

Celebrating 60 years of Soil Research: the evolution of an international journal

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Soil Research celebrates its 60th anniversary of publication this year (2022). The first volume of *Soil Research* (formerly the *Australian Journal of Soil Research*) was published in 1963, and since then the journal has grown to become a major organ of fundamental and applied soil science internationally. In 2001, a synopsis of the first 40 years of the journal was penned by Dr Brent Clothier and Jenny Fegent. At that time, they occupied the roles of Chair of the Editorial Advisory Committee and Managing Editor of the *Australian Journal of Soil Research*, respectively (Clothier and Fegent 2001). Since then, there have been some major changes in the structure of the journal. First in 2010, *Australian Journal of Soil Research* transitioned to an editorial model in which an Editor-In-Chief was appointed from the research community. The change was undertaken to embed the journal more deeply in the soil science community. Winthrop Professor Robert (Bob) Gilkes from the University of Western Australia was appointed as the first Editor-In-Chief in 2010 and he oversaw this important transition in the journal until his retirement in 2014. Second in 2011, a long-standing proposal was implemented, with the journal name changed from *Australian Journal of Soil Research* to *Soil Research*. The change in the journal's name was to better reflect the international outlook of the journal. These changes have improved the journal profile and have truly made *Soil Research* an international journal.

In 2014 the next step in the evolution of the journal occurred, with a view to embedding the international perspective of the journal, with the appointment of joint Editors-In-Chief, one Australian based and one international. Professors Balwant Singh (University of Sydney) and Mark Tibbett (University of Reading) took on the joint Editor-In-Chief roles with a remit to raise the scope and quality of papers, as well as continue to improve the international standing of the journal. At the commencement of the journal in 1963, only two issues of the journal were published annually, and all papers were from Australia. Since 2002, eight issues of the journal are produced each year with a worldwide authorship. The journal has grown in international stature significantly, with 16 countries represented on the editorial board in 2022. We have taken steps to make the editorial board diverse in composition in terms of career level and geography. We are currently focused on improving the gender balance and indigenous representation on the editorial board.

As the journal has evolved, the regional balance of authors has changed markedly. In 2007, 71% of the published papers were from Australia and New Zealand, about 9% each from the Americas (North and South), Europe and Asia, and about 2% from the rest of the world. In contrast in 2020, 33% of the published papers were from Australia and New Zealand, 19% from the Americas (North and South), 9% from Europe, 34% from Asia, and about 5% from the rest of the world. The trend of a much larger number of papers from Asia is consistent with the increasing number of publications coming from that continent, particularly from China. In 2019, we introduced a prize for the best student-authored paper published in the journal, which has become popular among high degree research students, and we are receiving several nominations each year for this award. The journal continues to maintain and foster relationships and long-standing associations with Soil Science Australia, New Zealand Society of Soil Science, and Ag Institute Australia, with discounted access to the journal for members, supporting conferences and award activities. The journal is a cooperating journal with the International Union of Soil Sciences (IUSS).

Special issues of the journal have been excellent in examining nascent areas of soil science. Since 2000, the journal has published 20 special issues, which were well

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received and highly cited. The 'Biochar' special issue, comprising selected papers from the 1st Asia-Pacific Biochar Conference held in 2009 on the Gold Coast, Australia was a phenomenal success with the 16 papers published in the issue exceeding 3200 citations. This achievement demonstrates the importance of identifying a novel topic, and scrutinising and selecting high quality papers when commissioning a special issue. Recent titles such as 'Nitrous oxides in soils', 'Linking soil structure to soil functions', 'Soil organic matter in a stressed world', and 'No-till farming: prospects, challenges – productivity, soil health, and ecosystem services' show the diversity and topicality of some of the latest special issues (see <https://www.publish.csiro.au/sr/content/specialissues>).

Over its 60-year history *Soil Research* has published seminal papers in soil science and has a number of 'classics' that are very highly cited. The most notable of these include a ground-breaking paper on the 'Aggregate hierarchy in soils' by Malcolm Oades and AG Waters (Oades and Waters 1991) along with a number of papers on chemistry (Sumner 1993; Gillman and Sumpter 1986), physics (Lee and Foster 1991; Rengasamy and Olsson 1991), biology (Eldridge and Greene 1994; Sparling 1992), carbon (Golchin *et al.* 1994; Skjemstad *et al.* 1996), phosphorus (Holford 1997; Guppy *et al.* 2005) and biochars (Chan *et al.* 2007; Joseph *et al.* 2010; Singh *et al.* 2010) among others. In continuing this tradition, the journal has secured articles that are rapidly impactful and likely to be recognised as future influential works in the long term. Over the last five years, high quality topical review papers on diverse subjects have been published, including modern themes of sustainable land rehabilitation (Di Carlo *et al.* 2019) and soil biodiversity (Chen *et al.* 2020) along with journal mainstays such as soil chemical extractants (Rennert 2019). *Soil Research* has also published some fascinating data papers in recent years such as those dealing with climate change and carbon accounting (Gong *et al.* 2020; Badgery *et al.* 2021), no-till farming (de Lima *et al.* 2020), and pathways of soil organic carbon stabilisation dynamics (Ndzelu *et al.* 2020).

Presently, the journal is doing well by most measures. However, there are significant challenges as we celebrate the success of 60 years of the journal. With increasing emphasis on the adage 'publish or perish' at higher education and research institutions, the rate of publication has increased significantly in the last few decades. Career advancement, standing among peers, or just the pleasure of seeing one's research in print have contributed to a surge in scientific publications. Consequently, the number of journals and publishers have multiplied in the last few decades. Most publishing companies have started publishing new 'Open Access' (OA) models which has spawned the new phenomenon of predatory OA journals based on financial gain rather than scientific originality and merit. Predatory journals have severely compromised the peer review process and scientific scholarship. CSIRO Publishing has

taken a very different approach and takes pride in fair, ethical and rapid (but not over-pressurised) editorial practice, rigorous peer-review, excellent and personable author services along with top quality production. For *Soil Research* significant steps to accelerate progress towards OA have been taken with the recent introduction of new Read and Publish agreements with many institutions, particularly in Australia and New Zealand. Under these agreements, authors can publish articles as OA in *Soil Research* at no cost to the authors, provided they are the corresponding author from an eligible institution (see <https://www.publish.csiro.au/journals/openaccess/ReadandPublish>). Open Access helps authors reach the broadest audience for their work and facilitates unrestricted access to scholarly research.

Many people have been involved in making the journal successful over the last six decades. This is an opportunity to thank all past and present members of the editorial board of *Soil Research* and numerous referees, who have generously given their valuable time to review manuscripts for the journal. The need to recruit high-quality reviewers and the difficulty in doing so is a serious challenge for all editors. Behind the scenes are people from CSIRO Publishing who provide vital administrative support, particularly Alice Hall (Journal Publisher), Philippa Tolmie, Emma Proudlock and Virginia Streit. We would not be able to produce such a high-quality journal without them. The journal is only in such a strong position because of the vision and dedication of the editorial team and support staff.

The journal will continue to evolve, with a focus on novel and exceptional work of international interest in all aspects of soil science.

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Conflicts of interest. The authors are joint Editors-In-Chief of *Soil Research* and have no other conflicts of interest to declare.

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