

Curriculum Vitae – Nicholas (Nick) Jon Middleton

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Date of Birth: 6th September 1971, Sydney Australia.

Summary of skills

I am a Geographic Information Systems (GIS) Analyst with 16 years of experience in spatial and remote sensing settings including urban planning, natural resource management and mineral exploration. I have focussed on developing spatial solutions for a range of fields including land use planning applications, research design, field data collection and data storage systems, statistical analysis, mapping and reporting. I have worked as a private consultant, as well as for government, industry and university bodies.

Academic Qualifications:

January – November 1998

BSc Honours (first class), Geography

Title: “Graffiti in Australian Urban Areas: social factors and spatial influences.”

Supervisors: Dr Julie Delaney and Dr. Ian Alexander, Dept. of Geography (UWA).

Description: Incorporation of theories from sociology, geography, criminology and psychology in formulating hypotheses regarding the spatial distribution of graffiti in urban areas. Hypotheses were tested using GIS and geostatistical techniques derived in soil science and mining resource analysis.

January 1992 – November 1997

Part time completion of BSc Geography undergraduate course.

Areas of interest and study:

- Geographical Information Systems
- Urban and regional planning
- Environmental management

December 1989

Completed Year 12 TEE at Applecross High School, Perth.

Employment History

October 2009 to present

Consultant

NJM Spatial

- Provision of town planning analysis for a population and land use survey in George Town, Malaysia;
- Analysis to determine relationships between proximity to facilities and property values in Melbourne.
- Provision of map production services to mineral exploration operations in Western Australian and Indonesia.
- River use conflict analysis for the Swan and Canning Rivers.
- Provision of GIS training services to AusAid funded, GIS in Agriculture for Iraqi Agricultural Scientists.
- Production of Dieback (*Phytophthora cinnamomi*) atlas products for South Coast NRM.
- Technical advisor to the University of Melbourne and Australian Urban Research Infrastructure Network (AURIN) on the construction of an open source, online tool to assist researchers compile walkability measures for Australian urban areas.
- Regional planning analysis for facility accessibility for small regional towns in Victoria.
- Analysis on socio-economic attributes of Perth areas and their exposure to tobacco sale outlets in conjunction with the University of Western Australia on behalf of the Cancer Council WA.
- Development of multi-criteria spatial model for urban development targeting for the Tamar Valley, Tasmania.

September –October 2013 & August – September 2014

Lecturer for Postgraduate Short Course in GIS at UWA (ENVT4411)

- I delivered a short course in the applied GIS to Postgraduate students at the University of Western Australia, with 2 weeks intensive lecturing and tuition.

December 2012 to August 2013

Scientific Editor

Ningaloo Atlas

- Maintaining, developing and providing content for the Ningaloo Atlas web-Portal (<http://ningaloo-atlas.org.au/>) during a fixed term contract with the Australian Institute of Marine Science. During this period I also engage stakeholders to ensure they were provided with relevant and current scientific, management and policy information about the Ningaloo Coast and marine protected Areas.

September 2007 to September 2011

Research Associate (GIS), Level 6

Centre for Built Environment and Health

School of Population Health, University of Western Australia

Duties:

- Development of measures of the built environment in regards to land use and infrastructure provision and their comparison with measures of research participants' levels of physical activity, mental and physical health.
- Mentoring and building the capacity of research staff, postgraduate and undergraduate students in the use of GIS in population and public health research.

March 2008 to June 2010

Tutor, Casual

School of Earth and Environment, University of Western Australia

Duties:

- Tutoring in second and third year GIS units.

May 2005 - September 2007

Resource Information Analyst, Level 5

Soil Survey for the Emirate of Abu Dhabi, United Arab Emirates

(Joint venture between GRM International and Western Australian Department of Agriculture, on behalf of the Environment Agency - Abu Dhabi)

Duties:

- Development of complex soil database with both spatial and tabular components.
- Development of field data captures systems both electronic and paper based, utilizing mobile mapping systems.
- Capture and maintenance soil map unit boundaries.
- Coordination of activities of specialist remote sensing and cartographic staff.

January 2004 - July 2004

Acting Lecturer, GIS

School of Earth and Geographical Sciences, University of Western Australia

Duties:

- Creation and delivery of teaching material in second and third year GIS units.

September 2001 – May 2005

Resource Information Analyst Level 2/4 and Level 5

Sustainable Rural Development (SRD) Group, Western Australian Department of Agriculture, Albany and Esperance

Duties:

- Provision of technical support and training in the application of GIS to Dept. of Agriculture staff of the Southern Agricultural Region.
- Research the spatial variability of the physical and chemical properties of soil at the catchment scale and its implications on the success of farming systems and risks of landscape degradation.
- Provide analysis input into the development of an integrated regional planning framework for the Southern Agricultural Region.
- Provision of spatial analysis in examining the future evolution of farming systems in the southern intermediate rainfall areas of Western Australia.
- Development of policies and strategic plans to assist with the evolution of GIS within the Department and specifically the offices of the Southern Agricultural Region.
- Creation of GIS products and presentations to promote the application of spatial information in natural resource management and land use planning in the South Coast Region of Western Australia.
- Spatial analysis on behalf of research projects in precision agriculture, utilising header collected harvest data, as well as remotely sensed gamma radiometric, airborne and satellite collected multispectral imagery.
- Co-ordination of the spatial data capture and management for Australia plague locust outbreaks in the Esperance district.

May 2000 – August 2001

Technical Officer – Level 2/4 Year 4

South Coast Regional Information Centre (SCRIC) / Sustainable Rural Development (SRD) Group, Agriculture Western Australia (AgWEST)- Albany

Duties:

- Provision of technical support and training in the application of GIS to AgWEST staff of the Southern Agricultural Region and community groups that are subscribers to the services provided by the SCRIC. These include catchment groups, local governments and regional Natural Resource Management (NRM) groups such as the South Coast Management Group (SCMG).
- Research in the spatial variability of the physical and chemical properties of soil at the catchment scale and its implications on the success of farming systems and risks of landscape degradation.
- Provision of instruction on methods of spatial data representation and analysis in the Rapid Catchment Appraisal process, by the AgWEST SRD Group.

January 1999 – May 2000

Technical Officer Level 5 (under Tertiary employee's classification system)

Department of Soil Science and Plant Nutrition, University of Western Australia

Duties:

- Provision of GIS, remote sensing, geostatistical analysis and field collection of data to assist with the characterisation of several catchments in the Darling Range of Western Australia on behalf of a Strategic Partnership with Industry - Research & Training (SPIRT) project in collaboration with Alcoa of Australia Ltd. The goal of the project was to characterise the regolith, vegetation, topography and meteorology, and their interaction with regards to hydrological processes, within catchments of the intermediate rainfall zone of the Darling Range.
- Provision of training and tuition in the application of GIS, remote sensing and geostatistical tools to undergraduate and several postgraduate students.
- General staff representative on the Department of Soil Science and Plant Nutrition Executive Committee.

January 1995 – January 1998

Provision of GIS consultancy services through Myle Pty Ltd.

Duties

- Provision of surface geology, soil geochemistry, drill hole and tenement data capture, management and mapping services predominantly for Herald Resources Ltd. but also for the GIS Laboratory based at the Key Centre for Geology (UWA).
- Provision of training in the application GIS, geological analysis and investigation on an as needs basis to geologists at Herald Resources Ltd.

January 1992 – December 1994

Casual employment in data capture and validation in mine exploration services for Herald Resources Ltd.

Duties:

- Data entry and validation of geological codes and chemical analyses for bore hole and surface sampling records into SURPAC databases.

- Application of these databases to cross-section production through the SURPAC mining software package.

January 1991 – November 1991

Fulltime, onsite employment at the Whistler mine site operated by Black Swan Ltd.

Duties:

- Sample preparation and digestion for gold content analysis in an aqua-regia laboratory.
- Survey hand for mine operations and exploration bore hole layout.
- Sampling for reverse circulation (RC) and rotary air blast (RAB) drilling rigs in both pit and exploration operations.
- Ore extraction monitoring in pit operations.
- Grade control analysis and ore body demarcation.

December 1985 – December 1990

Casual holiday employment as a geological field assistant for Clackline Pty Ltd.

Duties:

- Support for remote exploration reconnaissance in the Gascoyne and Murchison.
- Layout of exploration bore hole patterns.
- Sampling on RC, RAB and diamond drill rigs.
- Assisting in geological mapping.
- Core sawing and sampling on diamond drill rig cores.

Other Relevant Qualifications:

- C-Class drivers license (no fines or loss of demerit points)
- Driver safety training (Drive Wise 2000, Drive Safe 1999)
- 4 wheel drive training (Drive safe 1999)
- Occupational Safety and Health (Alcoa, 1999)
- Equal Employment and Opportunity (AgWEST, 2000)
- Occupational Safety and Health (AgWest 2001)
- Risk Management (AgWest 2001)
- Senior First Aid Certificate (September 1999)

Areas of GIS, Remote Sensing and Geostatistics Application and other Employment

Related activities:

- Automation of GIS processes through Python scripting;
- Network analysis;
- Creation of urban design metrics;
- Use of airborne geophysical data (gamma radiation and total magnetic intensity) in the classification of soil and geomorphological units;
- Use of satellite based multi-spectral data (Landsat TM) to examine vegetative vigor;
- Geostatistical analysis of ground based magnetic survey to identify geological features;
- Vegetation mapping and classification using ground based observations (large scale 1:5000);
- Application of GIS and geostatistical tools to classify regolith based on geochemical and grade control drilling data;
- Application of raster GIS in the parametric, topographic classification of landscape facets, such as valley floors;

- Implementation of field based data capture programs for soil and vegetation classification and mapping;
- Plant transpiration monitoring;
- Instillation and maintenance of meteorological monitoring equipment;
- Management of soil and bore hole geochemistry analyses in a range of formats for mineral exploration and open cut production operation.

Demonstrated Oral Presentation Abilities:

- Lecturing at a tertiary education level;
- Numerous professional presentations;
- Presentation at the State Landcare Conference in 2005 regarding the Young River Catchment Assessment Tool I developed as a means of integrating spatial analysis into farm decision making and providing a catchment management tool for agency staff to identify land use and co-ordinate funding responses.
- Speaker at Western Australian Municipal Association organised forum on graffiti clean-up with national and international attendees (November 2000);
- Provision of numerous verbal and multimedia presentations representing the South Coast Regional Information Centre in 2000 and 2001;
- Presentation of a two hour seminar on the application of GIS in soil science research to staff of the Department of Soil Science and Plant Nutrition (UWA) in 1999;
- Presentation of two lectures in Demographics while visiting the Tropical Environmental Sciences and Geography (TESAG) Dept. at James Cook University (Townsville);
- Seminars on the social background and spatial distribution of Graffiti to staff and students at the TESAG and Geography (UWA) departments in 1998;
- Presentation of nine one and half hour introduction to GIS tutorials to ten students at Saint Mary's Anglican Girls School in 1998.

Demonstrated Written Abilities:

- Participation in academic papers;
- Completion of reports for funding bodies;
- Participation in successful grants, both academic (NHMRC, GRDC) and land care (NHT);
- Participation in successful commercial tenders;
- Formulation of policy and strategic development documents;
- Completion of a substantial thesis as part of the requirements for graduation with BSc Honours (first class) in 1998;
- Assistance with statutory reporting to the Department of Minerals and Energy on behalf of Herald Resources Ltd;
- Numerous essays for completion of undergraduate studies in Geography.

Computer Operating Systems Used:

- Windows 7, XP, 2000, 98, NT4, 95, 3.1,

- Ubuntu 8 (Linux)
- IRIX (Silicon Graphics UNIX) 6
- SunOS 4 (Unix)
- SuSE 6.1 (Linux)
- Red Hat 7,6.2 (Linux).
- Mac OS

Database Applications:

- Microsoft SQL Server 2005, 2008
- Microsoft Access 2, 5, 95, 97, 2003, 2007, 2010
- File Maker Pro 5, 5.5
- Dbase 4
- Paradox.

GIS, Remote Sensing, Geostatistical, Mining and CAD Software Used:

- ArcGIS 9.0, 9.1, 9.2, 9.3, 9.3.1, 10.0, 10.1, 10.2 (numerous extensions)
- ArcSDE 9.0
- QGIS
- GRASS
- IDRISI Andes
- GeoMedia Professional
- Arc View 3.2, 3.1, 3.0, 2.1, 2.0 (including Spatial Analyst and 3D Analyst)
- ArcINFO 7.1.2 (including GRID, TIN extensions)
- MapINFO
- ERMapper 5.5, 6.1
- Geostatistical Library 2(GSLIB)
- Microstation 95
- Surfer
- Interdex
- Surpac.

Other Software:

- Proficient in the use of Microsoft Word and Excel;
- Numerous freeware and shareware applications.

Interests:

- Surfing;
- Cycling;
- Cricket
 - Secretary of the Tuart Hill Cricket Club, 2009-10;
 - Secretary of Coastal Warriors Cricket Club (Esperance) and Captain of B-grade side 2011-12 and 2012-13.

Referees:

Assistant Prof Bryan Boruff
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