

Geography in South Australia at the beginning of the 21st Century

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Abstract

Geography, initially an important subject in the curriculum of the three South Australian Universities, has sustained much change, with it no longer taught at the University of South Australia from 2004. Concurrently, changes at secondary school level lost popularity, dropping by 2004 to 12th position. This paper reviews the history of the geography discipline in tertiary institutions in Adelaide, South Australia and considers the factors that have influenced its evolution and popularity.

In the centenary year of University Geography in South Australia, Harvey and Forster (2004) commented on the state of Geography focusing on the changes in academic geography and the shift toward environmental studies and environmental management at the tertiary level. They noted that Geography was initially an important subject in the curriculum for all three South Australian universities but by 2004, it was no longer taught at the University of South Australia (UniSA) (Slaytor and Harris, 2004). At the other two South Australian universities, Adelaide and Flinders, the Geography discipline had become subsumed into larger interdisciplinary and administrative units. At the secondary school level Geography, which used to be in the top ten of matriculation subject choices, had lost much of its popularity by 2004 dropping to 12th position.

In the first two decades of the 21st century, there have been a number of significant factors likely to affect Geography teaching and research in South Australia. There has been a rapid increase in various forms of on-line delivery of curriculum content and use of social media along with changing student expectations of their interaction with lecturing staff. Other changes include a federal tightening of university funding and increased reporting requirements and greater accountability for the tertiary sector; the introduction of discipline focused national research performance tables; efforts to establish nationally agreed learning outcomes for undergraduate Geography majors; and

action toward developing a national school Geography curriculum. At the state level there have been institutional structural changes at both Adelaide and Flinders universities, and significant structural change to the secondary curriculum in South Australia. It is timely to examine the potential influence of these changes and assess their impact on tertiary level geographical research and teaching.

In order to analyze these influences, this paper examines data on national Geography research performance and key institutional university changes along with curriculum modifications which have impacted on the structure and teaching of the Geography program at both universities. This is supplemented by data on recent Geography enrolments at Adelaide and Flinders universities in order to compare changes in student preferences across different degree structures. The paper also provides data on the trends in matriculation Geography enrolments in South Australia and discusses the potential impact on the profile of the discipline in South Australia.

Recent national influences on academic Geography in South Australia

Since 2000, there have been national influences on Australian universities through reduced federal funding and requirements for greater accountability.

Funding changes have affected both teaching and research. There has been intense debate around enrollment caps and demand driven fee-setting which has differential impact on different disciplines, courses and degrees. Federal research funding mechanisms are continually changing along with increased accountability measures. The resultant need for universities to do more teaching with less funding and to continually subsidize research creates sharp differences between disciplines, probably to the disadvantage of integrative disciplines like Geography.

Research accountability and benchmarking

An important recent national change at the tertiary level was the new research accountability system introduced in 2009. This resulted in the Excellence in Research Australia (ERA) national assessments of 2010, 2012, and 2015 which compared research performance in every discipline across Australian universities, thus providing a research benchmark for the Geography discipline across Australia. At the state level this allows for a comparison of Geography research performance for all three South Australian universities of Adelaide, Flinders, and UniSA (Table 1).

It should be noted that the ERA disciplinary codes are not necessarily directly aligned with institutional disciplinary structures such as discipline focused departments or schools. Only two ERA codes have 'Geography' in their title, 'Physical Geography' (code 1406) and 'Human Geography' (code 1604). Demography (1603) has been included here as it has had significant research input from Geography

staff in South Australia. In Table 1, UniSA has not been included because it does not rate for any of the three Geography categories over the three ERA assessments and this is consistent with its loss of Geography staff and the fact that it no longer teaches Geography as a discipline (Slaytor and Harris, 2004). However, it should be pointed out that UniSA did have some staff with geography research training who may have contributed to its ERA result of 3 (rated as of 'world' standard) in the ERA code 'Urban and Regional Planning' (code 1205) in 2010, 2012, and 2015. Neither Flinders nor Adelaide was rated for this discipline code although Adelaide does conduct urban planning research under its architecture discipline.

As can be seen from Table 1, Flinders University is the only South Australian university with a Physical Geography ERA assessment although it was not ranked in 2010. In both 2012 and 2015, Flinders obtained an ERA score of 3 (world standard) for Physical Geography. It was ranked in a range of 8 to 14 out of 14 UoEs (units of evaluation) across Australia in 2012 and 14 to 16 out of 16 UoEs in 2015. (n.b.: all institutions within a given range have the same ERA score so the above example of a range of 8 to 14 means an institution may be ranked anywhere from 8th to 14th within that range.)

Human Geography is a research strength of both Adelaide and Flinders universities although in 2010 Adelaide was ranked lowest in the country (19 out of 19) getting a very poor ERA score of only 1 (well below world standard). In the same year Flinders achieved a score of 3 and was ranked in a range of 3 to 13 out of 19 UoEs. In the subsequent ERA assessment of 2012, Adelaide improved its ERA score to a 3 and was ranked in a range of 6 to 14 out of

Table 1. South Australian University Geography research results from the National ERA assessments for 2010, 2012 and 2015.

Discipline (code)	Physical Geography (0406)			Human Geography (1604)			Demography (1603)		
	2010	2012	2015	2010	2012	2015	2010	2012	2015
Uni of Adelaide	n/a	n/a	n/a	1	3	4	3	4	4
Flinders Uni	n/a	3	3	3	n/a	3	n/a	n/a	n/a
Total UoEs	13	14	16	19	14	15	5	2	2

14, whereas Flinders for some reason was not rated at all. In the most recent ERA assessment of 2015 Adelaide improved its score to a 4 (above world standard), which was ahead of Flinders' score of 3 for the same year. This most recent assessment ranks Adelaide in a range of 2 to 6 and Flinders in a range of 7 to 15 out of 15 UoEs across Australia.

Demography is a research strength only for Adelaide, which has consistently been ranked top in the country along with the Australian National University (ANU). In 2010, Adelaide gained an ERA score of 3 and was ranked in a range of 1 to 2 out of 5 UoEs in the country, a much smaller number of UoEs than for the other two Geography categories. Changes to ERA research thresholds for 2012 and 2015 reduced the number of Demography UoEs to only 2 across the country but in both years, Adelaide obtained a score of 4 (above world standard) and was ranked first equally with the ANU.

Thus, the national research benchmarking exercise shows that in South Australia, Flinders is the only university rated by ERA in Physical Geography and is considered to be of world standard. Flinders also has a world standard ERA score for Human Geography but in the most recent ERA assessment Adelaide was rated slightly higher with an above world standard score. Adelaide is the only South Australian University with an ERA research rating for Demography, which is above world standard.

National Geography curriculum and undergraduate learning outcomes

The development of a national curriculum for school Geography has potential to improve the visibility of the subject in South Australia where it has previously been taught as only one strand of the interdisciplinary Studies of Society and the Environment (SOSE). The Australian Curriculum Assessment and Reporting Authority (ACARA) after a process of consultation starting in 2009, published a national F-10 Geography curriculum in May 2013, followed by a national year 11 to 12 Geography curriculum published in August of the same year (ACARA, 2016).

At the tertiary level, the development of an Australian higher education quality assurance framework was underpinned by a national demonstration project to develop outcome-based graduate standards in selected disciplines including Geography. In 2010, the Australian Government commissioned the Australian Learning and Teaching Council (ALTC) to oversee this demonstration project, which focused on how threshold-learning outcomes for Australian Bachelors level

graduates majoring in Geography were determined (Hay, 2012). The learning and teaching academic standard (LTAS) statement for Geography was endorsed by key national geographical organizations but according to Hay (2012), the dissolution of the ALTC in 2011 did some damage to the goodwill and academic collaboration behind the development and broader adoption of the LTAS statement.

While neither the ACARA-developed national school Geography curriculum nor the ALTC-developed LTAS statement for Geography has a direct influence on tertiary Geography, the fact that these projects were both led by senior academics from Flinders University has probably given them a greater exposure and created a stronger indirect influence on tertiary Geography in South Australia.

South Australian institutional changes impacting on Geography

As noted by Slaytor and Harris (2004), structural changes at the University of South Australia resulted in the loss of Geography as a discipline some time ago. Geography still remains at both Adelaide and Flinders but increased financial pressure along with varying strategic initiatives at each institution has resulted in both structural organizational and staff changes, which have affected the Geography discipline in different ways.

The University of Adelaide

At the University of Adelaide, key structural and staffing changes affecting Geography teaching and research have been documented by Harvey (2012). The most important of these over the last two decades was in 2002 when the independent administrative organisational unit (AOU) of the Department of Geography became one of a number of organizational 'disciplines' within a broader AOU of the School of Social Sciences, where it remains today. This additional layer of administration has created some efficiencies of scale but has also imposed restraints on curriculum development, teaching, and research support. All responsibility for finance and staffing now rests with the Head of School rather than at the discipline level. In 2015, the University of Adelaide decided that all 'disciplines' would revert back to the name 'department' but the change was in name only and not associated with any increased financial responsibility or independence.

Between 2000 and the end of 2017 there has been a complete turnover of Geography academ-

ic staff. Of more importance are the changes that have occurred to the structure of the staffing profile. In 2015, the department lost all three professors for various reasons and as of late 2017 there is no full-time professor in the department. This has created an imbalance in the staff structure.

In addition, all three professors happened to be the directors of three separate university research centers (Centre for Coastal Research, Centre for Migration and Population Research, Centre for Housing and Urban Planning) creating a hiatus in research organization, capacity and potential output. The impact is likely to be greatest for the Centre for Migration and Population Research, which was almost entirely responsible for Adelaide's above world standard ERA rating for Demography. The center has been re-named to reflect the untimely death of its Director Professor Graeme Hugo in early 2015 but without Hugo it will be a major challenge for Adelaide to regain the top national status in demographic research. A new director for this center was appointed at the Associate Professor level but subsequently resigned in November 2017. A new Director Professor was appointed in 2017 for the Centre for Housing and Urban Planning, which is research active. The Centre for Coastal Research is in a slightly different situation because it was research collaboration between Adelaide, Flinders, and government researchers. In 2016, Flinders withdrew from the partnership leaving the center without a critical mass and it was subsequently discontinued.

The Department of Geography, Environment and Population has only six full-time staff at the end of 2017 and although it is affiliated with research center staff they are relatively independent of the department with limited teaching responsibilities apart from postgraduate supervision. Given university financial restraints and limited teaching support, the department is continually looking for efficiencies in managing its teaching and research load. Initiatives have included an increase in on-line teaching, innovative teaching such as 'flipped classrooms,' offering summer semester courses, and contributing to offshore programs.

Flinders University

At Flinders a major change for Geography as a discipline occurred in 2009/10 when the School of Geography, Population and Environment was transferred from the Faculty of Social and Behavioral Sciences to the Faculty of Science and Engineering. Subsequently, it was physically moved and absorbed into a broader School of Environ-

ment without the name 'Geography' in the title of the administrative unit.

Geography has not been very visible in the School of Environment which had 76 staff (including adjuncts) listed on its website in mid-2017 (Flinders University, 2017). Only three of these staff referred to Geography or geographical studies in their research interests so it was not clear from the website which staff were geographers. The interdisciplinary nature of the school has clearly blurred the distinction between some physical geographers and other disciplines such as geomorphology/geology and GIS.

In mid-2017, there was further structural reform at Flinders University creating six broad 'colleges' to replace the four faculties and the internal faculty structure of schools and departments. One consequence of this was that geographers became split across two colleges, the College of Science and Engineering and the College of Humanities, Arts and Social Sciences. The predominantly physical geography and GIS staff remained within the College of Science and Engineering where they are still listed under the interdisciplinary banner of 'Environment.' In contrast, the human geography and environmental management staff were transferred to the College of Humanities, Arts and Social Sciences where 'Geography' has been clearly identified as one of the disciplines.

Like Adelaide, there has been a major turnover in staff since 2000 but unlike Adelaide this was not all due to natural attrition. Two new professors were recruited, one in a management role and the other as a strategic research appointment. A number of geographical staff have left as part of a Flinders university redundancy program and staff-downsizing. A few more staff, comprising a group of housing and regional planning researchers including a research professor, moved to the University of Adelaide. Three or four geography staff have been at Flinders since 2000 but the general staff-turnover along with structural and curriculum changes initiated from above in 2009/10 by senior management appears to have created instability for the discipline.

Geography tertiary curriculum changes and enrolment patterns

In 2004, Harvey and Forster presented data showing the proportional breakdown of undergraduate Geography enrolments according to the degree programs in which students were enrolled (Table 2, left hand columns for each institution). Comparison data have

Table 2. Geography enrolments at Adelaide and Flinders universities 2004 compared with 2015 expressed as percentages of total undergraduate enrolments ('new degrees 2015' refers to degrees which had no Geography enrolments in 2004).

Adelaide	Adelaide 2004	Adelaide 2015	Flinders	Flinders 2004	Flinders 2015
B Env St & Hons ^a	24	25	B Env Man & Hons	37	3
BA & Hons ^b	23	28	BA & Hons	18	4
B Soc Sci & Hons	19	7.7	B App GIS	15	16
			B Soc Wk/Soc Plan	7	18
B Env Sc ^c	5	5.9	B Tech (Tourism)	4	0
B Int St	4	3.2	B Sc (Biod & Cons)	3	3
B Soc Sci/Health Sc	3	2.9	B Sc (Env Sc)	3	2
Exchange	3	0	B Ed	4	16
BA/B Sc	2	4	B Sc (Mar Biol)	2	1
B Health Sc	2	2	–	–	–
Other	15	6.6	Other	7	7
Total	100	–	Total	100	–
New degrees 2015			New degrees 2015		
B Dev St	–	12	B Sc	–	10
B Psych	–	2.7	B Env	–	12
			B Eng	–	5
			B Arch	–	3
Total	–	100	Total	–	100

^aIncludes B Env Pol & Man; ^bIncludes BA/B Teach; ^cIncludes B Sc.

been collated for 2015 for both institutions and where possible lined up against the equivalent degree programs that existed in 2004. In some cases, this has not been possible as degree programs have either been discontinued or new programs have been introduced.

Table 2 shows that there has been far less change at Adelaide than Flinders over this 11-year period. At Adelaide, the most popular degree programs for Geography students are still the B Env St and the BA, followed closely by the B Soc Sci. Collectively these represent 66% of Adelaide's Geography enrolments in 2004 and 60.7% in 2015. The most noticeable shift in degree options is the 12% of Geography students who enrolled in the B Dev St degree at Adelaide in 2015.

At Flinders University there have been some significant changes in enrolment patterns. In 2004, the

most popular degree programs were similar to Adelaide with 56% of students enrolled collectively in the B Env Man and the BA degrees. In 2015, there has been a major drop in the proportion of Geography enrolments in the B Env Man degree from 37% in 2004 down to 3% in 2015 and even if enrolments in the new B Env degree are added this only gives a total of 15% (i.e., still less than half the proportion of the 2004 enrolments). The BA enrolments have dropped from 18 to 4%, presumably reflecting the movement of Geography to the Science and Engineering Faculty. The B App GIS appears to be the only degree program, which has retained a similar enrolment pattern from 2004 to 2015.

At Flinders, there have been significant increases from 2004 to 2015 in enrolments for the B Soc Wk/Soc Plan and B Ed degree programs (11 and 12%, respectively). There has been a 10% uptake by

the B Sc program in addition to the 3 specialized B Sc programs, which have enrolments in both 2004 and 2015. The B Eng degree has also attracted 5% of Geography enrolments presumably because Geography and Engineering have been in the same faculty. It is also worth noting that Flinders in 2017 introduced a new Geography specialization into the B Sc degree.

Declining Geography matriculations from South Australian high schools

As noted by Harvey and Forster (2004), matriculation Geography is not a prerequisite for entry to First year Geography at either Adelaide or Flinders, but the relative importance of Geography as a subject at high school is likely to influence subject choices for university enrolments. Prior to 2004 there had been a declining trend in the numbers of students matriculating with Geography as one of their subjects. Enrolments dropped by 40% between 1984 and 2004 (Harvey and Forster, 2004). As shown in Figure 1, this declining trend has continued reaching a low in 2011.

The numbers of matriculating Geography students have dropped from its peak of 2,380 at the start of the 21st century to 343 in 2011 and most recently in 2015 to 481. At the secondary level, the South Australian Certificate of Education (SACE) introduced structural curriculum changes in 2011, which had a signifi-

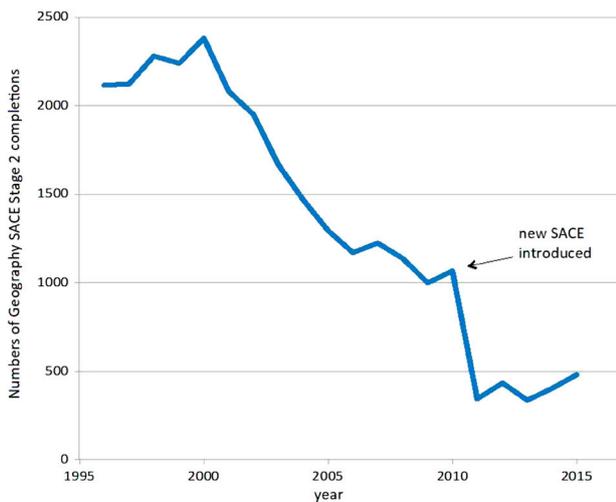


Figure 1: Numbers of students matriculating with Geography as a subject or completing SACE Stage 2 in Geography over the 20-year period, i.e., from 1996 to 2015.

cant effect (see Fig. 1) on the numbers of students matriculating with a Geography subject. Geography has had the greatest percentage drop in enrolments of any matriculation subject. Geography numbers dropped 64% from 2010 to 2011 (1,066 to 384) and the number of schools offering the subject dropped from 75 to 34.

While there is no established correlation between the numbers of matriculating geography students and tertiary Geography enrolments the reduced popularity and visibility of the subject at high school is less likely to whet the appetite of first year university students to enroll in a geography subject. With increased competition in university subject choices, Geography needs to have a status and modern relevance in order to appeal to new students. It appears there is no research from previous years to identify how many first year Geography students at Adelaide or Flinders have completed matriculation Geography and if so whether it has a positive or negative effect on enrollment choices. A preliminary investigation of the first year Geography enrolments at the University of Adelaide at the start of 2017 reveals that 18.96% of this student cohort completed Geography as a matriculation subject.

Discussion: Geography in the future

It is clear that in the last few decades, Geography has become less prominent as an academic discipline both in South Australia schools and universities. The impact of the decline in matriculating geography students on tertiary geography is uncertain due to a lack of data, which could identify any causal linkages. This could be rectified by an analysis of enrollment data at either or both Adelaide and Flinders universities, possibly supplemented by surveys of First Year Geography students to determine their reasons for studying Geography. Data from this paper demonstrate that less than 20% of First Year Geography students at Adelaide in 2017 have also completed Geography as a matriculation subject. It is likely, however, that Geography at the school level will gradually become more visible following the recent introduction of the national Geography curriculum.

At the tertiary level, Geography has disappeared from the University of South Australia. At the University of Adelaide there is active teaching and research focused around the Department of Geography, Environment and Population and its affiliated research centers. At Flinders, there is active geographical teaching and research. Geography as a discipline has limited visibility in the College of Science and Engi-

neering but has now become a defined discipline in the College of Humanities, Arts and Social Sciences from mid-2017. Analysis of Geography enrollment patterns from 2004 to 2015 reveals very little change in the proportional breakdown of student's degree preferences at Adelaide but some significant changes at Flinders.

Flinders geographers were not only transferred into the School of the Environment but had a new degree (B Env) imposed on them from senior management. It is not apparent that any market analysis was done before this degree was introduced. Subsequently, the degree has not proved popular and is being discontinued. It is noticeable that Flinders has increased its Geography enrolments in the B Ed and Science degrees between 2004 and 2015. It is possible that the introduction of the new Geography curriculum for schools has stimulated the increased enrollment in the B Ed.

The increased science enrollment at Flinders is in part probably related to the location of Geography in a science and engineering faculty up to mid-2017 and the fact that Flinders (unlike Adelaide) has a strong research presence in Physical Geography. It appears that Flinders geographers were planning to capitalize on this by introducing Geography as a specialization in the B Sc degree from 2017 in addition to the existing Geography and Environment Studies major in the BA degree. The effects of these initiatives may now be lost within the new university re-structuring exercise in 2017 and subsequent plans for revised teaching themes, and presumably a renewal of degree specializations, which will be driven from within the new colleges.

What is interesting at Flinders is the relative stability of Geography enrolments in the B Applied GIS in contrast with Adelaide where there is no 'stand-alone' GIS degree although two undergraduate elective GIS subjects are still taught by Geography staff. This is perhaps surprising given that Adelaide had a Key Center in GIS (see Hugo, 2004) for some years and ran postgraduate GIS certificate and diploma courses plus contributing to undergraduate GIS teaching.

It is important to note that the issue of declining visibility for Geography is not confined to South Australia. The National Committee for Geographical Sciences has recently conducted a survey of Geography and geographers across all Australian universities with the aim of preparing a report explaining the contributions that Geography can make to Australia in general.

In terms of research, Human Geography is likely to maintain its ERA status above world standard at Adelaide although Demography may struggle to produce sufficient output in order to maintain its ERA research strength standing. Flinders is the only South Australian University, which has a world standard research strength in both Human and Physical Geography. This combined research strength in any other university might increase the visibility of Geography as a unified discipline spanning the social and physical sciences. Ironically, at Flinders the Physical Geography research strength probably made the discipline more attractive for a 'take-over' bid by the physical sciences resulting in the dislocation of the human geographers from the social sciences faculty in 2009/10. It appears that this dislocation has been problematic as evidenced by the re-location of half of the geographers back to the social sciences in 2017, effectively splitting the discipline into two strands. It is difficult to predict how these major structural changes will impact on Geography as a discipline at Flinders University.

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