biennial report
July 2000 to June 2002

IGSM
INTERGOVERNMENTAL COMMITTEE ON
SURVEYING & MAPPING

contents

foreword

The Intergovernmental Committee on Surveying and Mapping (ICSM) has a long and successful history of contribution to the spatial information community of Australia and New Zealand. This report covers ICSM's activities in the period 1 July 2000 to 30 June 2002, which has been a period of major change. Perhaps the most significant was the Spatial Information Industry Action Agenda. The implementation of Action Agenda has enormous potential for changing and growing the spatial information industry.

Other significant events include the establishment of the Australian Global Navigation Satellite Systems (GNSS) Coordination Committee (AGCC), dealing with the broad issues around satellite navigation; the merger of former AUSLIG and AGSO to form Geoscience Australia; the creation of the Office of Spatial Data Management (OSDM); and the establishment of ANZLIC's national office.

The spatial information industry's potential to deliver benefits to many different disciplines is now clearly recognised. ICSM looks forward to continuing to play a valuable role in this dynamic and exciting new environment.

Two years ago, ICSM set three key work areas of priority, these being the Spatial Data Infrastructure (SDI); stakeholder relationships; and Cadastral reform. It is pleasing to note that this report details significant achievements in each priority area.

In addition, ICSM has continued its important ongoing work in areas such as geodesy, geographic place names, tides and mean sea level. In the past two years issues such as native title, the intertidal interface, land tenure and a renewed emphasis on mapping have been added to the ICSM agenda.

The last two years have been busy and exciting. I believe ICSM has made a major contribution to the Australian and New Zealand spatial information community and its industry and is committed to continuing to do so into the future.

In conclusion, I wish to express my appreciation to all members of ICSM and in particular to Graeme Rush, my predecessor, for his wise counsel and advice. I would also like to thank Halina Scott and Alla Metlenko, the two executive officers who supported ICSM and myself over the last two years. The support provided by the National Mapping Division of Geoscience Australia to ICSM is deeply appreciated, and a key factor in ICSM's success. Finally, I would like to wish Paul Harcombe, my successor, all the best for the future.

Peter Ramm
Chairman

1 July 2000 – 30 June 2002

who we are

ICSM is a key coordinating body in Australia and New Zealand for surveying and mapping issues. 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. Since then, the Australian Capital Territory and New Zealand have joined. 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, Territory and Defence surveying, mapping and hydrographic charting agencies. New Zealand joined ICSM as a full member in 1997 and its members represent New Zealand National survey mapping and charting activities.

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 working groups. The Secretariat was provided by the National Mapping Division of Geoscience Australia (formerly known as AUSLIG) during the reporting period.

Within the ICSM, the following working groups and committees provide expert advice, carry out research, and develop and conduct ICSM projects:

- Geodesy Technical Subcommittee;
- Geocentric Datum of Australia (GDA) Promotions Working Group;
- GDA Implementation Working Group;
- Permanent Committee on Cadastral Reform;
- Street Addressing Working Group;
- Committee for Geographic Names in Australasia (CGNA);
- Permanent Committee for Tides and Mean Sea Level (PCTMSL);
- Cadastral Data Working Group;
- Topographic Data Working Group;
- Harmonised Data Model;
- Technical Subcommittee On Data Framework;
- Native Title Working Group; and
- Tidal Interface Working Group.

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

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

our vision and the role of ICSM

Our Vision

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

The Role of ICSM

The role of ICSM is to provide a leadership role through coordination and cooperation in the areas of land and seabed measurement and representation and to:

- 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 spatial data of national significance;
- 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 relationship with key stakeholders in Government, industry and the user community;
- Encourage a cooperative and coordinative approach to 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; and
- Maintain international liaison.

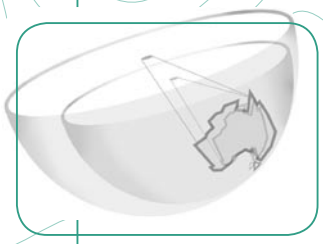
ICSM has issued a new Strategic Plan for the next five years (ie 2002 to 2007) which can be viewed at http://www.icsm.gov.au/about/strategic.htm

summary of significant outcomes against ICSM's goals

Goal 1: Develop and implement strategies for the direction of national spatial data.

Outcomes achieved against Goal 1:

- Drafted a 10-year vision for Geodesy, which has been published in a report titled, *The Australasian Geodetic Infrastructure*. This can be accessed from the ICSM's web page: http://www.icsm.gov.au/geodesy/gifv2-2-1.pdf
- Reaffirmed commitment to the protection of geographic place names used as domain names. ICSM has therefore decided to participate in ensuring a fair and equitable Geographic Domain Name allocation system is put in place.
- Cadastral reform is a difficult, complex and broad area. ICSM's Permanent Committee on Cadastral Reform has been successful in identifying issues where ICSM can contribute. 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.
- Continued to promote and provide support in the implementation of the Geocentric Datum of Australia (GDA 94) in Australia and New Zealand.
- Reviewed and confirmed that the existing Tidal Datum Epoch (1991-2010) will continue to be used for Tide Predictions in Australia.



Goal 2: Establish strong relationships and communication channels with key stakeholders.

Outcomes achieved against Goal 2:

- ICSM has continued to communicate with its stakeholders through ICSM news, industry forums and workshops at spatial industry conferences. New players such as the Australian Spatial Information Business Association (ASIBA) and OSDM will become increasingly important and ICSM are developing links with them. Industry has also played a role in working groups, notably Street Addressing, the Committee for Geographical Names Australasia, and Native Title.
- Other ICSM initiatives involve establishing formal relationships with key bodies such as ANZLIC and the Spatial Data Infrastructure Committee. The establishment of these formal relationships is vital to ensure there is a two-way flow of information occurring and work programs and the various linkages between the entities are well understood.

Goal 3: Standardise spatial data technical polices, specifications and data models.

Outcomes achieved against Goal 3:

- Progressed the draft Standard for Property Street Addressing (DR01221). This new standard is currently being circulated by Standards Australia for comment. Finalisation is expected in December 2002. A promotional campaign with the intention of building awareness, commitment and compliance with the new standard is under development and will be rolled out in early 2003.
- Produced and expanded the National Cadastral Data Model to include survey data, as well as finalised the National Topographic Data Model and associated data dictionary. Aspects of both these models have been integrated into the Harmonised Data Framework (HDF).

- Established the HDF. The HDF is a conceptual data model that integrated and harmonised the elements common to the four models ICSM produced, comprising the cadastral, topographic, street addressing and place name models. A feature catalogue that fully documents the conceptual data model can be downloaded as a Microsoft Access database from: http://www.icsm.gov.au/harmonised_data_manual/feature_catalogue.htm
- Commenced the development of an Australian Tidal Data Exchange Format to facilitate exchange of tidal data between organisations.

Goal 4: Facilitate coordination and cooperation amongst jurisdictions.

Outcomes achieved against Goal 4:

- Identified jurisdictional opportunities and issues relevant to the implementation of the Harmonised Data Framework.
- The successful establishment of the Geodetic Datum of Australia (GDA-94) and the Harmonised Data Model (HDM) has influenced a change in focus from development to maintenance. New working groups have therefore been formed to concentrate on the implementation of GDA-94 and the application and improvement of the HDM.
- Emerging issues relating to native title, the intertidal interface, and established renewed emphasis on mapping and land tenure has influenced ICSM to establish new inter-jurisdictional working groups to work through these issues.
- Through successful coordination and cooperation, ICSM has now been able to define the extent of the name *Southern Ocean*.

Goal 5: Establish and publish national best practice guidelines for collection, management and maintenance of spatial data.

Outcomes achieved against Goal 5:

- Developed Positional and Local Uncertainty as an easily understood method of describing the accuracy of a position. This concept is explained in publication *Standards and Practices for Control Surveys* (SP1) and is accessible from the ICSM web site at http://www.icsm.gov.au/publications/sp1/sp1.htm
- Produced and published National AGD66-GDA94 and AGD84-GDA94 Transformation Grids and associated interpolation software.
- Published a web-based Harmonised Data Manual that incorporates the conceptual HDM, feature catalogue and incremental update guidelines as well as links to the ANZLIC metadata guidelines. Can be accessed from ICSM's website at: http://www.icsm.gov.au/harmonised_data_manual/harmonised_data_manual_home_page.htm
- Designed and produced through external contracts a video and CD-ROM called *What's in a Name* to promote and publicise Australian geographical place names. The video and CD-ROM outlines how geographic place names are given, their history, heritage, character and how they shape Australian culture.

list of detailed achievements by ICSM's **working groups and subcommittees**

Geodesy Technical Subcommittee

Geodesy provides the positional framework for all surveying, mapping and geographic information applications in Australia. The ICSM Geodesy Technical Subcommittee 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 2000–2002:

1 Produced and published National AGD66-GDA94 and AGD84-GDA94 Transformation Grids and associated interpolation software (http://www.icsm.gov.au/gdatm/index.html).

2 Advised on the implementation of the New Zealand Geocentric Datum 2000 (NZGD2000).

3 Produced a transformation grid from NZGD49 to NZGD2000.

4 Developed Positional and Local Uncertainty as an easily understood method of describing the accuracy of a position.

5 Released an updated version of ICSM Special Publication 1, *Standards and Practices for Control Surveys*, including Positional and Local Uncertainty and accuracy standards for New Zealand (http://www.icsm.gov.au/publications/sp1/sp1.htm).

6 Continued to evaluate the Australian Height Datum (AHD), with particular regard to its accuracy and relationship to the geoid and GPS. This includes the ongoing collection of geodetic GPS observations at major AHD benchmarks to increase the amount of test data.

7 Continued geodetic support to the monitoring of sea levels, by measuring the stability of the National Tidal Facility's tide gauges through optical levelling to local stable benchmarks.

8 Drafted a 10-year vision for Geodesy, which has been published in a report titled, *The Australasian Geodetic Infrastructure*. This can be accessed from the ICSM's web page: http://www.icsm.gov.au/geodesy/gifv2-2-1.pdf

Geocentric Datum of Australia (GDA) Promotions Working Group

The role of the Geocentric Datum Promotions Working Group was to provide a nationally coordinated user responsive promotional program to lead the implementation of the Geocentric Datum of Australia and New Zealand.

Achievements during 2000–2002:

1 Provided a communication network for coordinating Geocentric Datum promotion.

2 Encouraged and supported industry development in the implementation of the Geocentric Datum.

3 Developed a suite of standard educational and promotional resources.

4 Maximised user community awareness and access to educational and technical material to do with the Geocentric Datum.

5 Completed the technical fact sheets and produced a second CD-ROM, which contains all the promotional materials together with software applications and final transformation grid files for use by the technical user groups.

The Geodetic Datum of Australia Promotions Working Group was disbanded in November 2001 having satisfied its terms of reference.

GDA Implementation Working Group

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. This work will be an extension of the GDA Promotions Working Group achievements (see above).

Achievements since the working groups formation in early 2002 include:

1 A report to ICSM outlining which spatial data sets have been converted to GDA and which paper map products are now based on GDA.

Future goals:

1 Monitor implementation progress across all levels of government and the spatial industry.

2 Identify and facilitate the development of tools and techniques to meet industry needs.

3 Nationally distribute the final GDA promotional CD that will include national transformation grids.

Permanent Committee on Cadastral Reform

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 2000–2002:

1 Convened the Cadastral Reform Workshop at the Centenary of Federation Surveying and Mapping Conference in Canberra, May 2001.

2 Participated in the Land Administration Reform Workshop at the 2001 Surveyors Congress, Brisbane in September 2001, in conjunction with the Institution of Surveyors Australia, the New Zealand Institute of Surveyors, the Association of Consulting Surveyors Australia and the Australian Spatial Information Business Association.

3 Prepared a generalised cadastral model for communication of reform issues to broader stakeholders.

4 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.

5 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 to commence this study in late 2002.

Street Addressing Working Group

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 2000–2002:

1 Progressed the Draft Standard for Property Street Addressing (DR01221) that is now being circulated by Standards Australia for comment. Finalisation is expected in December 2002.

2 Developed promotional material drafts for the Internet, a multimedia CD, and hardcopy brochures in order to promote the new Property Street Addressing standard.

Committee for Geographic Names in Australasia

The Committee for Geographical Names in Australasia was established within ICSM in 1993 to provide a coordinating role in Australian place naming activities.

Achievements during 2000–2002:

1 Designed and produced through external contracts a video called *What's in a Name* to promote and publicise Australian geographical names. This video outlines how geographic names are given, their history, heritage, character and how they shape Australian culture.

2 Assisted the National Mapping Division of Geoscience Australia to produce the third edition of the Gazetteer of Australian Place Names. The Gazetteer of Australia is derived from place name gazetteers provided by each Australian State, Territory and Offshore Undersea Feature Names maintained by the Australian Hydrographic Office.

3 CGNA is an active member of the United Nations Group of Experts, Asia South-East, Pacific South West Division and continues to Chair this group.

4 Reaffirmed its commitment to the protection of geographic names and has nominated several delegates to be part of a working group investigating a fair and equitable Geographic Domain Name allocation system.

5 Published a number of guidelines on the consistent use of Geographical Names and Aboriginal Naming.

6 Finalised the Australian Spatial Data Infrastructure (ASDI) compliant data model to ensure a consistent database of toponymic information is built and maintained in Australia.

Permanent Committee for Tides and Mean Seal Level

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 2000–2002:

1 Coordinated the placing of tidal predictions throughout Australia on the Internet.

2 Progressed the compilation of the Australian Tides Manual to replace and expand on Special Publication 9, *Recommended Operating Procedures for Tide Gauges on the National Network*.

3 Developed a draft syllabus for a Tidal Workshop/Instructional Course.

4 Reviewed and confirmed the Tidal Datum Epoch (1991 to 2010) for use in Tide Predictions in Australia.

5 Commenced drafting the Australian Tidal Data Exchange Format for use in exchanging tidal data between organisations in Australia.

Cadastral Data Working Group

The Cadastral Data Working Group was established in 1996 to define a national cadastral data model, produce a cadastral data dictionary, and other standards and documentation needed to support the interchange of cadastral data.

Achievements during 2000–2002:

1 Produced the National Cadastral Data Model (version 2).

2 Expanded the National Cadastral Data Model to include survey data.

3 Developed appropriate mechanisms to support the incremental update of cadastral data sets, this was prepared in collaboration with the Topographic Data Working Group.

4 Developed a data model to support a *Cadastral Lite* product.

The Cadastral Data Working Group was disbanded in November 2001 having satisfied its terms of reference.

Topographic Data Working Group

The Topographic Data Working Group was first established in 1998. Its main role was to develop a National Topographic Data Model (NTDM) and an associated data dictionary through a consultation mechanism involving all jurisdictions.

Achievements during 2000–2002:

1 Finalised the NTDM and associated data dictionary including format definitions for the topographic themes identified within the model.

2 Developed attributes and business rules to enable incremental update of data sets based on the NTDM.

3 Finalised the approaches to recording feature level metadata in sympathy with the ANZLIC metadata guidelines.

4 Established guidelines and finalised worked examples applicable to the translation of jurisdictional data sets into the NTDM.

5 Identified jurisdictional opportunities and issues relevant to the implementation of the NTDM and associated standards.

In developing the topographic, cadastral, place names and street addressing data models, the respective working groups recognised the need to harmonise these models to facilitate the implementation of the spatial data infrastructure. The Harmonisation Working Group was therefore established to deal with the matter. The deliverables of the topographic working group were incorporated into the harmonised data framework.

The working group was disbanded in mid 2001 after satisfying their terms of reference.

Harmonisation Working Group

The Harmonisation Working Group was first established to develop a consistent approach to modelling and documenting ICSM-sponsored ASDI datasets. It aimed to break down the 'silo' approach that had traditionally prevailed when dealing with different data themes (such as cadastre and topography) by clearly identifying their interrelationships and common characteristics.

During 2000–2002 the Harmonisation Working Group established the ICSM Harmonised Data Framework (HDF) that included:

1. a conceptual data model that integrated the cadastral, topographic, street address and place name models, harmonising the elements that were common to the four models;
2. a feature catalogue that fully documented the conceptual data model and could be downloaded as a Microsoft Access database;
3. guidelines for enabling incremental updates to ICSM-sponsored fundamental data sets; and
4. a web-based harmonised data manual that incorporated the conceptual data model, feature catalogue and incremental update guidelines as well as links to the ANZLIC Metadata Guidelines.

The working group was disbanded in November 2001 having satisfied its terms of reference.

Data Framework Technical Sub-Committee

The Data Framework Technical Sub-Committee (DFTSC) 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).

It plans to achieve this by:

1. collaborating with other ICSM Working Groups that are developing data models to ensure integration with the HDF;
2. monitoring developments in national and international standards and recommend revisions to the HDF as necessary;
3. monitoring the extent to which jurisdictional data sets comply with the HDF (already in progress); and
4. promoting the availability of the HDF to the wider geo-spatial community.

Since its establishment, the Convener of the DFTSC has been appointed Chair of Standards Australia Technical Committee IT-4 (Geographic Information). As IT-4 is currently planning the implementation of the ISO 19100-series standards in Australia, its activities align well with the complementary activities of the DFTSC.

Native Title Working Group

The Native Title Working Group was established early 2002 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 to-date:

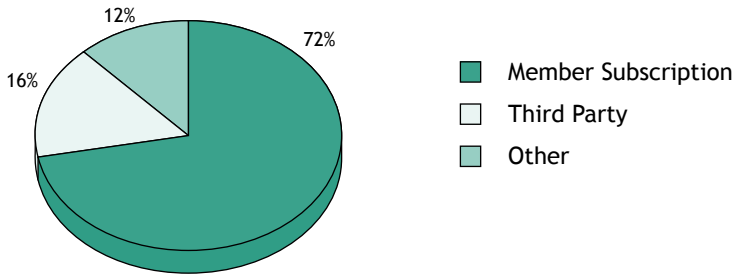
1. Engaged jurisdictional lead agencies that are involved in native title issues and invited them to work with the Native Title Working Group. This resulted in the membership of the National Native Title Tribunal (NNTT) to the working group.
2. Prepared a set of five principles for plan requirements for Native Title. Presently undergoing further refinement through consultation with each jurisdiction.
3. Categorised the range of events that have an impact on native title interests into ten groupings, listed at http://www.icsm.gov.au/ntitle/index.html

Future goals:

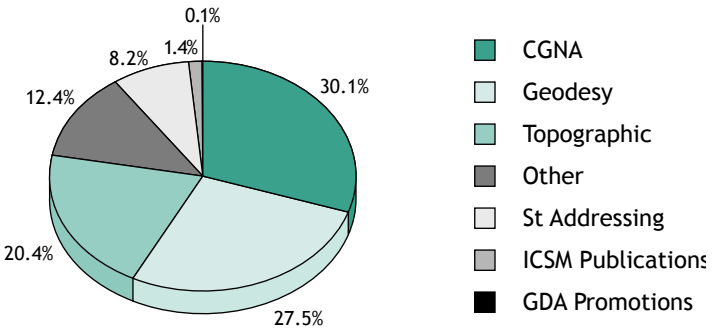
1. Identify relevant data types and attributes that are significant to the events impacting native title interests.
2. Address the identified range of technical, physical and political challenges that are effecting the successful population of a National Data Model of Native Title Information.

financial report

Revenue $215,559 (excluding GST)



Expenditure $223,479 (excluding GST)



membership

Commonwealth

Mr Ian O'Donnell (current member)
Mr Paul Trezise (former member)
Manager Mapping & Maritime Boundaries
Geoscience Australia

PO Box 2
Belconnen ACT 2616

Tel: 02 6201 4100
Fax: 02 6201 4368
Email: IanODonnell@auslig.gov.au
Internet: http://www.ga.gov.au

Commander Martin Rutherford
Deputy Director Military Geographic Information (Policy)
Australian Defence Headquarters
Department of Defence

R5-SB-42
Russell Offices
CANBERRA ACT 2600

Tel: 02 6265 6299
Fax: 02 6265 3041
Email: Martin.Rutherford@cbr.defence.gov

Captain Bruce Kafer, RAN
Hydrographer of Australia
Australian Hydrographic Office

Locked Bag 8801
South Coast Mail Centre NSW 2521

Tel: 02 4221 8683
Fax: 02 4221 8599
Email: Bruce.Kafer@defence.gov.au
Internet: http://www.hydro.gov.au

Mr Wayne Jones
Head Tidal and Geodetic Section
Australian Hydrographic Office

Locked Bag 8801
South Coast Mail Centre NSW 2521

Tel: 02 4221 8645
Fax: 02 4221 8657
Email: Wayne.Jones3@defence.gov.au
Internet: http://www.hydro.gov.au

Mr Chris Carter
Manager Production
Defence Topographic Agency

PO Box 2793
Bendigo VIC 3554

Tel: 03 5442 0295
Fax: 03 5442 3630
Email: Chris.Carter@dta.defence.gov.au
Internet: http://www. defence.gov.au

Australian Capital Territory

Mr Dave Dobson
ACT Commissioner for Surveyors
ACT Land Information Centre
Department of Urban Services

GPO Box 1908
Canberra ACT 2601

Tel: 02 6207 1965
Fax: 02 6207 1944
Email: David.Dobson@act.gov.au
Internet: http://www.palm.act.gov.au

New South Wales

Mr Paul Harcombe
Chief Surveyor of NSW
Land & Property Information NSW

PO Box 143
Bathurst NSW 2795

Tel: 02 6332 8201
Fax: 02 6332 2320
Email: Paul_Harcombe@ditm.nsw.gov.au
Internet: http://www.ditm.nsw.gov.au

Queensland

Mr Graeme Rush
General Manager
Land Management and Use
Department of Natural Resources and Mines

GPO Box 2454
Brisbane QLD 4001

Tel: 07 3405 5501
Fax: 07 3405 5521
Email: Graeme.Rush@nrm.qld.gov.au
Internet: http://www.nrm.qld.gov.au

Western Australia

Mr Andrew Burke (current member)
Mr Henry Haugton (former member)
Director Land Information and
Administrative Services
Department of Land Administration

PO Box 2222
Midland WA 6936

Tel: 08 9273 7485
Fax: 08 9273 7682
Email: andrew_burke@dola.wa.gov.au
Internet: http://www.dola.wa.gov.au

Victoria

Mr Keith Bell, RFD
Surveyor General of Victoria
c/- Department of Natural Resources
and Environment

P O Box 500
East Melbourne VIC 3002

Tel: 03 8636 2525
Fax: 03 8636 2588
Email: Keith.Bell@nre.vic.gov.au
Internet: http://www.Land.vic.gov.au

Mr Peter Ramm
Manager Geodetic
Land VictoriaDept of Natural
Resources and Environment

PO Box 500
East Melbourne VIC 3002

Tel: 03 8636 2383
Fax: 03 8636 2813
Email: Peter.Ramm@nre.vic.gov.au
Internet: http://www.osg.vic.gov.au

South Australia

Mr Andrew Jones
Manager
Information Management
Environment and Geographic
Information Division
Dept for Environment and Heritage

PO Box 550
Marleston SA 5033

Tel: 08 8226 4949
Fax: 08 8293 4898
Email: jones.andrew@saugov.sa.gov.au
Internet: http://www.dehaa.sa

Mr Peter Kentish
Surveyor-General, Manager
Land Boundaries Branch
Dept for Administrative
and Information Services

GPO Box 1354
ADELAIDE SA 5001

Tel: 08 8226 4036
Fax: 08 8226 3939
Email: kentish.peter@saugov.sa.gov.au
Internet:
http://www.dehaa.sa.gov.au

Tasmania

Mr Chris Rowe
Surveyor General
Information and Land Services
Department of Primary Industries,
Water and Environment

GPO Box 44A
Hobart TAS 7001

Tel: 02 6233 3238
Fax: 02 6233 6775
Email: Chris.Rowe@dpiwe.tas.gov.au
Internet:
http://www.dpiwe.tas.gov.au

Northern Territory

Mr Garry West
Surveyor General of Northern Territory
Department of Infrastructure,
Planning and Environment

PO Box 1680
Darwin NT 0801

Tel: 08 8999 6062
Fax: 08 8999 7750
Email: Garry.West@nt.gov.au
Internet:
http://www.lpe.nt.gov.au/home.htm

New Zealand

Mr Tony Bevin
Surveyor General
Land Information New Zealand

CPO Box 5501
Wellington New Zealand

Tel: +64 4 498 3507
Fax: +64 4 460 0112
Email: tbevin@linz.govt.nz
Internet: http://www.linz.govt.nz

Mr John Spittal
Chief Topographer/Hydrographer
Land Information New Zealand

Private Box 5501
Wellington
New Zealand

Tel: +64 4 471 6856
Fax: +64 4 471 6894
Email: jspittal@linz.govt.nz
Internet: http://www.linz.govt.nz

Executive Officer — ICSM

Ms Alla Metlenko (Apr 2002 - present)
Ms Halina Scott (Sept 2000 - Mar 2002)
Executive Officer
ICSM

PO Box 2
Belconnen ACT 2616

Tel: 02 6201 4292
Fax: 02 6201 4240
Email: icsm@auslig.gov.au
Internet: http://www.icsm.gov.au

ISBN 0 642 46755 2

Starkis 1354