Kathryn Evans

Drought, fires and flood were experienced by settlers in Van Diemen's Land from the very beginnings of European settlement. The variability of the island's climate was foreign to many British settlers and resulted in the need to adapt and innovate in establishing both towns and farms. Even though four seasons approximating to the summer, winter, autumn and spring of the northern hemisphere were discernible, the weather was often highly variable from one year to the next. Periods characterised by oppressive heat, drought and bushfires could quickly be replaced by flooding rains and punishing cold. The uncertainty of rainfall, in particular, could make life extremely difficult. As settlement spread across the island regional climatic variation also became apparent.

The population of Van Diemen's Land increased dramatically from 5,500 people in 1820 to 69,598 (including 20,069 convicts) in 1851. A good deal of this increase was due to the arrival of free immigrants lured by promises of abundant cheap land, the success of the wool industry and access to convict labour. The introduction of merino sheep in 1820 offered the opportunity to develop an export industry to supply the burgeoning woollen mills of England. Encouraged by both the home and the colonial governments, wool would go on to become the mainstay of the colony's economy. Prior to this, livestock had been kept predominantly for meat and hides for the domestic market. The success of the wool industry in the 1820s and 1830s saw vast areas of the island being taken up for sheep pasturage and, eventually, permanent settlement. By the 1830s much of the grassland and open woodlands around the main centres of Hobart and Launceston, through the Midlands, in the Derwent and Clyde River valleys, the Richmond and Sorell districts and along the east coast had been granted for pastoral and agricultural use. Settlement was also pushing apace to the westward from Launceston in the north.

Emigrant guides, such as that published in 1823 by Godwin, included glowing reports of the climate and the bounty of pastureland available and played an important role in attracting people to the island.

Whatever may be the extent of emigration, there will for ages to come be more land than can possibly be required; and although the breeder may not possess as much land of his own as he may require for his flocks, if he is a large stock-holder, still the Wilderness is so immense, that he has only to desire his shepherds to remove the hurdles to the Common, beyond the Farmers' boundaries, and he will have pasturage in abundance.

Charles Jeffrey's guide to Van Diemen's Land, published in 1820, included an idyllic account of the island's climate:

There are in that island, no extremes of heat or cold, of wet or dry; as the ground is never inundated by the rains of heaven, so it is never deprived of its verdure

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4 Godwin, Godwin’s emigrant guide to Van Diemen’s Land, more properly called Tasmania; containing a description of its climate, soil and productions ..., Sherwood, Jones and Co., London, 1823, p. 27.
through drought. Sometimes the minor rivers will overflow their banks, and lay the surrounding plains under water, for a short time; but these inundations ... are a benefit and not a detriment to the soil ... Neither is the land ever rendered unfruitful by excessive drought; at all times the seasons are regular, the crops certain, and the climate salubrious. 5

However, the reality was often starkly different. Drought routinely caused pastures and crops to wither and watercourses to dry up. Floods and bushfires had the potential to damage crops, buildings and fences, to kill vulnerable livestock and to interrupt transport networks. This paper examines the responses of European settlers on the pastoral frontier to the often unexpected incidents of drought, fire and flood between 1820 and 1855.

Drought

Drought impacted on the pastoral industry from its very inception. When the ship Eliza docked in Hobart on 27 March 1820 with the first load of merino rams for the settlement, Governor Sorell reported that, 'The Pasture here was so much dried ... that the Rams did not quickly regain their condition'. 6 The drought was widespread and caused pastures to suffer and crops to fail. Livestock were in such poor condition that they were not considered fit for slaughter. 7

In the following decades such droughts continued to periodically cause difficulties for all farming pursuits. Diary entries by the Reverend Robert Knopwood demonstrate their crippling impacts:

In December 1824:

We never wanted the rain so much; truly speaking, the earth quite dried up. The crops for want of rain, in very great measure destroyd [sic]; and the potatoes, the early sown crops, the weat [sic], the oats and barley destroyd [sic] for want of rain. 8

In May 1837:

Rain very greatly wanted; the ploughing cannot go on for want of rain. The poor cattle in a dreadful state for want of food. No grass, all dried up - no feed for them. 9

Many new settlers on the pastoral frontiers had arrived in the colony unprepared for the ravages of drought. The years from 1823 to 1825 were particularly dry, with settlers in the Clyde River Valley (including those at Ouse and Hamilton) being amongst the hardest hit. 10 This area falls within a rain shadow belt that stretches from the Kempton and Hamilton districts in the south through the Midlands to Ross and Campbell Town in the north. Captain Patrick Wood of Dennistoun, who arrived in the colony in 1822 and settled in the Clyde River Valley resorted to taking an additional grant of land, leasing land and giving his sheep out on the thirds 11, but was still found wanting. In October 1823, when he wrote to the Governor of New South Wales, Sir Thomas Brisbane, applying for an additional assigned servant, he lamented:

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6 HRA III III, p. 5; Hobart Town Gazette, 20 October 1821, p. 2.
8 Diary entry, 1 May 1837. Nicholls, p. 663.
9 See Nicholls, p. 436, 438; HRA III IV, pp. 293, 527.
10 Morgan, p. 60. The thirds system involved a landowner taking stock from other farmers, and keeping one third of the profit. Idem, p. 118.
Captain Wood brought some temporary relief for his stock by being amongst the first in the colony to make use of the highlands of the Central Plateau for summer grazing. Occupation licences had been introduced prior to 1820 to provide landholders with temporary access to such remote, seasonal areas of pasture when needed. By the mid-1830s the use of highland grazing during the dry summer months was firmly entrenched. The Hobart Town Courier reported in January 1836:

The mode now generally adopted by sheep owners in Van Diemen's Land of grazing on the home farms during the winter and taking flocks to the higher regions about the lakes in summer is one of the best that could have been devised. Both pastures enjoy a refreshing annual repose, the grass being eaten down and manured by the sheep, thickens and revives during the alternate fallow.

The seasonal movement of stock (known as 'transhumance'), use of crown land for grazing, acquisition of additional grants and leases, and the 'third's system' were thus all methods used by early pastoralists to ensure adequate feed for their rapidly growing flocks, particularly in times of drought. Grants and stock runs with river frontage were particularly sought after. Whilst marshy or swampy land was generally considered inferior, in times of drought it was often used as a refuge to feed and water animals when the surrounding grasslands had dried up.

Some wealthy graziers acquired vast acreages. In 1826 the Land Commissioners reported that Edward Lord had amassed 30,000 acres, which they described as being 'nothing but Stock runs, occupied by ruffians of Stock keepers under no control, galloping after wild Cattle in every direction'. The Land Commissioners commented on the practice of some settlers of acquiring access to land in devious ways.

...when a Man obtains an additional Grant, he ought to be delighted to be allowed one would imagine, to take it adjoining his former grant, if for no other purpose, than to have his farm compact and easily fenced, but that has not been the policy here. One Grant here, another there, gives the Possessor a right of all the intermediate space, in fact, cutting and carving all the good Spots, renders the remainder totally unfit for any other person...

An abundance of cheap land was also required for agricultural pursuits in the early years of the colony. Agricultural production tended to be carried out by small-scale farmers.
(many of whom were former convicts on relatively small grants of 30 to 100 acres) or as a sideline to pastoral pursuits by wealthier landowners. As in the Americas, where there was an abundance of cheap land, an ‘extensive’ system of farming was adopted as the most practical and economical. Under this system, crops were grown continuously until soil exhaustion forced the turning over of new land for cultivation. The original cropped land was then returned to ‘bush fallow’. This practice was often viewed as ‘slovenly’ by European commentators.

Drought encouraged exploration of the unsettled regions of the island. Although some surveys were carried out on behalf of the Government, it was generally the stock-keepers and their herds that pushed the boundaries of settlement into new areas. They penetrated the bush and grasslands of the interior before official surveys, grants or leases were organised. Fencing was relatively unknown in these early years and sheep and cattle were largely left to graze and roam freely. The prolonged drought of the early 1820s led to the frontiers of settlement being pushed westward from Launceston. By October 1824 at least two herds of cattle and one flock of sheep were recorded as being pastured west of Meander. By 1827 all the major plains to the westward were occupied by grazing stock.

The quest for fresh pastures and permanent water supplies during drought pushed the margins of European settlement forward at a great rate, causing conflict with the Aboriginal inhabitants. As Europeans acquired land in the open plains and along river frontages, Aborigines were driven into marginal forest, mountain or swampland. Seasonal migration patterns were disrupted and food sources and fresh water became difficult to obtain at times. Conflict intensified and, with hostilities escalating by the end of 1826, the military were called in to help protect settler interests from Aboriginal attacks. Then in 1830 the infamous ‘Black Line’ was formed to capture and remove Aborigines from the settled districts. In addition to this military response George Augustus Robinson was sent on a conciliatory mission in March 1829 to befriend and round up the remaining Aborigines, who by the mid-1830s had been removed to the Bass Strait islands.

By 1835 Van Diemen’s Land’s population had reached over 40,000; there were 750,000 sheep in the colony and an astonishing 1.6 million acres had been granted or sold since 1824. Most of the easily accessible grasslands and open woodlands, fashioned by a long history of Aboriginal burning in the interior of the island and along the east coast, had been converted to sheep pastures and farms. Land had also been taken up in the north west of the island. The Van Diemen’s Land Company, formed in May 1824 by a group of British businessmen interested in pursuing the fine-wool industry in Tasmania, had established large pastoral holdings in the island’s extreme northwest by the late 1820s. By the early 1830s settlement of the Mersey and Forth river valleys was also well underway. Whilst in the earlier years of the colony stock could be left to wander at will and an abundance of new pasture had made the effects of droughts less obvious, by the mid-1830s the population increase and closer settlement had made enclosed runs necessary. Fenced pastures soon became overgrazed and susceptible to the

21 Raby, pp. 40–56.
22 Raby, pp. 40–56.
25 Cubit, pp. 9–11.
27 For a more detailed history of these events see R Huyse, The Aboriginal Tasmanians, 2nd edition, Allen and Unwin, St Leonards, NSW, 1996.
28 Statistical returns of Tasmania from 1824 to 1855.
29 W Livesey, From the Great North Land...: Letters to the London press on the settlement of eastern Australia, Allen and Unwin, North Sydney, 1900.
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21 Raby, pp. 40-56.
24 Cubit, pp. 9-11.
26 For a more detailed history of these events see L. Ryan, The Aboriginal Tasmanians, 2nd edition, Allen and Unwin, St Leonards, N.S.W. 1996.
27 For a list of land grants from 1824 to 1835.
in a prolonged and damaging drought, which ran from the summer of 1832–33 to the autumn of 1836, a number of graziers began turning their attentions to the plains of the Port Phillip District across Bass Strait. Edward Henty arrived at Portland Bay with supplies and stock late in 1834. John Batman and Joseph Gellibrand, together with John Helder Wedge and Charles Swanston, formed the Port Phillip Association in 1835. According to Esteal, it was not so much the increased cost of land after 1832 that led to the emigration of Tasmanian pastoralists to Port Phillip (as has often been suggested), but rather the fact that all available land for extensive occupation had been taken up. The vast, new pastures of Port Phillip certainly must have looked an attractive proposition in 1835, a time when the pastures in Van Diemen’s Land were languishing due to the combined effects of overstocking and drought. During the summer of 1835–36 the Association sent nearly 10,000 sheep across Bass Strait to Port Phillip. Others soon followed.

A protracted and severe drought, which began in the summer of 1838–39 and lasted through to the winter of 1842, combined with the economic downturn of the early 1840s, accelerated consolidation in the pastoral and agricultural industries on the island. Smaller farms were increasingly bought up during these difficult times. The owners of the larger properties were cushioned against the impacts of drought and depression, as they usually had a diversity of interests such as whaling, sealing, banking, industry or shipping. By this time, many had amassed substantial wealth and power in the colony.

By the 1840s the coincidence of drought and a lack of fresh pasture led to the need to adopt more ‘intensive’ farming methods, such as irrigation, crop rotation and the use of manures, in order to increase the yield of existing acreages. A few property owners had tried irrigating during the droughts of the early 1820s, but it was not until the 1840s that the use of irrigation became more widespread. In February 1825 William Gellibrand of South Arm wrote a letter to the editor of the Hobart Town Gazette outlining how he had dug six ponds on his property, tapping into underground water sources and providing a ‘full supply’ for his sheep and cattle. Governor Arthur was also one of the first to experiment with irrigation. By 1826 he had drained part of the swampland on his farm at Granton fronting the River Derwent, and constructed an extensive earth-rock dam wall nearly two miles long. By way of sluice gates he could control the flow of water onto his land. During the drought of 1830 to 1832 a number of settlers began constructing artificial ponds and irrigation channels. Although newspapers ran articles on the sinking of artesian wells for bore water, this method was largely ignored, most likely due to the capital expenditure required.

Despite these early attempts, it would not be until the prolonged drought of 1838 to 1842 that the use of irrigation became more widespread. This particular drought had severe and lasting impacts. In February 1839, Campbell Town farmer CH Leake recorded in his diary that his waterholes had dried up: any grass that was left had turned

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32 See Nicholls, pp. 621, 623, 640; Cornwall Chronicle, 22 August 1835, p. 2 (refers to drought of last three years).
33 After 1831 the Ripon Land Regulations were in force replacing the grant system with land sales by auction. Esteal, p. 282.
35 Esteal, p. 284; Cornwall Chronicle, 1 December 1838; 20 February 1841; 2 April 1842; HTC, 16 April 1841.
36 Morgan, p. 36.
37 HTC, 11 February 1825, p. 3.
39 HTC, 21 April 1832; 20 July 1832; 29 May 1835.
white and sheep were 'falling off very fast'. The Clyde River district was also suffering. In November William Russell of the Clyde Company wrote to his brother George at Port Phillip, complaining that at Bothwell 'the pastures are quite brown and bare, and the crops are suffering very much'. The Lake country, used by the Company for summer grazing, was similarly dry. At Circular Head in the far north-west the Van Diemen's Land Company referred to the drought as 'extraordinary' and 'unprecedented'. The VDL Company's stock had suffered severely, and sheep had to be sheared without first being washed. With the drought continuing into the early 1840s, the traditional response of seeking out more land was no longer viable as a solution to the twin 'evils' of drought and overstocking.

During this period a number of private irrigation schemes were constructed. Examples include those on the properties of Redlands and Glenleith at Plenty in the Derwent Valley, Lawrenny near Ouse, Ratho, Norwood and Hunterston near Bothwell, Cheshunt near Deloraine, Kingston near Ben Lomond in the north, and Wetmore and Somercotes near Ross. During the early 1840s convict labour was also used to build large reservoirs for irrigation purposes at the agricultural probation station at Victoria Valley. Perhaps the most impressive irrigation work was the private scheme of William Kermode at Mona Vale near Ross. In 1840 he drained and embanked a swamp of 500 acres on his property, then constructed a dam and reservoir on the Blackman River adjoining it. Sluice gates were used to control water flow. The former swamp was described by Colonel Mundy as:

... laid down in English grasses, divided by English quick hedges into convenient enclosures, along each of which are water-ducts with dam gates, whereby he is enabled to throw the whole or part under water in the driest season.

William Kermode was also instrumental in the construction of Tasmania's first major public irrigation scheme at Toombs Marsh. He and several other landowners in the district joined forces in April 1840 to petition the Government to reserve a piece of land at Toombs Marsh for the purpose of building a dam as part of an irrigation scheme. They enlisted the professional advice of Captain Arthur Cotton, an irrigation engineer with considerable experience in India. Cotton had arrived in the colony in 1838 and was an outspoken advocate of irrigation. The success of the Toombs Marsh scheme created a more widespread interest throughout the colony in the value of irrigation.

Scientific interests added to the debate. Count Strzelecki, a well-known Polish scientist, who visited the island from 1840 until 1842, was convinced of the need for irrigation. 'Irrigation', he claimed, 'becomes the first measure with which the agricultural improvements of Australasia must begin'. He advocated legislation to allocate water rights from irrigation schemes, and suggested that workers with experience in dam construction be imported from Chile and India. By 1842 settlers in the Ross district had once more joined together to build an irrigation dam at Long Marsh. Captain Cotton also assisted with this project prior to his return to India in 1843, after which his brother, Hugh Cotton, took on the role of consulting engineer. Like his brother, Hugh was a keen
as well as delivering a number of public lectures on these topics. And Governor Sir Eardley-Wilnont supported such large-scale irrigation schemes. A severe economic downturn intervened and in 1844 the British Government withdrew monetary support for the Long Marsh project. Attempts to revive the scheme in subsequent years were unsuccessful.\textsuperscript{50}

During the hot, dry summer of 1850–51 Lieutenant-Governor William Denison took a personal interest in the issue of irrigation. He produced a paper giving useful advice to farmers on the building of dams for irrigation that was published in the \textit{Royal Society of Tasmania Papers and Proceedings}.\textsuperscript{51}

In addition to these advances in irrigation, the periodic recurrence of drought favoured experimentation with drought-resistant varieties of grasses, cereals and fodder crops. During a drought in the mid-1820s Governor Arthur had written to the Colonial Office expressing his belief that deep-rooted grasses and fodder plants, such as saintfoin, lucern, burnet, clover and mangel wurzel, were best suited to withstand the summer droughts of the island.\textsuperscript{52} Local newspapers also provided a plethora of possible antidotes to drought, such as the planting of deep-rooted and/or drought resistant grasses. They also advocated the proper preparation of soil prior to planting. The use of hardy indigenous plants, such as native tare for fodder, and mimosa, banksia and prickly box for use in hedges and ‘live’ fences, was also suggested.\textsuperscript{53} The early sowing of plants in April or May, it was argued, would ensure that crops were of sufficient height to withstand drought by the time summer arrived.\textsuperscript{54} During the drought of 1830 to 1832, the \textit{Hobart Town Courier} suggested that in very dry weather (and also in times of frost) shepherds could use she-oak or black gum branches to feed their hungry stock. It was also suggested that it might be wise to reduce the size of the flock at such times.\textsuperscript{55}

During the 1840s and 1850s some of the wealthier landowners experimented with the introduction of English grasses and, to a lesser extent, with crop rotation.\textsuperscript{56} Local scientists also carried out experiments with the use of guano and potash as manure in the late 1840s, and a bone mill producing bone dust for manure was opened in New Town late in 1849.\textsuperscript{57} On the whole, though, the use of manure remained uncommon in Tasmania in the 1840s. Drought could also be accompanied by pests, such as insects and caterpillars, and by an increase in the numbers of wallabies and kangaroos competing for feed. This, too, induced experimentation with control methods. Inadequate water supplies also led to difficulties in adequately washing sheep to ensure that fleeces would be clean for sale. The Van Diemen’s Land Company overcame this problem in the summer of 1841–42 by constructing washing tanks for their sheep at Circular Head.\textsuperscript{58}

**Floods**

The capacity of some Tasmanian rivers and streams that were reduced to stagnant pools in dry periods, to rise dramatically following heavy rain or snow melt was commented on by a number of early colonists. David Burn in his \textit{Picture of Van Diemen’s Land} published in 1842, wrote:

\textsuperscript{50} Mason-Cox, pp. 107–16.
\textsuperscript{52} \textit{HRA} III V, p. 367.
\textsuperscript{53} \textit{HTG}, 26 January 1826, p. 3; 25 February 1826, p. 4; 25 March 1826, p. 3.
\textsuperscript{54} \textit{HTC}, 26 November 1824, p. 2.
\textsuperscript{55} \textit{HTC}, 17 December 1831.
\textsuperscript{56} \textsuperscript{56} Esteal, p. 33; Strzelecki, pp. 381–7.
\textsuperscript{57} \textit{Royal Society of Tasmania Papers and Proceedings}, 1848–1849; \textit{HTC}, 15 December 1849, p. 3.
\textsuperscript{58} \textit{Van Diemen’s Land Company Report}, 26 March 1842, p. 8.
The rise of all the Van Diemen’s Land rivers is as rapid as it is dangerous, a circumstance more or less observable in every mountainous region, where the melted snows or accumulated falls of rain pour in furious currents down the steeps, ploughing the valleys and augmenting the violence of the angry flood. 59

Edward Curr observed how rivers, which he could cross in summer without getting a foot wet, at another season flowed right over the top of his horse’s back. 60 In the early years of the colony such dramatic changes in river flow caused serious difficulties in transporting people and goods across the island. Floods destroyed poorly built bridges and water covered roadways, causing farms and towns to become isolated. Some properties, such as Edward Lord’s Lawrenny at Ouse, were often completely cut off by floodwaters. 61 Unwary travellers could be caught off-guard and loss of life was not uncommon.

Gradually improvements were made to the island’s transport infrastructure using convict labour, but it was not until the 1850s that the main line of road linking Hobart and Launceston was considered robust enough to withstand all but the most severe episodes of flooding. By this time substantial bridges had been completed at Bridgewater, Ross, Campbell Town, Perth and Kerry Lodge. 62 However, in outlying areas, roads were still highly susceptible to flood damage. When the Derwent Valley experienced heavy flooding in March and April 1846, the New Norfolk Bridge was damaged and all the bridges between New Norfolk and Hamilton were either washed away or rendered useless. 63 The flood damage to farms on low-lying land adjacent to rivers could be enormous with fences, crops and livestock being washed downstream. In March 1846 Mr Corney of the Lake River lost several hundred sheep in a single deluge. 64 Carcasses of sheep, cattle, horses and even two bullocks still yoked together, tumbled over the Cataract at Launceston during the spring floods of 1848, demonstrating in spectacular fashion the devastation wrought by the floods upstream. 65 Footrot was also a potential hazard on flooded farmland. 66

First-hand experience of flooding led some farmers to take precautions, such as sowing crops well before the winter rains to ensure that plants were sufficiently advanced to withstand the potential impacts. 67 Local newspapers also regularly advocated the use of drainage on flood-prone land, but this advice was not generally taken up. 68 Following widespread and damaging floods in the winter of 1828, the Van Diemen’s Land and Hobart Town Almanack concluded:

These occurrences and a better knowledge of the seasons already admonish the settlers to build their houses in a more substantial and durable manner than formerly, and to embank and sow such plants only in the lower grounds as will hold the earth, and enable it to withstand these occasional floods. 69

Flooding rains and cold winters also highlighted the island’s regional climatic variations. An exceedingly wet and cold winter in 1832 proved the unsuitability of some of the more exposed and elevated areas for fine-wool sheep. The Van Diemen’s Land Company

61 Burn, pp. 103–5.
63 HFC. 25 March 1846, p. 2.
64 Cornwall Chronicle. 25 March 1846. p. 242.
65 Cornwall Chronicle. 18 November 1845. p. 111.
66 Morgan, p. 63.
67 HFC. 18 March 1847, p. 16.
The losses sustained by the company were great: the cold destroyed the stock, and their crops often perished from moisture. On the Hampshire Hills many hundred lambs died in a night. Sometimes the season never afforded a chance to use the sickle: in the morning the crop was laden with hoar frost, at noon it was drenched with the thaw, and in the evening covered with dew; and thus rotted on the ground.71

The company directors concluded that the more elevated regions of their estate (at the Surrey Hills and Hampshire Hills) were too cold and otherwise unsuitable for merino sheep, and they imported breeds with heavier fleeces for those locations.72 Even so, the company suffered greatly during the harsh winter of 1832 and estimated a loss of 2,400 lambs as well as numerous sheep at those estates.73 Following the 1832 winter the Van Diemen's Land Company removed its sheep from the Hampshire Hills and Surrey Hills estates to the more temperate coastal runs at Circular Head and Woolnorth, and reserved the former blocks for the grazing of cattle.74

At times, pastoralists were their own worst enemy. Activities carried out during ‘dry’ years could exacerbate the impacts of flooding rains when they returned. Land clearing practices, such as rolling logs into waterways, increased the hazards. The Land Commissioners of Van Diemen’s Land, who toured the island between 1826 and 1828, observed:

Serious evils and inconvenience arise from the abominable practice that Settlers have of clearing their bottom land on the banks of Rivers, by rolling all the Logs into the Water, the consequence is, that the Floods make Dams everywhere, and the water thereby impeded in its course.75

They recommended that an Act be passed so that such offenders could be fined, but this was not pursued at that time. The impacts of flooding were also made worse by the overgrazing and land clearing undertaken by farmers in preceding dry periods. Grazing by stock along riverbanks denuded the vegetation and compacted the soils, making them prone to increased runoff when heavy rains returned. Lieutenant Breton reported on this phenomenon.

The floods which occur may easily be accounted for; the ground becomes indurated by drought and heat; and the deluge of rain suddenly descends, and instead of part of the water being imbited by the thirsty soil, the whole runs off, and rushes through the gullies or beds of rivers, not only too narrow and tortuous to admit of its flowing on without impediment, but the course of the torrent is likewise interrupted by trunks and branches of trees, which by the accumulation of rubbish soon become dams.76

70 Robson, pp. 189-92.
72 VDL Co Report, 13 March 1832, p. 8.
74 VDL Co reports, Oct 1833; 17 March 1833.
75 McKay, p. 34.
76 W Breton, Excursions in New South Wales, Western Australia and Van Diemen’s Land during the years 1830, 1831, 1832 and 1833, second edition, Richard Bentley, London, 1834, p. 375.
Draining and embanking were also widely used for converting flood-prone swampland into land suitable for pasture or crops. However, the embankments could prove inadequate at times of high flood, and could be worn down over time. Settling at the Forth in the north-west in 1840, James Fenton’s first attempts at growing crops on marshy land failed due to inundations of tidal salt water. After draining and embanking the marsh at great expense he sold the property. While the embankments served the new owners well for a number of years, ultimately they were trodden down by cattle and the tidal waters entered once more. Poorly designed or built dams could also give way during floods. When the Toombs Marsh dam burst during floods in July 1852 it forced even more water into the already gushing Elizabeth and Macquarie rivers, increasing the impact of the flooding downstream.

Despite the damage caused by floods they also had benefits—they saturated the soil and refreshed the vegetation (particularly after long dry spells). When a long drought was finally broken by the arrival of flooding winter rains in 1842, a Cornwall Chronicle correspondent claimed that ‘a moist winter will do more for the colonists than all the Governor has done for the last six years’.

Bushfires

Aboriginal groups had, over thousands of years of occupation, used frequent low-intensity fires to clear and renew feeding grounds for native fauna and also to flush out game. The use of fire was central to the Aboriginal lifestyle and an intricate knowledge of its use, and of wind directions and fire behaviour, was passed down through the generations. Their fire practices were adapted to the natural world in which they lived—much of the native vegetation, such as eucalypts and acacias, was dependent on fire to regenerate. Europeans also used fire, but often less skilfully. A ‘good burn’ became a customary device adopted by the European grazier for ‘improving’ pastures, and opening up new land, but when out of control they became a threat to settlers, their houses, fields and crops. Transport and communication could be disrupted. Destructive fires could leave valuable livestock short of feed for up to eight weeks.

During the 1820s fire was widely used by Aborigines and Europeans alike as a major land management tool. It also became an instrument of war. As European settlement spread, hostilities increased. Aborigines used fire to destroy the houses, pasture and crops of the intruders, while settlers used fire to flush Aborigines from hiding. In 1830 the settlers of the Clyde Valley drew up a petition to the Government outlining the serious threat that Aboriginal fires posed to their lives and property. The removal of the Aborigines in the 1830s, however, did not lead to a decline in troubling fires. Changing fire-regimes, in fact, opened the way for less frequent, but increasingly catastrophic bushfires to impact on settlements.

Following the removal of Aborigines from the Tasmanian mainland in the 1830s, the nature of the landscape changed dramatically. In some locations, with the absence of regular Aboriginal firing, former grassland and open woodland soon reverted to a dense, tangled scrub and then eucalypt forest, which was highly flammable given the right conditions. Also from the mid-1830s, with the pastoral runs of the colony becoming more enclosed, firing by graziers became less frequent—for fear of damage to valuable fencing. Meredith observed how the absence of regular burning of pasture

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78 HTGC, 21 July 1852, p. 3.
79 Cornwall Chronicle, 18 June 1842, p. 2.
80 PWSA, p. 180.
81 Reynolds, p. 131.
82 PWSA, p. 130.
83 Meredith observed how the absence of regular burning of pasture
The summer bushfires in these forest regions (of the north-west) sometimes rage to a fearful extent, from the great masses of dead wood, bark and scrub which accumulate through successive seasons. This was particularly marked in the Huon Valley in the south and in parts of the north-west where smallholders had begun to take up land in the 1840s. The erection of timber houses and outbuildings, and the extension of fields and haystacks into the imposing eucalypt forests, made these settlers and their property particularly susceptible to bushfire damage. Eucalypts were notoriously flammable, but introduced plants could also pose a danger. James Fenton recalled the hazards caused by the Scotch thistle, which invaded farmlands of the north-west. The thistledown was very easily ignited and apparently once alight 'spread with a fury that no human power could abate'.

Settlers adopted a number of measures to prevent bushfire damage. The burning of native vegetation prior to building huts and establishing farms, and the annual burning of grass and scrub surrounding fields and fences in early summer to starve any approaching fires of fuel, became common practice amongst farmers. According to Louisa Meredith, care needed to be taken before the dry season to clear away dead wood, rubbish and the grass and ferns alongside fence lines.

Backburning in the face of a fire threat was also adopted as a protective measure. Settlers in areas prone to bushfires or Aboriginal attacks soon became aware that thatched roofs were highly flammable. When bushfires threatened in the dry summer of 1826–27, the *Hobart Town Gazette* ran warnings highlighting the need for vigilance against accidentally setting fire to grass and woods. It also suggested that thatch should be replaced with shingles. Fire fighting methods were primitive and there were no dedicated rural brigades, though at times of serious bushfires the local military or constabulary could be called in to assist with fire-fighting efforts. Neighbours and other members of a community were also relied upon to assist in the protection of life and property. The potential for fires to get out of control on hot, windy days was recognised very early on in the life of the settlement and Government orders prohibiting the use of fire were issued at susceptible times. However, it was not until after the increasingly catastrophic fires of the 1840s and 1850s that the Government enacted legislation to address the issue.

During the exceedingly hot and dry summer of 1853–54 fires raged in the Channel and Huon districts south of Hobart, on Bruny Island and at Richmond. The Huon fires were especially catastrophic. The newspapers reported that up to fourteen lives were lost in the devastating fires that ravaged Port Cygnet and Esperance and other parts of...
the Huon. Houses, huts, and a hotel were razed to the ground, and many people were left homeless and destitute. Valuable crops and timber were reduced to cinders. The *Hobart Town Advertiser* referred to the Huon fires as ‘the most fearful catastrophe in the history of Van Diemen’s Land’ and claimed that ‘the day will be marked as a black day in the chronicles of the island’. A bushfire relief fund was established to assist the victims. Parliament was also quick to respond. In November 1854 a Bushfire Act was passed to help prevent such deadly conflagrations from occurring again and to allow for the suitable punishment of offenders for starting such fires. The Act prohibited anyone from setting fire to the bush in the months of December to March without taking the necessary precautions to prevent it from spreading. Not all politicians supported the Bill. Thomas Gregson opposed it, claiming that ‘fire had made Van Diemen’s Land what it then was’. He argued that fire had been an instrumental agent in clearing the bush and opening out lands which otherwise would be uninhabitable. He also argued that the Act would be near impossible to enforce. These views were widely shared and predominated well into the next century. Only a few people, such as scientist Count Strzelecki, questioned the use of fire as a means of improving sheep runs. Strzelecki argued that, on overgrazed and drought-stricken runs, fire destroyed the exposed grass roots, accelerating the process of soil erosion.

**Conclusion**

The first fifty years of European settlement in Van Diemen’s Land saw dramatic changes to the physical landscape of the island. Climatic variables played an influential role in the way in which British settlers responded to their new environment. From 1820 to 1855, drought, bushfire and floods all impacted on the pastoral frontier and required innovation in farming practices to minimise the damage caused: the acquisition of fresh pastures, construction of irrigation schemes, waterholes and dams and trials with drought-resistant grasses in response to drought; re-location; the building of more robust infrastructure and farm improvements in response to floods; and the use of fire-prevention practices, back-burning, and Government control in response to bushfires. Not all responses were successful, and some practices actually exacerbated the hazards and damage.
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