



**Global Peatland Hotspot Atlas:
The State of the World's Peatlands in Maps**
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Peatlands of Oceania

Oceania's peatlands range from Tasmania's and New Zealand's bogs and fens to Papua New Guinea's peat swamp forest and Pacific Island marshes. While most remain intact, over 70% are degraded in New Zealand, posing growing threats.



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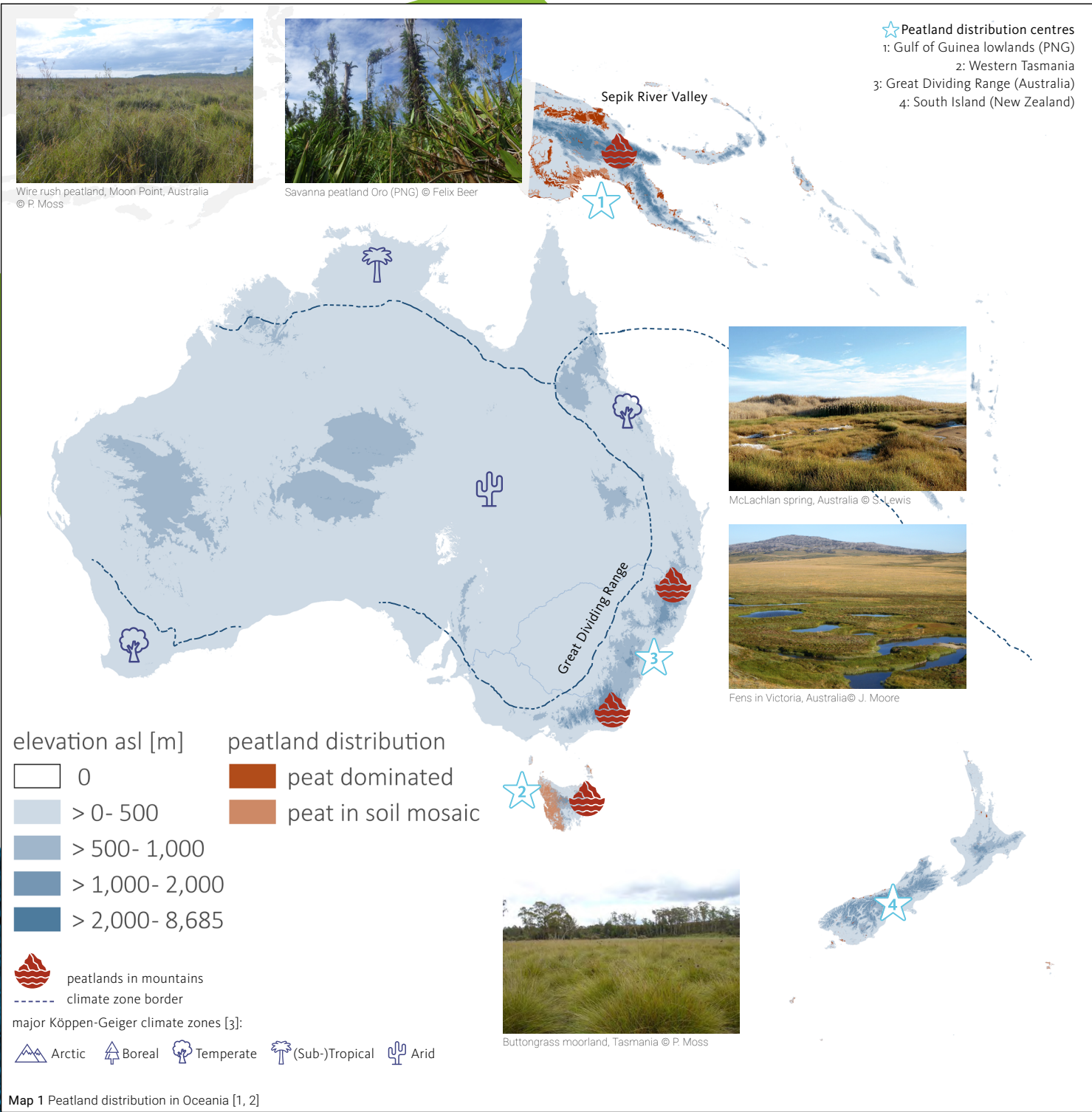
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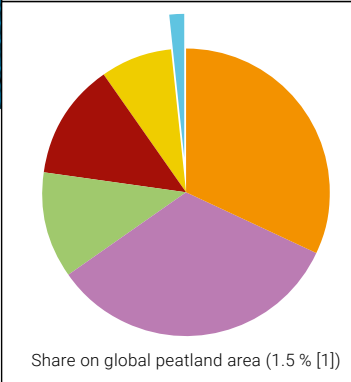
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Peatlands of Oceania



Map 1 Peatland distribution in Oceania [1, 2]



Around 10% of the peatlands in Oceania are degraded, with New Zealand standing out where more than 70% of its peatlands have been drained for forestry, agriculture, and peat extraction. For all other countries, the estimated proportion of drained peatlands is less than 15% [1]. Across most tropical islands, coastal peatlands have been modified for agriculture. Key drivers of change in Oceania's peatlands include drainage, agricultural conversion, altered catchment hydrology, climate change, and fire. Specific regions also face challenges from peat extraction, invasive alien species, and pollution. In Antarctica, fluctuations in seal and penguin populations linked to climate change act as potential drivers affecting moss peat banks [1].

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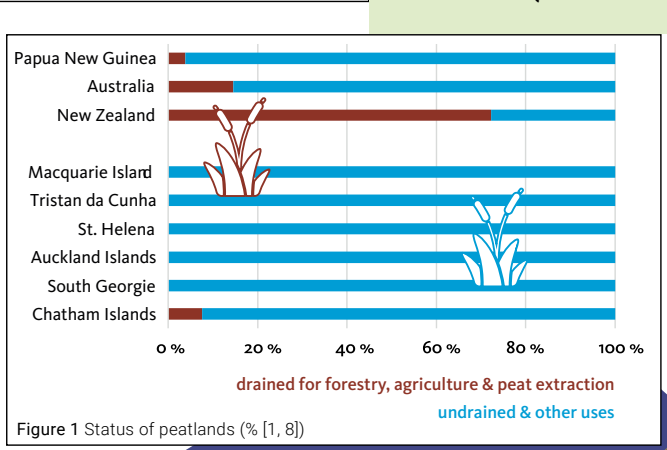
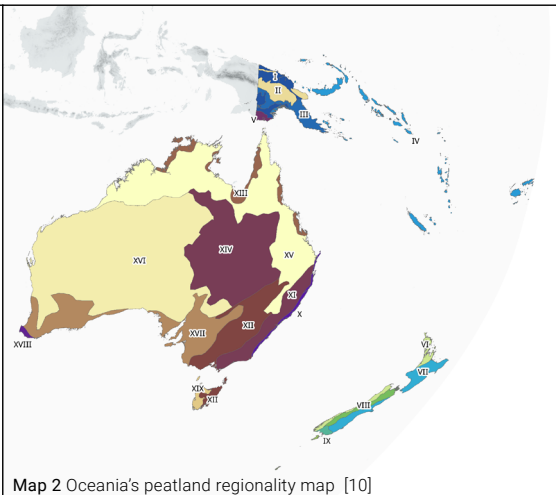


Figure 1 Status of peatlands (%) [1, 8])



Map 2 Oceania's peatland regional map [10]

I New Guinea peat swamp forest and grassy marsh, II Central Range blanket and cushion bog, III New Guinea swamp forest and grassy marsh, IV Pacific Islands lowland and mountain swamp and marsh, V Trans Fly savannah marsh, VI N- and W-New Zealand marsh, VII New Zealand lowland restiad bog, fen and swamp, VIII New Zealand mountain compound fen and bog, IX - Tasmania button-grass blanket and cushion bog, X E- Australian mangrove and coastal marsh, XI E-Australian mountain compound fen and bog, XII SE-Australian temperate marsh, XIII N-Australian mangrove and coastal marsh, XIV C-Australian spring mound, XV Australian (sub-)tropical marsh, XVI Dryland grassy marsh, XVII S-Mediterranean marsh, XVIII SW-Australian wire rush fen.

- **Total peatland area: 7 million ha**
- **Distribution: Gulf of Guinea lowlands (Papua New Guinea), Western Tasmania, Great Dividing Range (Australia), South Island (New Zealand)**
- **Peatland cover over total regional surface area: 1 %**
- **Share of global peatland area: 1.5 %**
- **Degraded peatlands: 10 %**
- **Annual GHG emissions from peatlands: 28 Mt CO₂e / yr**
- **Share of global GHG emissions from peatlands: 1 %**
- **Peatlands within protected areas: 26 %**
- **Top 5 countries with largest peatland area:**
 1. Papua New Guinea (4,469,008 ha)
 2. Australia (2,500,000 ha)
 3. New Zealand (269,363 ha)
 4. New Caledonia (20,000 ha)
 5. Solomon Islands (10,000 ha)
- **Total peatland carbon stock: 6,733 Mt C [8]**
- **Threatened peatland species: Flora: 10 VU, 5 EN, 0 CR; Fauna: 34 VU, 32 EN, 18 CR [11]**
- **Ramsar Wetlands of International Importance with peat: 18 sites (21.4 % of total Ramsar sites in Oceania [9])**

Oceania is a diverse region spanning continental landmasses and climate zones, large islands, and small islands, supporting a wide variety of peatland ecosystems [1, 3]. The majority of Oceanian peatlands are dominated by the **Restionaceae, Cyperaceae, Ericaceae and Myrtaceae** plant families. Unique and important peat-forming ecosystems in this region include buttongrass moorlands (dominated by the Cyperaceae *Gymnoschoenus sphaerocephalus*) found in western Tasmania, and **paper bark forests (*Melaleuca*)**, particularly found in lowland areas throughout Oceania. Moreover, **sedge and rush-dominated coastal peatlands** extend from subtropical Australia to Tasmania. ***Empodisma*** is another key peat-building genus of the Restionaceae family found in South Australia and on New Zealand. Peatlands in mainland Australia occur with a limited spatial extent in mountains, along the coasts and rarely in artesian springs. In Papua New Guinea, a wide range of peatland types is found in valley bottoms, behind river levees, along the coast, at lake margins and in the high mountains. They are dominated by **montane and lowland swamp forests, tall grass fens, short grass fens, mixed sedge-grass fens, and tall sedge fens**. While montane peatlands are mostly groundwater-fed fens, sub-alpine peatland types are mainly rainwater-fed bogs [1, 4, 5, 6].

Peatlands also occur on Pacific Island Countries and Territories on raised atolls [2], dominated by ***Acrostichum* and *Cyclosorus* ferns, palms, and by *Eleocharis*, *Scirpus*, *Schoenoplectus* or *Pandanus***. Additionally, peatlands are found in several volcanic calderas filled with peat from **Cyperaceae (sedges), *Scirpus* rushes, *Schoenoplectus* rushes, or extensive floating peat-forming mats of sedges and rushes**. Antarctic peatlands located on small islands north of the Antarctic Peninsula are formed by *Chorisodontium aciphyllum* and *Polytrichum strictum* mosses. In this region, peat layers can reach depths of up to 2 meters and be 6,000 years old, while those located farther south are typically shallower and younger. Sub-Antarctic peatlands exhibit greater plant diversity and are characterized by a predominance of vascular plants as the peat-forming species. Peat in these regions is formed from the partly decomposed litter of **small trees, shrubs, grassland, megaherbs, and tundra vegetation**. On Campbell Island, peat covers nearly the entire 11,300 hectare land surface, hosting numerous oligotrophic bogs reaching depths of up to 6 meters [1, 7].

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