

# Thematic Volume INLAND ACID SULFATE SOIL SYSTEMS ACROSS AUSTRALIA

## Editors:

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*Covering: distribution, properties, significance and biogeochemical processes of inland Acid Sulfate Soils (ASS) across Australia and overseas (Iraq and Brunei)*

## 30 Australian and 2 overseas case histories



### Chapters on:

- Soil-regolith landscape process models – incorporating hydro-toposequence, biogeochemical and mineralogical techniques/approaches
- Proposed new / improved definitions of ASS materials
- Field methods – sampling methods, chip trays, geophysics and redox probes
- Laboratory characterisation of sulfidic, sulfuric and monosulfidic black ooze (MBO) materials – chemical, mineralogical and geochemical methods.
- Soil morphology and landscapes – photographic examples of the wide range of inland ASS soil-landscapes via image gallery on CSIRO's ASS website.
- Mapping – remote sensing, GIS, Atlas of Australian ASS.
- Surface water quality issues – mobility of major and trace elements in solution and as colloids and nanoparticles
- Groundwater issues – clogging of pumps by Al gels
- Frameworks to control and manage sulfidic, sulfuric and MBO materials
- Implications for mineral exploration (geochemical sampling medium)
- Case histories across several mineralised zones and land use settings in Australia: – Western Australia (Wheatbelt and coastal plain); South Australia (Mt. Lofty Ranges, Mid-north, River Murray system, York Peninsula, Nullarbor plain; Lower Lakes; South-East); NSW (Tareena Billabong, Dicks creek and others); Tasmania (North East and North West; inland river areas/ peaty areas); Victoria (Dundas tableland; Corangamite, Gippsland, Woorndoo); NT (Adelaide River system, Ranger Mine plains). Overseas: - Iraq Marshes and Brunei.

## Sulfuric acid production and dissolution of soil minerals



- Extreme acidity
- Extreme salinity
- Erosion
- Water quality problems (Fe, Al, heavy metals)



Authors from:

- Universities
- Geological surveys
- Research organisations
- Industry

Thematic Volume will be a valuable resource for:

- farmers
- natural resource managers
- soil, regolith and environmental scientists
- students
- anyone with an interest in Australia's unique environment
- mineral exploration

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CRC LEME is the cooperative research centre for regolith geoscience with some 130 contributing researchers from eight Core Parties around Australia. We generate and apply regolith knowledge for mineral exploration and environmental management.



Your organisation can benefit from CRC LEME expertise.

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