



‘Three raindrops and some dust’: combining archival and GIS analysis to map the spatial distribution of the impact of the Federation Drought of 1895–1903 in rural New South Wales



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ABSTRACT

Stories abound about the devastating effects of Australia's Federation Drought during the early years of the twentieth century. The aim of this paper is to enhance understanding of what is widely regarded as one of the worst droughts on record in Australia by analysing its differentiated spatial impacts across rural New South Wales (NSW). Newspaper articles from the period are first used to provide a spatial disaggregation that suggests varying impacts of the drought by region. In many instances these articles also present a more human narrative of the challenges for those on the land. The paper then investigates the spatial differences further using archival and quantitative methods. First, county-level data on wheat production from the NSW Statistical Register have been assembled. These data facilitated the assessment of the spatial impact of the drought by generating a drought index for each of the forty-three counties, from which a contour map has been produced. Second, statistical information has been collected from the Annual Reports of the NSW Railway Commissioners which recorded wheat cargoes across the state's inland regional rail network. This in turn enabled assessment of the spatial impact of the drought by means of a second contour map based on ninety-one railway stations. In combination, these methods provide a richer picture, and a more detailed and precise understanding of the uneven geography of the Federation Drought of 1895–1903.

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It is without doubt that the Federation Drought in the eastern half of Australia between 1895 and 1903 had a dramatic effect on agricultural production.¹ In 1902, total output of wheat from the New South Wales (NSW) wheat-sheep belt fell to only eleven per cent of the average for 1899–1904. While studies of the drought have shown the major economic and social dislocation it caused, little work has been directed towards assessing the spatial differences in its impact.² At the time, the major agricultural zones of

NSW had been shifting westwards, and it needs to be considered whether the Federation Drought disrupted this movement.

Wheat production in the colony of NSW had first been established on the alluvial lowlands around and to the north of Sydney. In 1861 this area still produced more than fifty-two per cent of the total NSW crop.³ Even then the difficulties of grain production in the coastal lowlands were well recognised. The climate was too wet and flooding regularly destroyed crops.⁴ Over the following two decades, the westward movement of wheat production was directed to concentrated areas of the southern, central and northern Tablelands, particularly around Goulburn, Bathurst and Armidale (see Fig. 1). This helped to supply the markets of the local community and the rapidly expanding inland population. There

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¹ D. Garden, *Droughts, Floods and Cyclones*, North Melbourne, 2009, chapter 7. The Federation Drought derived its title from the coinciding of long consecutive dry years, beginning in 1895 and ending in 1903, with the formative and early years of nationhood, in which the six British colonies became the Commonwealth of Australia and Federated States on 1 January 1901.

² D.C. Verdon-Kidd and A.S. Kiem, Nature and causes of protracted droughts in southeast Australia: comparison between the Federation, WWII, and Big Dry droughts, *Geophysical Research Letters* 36 (2009) 22.

³ M.E. Robinson, *The New South Wales Wheat Frontier, 1851 to 1911*, Canberra, 1976, 99.

⁴ J. Atkinson, An account of the state of agriculture and grazing in New South Wales, in: Robinson, *The New South Wales Wheat Frontier*, 3.



Fig. 1. Key locations in the NSW wheat-sheep belt.

was, however, no recognisable belt of wheat production. This did not arrive until the final two decades of the nineteenth century as production moved further westwards to the slopes and plains of NSW, covering the areas from Finley to Culcairn in the south, Condobolin to Cowra in the centre, and Coonamble to Tamworth in the north. These regions were in general more suited to wheat production because of warmer winter temperatures and more fertile soils. The enabling factors for this shift were the expanded rail network, closer settlement encouraged by various government policies, and the introduction of share farming, especially in the southern half of the state.⁵ It is within this pattern of migrating agricultural zones and a newly established wheat-sheep belt that the spatial impact of the Federation Drought needs to be assessed.

There was a changing cultural context that also needs due recognition. A long held belief from the times of first migration

beyond the coastal fringe was that rural areas could be populated to be 'a green, well watered land of farms and villages', and that 'making "bush" into "countryside" was what colonial Australians often aspired to do'.⁶ Moreover, at the end of the nineteenth century the idea had become prevalent that the dry environment was to be conquered by hard work and perseverance.⁷ Analogous views were held at the time about the Great Plains in the United States.⁸ Irrigation formed an important component of the rural planning rhetoric during the formative years of the Commonwealth of Australia. A significant part of this in NSW was the Wyangala Dam

⁵ G. Davison, Country life: the rise and decline of an Australian ideal, in: G. Davison and M. Brodie (Eds), *Struggle Country: The Rural Ideal in Twentieth-Century Australia*, Melbourne, 2005, 1–15.

⁶ M. Cathcart, *Water Dreamers: The Remarkable History of our Dry Continent*, Melbourne, 2010.

⁷ G. Cunfer, *On the Great Plains: Agriculture and Environment*, College Station, TX, 2005.

⁸ Robinson, *The New South Wales Wheat Frontier*, chapters 4 and 5.

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