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Groundwater dependent ecosystem pictorial conceptual model ‘wind-blow inland sand dunefields’

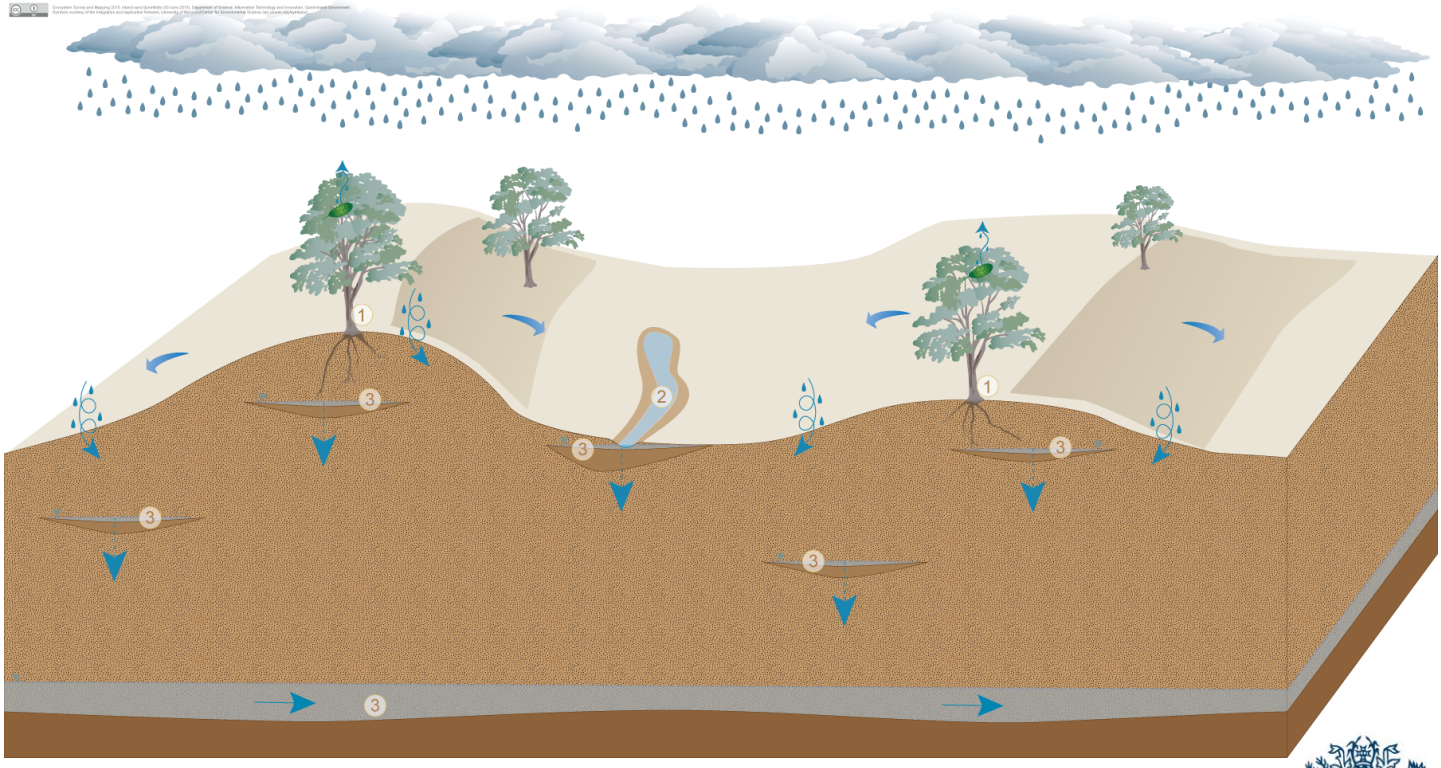
Version 1.5

Wind-blown inland sand dunefields

Inland sand dunefields are composed largely of unconsolidated sand deposited by wind (aeolian processes). These inland sand dunefields can store groundwater in local, intermediate or regional groundwater flow systems and also in perched aquifers formed above layers of clay dominated material with relatively low permeability.

Unconsolidated sedimentary aquifers in inland sand dunefields may provide a range of ecosystems with water required to support their plant and animal communities, ecological processes and delivery of ecosystem services.

- Palustrine (e.g. swamps) and lacustrine (e.g. lakes) wetlands and riverine (e.g. streams and rivers) water bodies on the edges of inland sand dunefields may depend on the surface expression of groundwater.
- Terrestrial vegetation on inland sand dunefields may depend on the subsurface presence of groundwater in these unconsolidated sedimentary aquifers where groundwater is typically accessed through the capillary zone above the watertable.
- Unconsolidated sedimentary aquifers in inland sand dunefields may also support aquifer ecosystems which can be indicated by the presence of stygofauna.



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Geology legend


Sand


Low permeability rock


Basement of the model

Groundwater hydrology legend


Sand (unsaturated)

Groundwater table


Sand (saturated with groundwater)


Direction of groundwater movement


Low permeability rock (unsaturated)


Groundwater leakage


Basement of the model (unsaturated)


Direction of surface water movement outside of a channel (overland flow)


Infiltration and percolation
Rain infiltrates through the soil to recharge the aquifer below

Flora legend


Eucalyptus spp.


Evapotranspiration
Process whereby plants draw water up through their roots and move it out through their leaf pores

Groundwater dependent ecosystem legend

Terrestrial GDEs
Regional ecosystems and riverine wetlands may depend on the subsurface presence of groundwater within the capillary zone for some or all of their water requirements.

Surface expression GDEs
Lacustrine wetlands, palustrine wetlands and riverine water bodies may depend on the surface expression of groundwater for some or all of their water requirements.

Subterranean GDEs
Aquifer and cave subterranean wetlands may depend on the subterranean presence or expression of groundwater for some or all of their water requirements.

Citation

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