
THE PHYSICAL LANDSCAPES OF QUEENSLAND

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Regions may be defined by an infinite number of criteria, some of them of a physical nature (eg. geology, climate, soils, natural vegetation), others related to human activity (culture, language, economic activity, land use). Often regions are defined in terms of composite criteria, combining physical and cultural factors, and even physical regions may be defined on the basis of combined factors – climate, soil and vegetation etc.). For the purpose of landscape analysis, 'natural' or 'physical' regions based on landform (related in part to geology), climate and vegetation, have value as settings for the evolving human activity which itself modifies the environment, creating what may be termed 'cultural landscapes'.

Another important question in the defining of regions is the matter of scale or level of resolution. On the very broad scale, Queensland may be divided into two physiographic regions: the coastal uplands extending from the New South Wales border to Cape York, and the inland basins and lowlands which stretch westwards into the Northern Territory and South Australia and south into New South Wales. Within the coastal belt there are, of course, lowland areas, especially where major rivers enter the sea, and there are inland uplands, notably in the Mount Isa region. The other important variable is climate. The coastal areas are relatively wet, the inland ones progressively dry with distance from the ocean, while, in general, average temperatures increase northwards. Altitudinal variation in climate, though important locally, is not very significant at the broad regional scale.

The physiographic regional map of Australia shows how Queensland contains within its very artificial boundaries several complete major regions – the Peninsular Uplands (Cape York), Burdekin Uplands, Fitzroy Uplands, Great Barrier Reef and Carpentaria Lowlands, and some which are shared with one or more neighbouring states (including NT): Carpentaria Fall, Central Lowlands, Lander-Barkly Plains and the New England-Moreton Uplands (Jeans, 1978). Similarly, N. and A. Learmonth (1971), in their book, The Regional Landscapes of Australia, divide the continent into regions, a number of which lie entirely within Queensland, with others extending across the boundaries, including some straddling those of Queensland and its neighbours. Because the Learmonth regions are essentially 'physical' in the broader sense (ie. based largely on both physiographic **and** climatic factors) these will be used as the basis of the following description of Queensland's physical landscapes.

In the Learmonth's regional hierarchy, Queensland contains all of 'The North East' (the Eastern Basins and Ranges), most of 'West of the Divide' (including Cape York Peninsula), and parts of 'Central Australia' and 'The South East' (all the Darling Downs, some of the North Darling Lowlands and the northern tip of New England). The description starts with the South East, moving progressively northwards towards Cape York, then south into 'West of the Divide', ending with the arid west of the state, the North Darling Lowlands and, finally, the Darling Downs back in the state's South-east.

Brisbane and the Moreton Region

The South-east corner of Queensland is mainly lowland adjacent to the sea on the east between Maroochydore and the NSW border, and enclosed by mountains, part of the Great Divide, on the west, with the Darling Downs stretching beyond. Descending from the inland ranges, the Brisbane River flows to the sea through a wide lowland gap, entering Moreton Bay by a now largely artificial channel across the deltaic flats. Enclosing the bay, with its marshy islets, is a chain of sand islands. The climate is subtropical.

The Burnett and Mary River Basins

North of the Moreton Region lie the Burnett and Mary River Basins, similarly bounded by the sea and part of the Great Divide. The coastal lowland stretches southwards to link with that of the Moreton region, while the coast is characterized by a broad belt of sand, part of the same dune system which forms the islands enclosing Moreton Bay to the south. These culminate in Fraser Island which extends northwards to enclose Hervey Bay. Lying just south of the Tropic of Capricorn, this region has a subtropical climate.

The Fitzroy Basin

Extending through six degrees of latitude, this region displays considerable climatic variation, ranging from a subtropical south to a tropical north. The topography is also varied, the Fitzroy River draining the largest basin of the east coast. The river system has a broadly trellised pattern, forming alternating parallel basins and ranges as the Fitzroy and its tributaries cut through the undulating uplands. Dominating much of the region's centre is the Bowen Basin, notable for its rich coal deposits which have had important influences on both the physical and cultural landscapes.

The Midland Sugar Coast

Occupying a small coastal strip between the Fitzroy Basin and the adjoining Burdekin Basin to the north is a narrow plain stretching some 300k SE from Bowen. The crop which forms part the region's name is grown along much of the Queensland coast and as far south as northern NSW, but this little region is separated from the Northern Sugar Coast by the distinctly drier large region of the Burdekin Basin.

The Burdekin Basin

The Burdekin has a slightly smaller catchment than the Fitzroy, but its annual discharge is much greater, making it the largest river draining to Australia's Pacific coast. Only a small proportion of the water reaching the delta comes from the Great Divide, which lies up to 300k inland at c. 1000 metres, east of much higher intervening ranges which receive more summer rains. While the region's more northerly location is reflected in generally higher average temperatures relative to those of areas previously described, rainfall is lower, giving the landscape a drier appearance than that to the immediate north and south. One response which has significant impact on the landscape is irrigation for agriculture. The exploitation of mineral deposits, including gold and coal, has also had important influence on the landscape in some areas.

The Northern Sugar Coast

The larger of the two 'Sugar Coast' regions, the Northern one echoes some of the landscapes of that to the south from which it is separated by the drier stretch of country between Bowen and Townsville. Extending from the edge of the Burdekin delta to the Daintree, this coastal narrow coastal belt is bordered inland by abrupt scarps of the Northeast Highland. These form a prominent background to the tropical landscape of the narrow coastal plain, essentially a series of lowland pockets around the mouths of rivers. Here are recorded the highest rainfalls in Australia, peaking between December and March, which, combined with high temperatures give rise to the lush vegetation characteristic of tropical north Queensland. Offshore, and extending southwards to the Tropic of Capricorn, is the Great Barrier Reef, a physical region in its own right. The region's tropical climate, the Great Barrier Reef, and spectacular coastal scenery have contributed to the development of an important tourist industry, largely centred on Cairns.

The North-East Highlands of Queensland

Immediately inland from the Northern Sugar Coast, the northernmost portion of 'The Eastern Basins and Ranges', Queensland's North-East Highlands form a wedge of country which includes the state's highest peak, Mount Bartle Frere (1622m), which is part of the Bellenden

Ker Range, and the Atherton Tableland. The latter is an area of fertile soil, derived from basalt, which lies between the coastal mountains and the great Dividing Range to the east. Here the climate is tropical, but because of altitude, temperatures are lower than those on the nearby coast.

Cape York Peninsula

Immediately to the north of the Northern Sugar Coast and the North-East Highlands, but included in the regions grouped together as 'West of the Divide', lies the Cape York Peninsula, the northernmost part of mainland Australia. A small area lies east of the Divide which lies close to the east coast. The region is mostly lowlying, characterized by low scrubby vegetation and red soils, commonly punctuated by tall magnetic anthills. The laterites of the west coast form distinctive red sea cliffs, and the bauxite deposits of this area support a flourishing mining industry. The coastal rim and the Torres Strait Islands have a sub-equatorial climate, while the monsoonal rhythm of the wet and dry seasons become particularly marked in the central and western areas.

Gulf Country

Fringing the Gulf of Carpentaria between the Cape York Peninsula and Arnhemland, this region extends into the Northern Territory, stretching south towards Queensland's Mid West and the state's arid interior. "The Gulf Country has two landscapes each year, the Wet and the Dry, which overshadow the variations in topography and vegetation within the region, and provide two contrasting environments with very short transitional seasons. The adaptations evolved by rivers, plants, animals ... are the key to the landscapes" (Learmonth, 1971: 251-2). A variety of grasses and scrubby trees cover the plains and low plateaus of the inland areas, while on the coast mangroves are common, especially in the deltas, with samphire and low grasses, or woodland covered sand dunes elsewhere.

Central Australia (West)

South of the Gulf Country, in the state's far west, lies a portion of arid 'Central Australia', including the Mount Isa region and parts of the Barkly Tableland, the Channel Country, the Horseshoe of Salt Lakes and The Deserts, all distinct physical regions. The Mount Isa Highlands is a relative term, for the highest point is only 568m above sea level, but the area is very rugged, contrasting strongly with the surrounding scenery as experienced by the traveller approaching from other parts of Queensland. The mineral wealth underlying the rocky outcrops and spinifex scrub has given rise to the mining town of Mount Isa whose tall smelter chimney forms a prominent landmark which can be seen from afar. Westwards from the Isa Highlands stretch the 'endless' levels of the Barkly Tableland where average summer temperatures approach 40°C in the weeks before the Wet, falling to about 25C in 'winter'. The characteristic vegetation is Mitchell grass, the scattered coolabahs in moister depressions offering scant shade for grazing cattle. To the south the landscape merges into the Channel Country, with its network of, usually dry, watercourses. These dissipate into the sands of the desert where Queensland adjoins South Australia and the southeast corner of NT. When the headstreams are charged by good rains between December and March the channels fill, their waters spreading out below the constrictions of the upper courses, an impressive sight from the air. In this part of Australia, however, despite the dramatic quality of its rare occurrence, water is mainly conspicuous by its absence and the landscape is characterized by extreme aridity. Here the typical landscape feature is the linear dune system, particularly well developed in the Simpson Desert.

Mid-West Queensland

East of the arid far interior and south of the Gulf Country the landscape merges into a vast undulating region which has no sharp topographic boundaries. It remains distinctive, however, being dominated by natural grassland in a sub-tropical landscape in which much of the water supply is derived from artesian basins. Rainfall is concentrated largely in the summer, but there is much variability. This is stock rearing country, grazed largely by sheep,

reared for wool, but with cattle playing an important role for beef production. Although the topography exhibits some diversity, including the lateritic plateau south of Kynuna, Kerr Table Top Mountain, and wetter areas with basaltic soils supporting ironbark trees, Queensland's Mid West is essentially a "pastoral country of wide skies and grasslands" (Learmonth, 1971: 264).

The North Darling Lowlands

The Great Artesian Basin which underlies much of Queensland's Mid West extends southwards into lowlands drained by intermittent rivers that converge to form the Darling. Much of the region lies in northern New South Wales. Apart from the north-eastern rim, which is diversified by some hilly areas and woodland, this is very open pastoral country which experiences low and very unreliable rainfall. The eastern edge of the region is defined by Queensland's Darling Downs and the northern extension of New South Wales' New England district.

The Darling Downs

A small, but very distinctive and economically important region, the Darling Downs area is sharply defined along its eastern edge by the Divide along the Main and Bunya Ranges which drop steeply to the Moreton Lowland. Formed largely on Tertiary basalt, this upland area with its rich soils, slopes gently westwards towards the North Darling Lowlands from which it can be distinguished mainly in terms of the Downs' higher rainfall, lower temperatures and flourishing mixed farming. To the south it adjoins the Granite Belt of New England, and it is here on the hills near the NSW border that Queensland experiences occasional winter snow. These uplands form part of the hinterland shared by Brisbane and the Gold Coast, the urban areas which dominate the Moreton Lowland.

Conclusion

The artificiality of state boundaries is no more obvious than where Queensland adjoins NSW. The North Coast of New South Wales is a natural continuation of the Moreton Lowland, both regions sandwiched between a sub-tropical coast and the mountain ranges inland, while west of the Great Divide, the two states share the North Darling Lowlands and the Channel Country. Similarly, although in Queensland, as elsewhere, separate physical regions can be distinguished, continuities between these recognizable entities are often very marked. Commonly, changes in the landscape occur gradually, one type merging almost imperceptibly into another. Furthermore, generalized regional descriptions of the kind given above mask significant variations that can be observed even within quite small areas. For example, in this necessarily brief account, no mention is made of the distinctive Glasshouse Mountains that lie within the Moreton Lowland region, the volcanic crater lakes of the Atherton Tableland, or the many waterfalls that occur in the mountains along the eastern coast from north of Cairns to the New South Wales border. These are problems that must be acknowledged in any discussion of regional landscapes, not least those of Queensland.



References

- Jeans, D.N. (1978), *Australia, a geography*, London and Henley: Routledge & Kegan Paul.
Learmonth, N. and A. Learmonth (1971), *Regional Landscapes of Australia*, Sydney and London: Angus and Robertson.