

WATER CONSUMPTION

Vertex Minerals Limited (VTX) operates in the Australian mining sector, an industry which is highly regulated. To successfully conduct our exploration and mining projects and activities we must meet the standards and criteria of the NSW Resources Regulator and other government authorities such as the Environmental Protection Agency.

All environmental considerations are fundamental to VTX projects. Our activities are subject to ongoing assessment, with an obligation to continually prove that we are meeting required standards, conditions, and regulations to achieve and maintain compliance and approvals from the NSW Resources Regulator and other government authorities.

VTX has water licences which are attached to the Hill End mining leases allocated for mining operations at Hawkins Hill. Having been in care and maintenance for such a long period there has been no water consumption from those licences due to inactivity.

Recently, VTX has wet commissioned our main processing plant and we are currently involved in assessing potential water usage for plant processing, water storage facilities and volume capacity and potential yields from the water bores which are on our water licences. A recycled system is planned for plant operations. Our goal is to develop a clear summary of water across all our projects, but our priority is the Hill End mining lease at this time. Our Hill End office is connected to water supplied by NPWS for general purposes such as toilet, showers and kitchen access for staff, which our small team uses economically. In addition to our current on-site audit and assessment, we have looked at the overall water risks for our Hill End, Red Hill and Hargraves projects using the WRI Aqueduct Water Risk Assessment tool available on the WRI website (link provided under sources). We are pleased to know that all of our projects currently fall into the WRI's Low Risk or Low-Medium Risk categories for Baseline Water Stress assessment and that the Groundwater Table Decline assessment for all our projects falls into the category of *Insignificant Trend*, meaning that the risk is considered to be beneath the Low Risk category benchmark.

Snapshots are included below showing maps from the WRI's assessment tool for each of our projects – Hill End, Tambaroora and Hargraves, which show the relevant categories of assessment for current baseline water stress risks such as:

- Overall Water Risk,
- Groundwater Decline,
- Water Depletion,
- Water Stress and
- Drought Risk

In addition to the current baseline assessments, we have included a future-based assessment for each project site that reaches out to 2050. We have used the 'Pessimistic' forecast setting to model a worst-case scenario prediction/assessment and snapshots have been included to show the forecasts for:

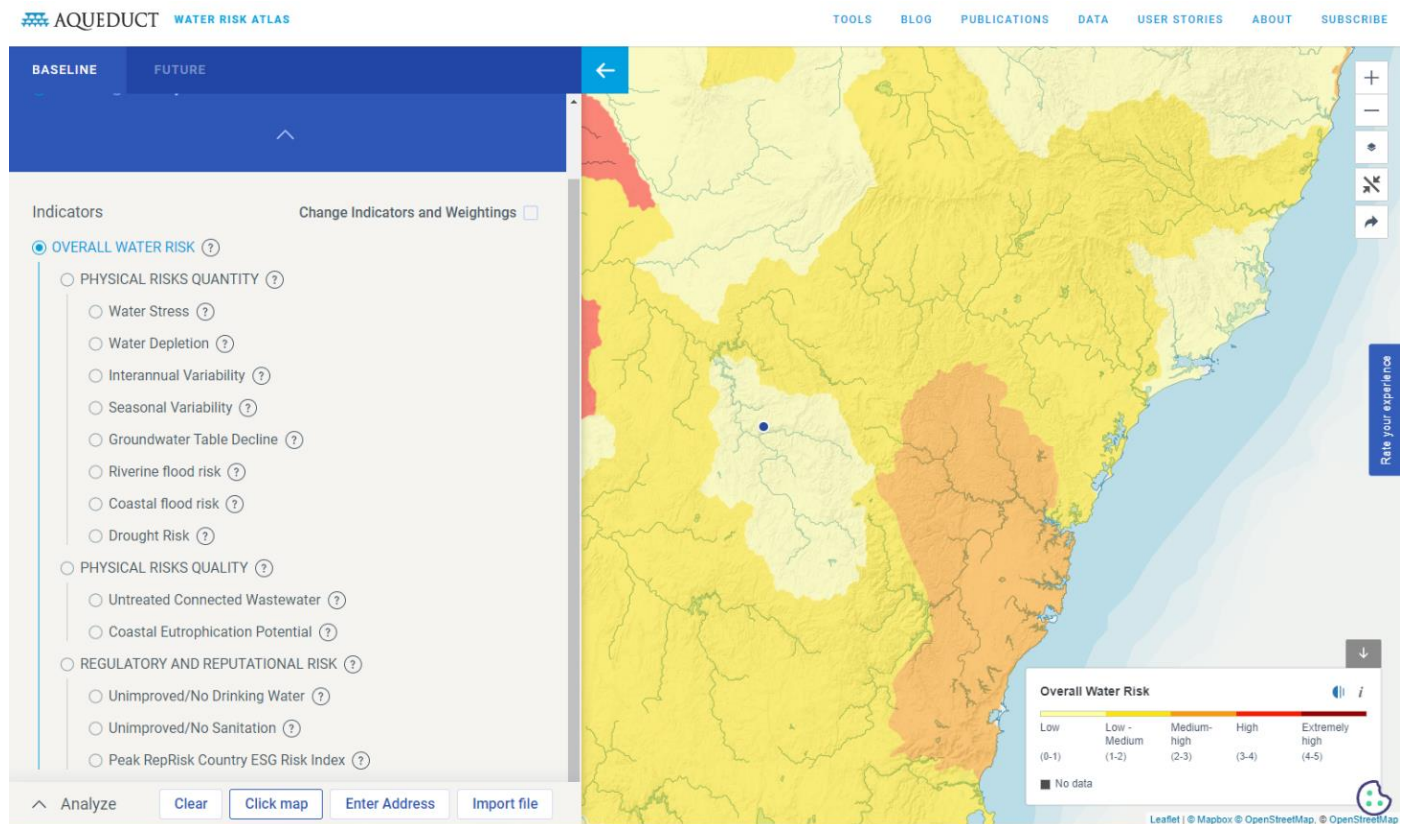
- Water Stress
- Water Demand
- Water Depletion

In summary, Hill End and Tambaroora currently present a Low, Overall Water Risk while Hargraves presents a Low-Medium, Overall Water Risk. Hill End and Tambaroora are seen by the WRI's assessment tool as Low Water Stress Risk and Low Water Depletion Risks and Hargraves is seen as Low-Medium Water Stress Risk and Low-Medium Water Depletion Risks.

These current assessments shift only slightly into the future with Hill End and Tambaroora still predicted to fall in the Low-Risk categories for 2050 predictions on Water Depletion and Water Demand. Hargraves remains in the Low-Risk category for Water Demand but shifts into the Low-Medium Risk category for Water Depletion.

WRI – WORLD RESOURCES INSTITUTE – AQUEDUCT WATER RISK ATLAS BASELINE WATER RISK ASSESSMENT FOR HILL END & TAMBAROORA NSW PROJECTS

1. Overall Water Risk – LOW

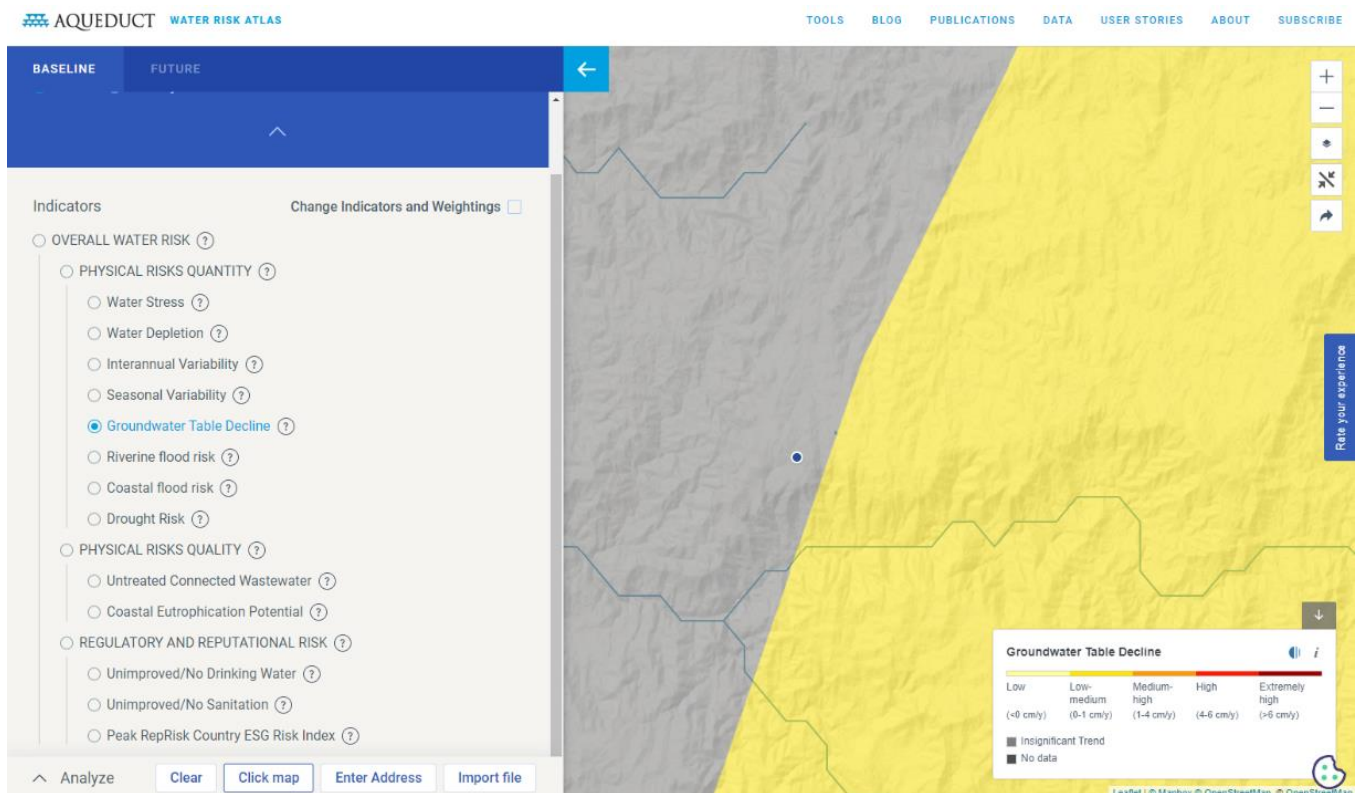


OVERALL WATER RISK

Description:

Overall water risk measures all water-related risks, by aggregating all selected indicators from the Physical Quantity, Quality and Regulatory & Reputational Risk categories. Higher values indicate higher water risk.

2. Groundwater Table Decline – INSIGNIFICANT TREND

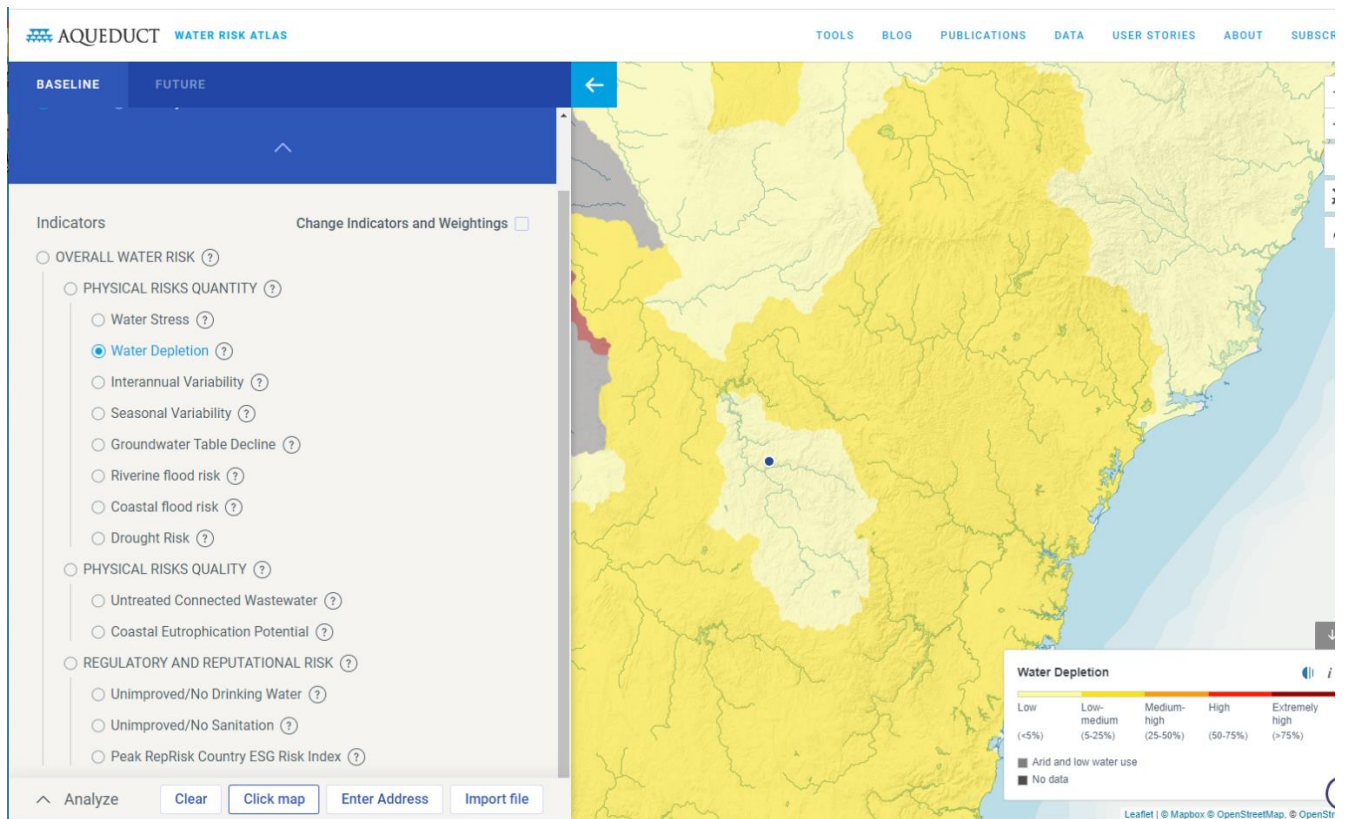


GROUNDWATER TABLE DECLINE

Description:

Groundwater table decline measures the average decline of the groundwater table as the average change for the period of study (1990–2014). The result is expressed in centimetres per year (cm/yr). Higher values indicate higher levels of unsustainable groundwater withdrawals.

3. Water Depletion - LOW

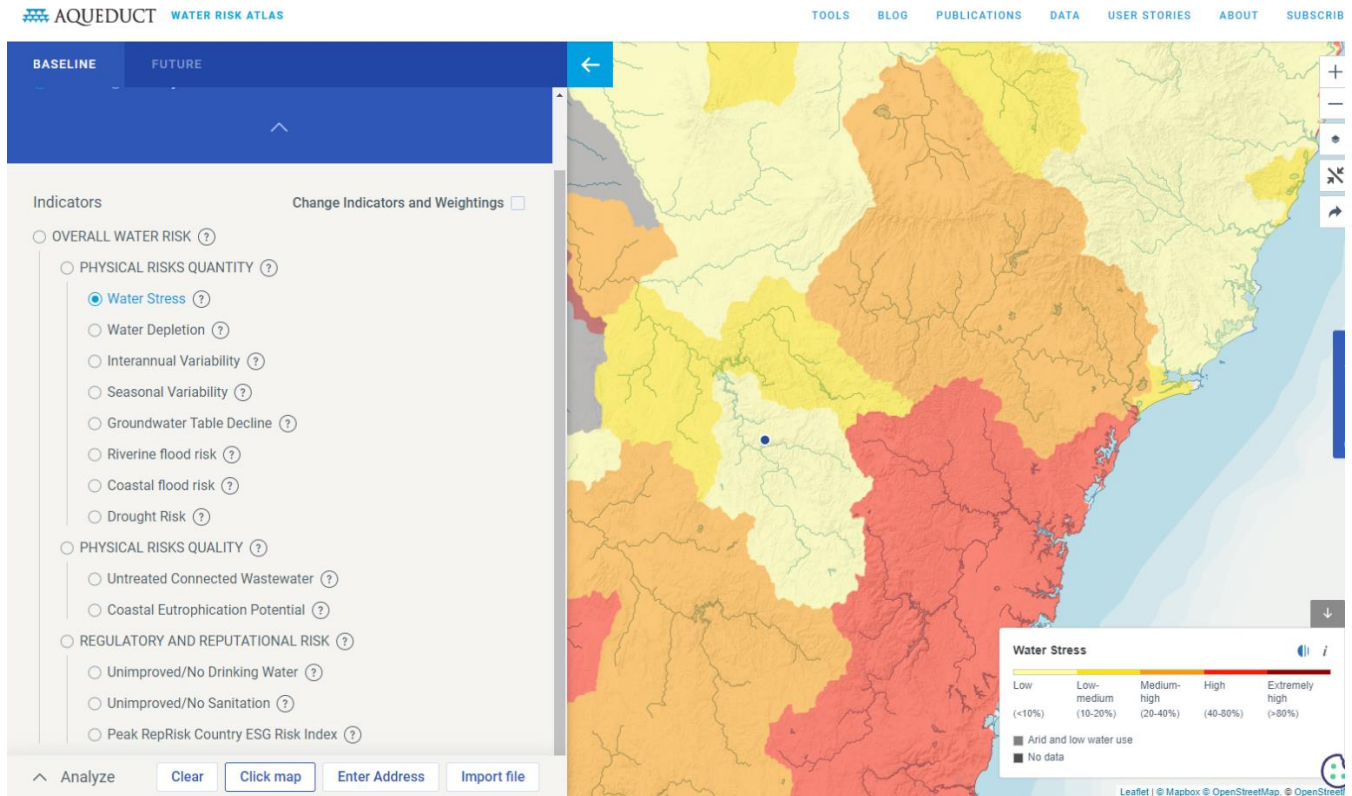


WATER DEPLETION

Description:

Baseline water depletion measures the ratio of total water consumption to available renewable water supplies. Total water consumption includes domestic, industrial, irrigation, and livestock consumptive uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. Higher values indicate larger impact on the local water supply and decreased water availability for downstream users. Baseline water depletion is similar to baseline water stress; however, instead of looking at total water demand (consumptive plus non-consumptive), baseline water depletion is calculated using consumptive withdrawal only.

4. Water Stress - LOW

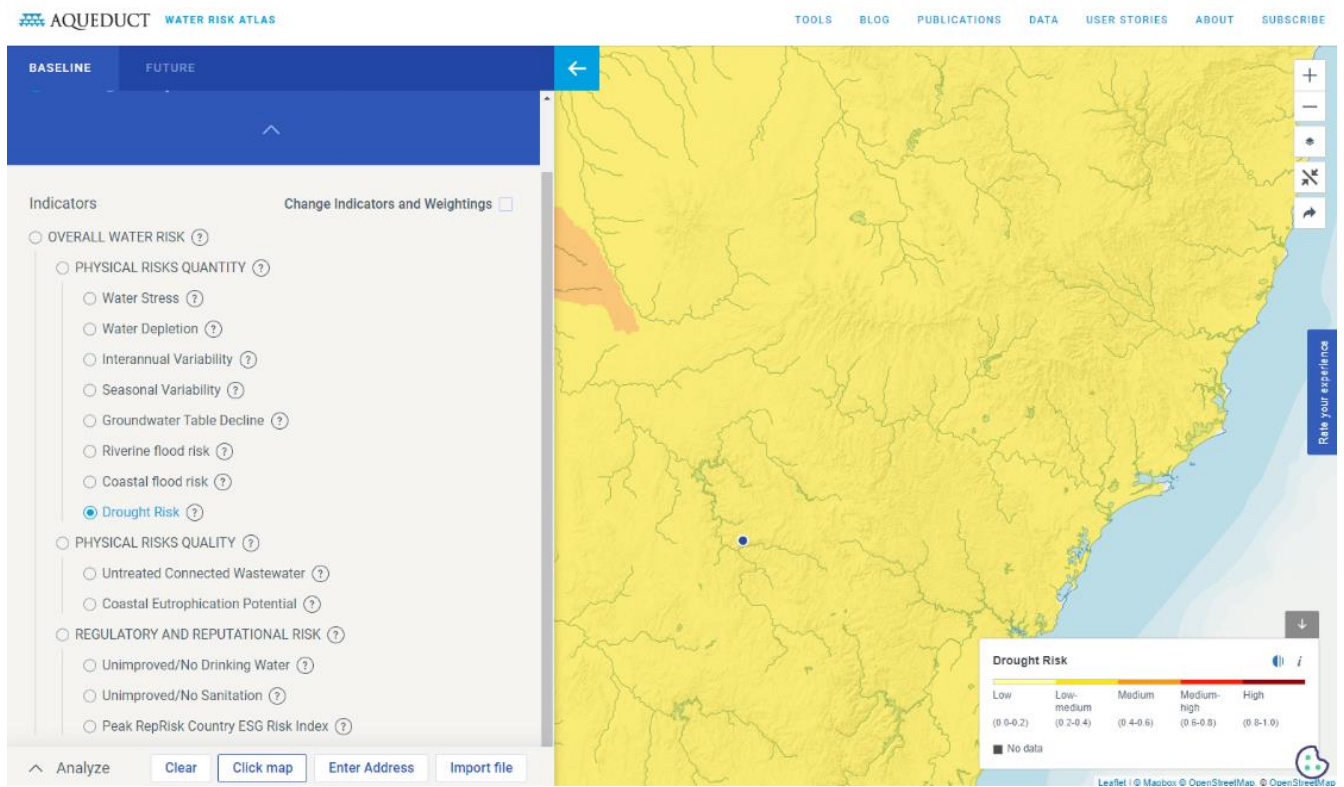


WATER STRESS

Description:

Baseline water stress measures the ratio of total water demand to available renewable surface and groundwater supplies. Water demand include domestic, industrial, irrigation, and livestock uses. Available renewable water supplies include the impact of upstream consumptive water users and large dams on downstream water availability. Higher values indicate more competition among users.

5. Drought Risk – LOW TO MEDIUM



DROUGHT RISK

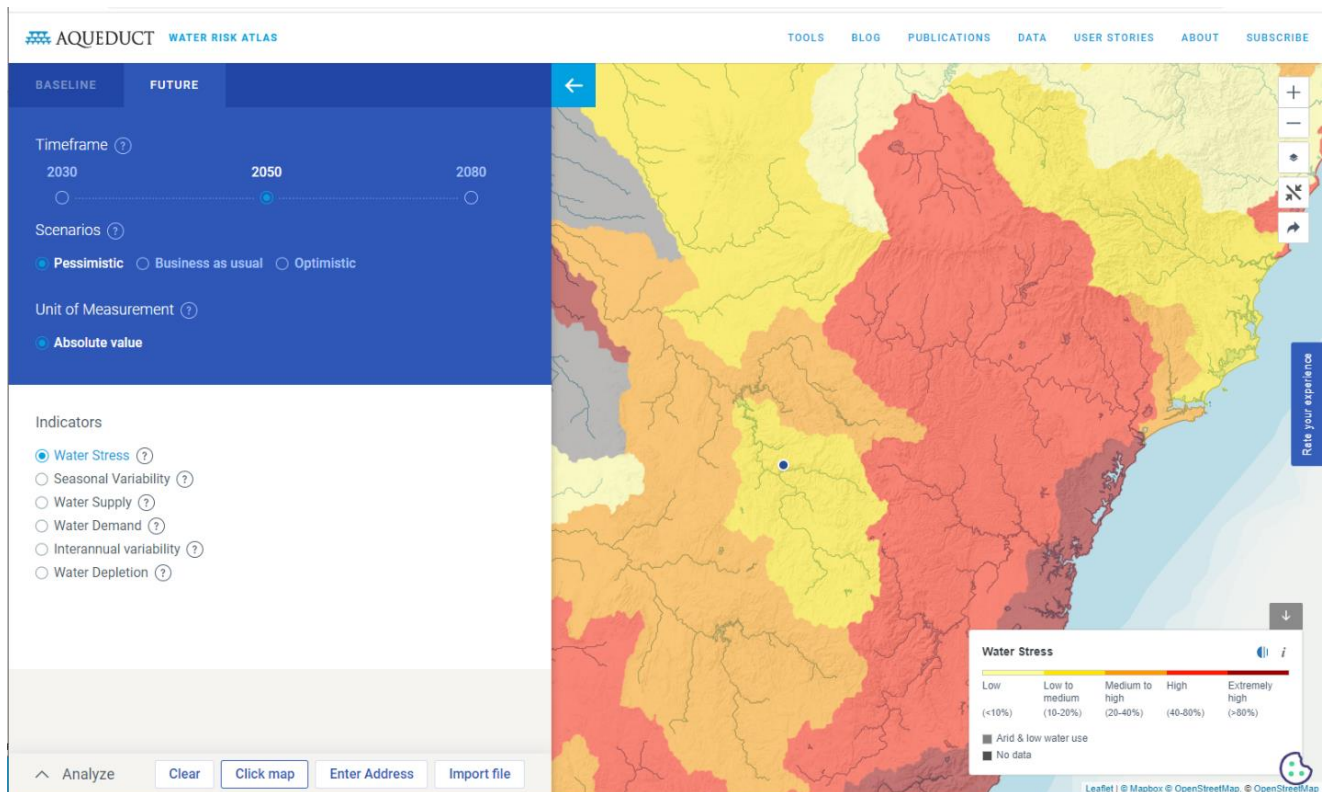
Description:

Drought risk measures where droughts are likely to occur, the population and assets exposed, and the vulnerability of the population and assets to adverse effects. Higher values indicate higher risk of drought.

WRI – WORLD RESOURCES INSTITUTE – AQUEDUCT WATER RISK ATLAS FUTURE WATER RISK ASSESSMENT FOR HILL END & TAMBAROORA NSW PROJECTS

- Forecast assessment was set to 2050 and a ‘Pessimistic’ category setting was used for ‘worst case scenario’ estimates.

1. 2050 Water Stress – Estimated LOW TO MEDIUM

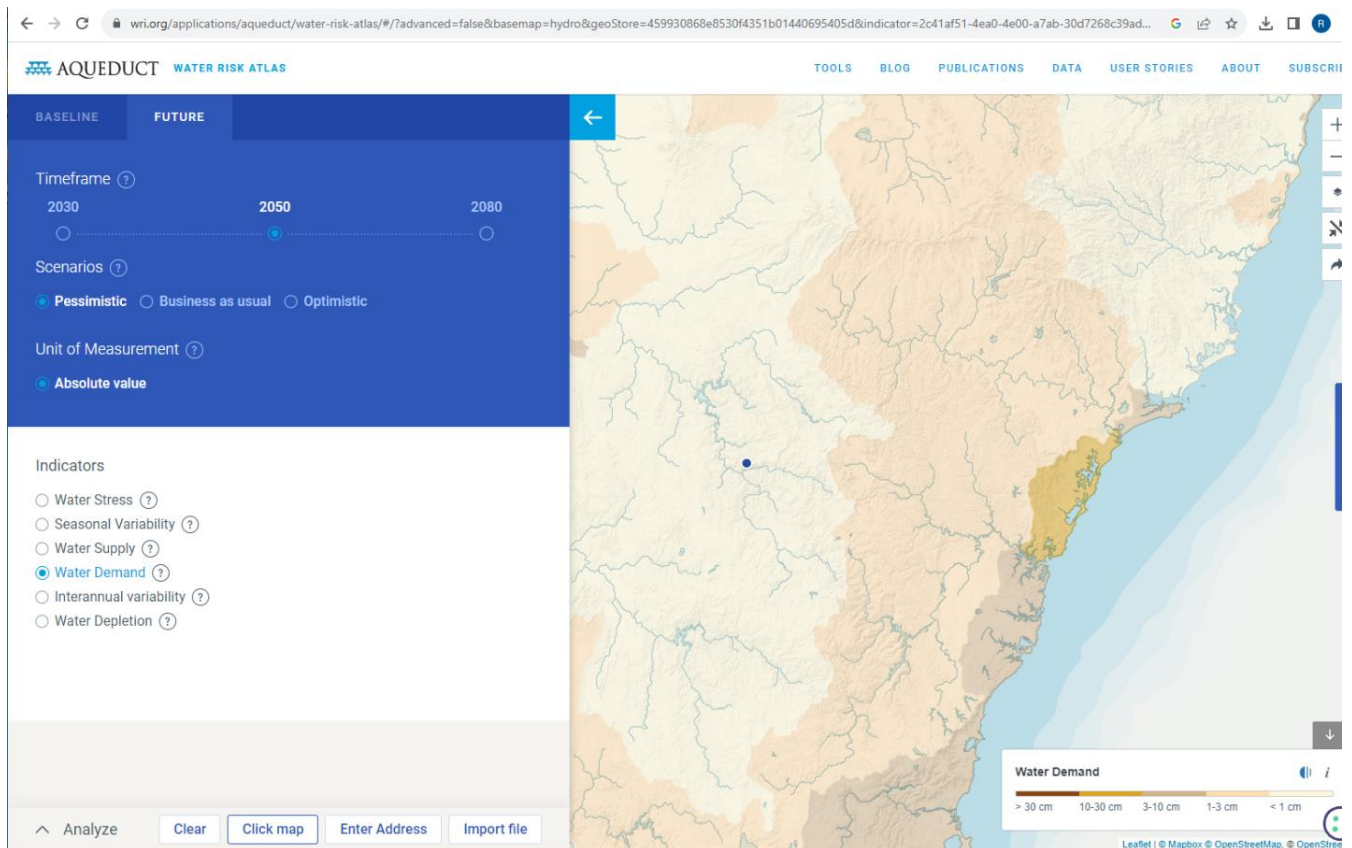


WATER STRESS

Description:

Water stress is an indicator of competition for water resources and is defined informally as the ratio of demand for water by human society divided by available water.

2. 2050 Water Demand - Estimated Flux <1cm

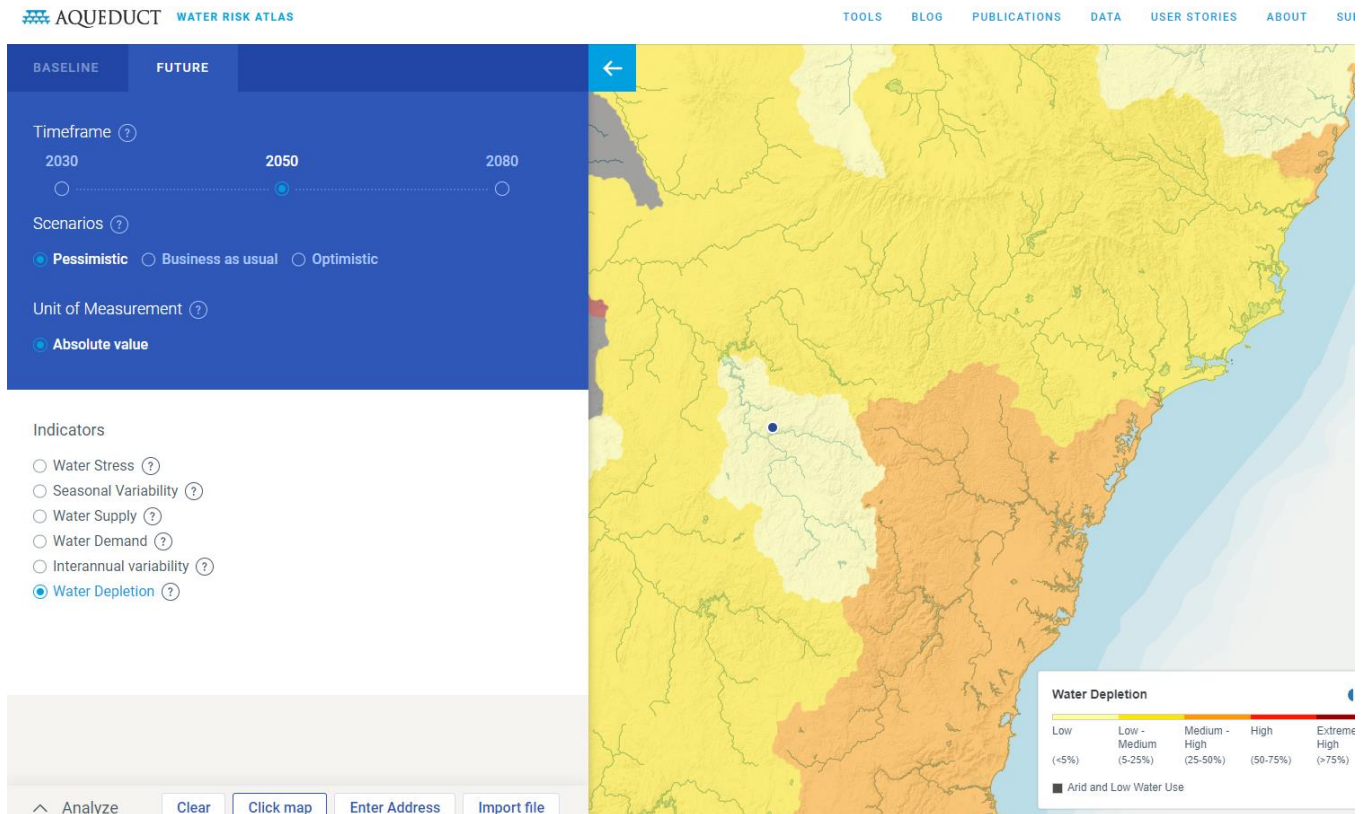


WATER DEMAND

Description:

Gross demand is the maximum potential water required to meet sectoral demands. Sectoral water demand includes: domestic, industrial, irrigation, and livestock. Demand is displayed as a flux (cm/year).

3. 2050 Water Depletion – Estimate - LOW



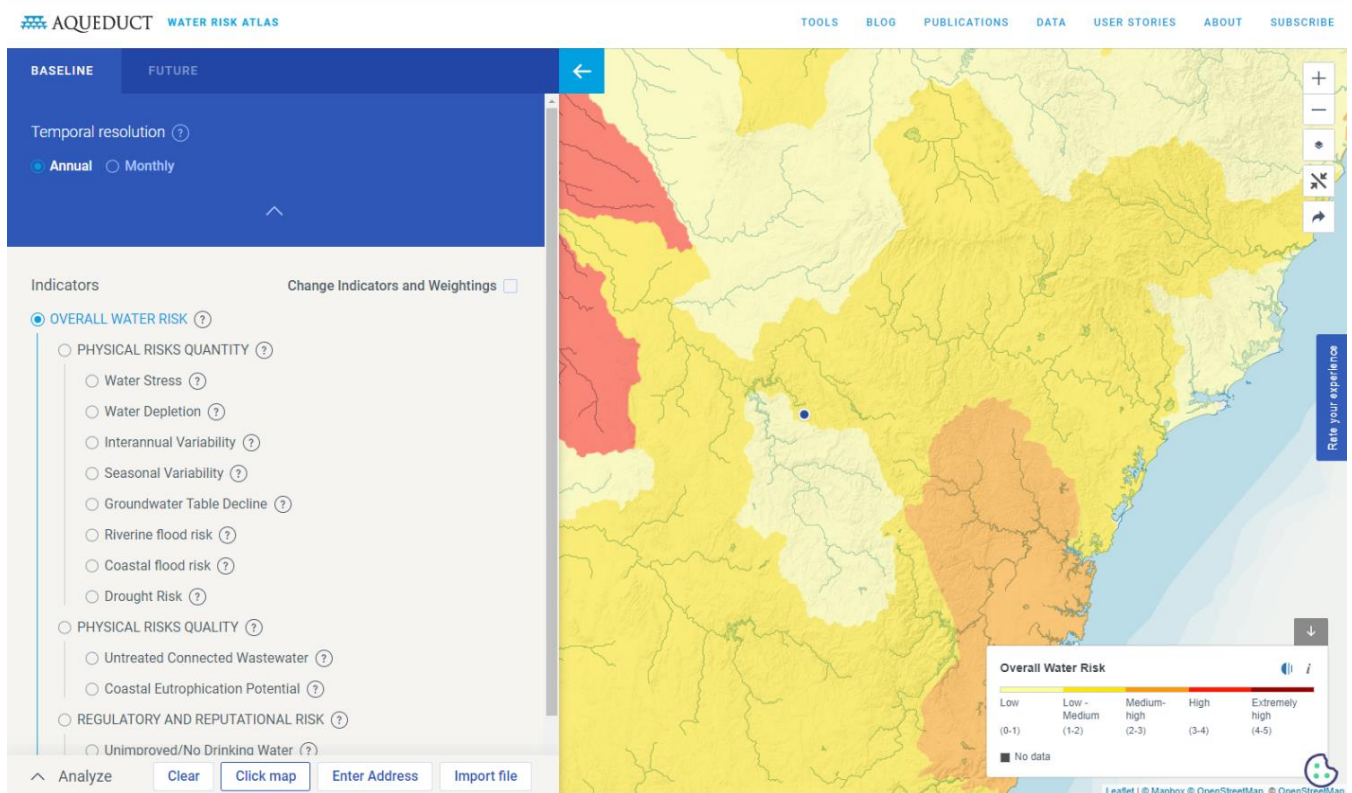
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WRI – WORLD RESOURCES INSTITUTE – AQUEDUCT WATER RISK ATLAS BASELINE WATER RISK ASSESSMENT FOR HARGRAVES NSW PROJECT

1. Overall Water Risk – LOW

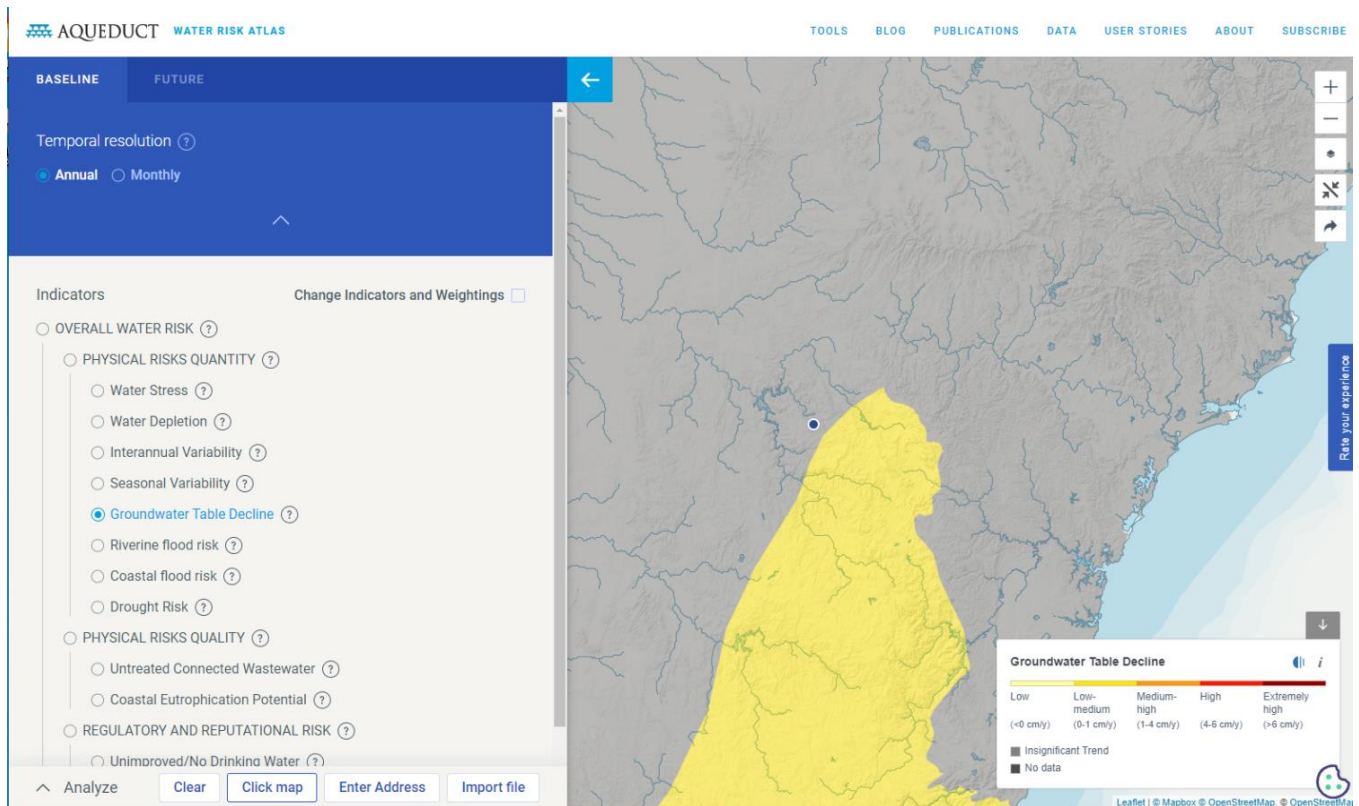


OVERALL WATER RISK

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2. Groundwater Table Decline – INSIGNIFICANT TREND

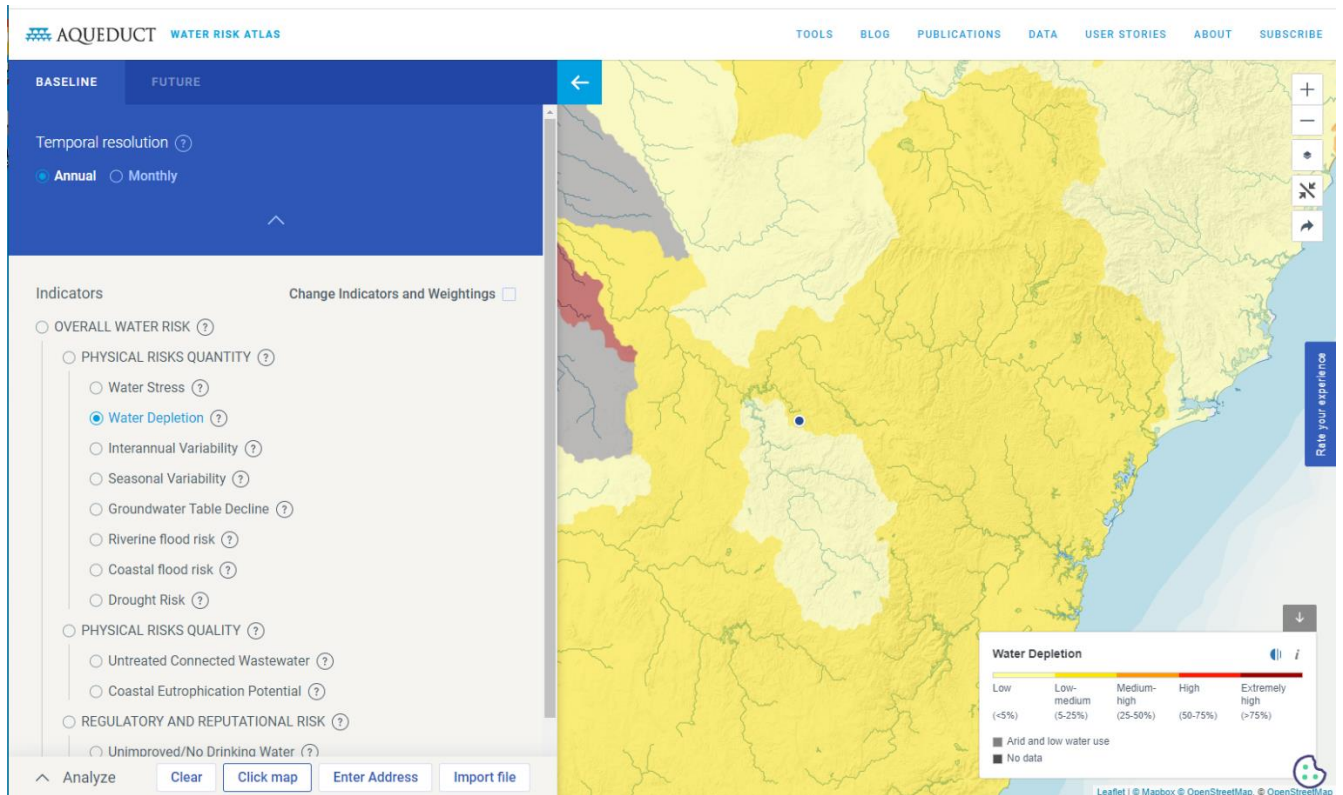


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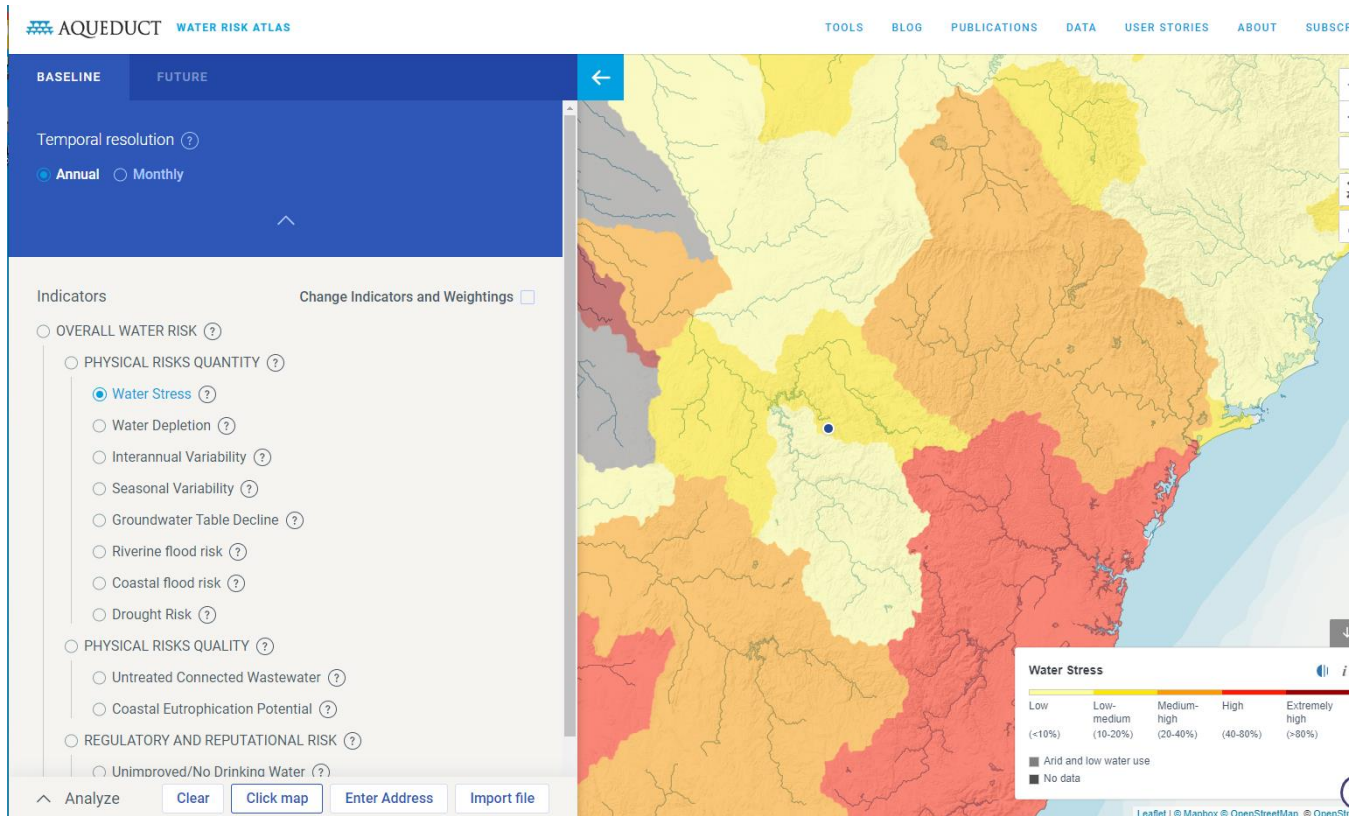
3. Water Depletion – LOW TO MEDIUM



WATER DEPLETION Description:

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4. Water Stress – LOW TO MEDIUM

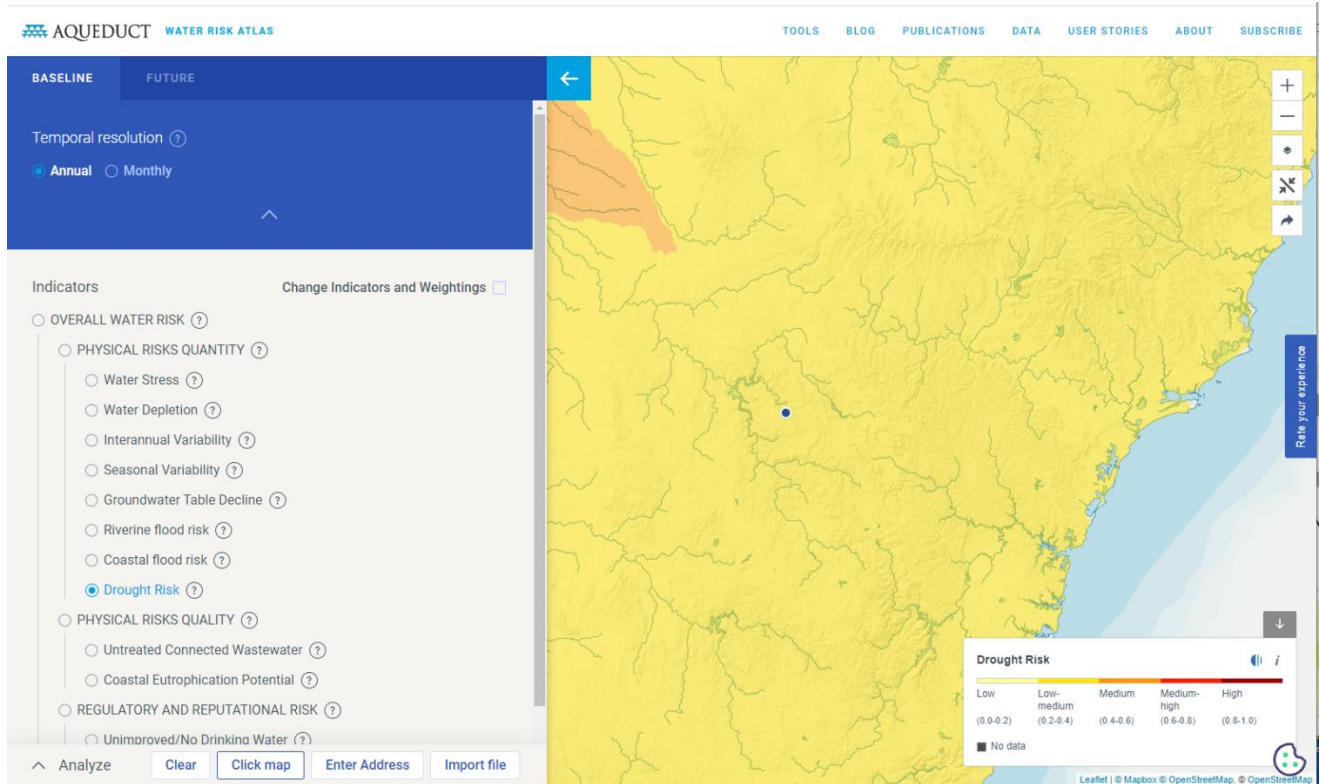


WATER STRESS

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5. Drought Risk – LOW TO MEDIUM



DROUGHT RISK

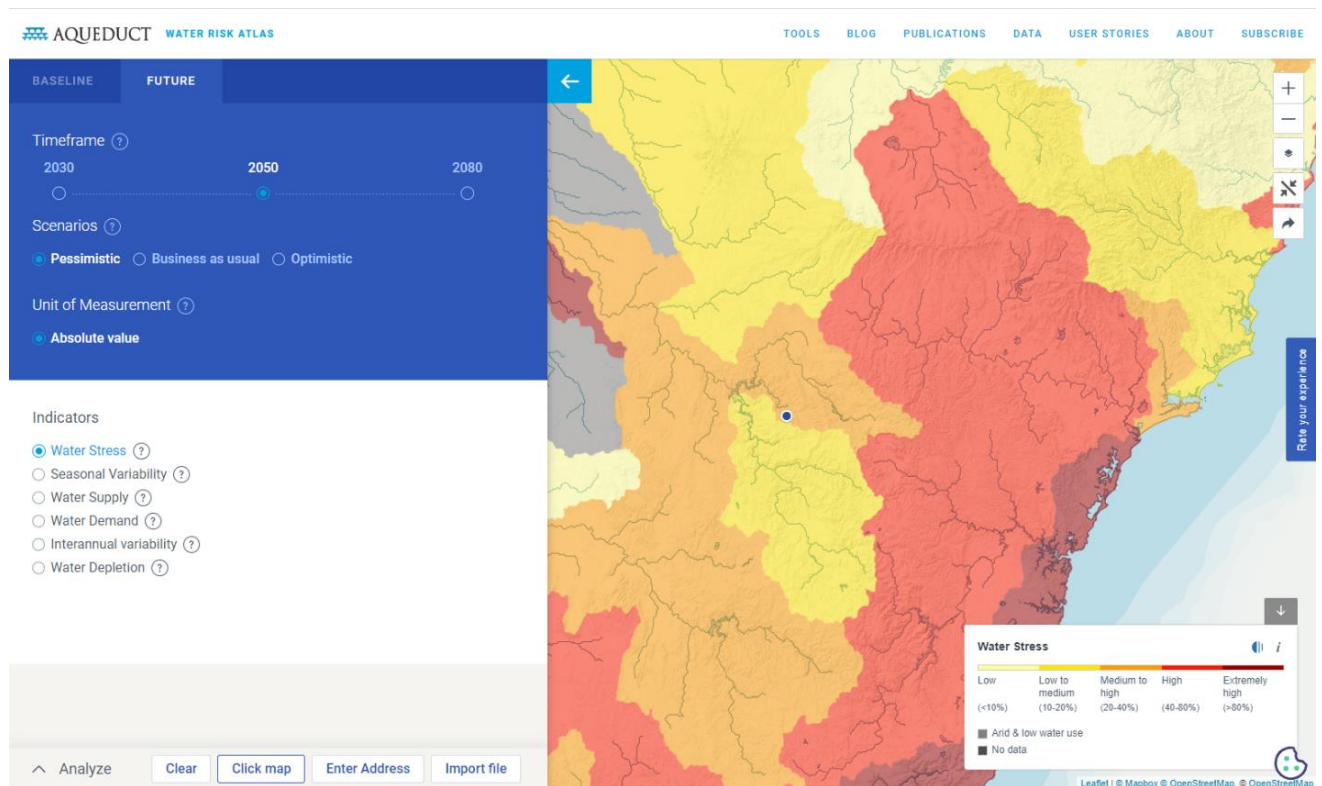
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1. 2050 Water Stress – Estimated MEDIUM TO HIGH

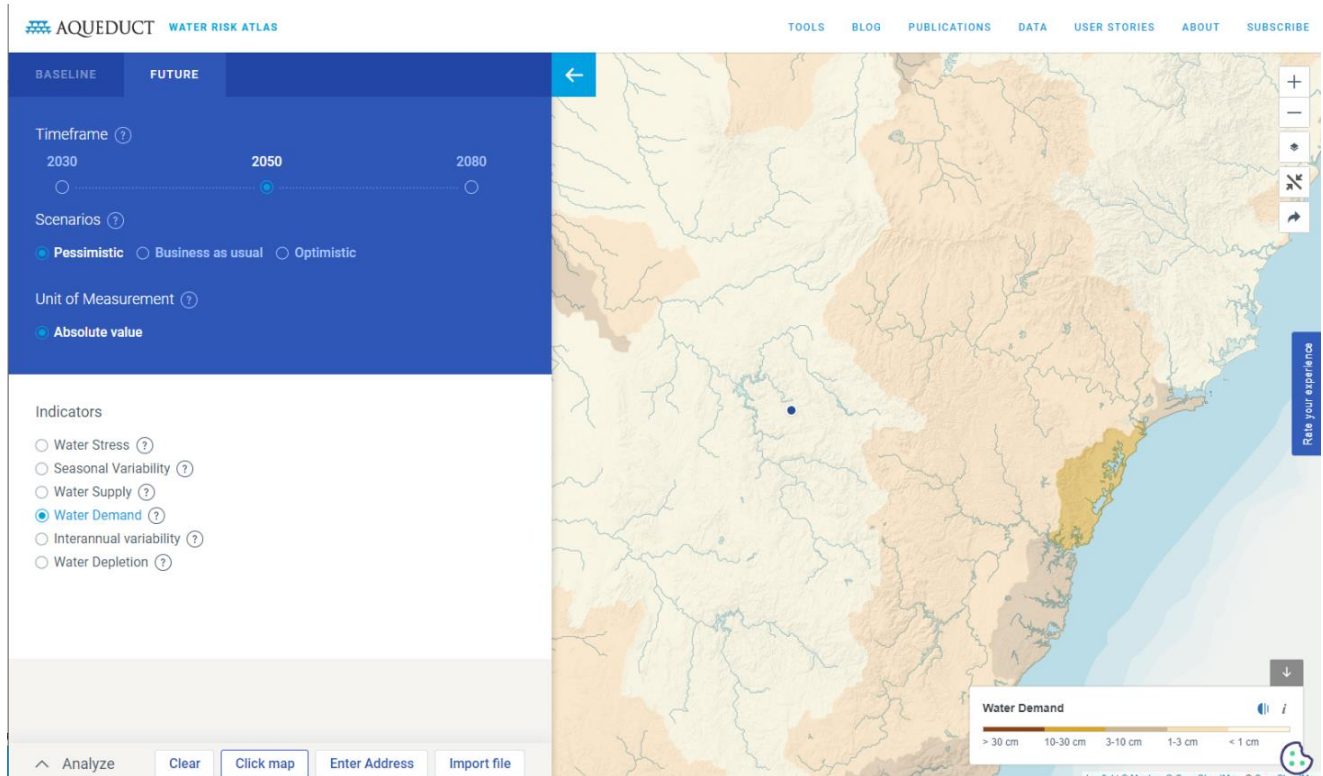


WATER STRESS

Description:

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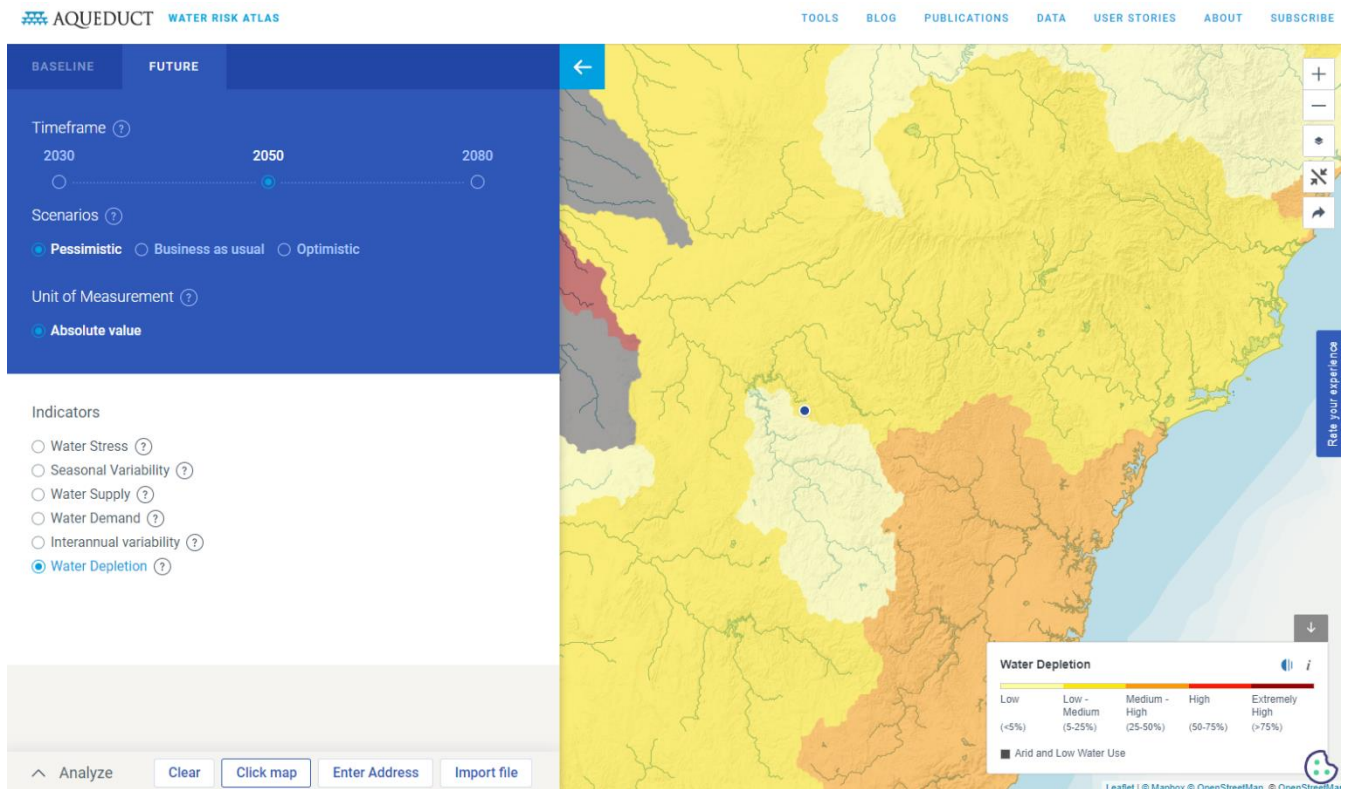


WATER DEMAND

Description:

Gross demand is the maximum potential water required to meet sectoral demands. Sectoral water demand includes: domestic, industrial, irrigation, and livestock. Demand is displayed as a flux (cm/year).

3. 2050 Water Depletion – Estimate – LOW TO MEDIUM



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Related VTX policies:

Related VTX policies and charters:

- Corporate Governance Plan, Schedule 01, Board Charter, 2021
- Corporate Governance Plan, Schedule 02, Corporate Code of Conduct, 2021
- Corporate Governance Plan, Schedule 03, Audit & Risk Committee Charter, 2021
- Corporate Governance Plan, Schedule 04, Remuneration Committee Charter, 2021
- Corporate Governance Plan, Schedule 05, Nomination Committee Charter, 2021
- Corporate Governance Plan, Schedule 06, ESG Committee Charter, 2021
- Corporate Governance Plan, Schedule 08, Continuous Disclosure Policy, 2021
- Corporate Governance Plan, Schedule 07, Performance Evaluation Policy, 2021
- Corporate Governance Plan, Schedule 09, Risk Management Policy, 2021
- Corporate Governance Plan, Schedule 10, Trading Policy, 2021
- Corporate Governance Plan, Schedule 11, Diversity Policy, 2021
- Corporate Governance Plan, Schedule 12, Whistleblower Protection Policy, 2021
- Corporate Governance Plan, Schedule 13, Anti-Bribery and Anti-Corruption Policy, 2021
- Corporate Governance Plan, Schedule 14, Shareholder Communication Strategy, 2021
- Corporate Governance Plan, Schedule 15, Environmental, Social and Governance Policy, 2021
- Corporate Governance Statement, 2021

Source:

Accessed 15 September 2023

Vertex Minerals Limited

Corporate Governance Plan

<https://vertexminerals.com/wp-content/uploads/2021/10/Corporate-Governance-Plan-VTX2806539.2.pdf>

Social Suite ESG

<https://esg.socialsuitehq.com/resources/vertex-minerals>

Aqueduct Water Risk Atlas

https://www.wri.org/applications/aqueduct/water-risk-atlas/#/?advanced=false&basemap=hydro&geoStore=459930868e8530f4351b01440695405d&indicator=w_awr_def_tot_cat&lat=-33.08693925905123&lng=150.83129882812503&mapMode=analysis&month=1&opacity=0.5&ponderation=DEF&predefined=false&projection=absolute&scenario=optimistic&scope=baseline&threshold&timeScale=annual&year=baseline&zoom=8