ICSM Biennial Report

July 2002–June 2004

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Foreword

2002–2004

Two years of significant achievement

The Intergovernmental Committee for Surveying and Mapping has played a significant role in the evolution and growth of Australia's spatial information industry over a number of years, even more so over the period 1 July 2002 to 30 June 2004 which is covered by this report.

The spatial information industry has been given a huge boost through the Spatial Information Industry Action Agenda and is experiencing a period of rapid growth, estimated to be 12% per annum according to recent industry surveys.

Against this backdrop of growth and change, ICSM has delivered a number of outcomes in the areas of:

- Technical Standards and Guidelines
- Strategic Directions
- Stakeholder involvement and cohesion
- Institutional strengthening

Major achievements over the reporting period include:

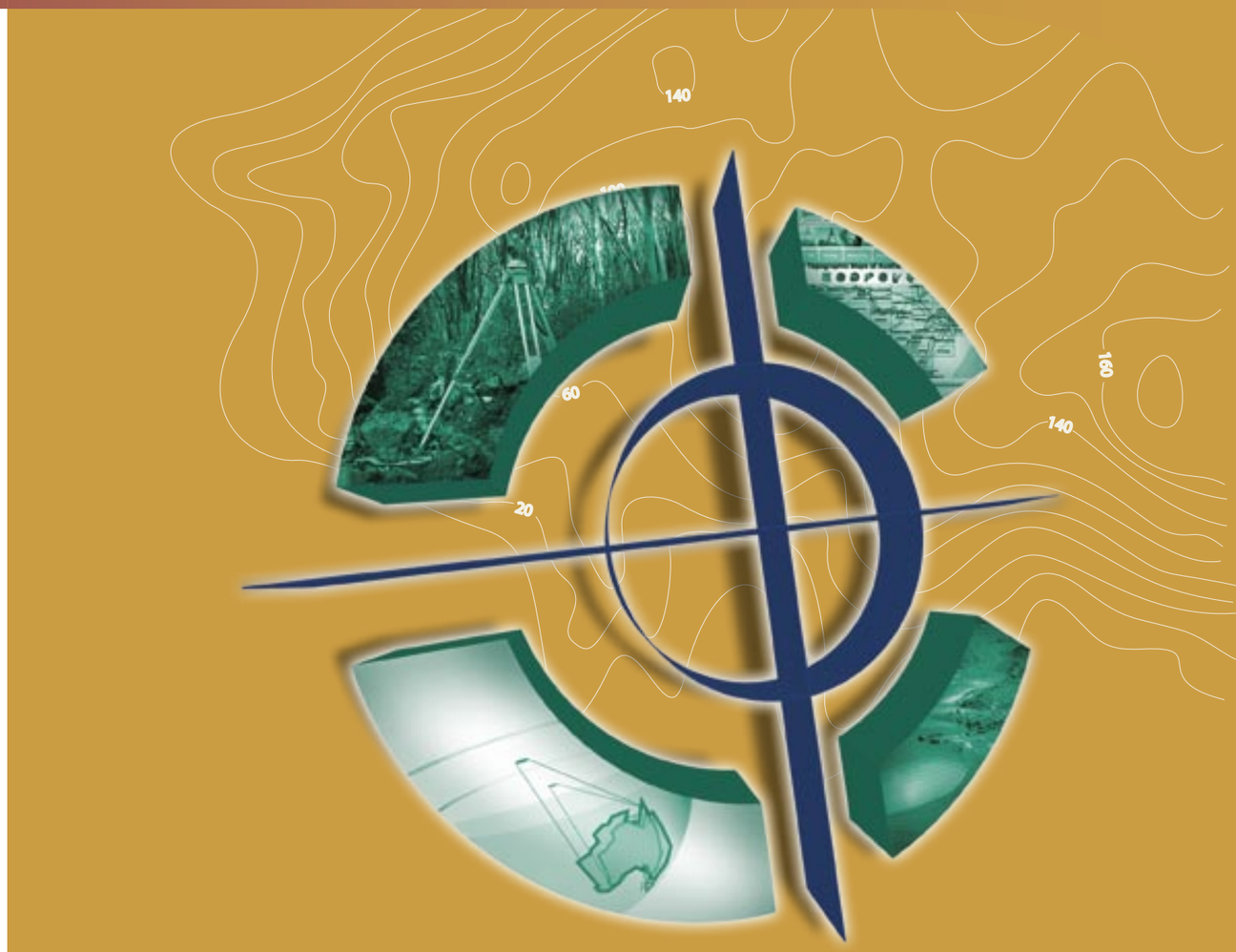
- Wrap up of the Geocentric Datum of Australia implementation project.
- Launch of the Australian and New Zealand Rural and Urban Addressing Standard.
- Putting the 'M' for 'mapping' back into ICSM through the establishment of a new Permanent Committee for Topographic Information.
- Engaging a wide range of stakeholders in the development of a new vision for the cadastre supporting land administration.
- Building a new, stronger relationship with ANZLIC – the Spatial Information Council. ICSM is now a Standing Committee of ANZLIC ensuring integrated policy and standards outcomes.

If the acceptance and adoption of policies, standards, guidelines, data frameworks publications and strategic advice produced by ICSM is a measure of success, then the ICSM has indeed provided sustainable benefits for Australians and New Zealanders.

These achievements have only been possible through the co-operation and commitment of those individuals who make up ICSM itself and its Committees and Working Groups. Whilst most members of the ICSM collective are public sector employees all work for ICSM is done voluntarily and in addition to a 'day job'. A special thanks to Peter Holland of Geoscience Australia for his ongoing assistance and to Alla Metlenko and Susie Salisbury who have supported ICSM in their roles as Executive Officer during the reporting period.

To Peter Ramm, my predecessor, thank you for laying a very solid foundation and to Ian O'Donnell, my successor, best wishes in continuing the work of building a better nation.

Paul Harcombe
Chairman
1 July 2002 – 30 June 2004



about ISCM

our vision

World best national land and sea bed spatial data infrastructure providing sustainable benefits for Australians and New Zealanders.

who are we?

ICSM is a key coordinating body in Australia and New Zealand for surveying and mapping issues. In 2003 ICSM was accepted as a Standing Committee of ANZLIC – the spatial information council for Australia and New Zealand.

ICSM provides a mechanism to establish standard protocols and technical standards to spatial databases and infrastructure on a national basis. It also provides a forum that enables the exchange of information and ideas, a means to benchmark and identify best practice and influence the implementation of modern approaches to surveying, mapping and charting.

ICSM was established by the Australian Prime Minister, State Premiers and the Chief Minister of the Northern Territory in 1988. A prior body, the National Mapping Council (NMC), coordinated Australian mapping programs from 1945 to 1988.

ICSM is made up of Australia's Commonwealth, State and Territory surveying, mapping and hydrographic charting agencies. New Zealand joined ICSM as a full member in 1997.

The Committee meets twice a year. A Chairman is appointed from the Committee every two years.

The Executive Officer of ICSM delivers secretariat support to the Committee and project support to the ICSM committees and working groups. The Secretariat was provided by the National Mapping Division of Geoscience Australia during the reporting period.

ICSM committees and working groups provide expert advice, carry out research, as well as develop and conduct ICSM projects.

ICSM
INTERGOVERNMENTAL COMMITTEE ON SURVEYING & MAPPING

COMMITTEES AND WORKING GROUPS IN JUNE 2004

Operational:

- Cadastral Reform (PCCR)
- Data Framework (DFTSC)
- eLodgment and Transfer of Cadastral Information (ePlan)
- Geocentric Datum of Australia Implementation (GDAWG)
- Geodesy (GTSC)
- Geographical Names in Australasia (CGNA)
- Native Title (NTWG)
- Street Addressing (SAWG)
- Tidal Interface (TIWG)
- Tides and Mean Sea Level (PCTMSL)
- Topographic Information (PCTI)

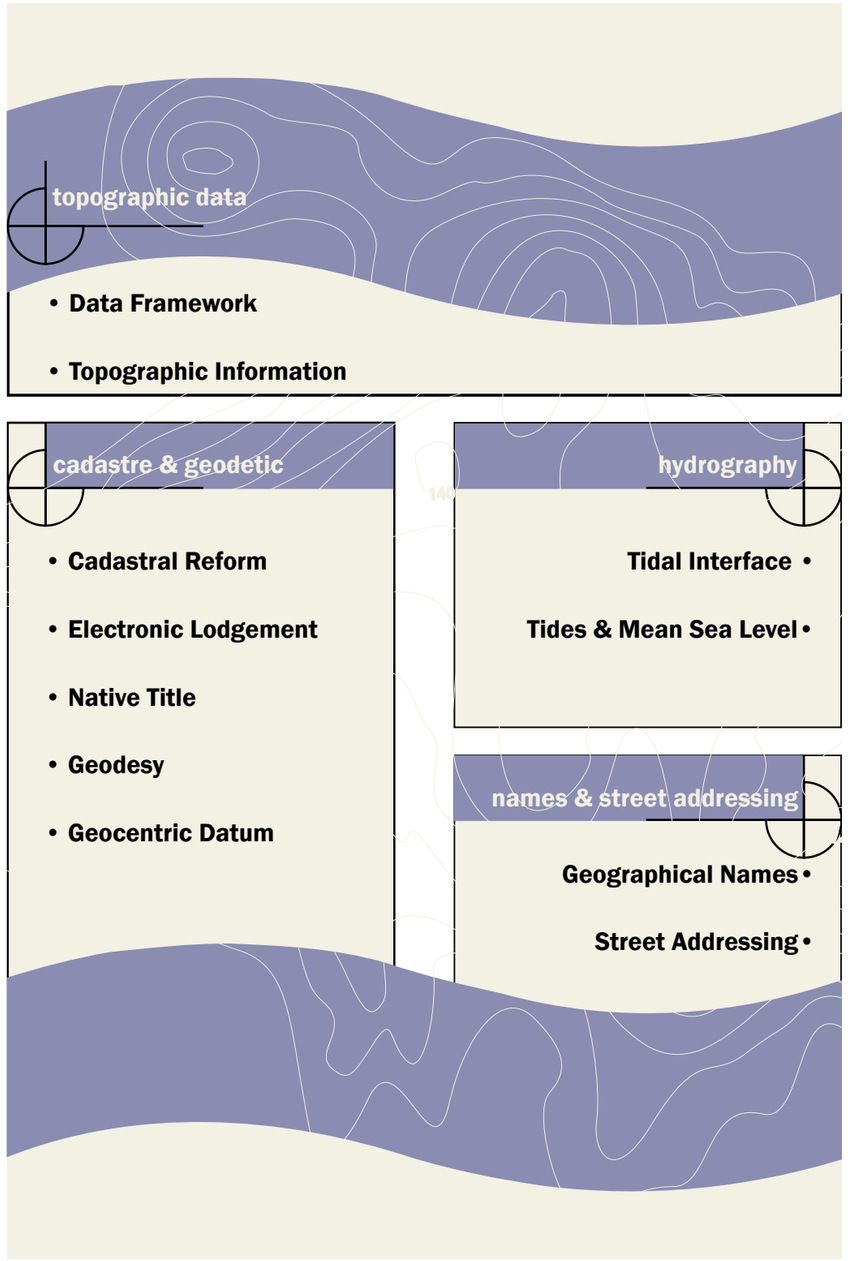
Disbanded following the successful completion of their project:

- Geocentric Datum of Australia Implementation (GDAWG)
- Topographic Databases (SIGTD)

Membership of committees and working groups are comprised of representatives from government, academic and private organisations within Australia and New Zealand.

Additional information can be found on the ICSM web site at http://www.icsm.gov.au

AREAS OF RESPONSIBILITY FOR COMMITTEES AND WORKING GROUPS:

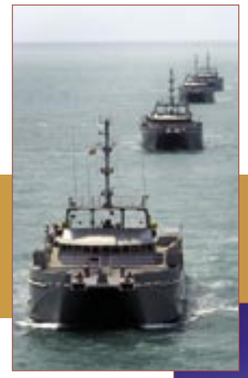


our role

ICSM's role is to provide leadership, coordination and standards for surveying, mapping and charting, and assembling and maintaining national framework data sets.

Framework data includes:

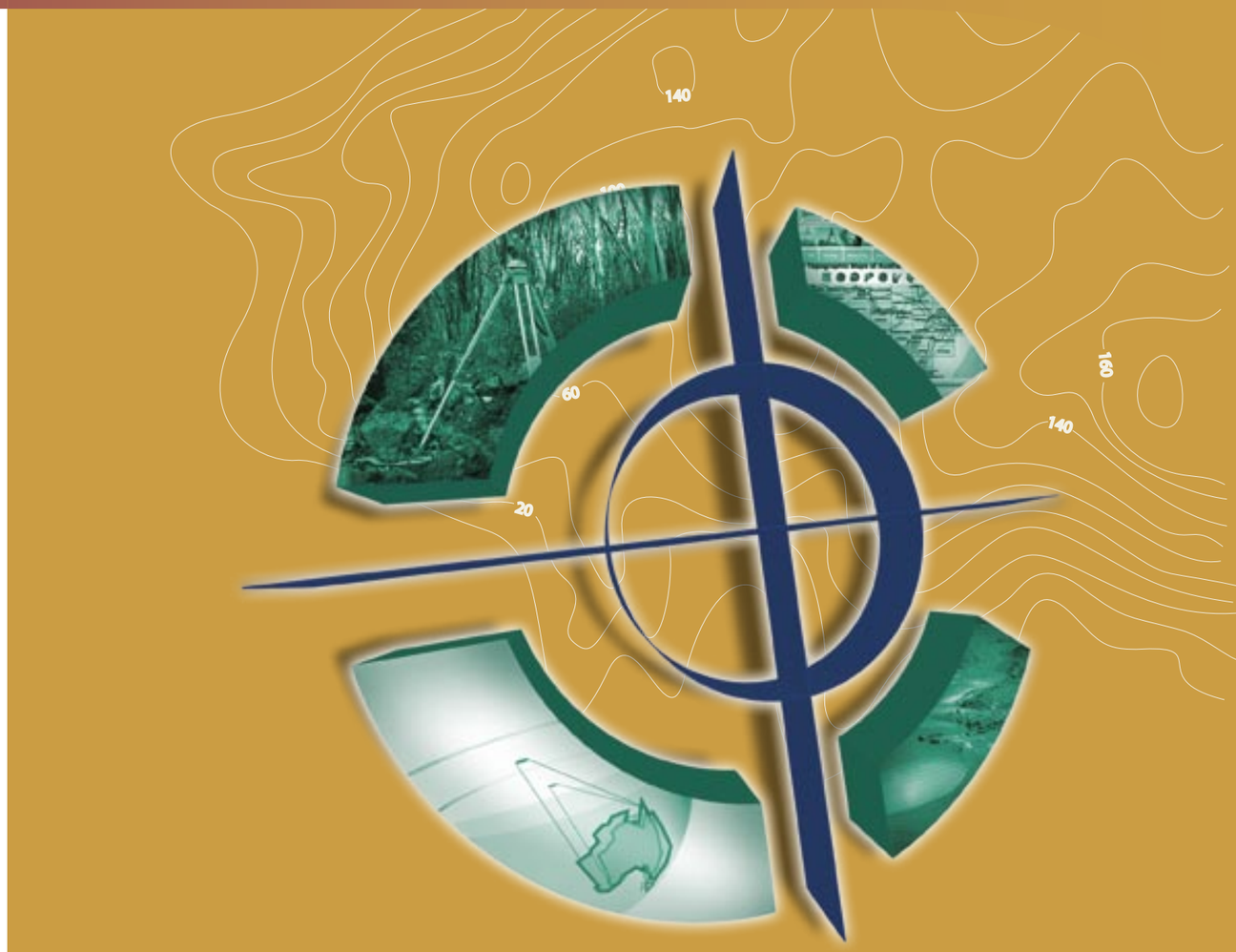
- geodetic
- topographic
- cadastral
- street addressing
- tides and sea level
- geographical names



ICSM WILL:

- Continue to provide a sponsorship role within the context of the Australian Spatial Data Infrastructure (ASDI) initiative with respect to geodesy, cadastral surveying, topography, hydrography, place names, street addresses and now, native title.
- Develop strategic direction for the provision and integration of nationally significant spatial data.
- Develop and publish best practice guidelines, national technical policies, standards, specifications and data models particularly for geodesy, cadastral surveying, topography, hydrography, place names, street addresses and native title.
- Share knowledge, experiences and expertise.
- Communicate and develop relationships with key stakeholders in Government, industry and the user community.
- Foster a cooperation and coordination ethos on inter-jurisdictional projects.
- Encourage a consistent approach to jurisdictional policies, standards, programs and priorities.
- Promote data integration.
- Provide technical advice and support to other coordinating bodies.
- Encourage and sponsor research.
- Facilitate the involvement of industry in ICSM activities.
- Maintain international liaison.

ICSM has issued a Strategic Plan for the period 2002–2007 which can be viewed at http://www.icsm.gov.au/icsm/about/strategic.htm



ICSM news

ICSM PARTNERS WITH ANZLIC

In 2003 ICSM became a Standing Committee of ANZLIC – The Spatial Information Council. This was in recognition of the close links between ANZLIC's role in developing policies and strategies as the peak inter-governmental council for spatial information and ICSM's role in implementing these policies and strategies.

This cooperative approach is a reflection of the growing maturity and spirit of cooperation within the spatial information industry in Australia and New Zealand.

For more information can be found on ANZLIC's web site http://www.anzlic.org.au

ANZLIC
the Spatial Information Council

IT'S NOW EASIER TO FIND WHERE YOU LIVE

In a blaze of attention the new Rural and Urban Addressing Standard was launched.

For the first time there is now a single, consistent and easily understood means of addressing a letter to anywhere in Australia & New Zealand.

This system was introduced in 2003 and ICSM's Street Addressing Working Group was a key player in developing and promoting the standard.

This standard has been incorporated in the award winning Geocoded National Address File (G-NAF) created by the Public Sector Mapping Agency (PSMA).
For more information refer to the PSMA web site at http://www.psma.com.au

The biggest impact is in rural areas where all street numbers will be based on a distance from a key point – such as a road intersection. In urban areas most existing addresses will not change as a similar system is already in place based on block numbers.

LAND TITLE RECORDS ARE GOING DIGITAL

The Australian property market is very sophisticated, with a value counted in billions of dollars. However, most records are held the old fashion way – as hard copy survey plans held in a Land Title Office.

In this era of electronic commerce current practice must change.

ICSM has established a Working Group composed of representatives from industry and government to review and progress this change. The aim is to establish an electronic framework which will allow for easy recording and transfer of survey plan information. It will enable seamless data use from capture in the field to dissemination and display through data bases and mapping products

The standard is not about simply imaging hard copy survey plans, but rather, enabling the interoperable use and management of digitally 'intelligent' survey data – for multiple purposes and without the need for manual intervention.

This is a big ask, but the potential efficiency gains are enormous!

The working group is really looking at 'whole of life' digital data for the land subdivision process. Survey data increasingly starts life in an electronic form. This is then traditionally manipulated to ultimately become a hard copy survey plan. The plan is then approved by a Local Council authority before being lodged with a Land Title Office and subsequently used to update State digital cadastral data bases and mapping products.

The new framework will make it possible for all these transactions to be done electronically, via the internet, without the inefficiencies of paper copies, incompatible and/or unreadable data formats or introducing manual transposition errors.

GOING GEOCENTRIC

nothing is in the same place as it was 10 years ago

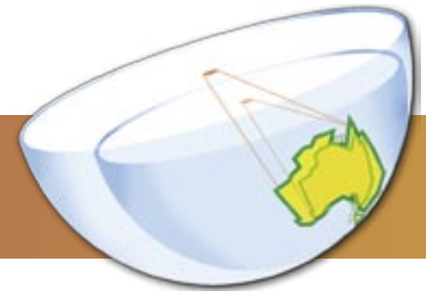
The ICSM web page has played a critical role in letting people know the what, when and where of Australia's new datum.

Indeed, there has been 100% adoption by State and Territory surveying and mapping organisations; plus the broader Australian community and industry is now enthusiastically embracing the datum.

Over the last year alone, people from Australia and around the world have logged a staggering 38 days of web time reading and downloading GDA documents. This doesn't sound much, but when you realise the average visit time is only 3 minutes – this means about 18,000 visits.

This is a impressive amount of interest and a reflection of the high quality of information supplied. Well done to all involved!

See what the fuss has been about and visit:
http://www.icsm.gov.au/icsm/gda/index.html



GDA
GEOCENTRIC DATUM OF AUSTRALIA

GET A MAP
(and don't get lost)

"**What topographic maps are there over my house?**" is a frequently asked question.

ICSM's web home page http://www.icsm.gov.au is now able to answer this question. This is the first time that information about the latest topographic maps over an area can be sourced in one place – regardless of who produced the map.

Since this comprehensive listing went live on the ICSM web site in November 2003 an average of 5000 maps per month have been generated.

The site also acts as a portal with links to other Australian mapping agencies, as well as Land Information New Zealand and the Australian Hydrographic Office.

GAZETTEER OF AUSTRALIA
getting better with age

This was first issued in 1995, with an up-dated and improved version being released every year since 2000.

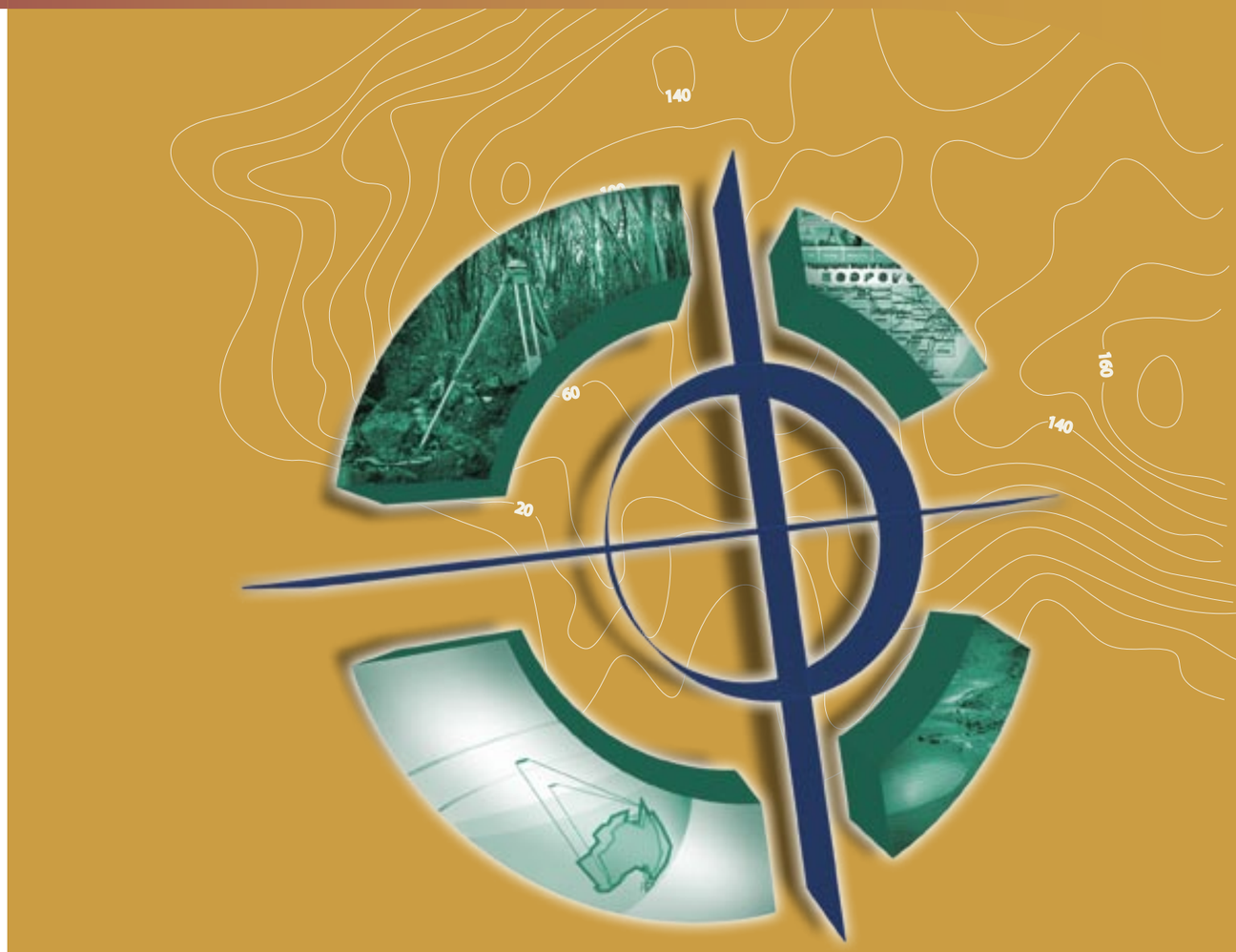
The 2004 release has grown into a very healthy 300,000+ place names.

As a truly Australia wide dataset it is a significant example of cooperation between States, Territories and the Commonwealth to create a product for the good of all Australians.

The gazetteer is freely available on the Geoscience Australia web site as an interactive Place Names Search – see http://www.ga.gov.au/map/names/

With an average of 200 visitors a day (that's 73,000 in a year!) this has grown into a very popular site.

Recent improvements include the addition of Australia Post Postcodes and two new fields that guide the usage of place names in internet domain names.



sub-committee reports

GEODESY (GTSC)

Role:

Geodesy provides the positional framework for all surveying, mapping and geographic information applications in Australia. The ICSM Geodesy Technical Subcommittee (now a Permanent Committee of ICSM) is responsible for providing advice on geodetic issues. Therefore the main role of this subcommittee is to maintain a compatible geodetic infrastructure across Australia and New Zealand.

Achievements during 2002–04:

- Examined and reported on the future of Australian datums (GDA94 & AHD) including the influence of emerging GNSS positioning systems, the evolving International Terrestrial Reference Frame (ITRF) with tectonic motion and tools for managing these influences.
- Computed the Positional Uncertainty for all stations in the national geodetic network, allowing these positions to be directly related to each other and positions obtained directly from GNSS technology.
- Continued evaluating the Australian Height Datum (AHD), using accurate GPS positions at AHD Junction Points and undertaking a variety of readjustments of the National Levelling network to develop an understanding of the relationship between the geoid and AHD.
- Arranged the further development of the DynaNet geodetic adjustment software as a tool for efficiently managing very large geodetic data sets.
- Continued geodetic support to the monitoring of sea level, by checking the stability of the National Tidal Facility's tide gauges through optical levelling to stable local benchmarks.
- Provided Electronic Distance Measurement (EDM) calibration software developed in Western Australia as a common utility for all jurisdictions.
- Contributed to an updated version of the National Standards Commission's Verifying Authorities Handbook, providing the methodology for Verifying Authorities to provide Reg 13 certificates for position.
- Updated ICSM's Special Publication 1 (Standards & Practices for Control Surveys) – www.icsm.gov.au/icsm/publications/sp1/sp1.htm – by adding guidelines for EDM Height Traversing as an effective alternative to conventional spirit levelling.
- Conducted a survey of the availability and content of on-line geodetic data in all jurisdictions.

GDA IMPLEMENTATION (GDAWG)

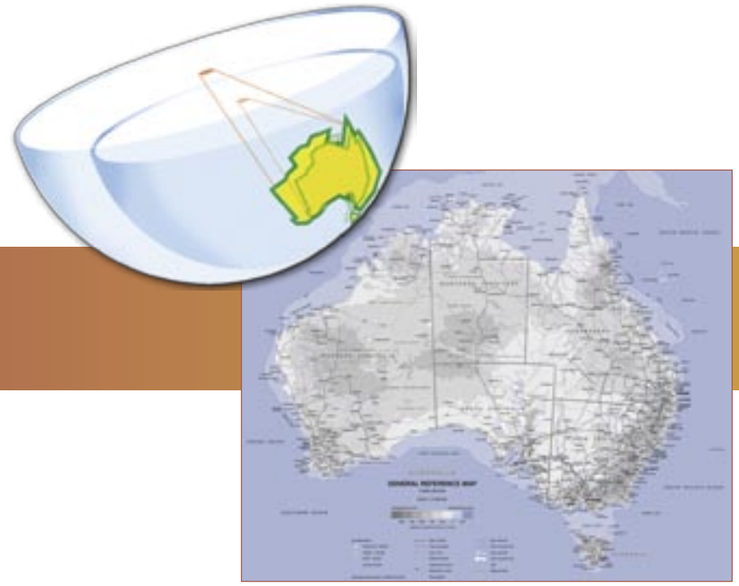
Role:

The role of the GDA Implementation Working Group is to monitor, facilitate and ensure a consistent approach is taken in the national implementation of GDA.

Achievements during 2002–04:

- Distribution of Going Geocentric promotional CD.
- Identifying how users of transformation software can be advised of software performance.
- Identifying standard fundamental datasets enabling GDA implementation to be measured.
- Determine percentage measure of GDA compliance across jurisdictional fundamental data sets.
- Reported on progress of GDA adoption within the private sector.
- Set actions to address poor uptake of GDA in resource based and social economic fundamental datasets.
- Identified software that can carry out precise NTV2 grid transformations.
- Maintained the GDA section of ICSM web page.

The GDAWG was disbanded in May 2004 and the task of long term monitoring and facilitating GDA implementation was transferred to the Geodesy Technical Subcommittee



ELECTRONIC LODGEMENT AND TRANSFER OF SURVEY DATA (ePLAN)

Role:

This committee was established as a result of a resolution taken at the ICSM November 2003 Meeting. It was recognised that a national cadastral data transfer standard was needed to capitalise on the inherent efficiencies lodgement and processing of digital cadastral data can bring to land development and administration processes.

Achievements during 2002–04:

Achievements since the working group was formed in April 2003:

- Terms of Reference and draft work plan have been ratified by ICSM.
- The inaugural ePlan Working Group workshop attended by representatives from all jurisdictions was held in Brisbane, April 2003.
- Jurisdictional reference groups have been formed and invitations have been sought for representatives on the ePlan Working Group from national industry stakeholders.

CADASTRAL REFORM (PCCR)

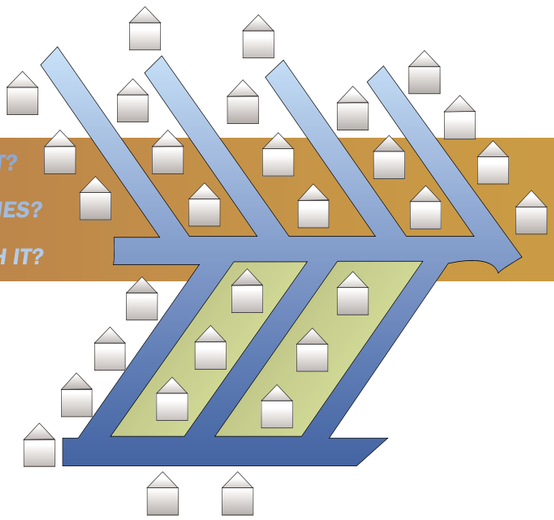
Role:

The Permanent Committee on Cadastral Reform was established in 1999 to provide a leadership role in advising ICSM on cadastral reform matters, raise awareness of the cadastre and the benefits of cadastral reform to industry and the community. Its role is to develop a coordinated approach to cadastral reform that incorporates the participation of all stakeholders, including other peak government and industry groups. As a result of this work, ANZLIC – the Spatial Information Council – has now adopted an interest in this area and ICSM looks forward to working with ANZLIC to take this matter forward.

Achievements during 2002–04:

- Convened a multi-jurisdictional workshop on Cadastral Reform, May 2004.
- Prepared the terms of reference for a consultancy to examine the business case for the improvement of spatial accuracy of digital cadastral databases (DCDB). Consultant commenced this study in late 2002.
- Provided advice to ANZLIC on cadastral reform matters and electronic lodgement. This has resulted in the review into electronic lodgement by the Queensland Surveyors Board (QSB) as well as ANZLIC adopting an interest in land administration reform.
- Prepared a generalised cadastral model for communication of reform issues to broader stakeholders.

WHERE IS IT?
WHO OWNS IT?
WHAT IS ON IT?
WHO CAN USE IT?
WHAT IS IT WORTH?
HOW CAN WE IMPROVE IT?
WHAT ARE ITS BOUNDARIES?
WHAT CAN BE DONE WITH IT?



DATA FRAMEWORK (DFTSC)

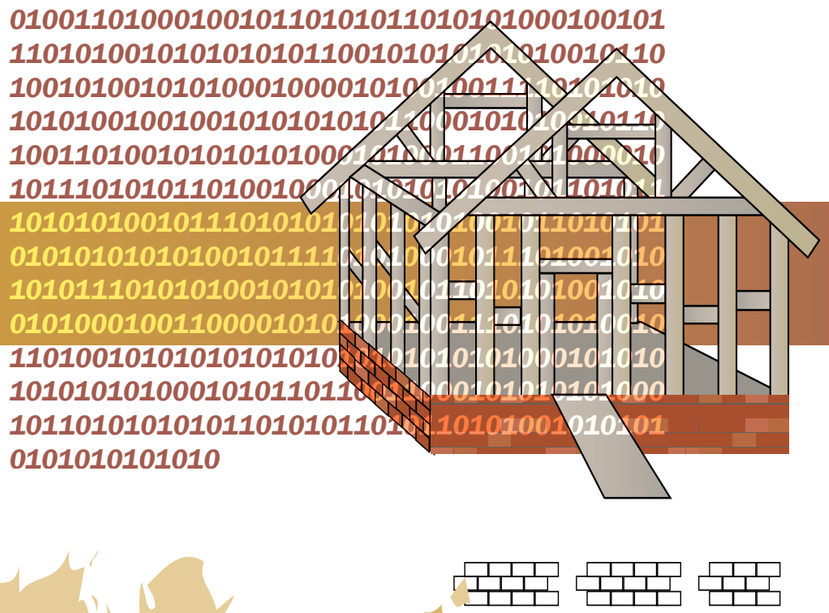
Role:

The Data Framework Technical Sub-Committee was established in November 2001 following the disbanding of the Harmonisation Working Group. Its role is to manage the maintenance, implementation and further development of the Harmonised Data Framework (HDF).

Achievements during 2002–04:

- Collaborating with other ICSM Committees and Working Groups that are developing data models to ensure integration with the HDF.
- Monitoring developments in national and international standards and recommend revisions to the HDF as necessary.
- Monitoring the extent to which jurisdictional data sets comply with the HDF (already in progress).
- Promoting the availability of the HDF to the wider geo-spatial community.

During the year the structure of the Committee has been changed to reflect its role across ICSM committees and working groups rather than jurisdictions. The new membership brings together expertise in data modelling, standards, database design and implementation of national data sets. In March 2004 the convenor made a presentation on ICSM's work in the area of data standards at the 2004 Geotec Event in Toronto Canada.



NATIVE TITLE (NTWG)

Role:

The Native Title Working Group was established in order to contribute to increase 'certainty' with respect to identifying native title rights and interests. It plans to achieve this by promoting the adoption of appropriate methods for defining native title interests and recording and exchanging relevant information about native title interests.

Achievements during 2002–04:

- Established principles for the preparation of plans that affect native title rights and interests.
- Substantially completed a data model for exchange of information regarding native title rights and interests, and actions affecting these.

TOPOGRAPHIC INFORMATION (PCTI & SIGTD)

Role:

Firstly, a Special Interest Group (SIGTD) was established to focus on topographic data models for the storage of spatial data in databases. This was established in June 2002 and disbanded in May 2004 having satisfied its Terms of Reference.

Secondly, in November 2003 a Permanent Committee for Topographic Information (PCTI) was established to provide leadership in topographic information.

Achievements during 2002–04:

The SIGTD reinforced the need for jurisdictions to consider the ICSM Harmonised Data Model (HDM) when developing spatial data models. To assist this process the SIGTD has developed the following:

- Standardised Feature Attribute Domains
- Standardised National Feature Codes
- National Library of commonly used Topographic Symbols

PCTI has identified that its role is to develop a coordinated approach to topographic data collection, management and delivery through the participation of all of the jurisdictions, and including other key government and industry stakeholder groups.

The focus of the PCTI for 2004–2006 will be the establishment of broad strategies for improving cooperation and collaboration among the jurisdictional topographic mapping agencies.

GEOGRAPHIC NAMES IN AUSTRALASIA (CGNA)

Role:

The Committee for Geographical Names in Australasia (CGNA) was established to provide a coordinating role in Australian place naming activities.

Achievements during 2002–04:

- Continued distribution of video/CD Rom titled 'What's in a Name' which promotes and publicises Australian Geographical Names. The video outlines how geographic names are given, their historical heritage, character and how they shape Australian culture.
- Assisted the National Mapping Division of Geoscience Australia to produce the 2004 release of the Gazetteer of Australian Place Names. The Gazetteer of Australia is derived from place names data supplied by State, Territory and Commonwealth Government Agencies. Two new features included in the 2004 release are a field which flags names proposed to be reserved from use within Australian Internet domains and can only be allocated to community based portals, and the inclusion of a Microsoft Access database as an additional database format.
- CGNA is an active member of the United Nations Group of Experts, Asia South-East, Pacific South-West Division, and chaired a meeting of the Division in Kuala Lumpur in 2003. Chairmanship of the Division has now been passed to Matusin Matasin, Surveyor General of Brunei Darussalam.
- CGNA provides the Rapporteur (Conference secretary) to Sessions and Conferences of the United Nations Group of Experts. In 2004 this service was provided for the 22nd Session of UNGEGN in New York. CGNA also chairs a new working group of UNGEGN on the Promotion of Indigenous and Minority Group geographical names.
- Continued to work to protect geographic names as Internet domain addresses and became established as part of the working group developing a fair and equitable Geographic Domain Name allocation system.
- Developed comprehensive new Terms of Reference for the working group.
- Published guidelines on the consistent use of Geographical Names and Aboriginal Naming and is developing guidelines for dual naming in respect to Indigenous names.

STREET ADDRESSING (SAWG)

Role:

The Street Addressing Working Group's main role is to identify and develop subsets or additions to street addressing standards and promote these to stakeholder groups and the spatial community. The Working Group also acts as a reference source on national issues associated with street addressing.

Achievements during 2002–04:

- The Street Address Working Group (SAWG) has developed a new Australian and New Zealand standard that encompasses all aspects of addressing including urban, rural and complex addresses and the geocoding of these addresses.
- The new standard AS/NZS 4819-2003 has been integral to the building of the first Geocoded National Address File (G-NAF) that was launched by PSMA in late 2003.
- In addition to this new standard, SAWG has undertaken a review of AS4590, Exchange of Client Information, where it relates to address issues. As a result of this work, the IT Committee reviewing AS4590 has now included SAWG representation in a total review of this standard.

Accurate and current addressing is reliant on local government and industry adoption of the new standard. To ensure the new standard is adopted in the community, SAWG has undertaken a promotional campaign to promote the use and benefits associated with correct addressing. SAWG has produced a web page, posters and an informative, interactive CD to distribute to the addressing community. ICSM was able to negotiate with Australian Standards and New Zealand Standards to include the new Standard on the promotional CD that was distributed to every local government throughout Australia free of charge.

Continuous improvement continues in the addressing field with SAWG continuing to undertake an active role in the production and maintenance of the G-NAF; expanding the promotional activities beyond the addressing community and into the general community and providing a reference source on all issues associated with street addressing

TIDAL INTERFACE (TIWG)

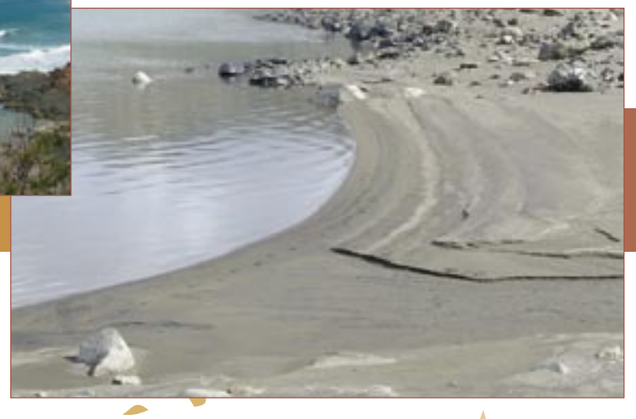
Role:

This Working Group was established in early 2002. It was established to consider the definition of boundaries in the tidal interface, with a particular focus on rationalising the number of definitions currently in use. In addition, the practical implementation of issues relating to resultant definitions also needed to be addressed.

Achievements during 2002–04:

- TIWG analysed the various definitions of tidal boundary as applied in various jurisdictional legislation.
- Continued support and links with
- University of Melbourne Research Project in Marine Cadastre
- Australian National Marine Data Group, and in particular it's Marine Cadastre technical Working Group
- NSW Riparian Rights Reference Group
- Developed a compendium of definitions currently in use—these are available on the ICSM website in both detail and summary format.
- Revision of the workgroups Terms of Reference to better align with the evolving national Spatial Data Infrastructure, as follows:

1. Coordinate an understanding for the issues associated with developing a spatial infrastructure of the tidal interface that will lead to the incorporation of this zone of continuous information into the Spatial Data Infrastructure.
2. Maintain a compendium of key terms associated with the tidal interface and conduct research associated with this as required.
3. Provide a plan for the adoption of these key terms as standards in legislation.



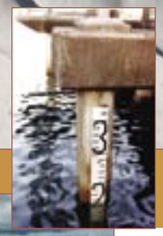
TIDES AND MEAN SEAL LEVEL (PCTMSL)

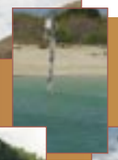
Role:

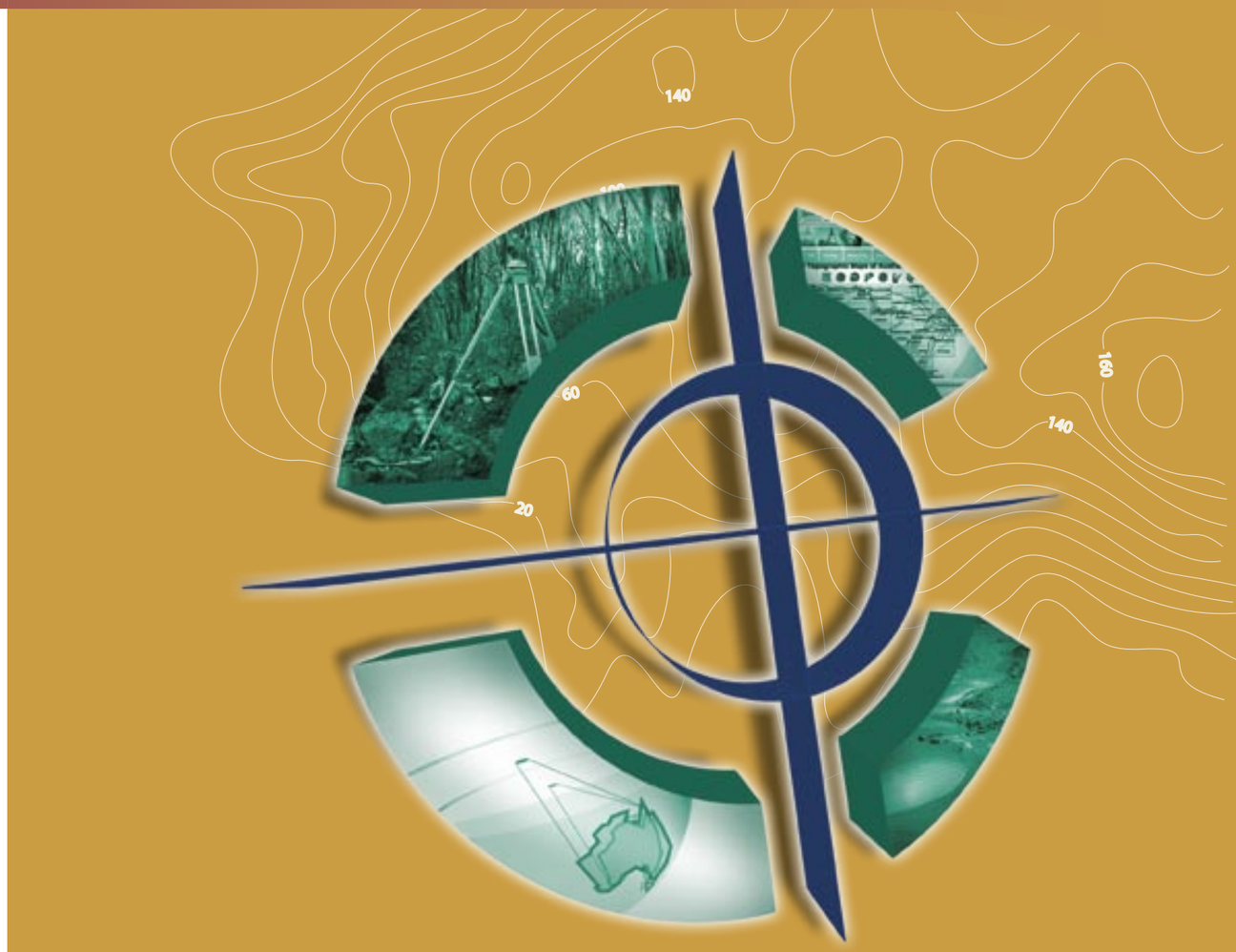
The main role of the Permanent Committee for Tides and Mean Sea Level is to coordinate a national database of tidal records as well as develop national standards and best practice guidelines for tidal related matters. PCTSML also acts as a focal point for national inquiries relating to tides and mean sea level and identifies long-term tide and sea level management requirements for Australia and New Zealand.

Achievements during 2002–04:

- Conducted the inaugural Australasian Tides Workshop (National Tidal Facility Australia, Adelaide on 22nd to 25th October 2002).
- Developed and placed on the ICSM website a promotional brochure on the PCTMSL and the report 'Achievements of the Permanent Committee on Tides and Mean Sea Level'.
- Developed scope of works and appointed contractor to produce 'Australian Tides Manual' to replace Special Publication 9 'Recommended Operating Procedures for Tide Gauges on the National Network'.
- Endorsed the policy for intra-national tidal data exchange, and commenced developing an objective measure for quality assurance of metadata.
- Revived the process for contributing agencies to provide updates (data availability and contact details) to the existing PCTMSL inventory on tidal streams and other related data.





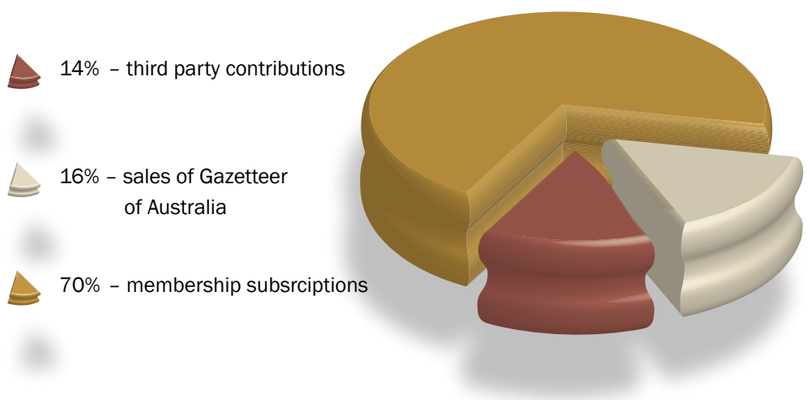


financial report & web page

financial report 2002–04

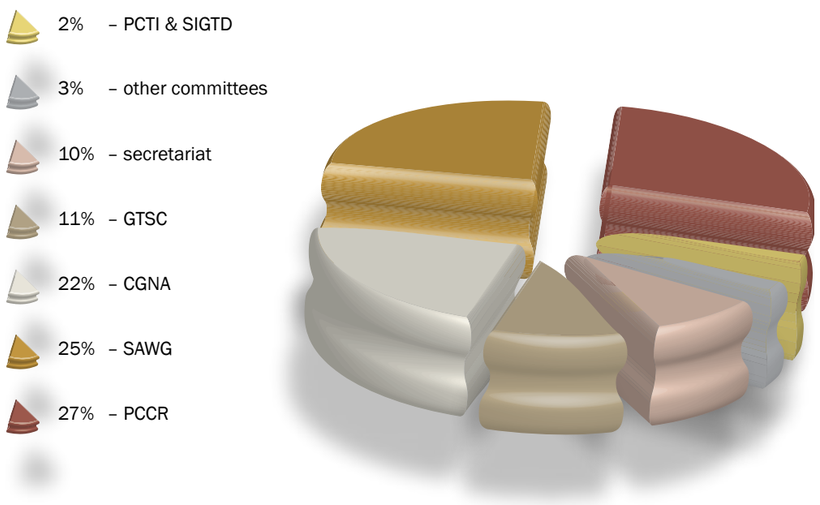
INCOME

Total income: ***$230 000***



EXPENDITURE

Total expenditure: ***$216 000***

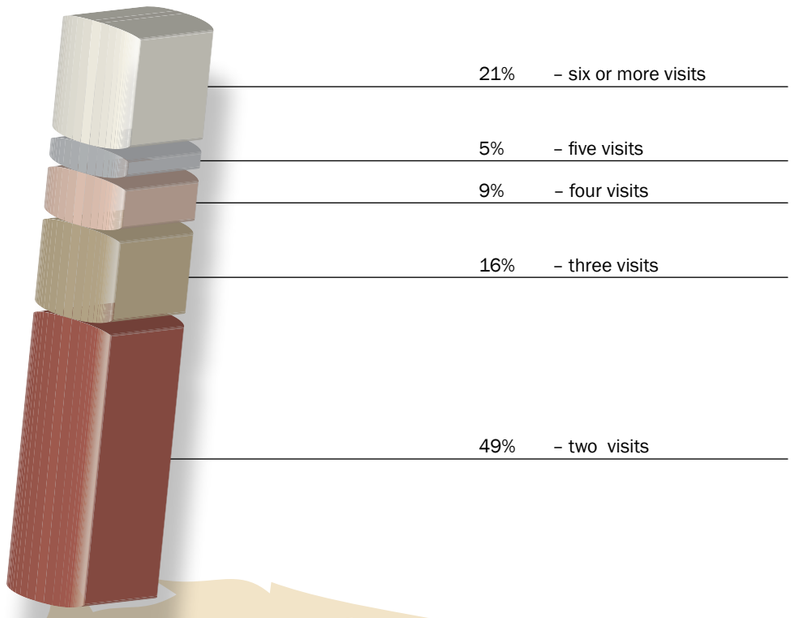


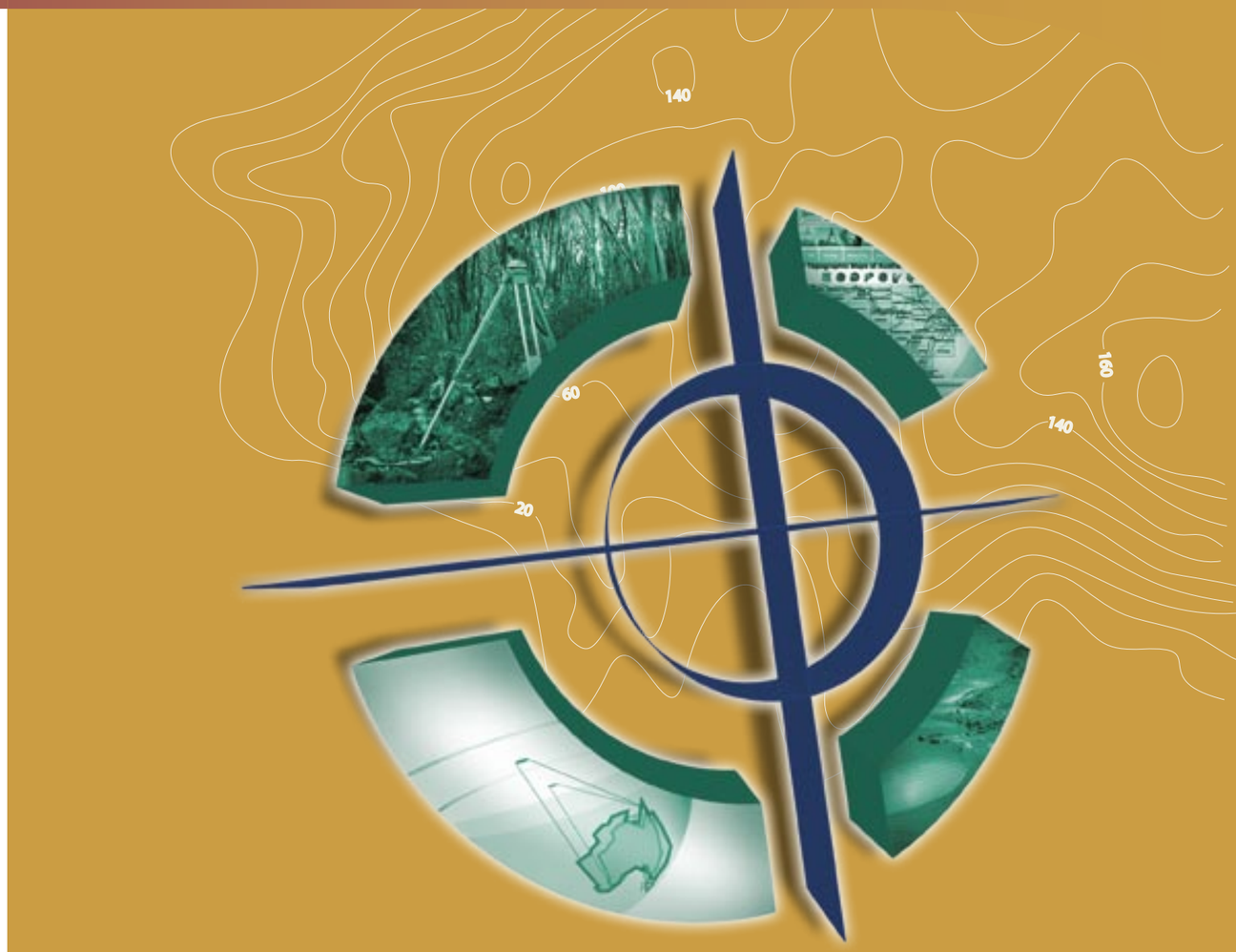
web page usage

hits	**= count of all pages & documents visited**
sessions	**= each visit**
visitors	**= unique visitor – ie only counted once in report period**

total unique visitors	29,688
total repeat visitors	5,077
average unique visitors per day	148
average repeat visitors per day	14
number of visits per visitor	
1	23,974
2	2,472
3	832
4	456
5	263
6+	1,054
total sessions:	61,578
average hits per visitor	19
average sessions per visitor	2.12
average session duration	0:03:08

RETURN VISITS PER UNIQUE VISITOR





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Acknowledgements

page 8 Land Information New Zealand, McMurdo Sound, 2003

page 10 Royal Australian Navy's survey motor launches: Mermaid, Paluma, Shepparton and Benalla

page 11 ACT Planning and Land Authority, old trig station, Mount Gudgenby, ACT

page 16 International Federation of Surveyors (FIG) Commission 7, 1994

page 20 Victorian Department of Sustainability and Environment

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