAL	24	7	1		24	34	31	121

Table 2. Area of maps produced (km²)

Type / Assoc	SA&NT	ACT	TAS	VIC	WA	NSW	QLD	AUST
ISOM	33.59	22	10		30	80	40.5	216.09
ISSOM	0.92	1.7	0		3.9	5.5	0	12.02
Misc Colour	7.59	0	0		13.5	0	36.2	57.29
Misc B&W	0	0	0		0	0	0	0
Total Foot	42.1	23.7	10		47.4	85.5	76.7	285.4
ISMTBOM	57.57	0	0		0	60	125	242.57
TOTAL	99.67	23.7	10		47.4	145.5	201.7	527.97