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## **A comparison of deflation basin (wetland) soils from wet and dry climatic zones in Tasmania**

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**Abstract** Deflation basins, or shallow depressions formed by wind erosion, are found in many semi-arid regions around the world. Because these features are topographic lows they become sites of water accumulation and are often associated with wetlands that represent important refugia for biota in dry environments. Despite being important habitats little is known about the relationship between water and sediment in these features. This study assesses soil geochemical properties from 50 wet-climate and 39 dry-climate deflation basins in Tasmania. The results reveal clear differences between wet-climate and dry-climate deflation basin soils. Macronutrients typically have higher concentrations in wet-climate soils (with the exception of potassium and calcium) while metals and other trace elements typically have higher concentrations in dry-climate soils. These findings have important implications for wetland biological-soil associations, with high plant productivity likely in wet-climate deflation basins as a result of both favourable nutrient status and better water availability.

**Key words** water balance; geochemistry; nutrients; trace elements; Tasmania, Australia