CRC for
Water Sensitive Cities

4th water sensitive cities conference

Australian Government
Department of Industry and Science

Business
Cooperative Research
Centres Programme

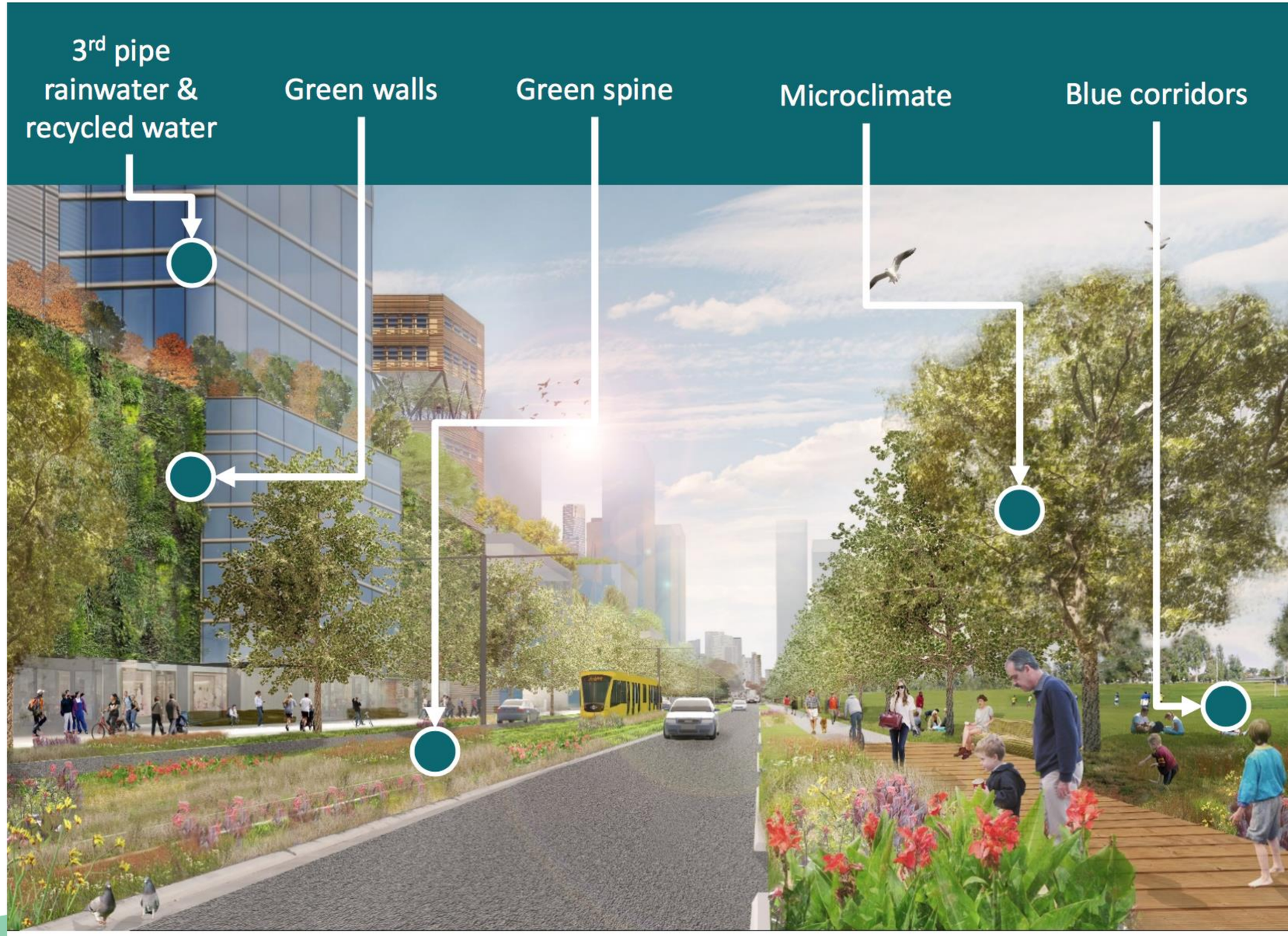
Scenario Tool

Dr Christian Urich
Monash University

26-28 March 2019

Water Sensitive Cities Scenario Tool

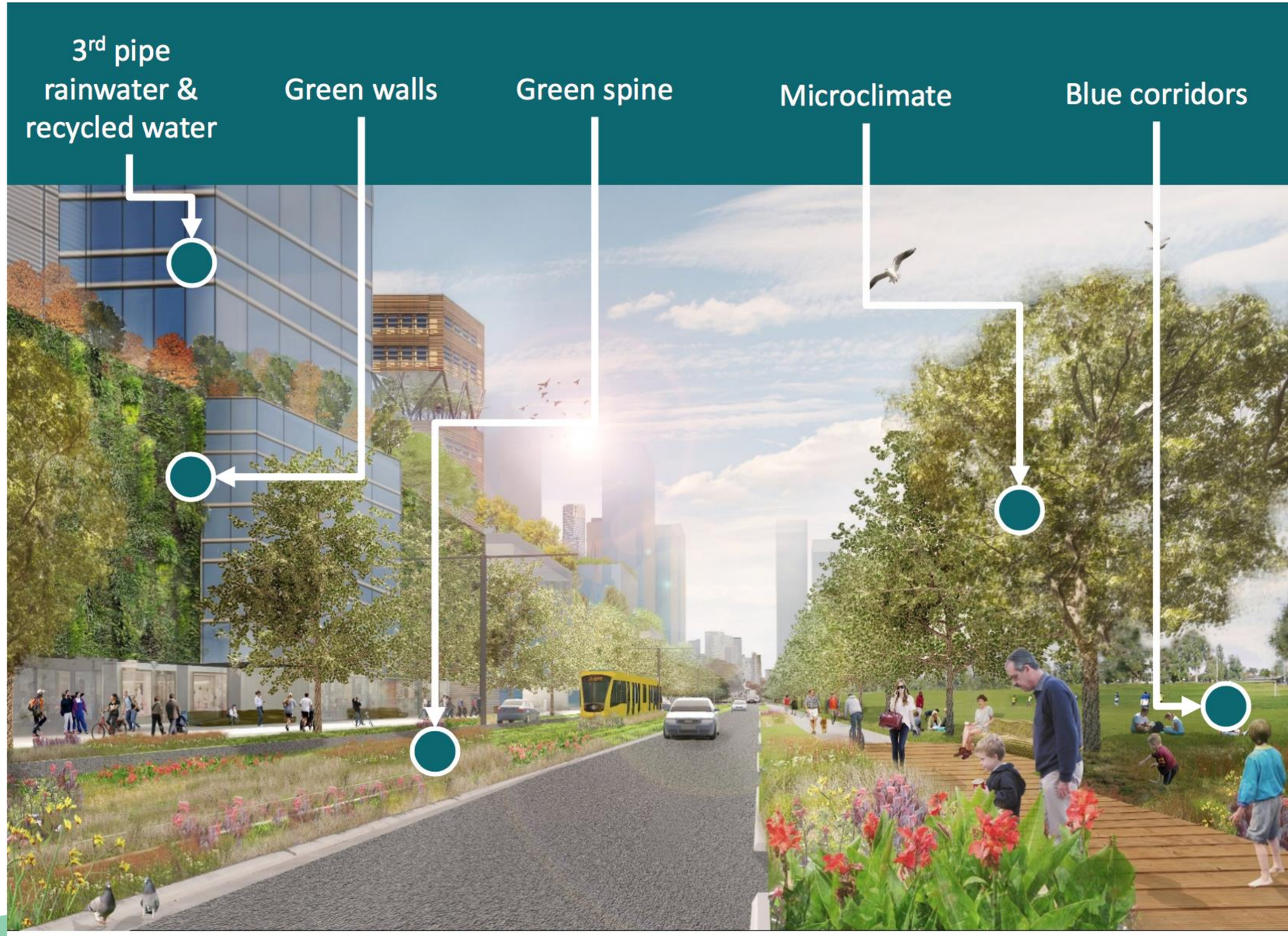
Evaluating concept designs and technology/policy



CRC for Water Sensitive Cities

Water Sensitive Cities Scenario Tool

- ✓ Assesses multiple benefits of green infrastructure solutions
- ✓ Supports scenario planning and testing
- ✓ Supports collaborative planning and decision-making
- ✓ Provide the basis for robust water sensitive policies and business cases
- ✓ Integrates and bridges the gap between existing data and modelling tools across spatial scales



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Digital Twin

Base Data

- **Urban From**

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Digital Twin

Base Data

- Urban From
- **Elevation and soil data**

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Base Data

- Urban From
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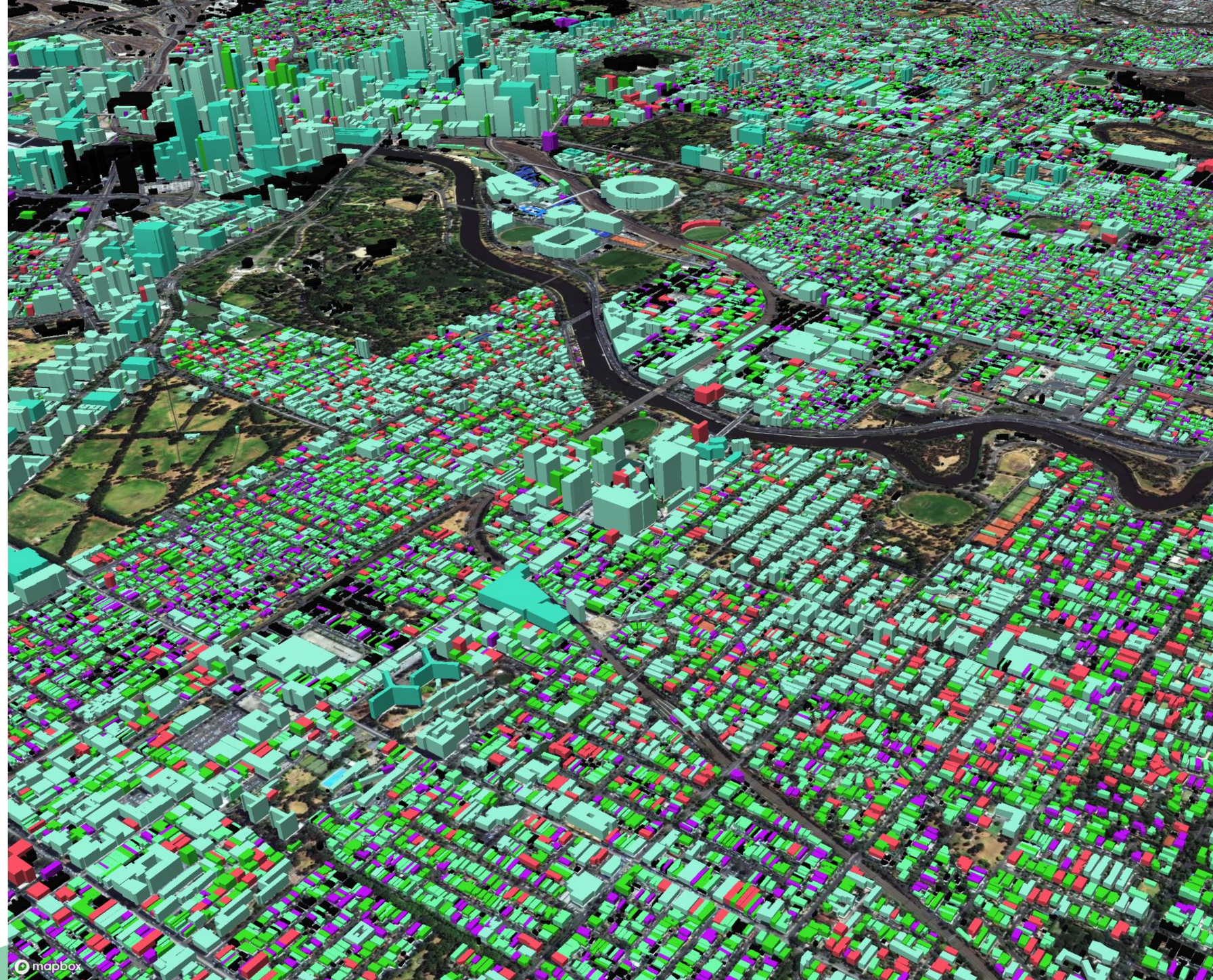
- **Socio – demographic data**



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Digital Twin

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- Urban From
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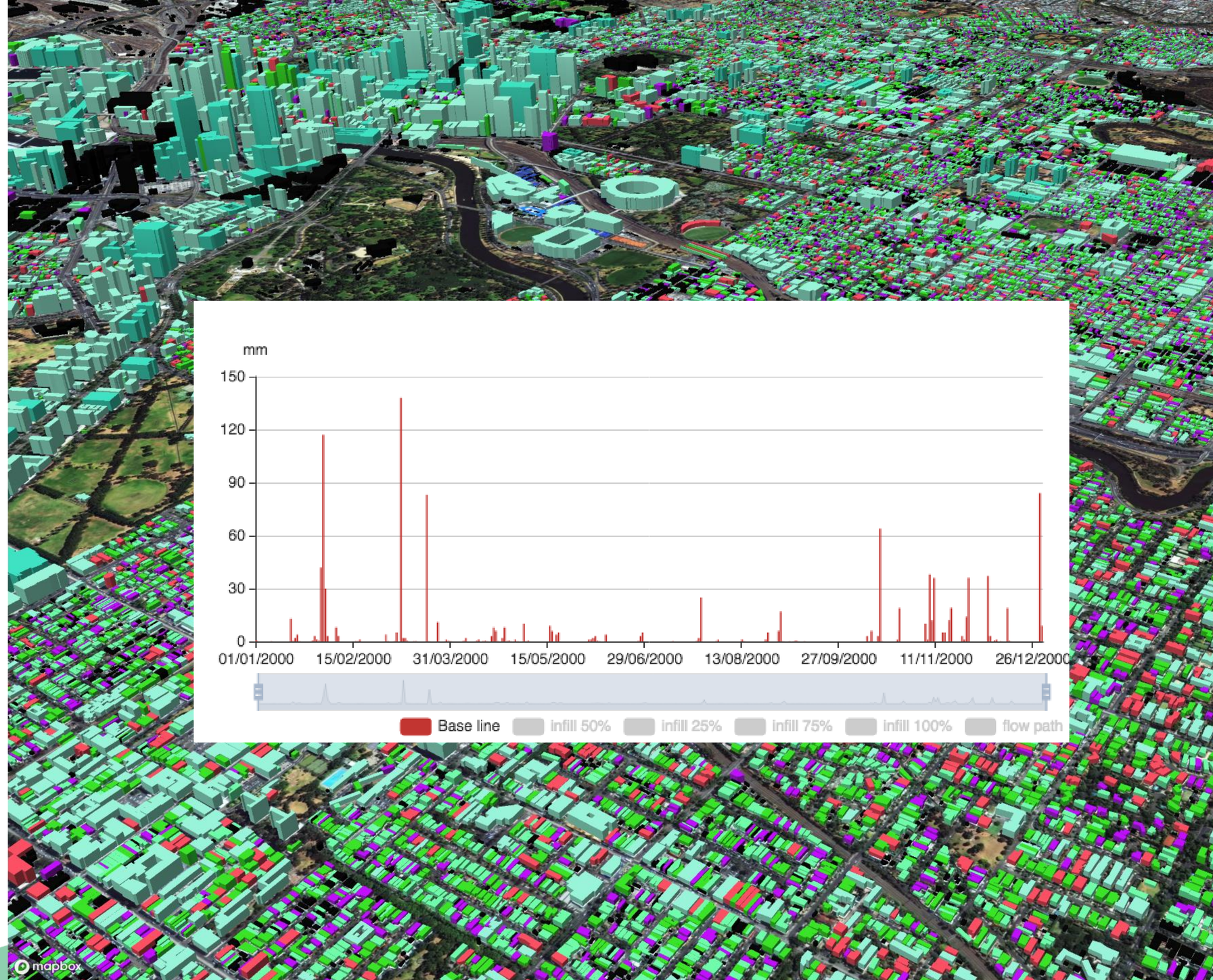
- **Climate data**



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Digital Twin

Base Data

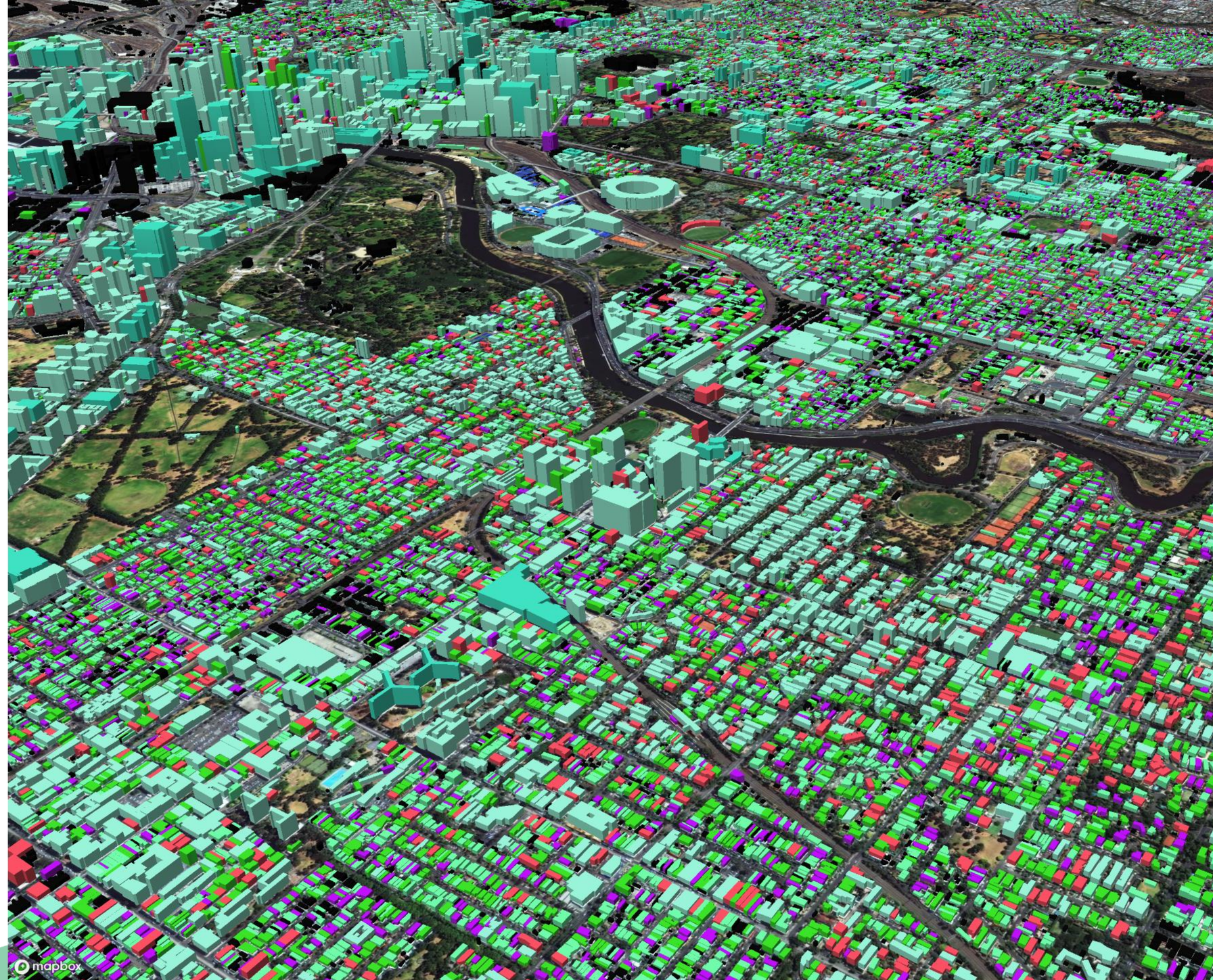
- Urban From
- Elevation and soil data
- Socio – demographic data
- **Climate data**

CRCWSC Data

- Heat vulnerability mapping
- Future climate data
- Design typologies

Own Data

- Land use zoning
- Asset data
- …



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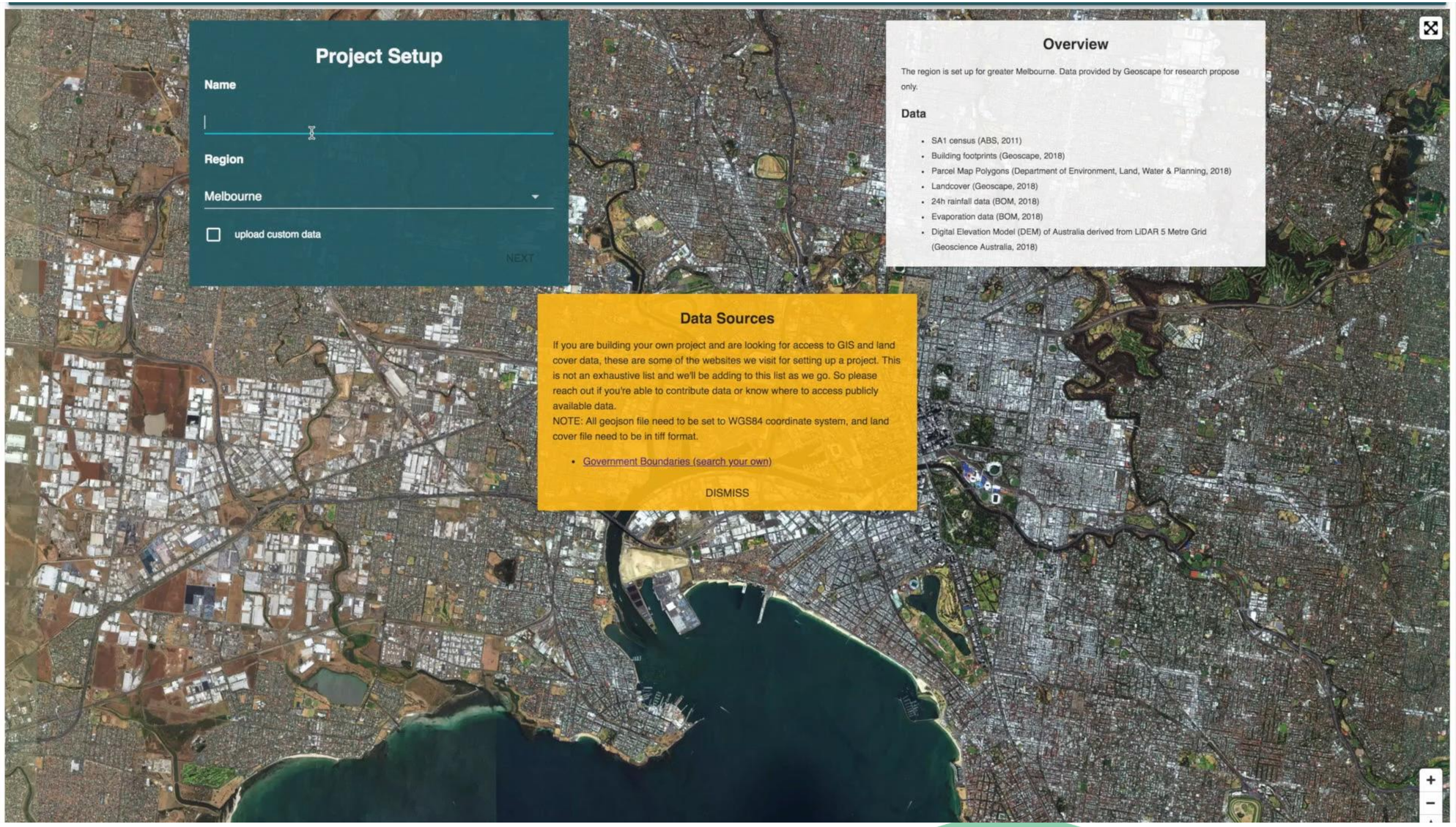
Digital Twin

- Melbourne
- Adelaide
- Brisbane
- Perth
- Sydney



Models

Urban Development

- Greenfield and Infill

Digital Twin - Models

Urban Development

- Greenfield and Infill
- Urban Form Typologies

Existing

BAU

WSUD Typology I

Digital Twin - Models

Urban Development

- Greenfield and Infill
- Urban Form Typologies

Infrastructure Placement

- Green Technologies
- Trees

Digital Twin - Models

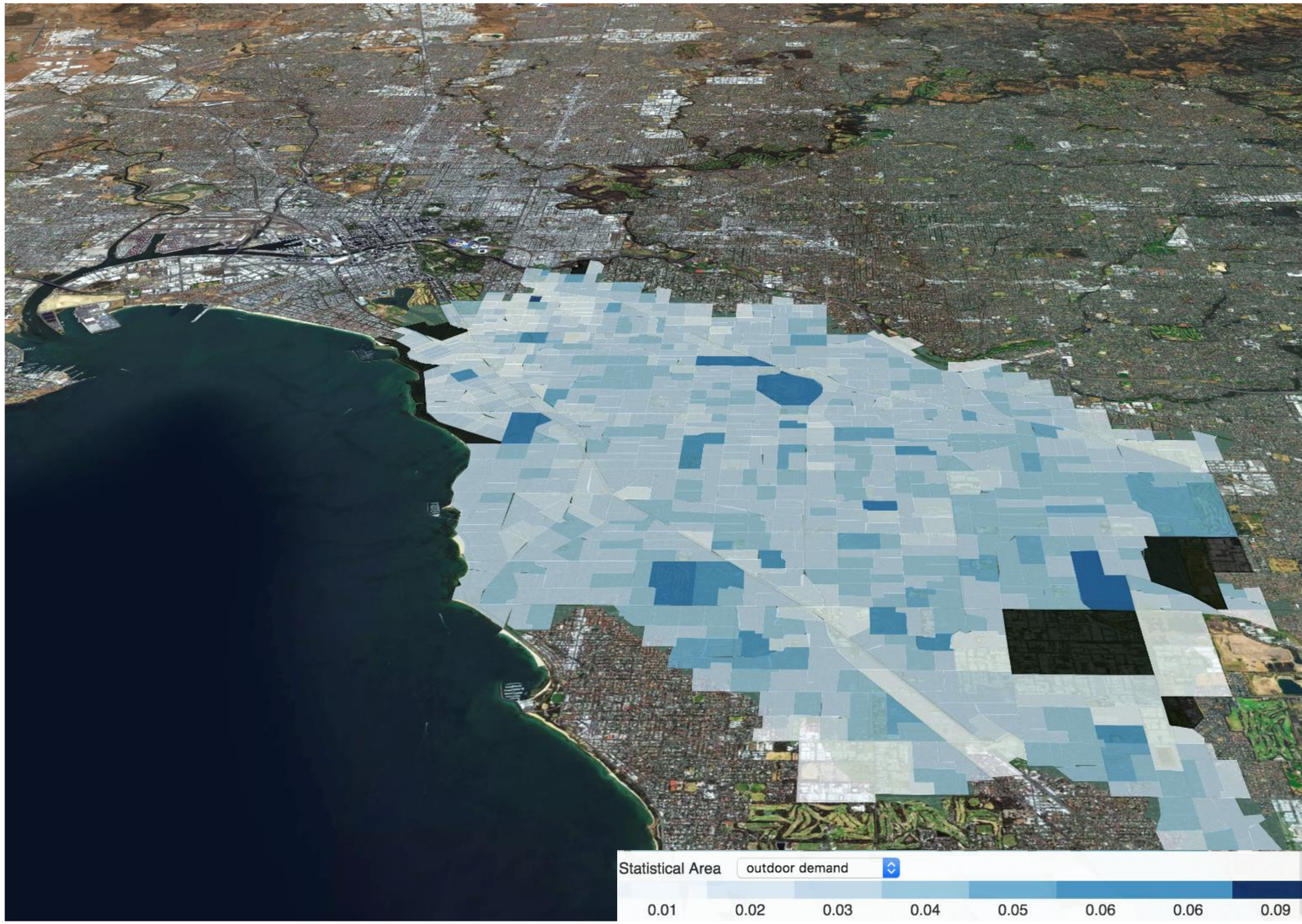
Performance Assessment

- Heat Island Effect
  - Land Surface Temperature
  - Air Temperature (TARGET)
  - Thermal Comfort

Digital Twin - Models

Performance Assessment

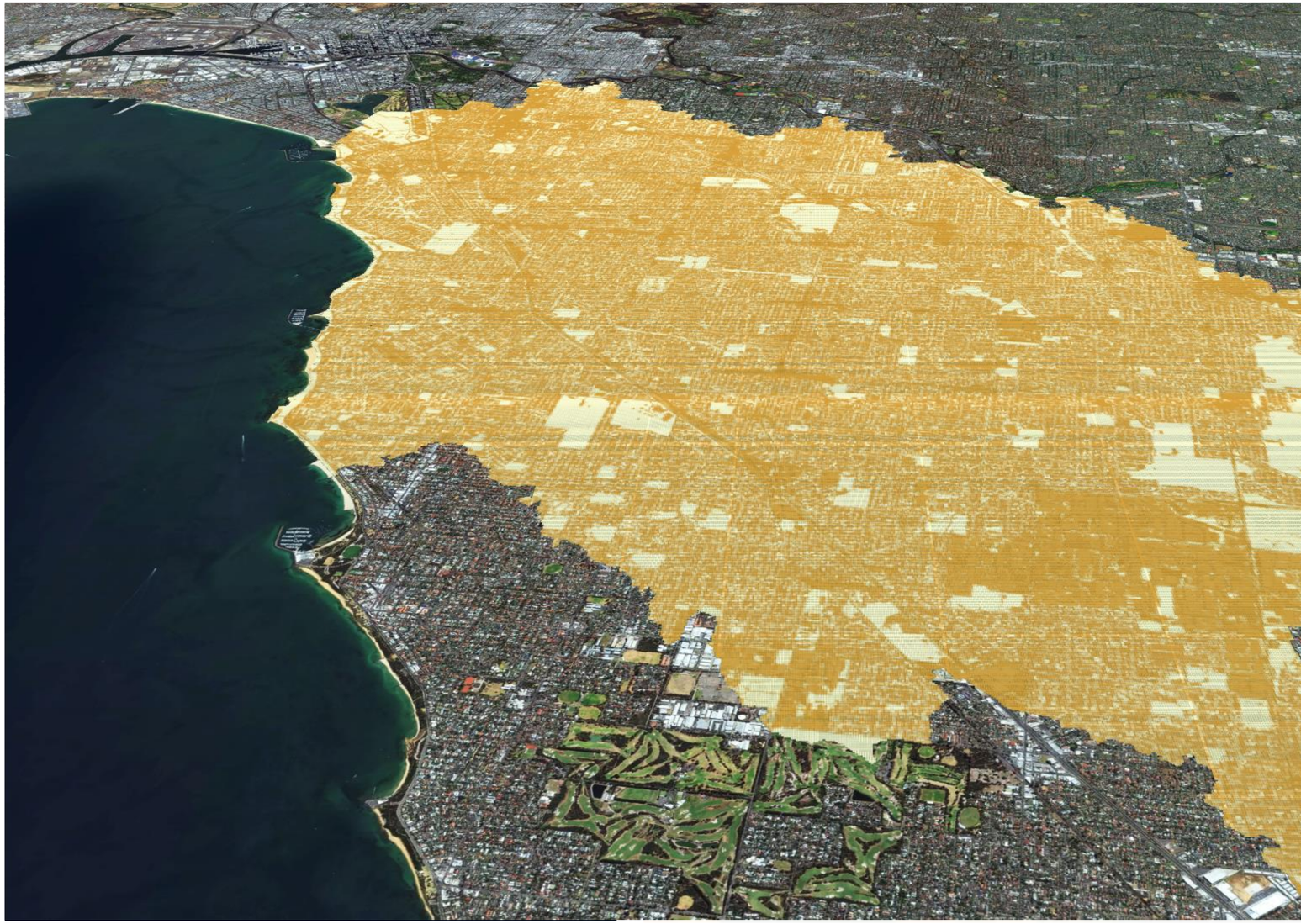
- Heat Island Effect
  - Land Surface Temperature
  - Air Temperature (TARGET)
  - Thermal Comfort
- Urban Water Cycle
- Urban Metabolism



Digital Twin - Models

Performance Assessment

- Heat Island Effect
  - Land Surface Temperature
  - Air Temperature (TARGET)
  - Thermal Comfort
- Urban Water Cycle
- Urban Metabolism
- Storm Water Treatment and Harvesting



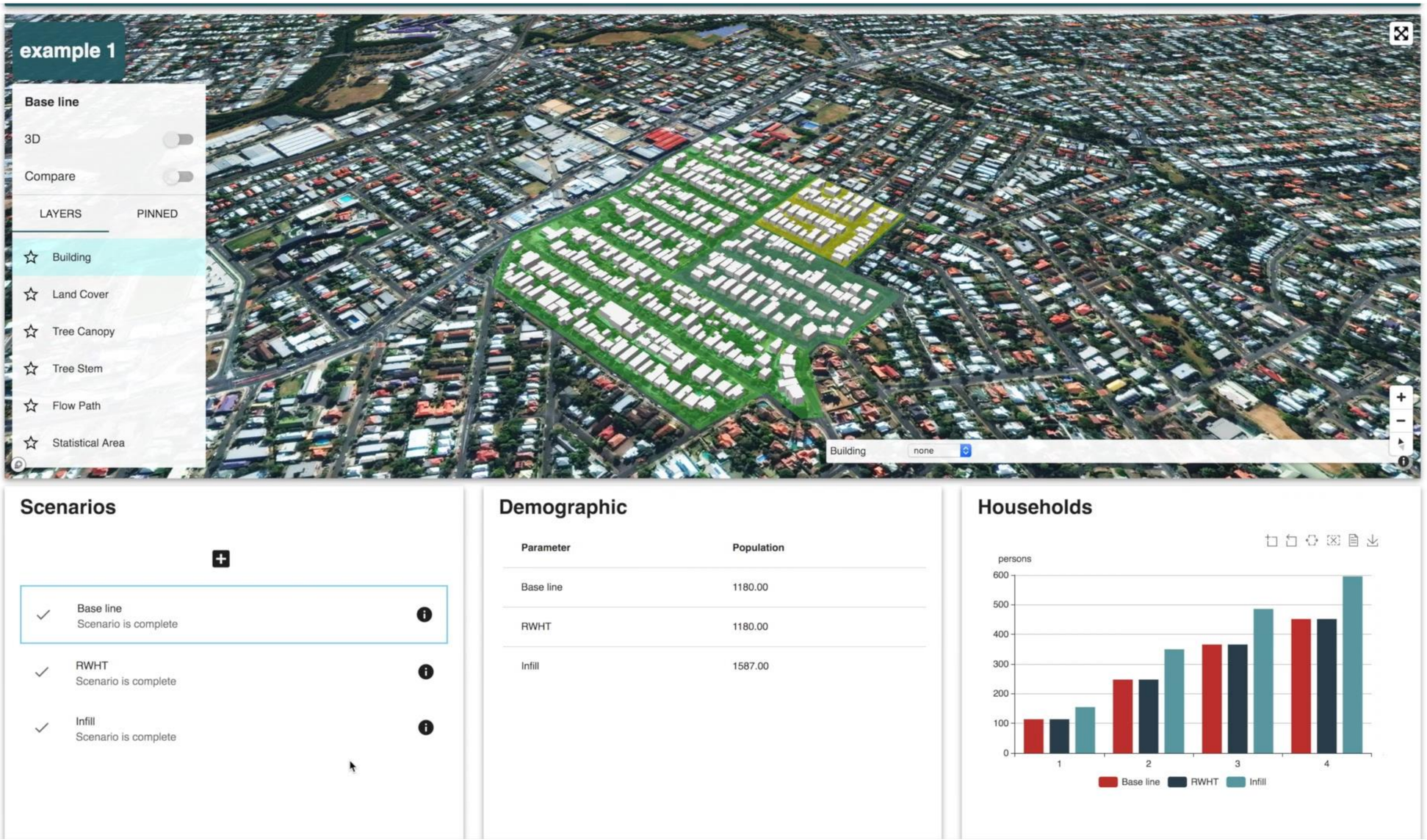
Digital Twin - Models

Performance Assessment

- Heat Island Effect
  - Land Surface Temperature
  - Air Temperature (TARGET)
  - Thermal Comfort
- Urban Water Cycle
- Urban Metabolism
- Storm Water Treatment and Harvesting
- Flooding

Analytics

Scenario Analysis



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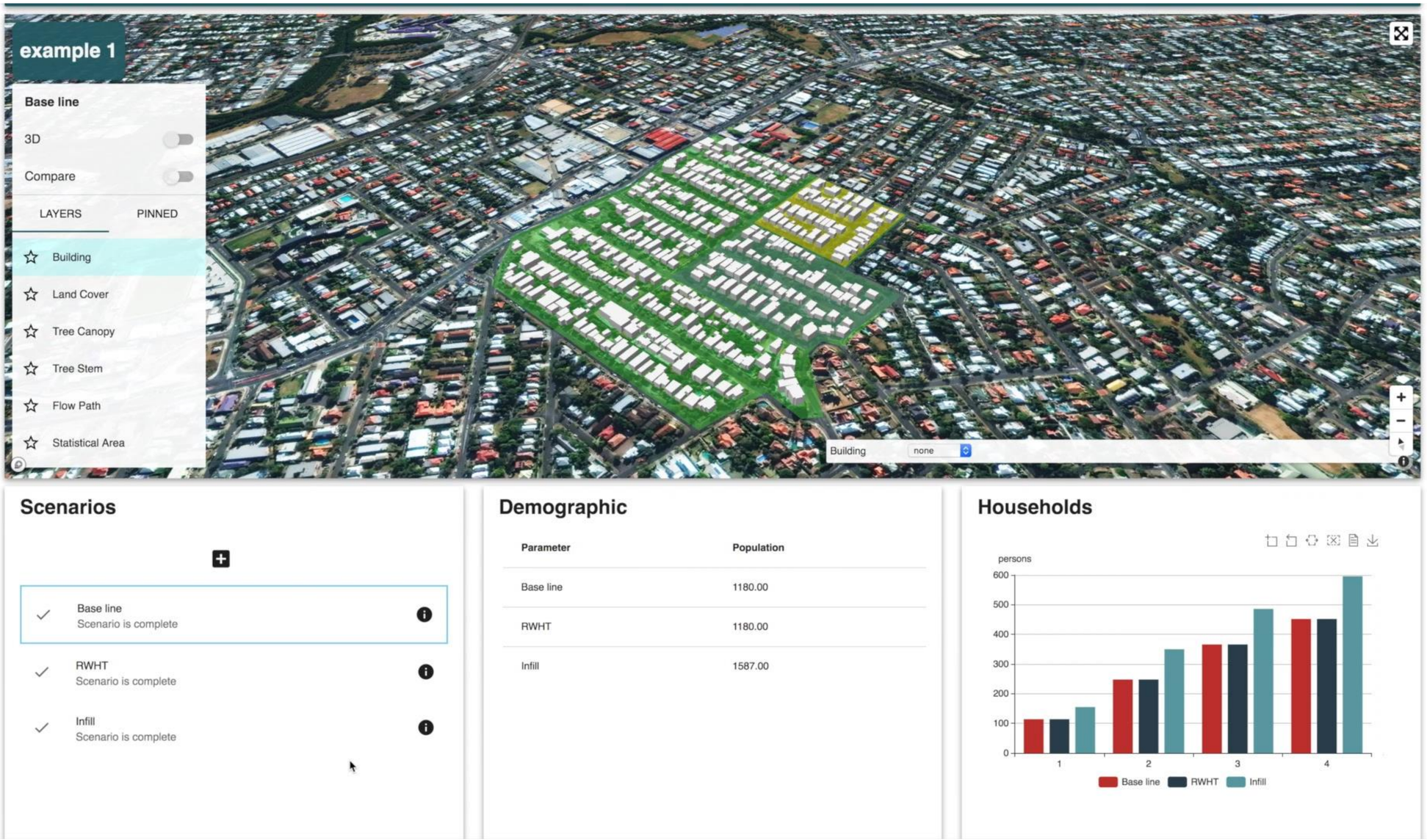
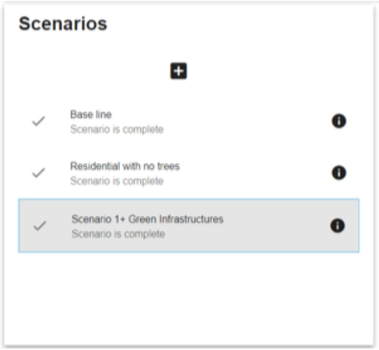
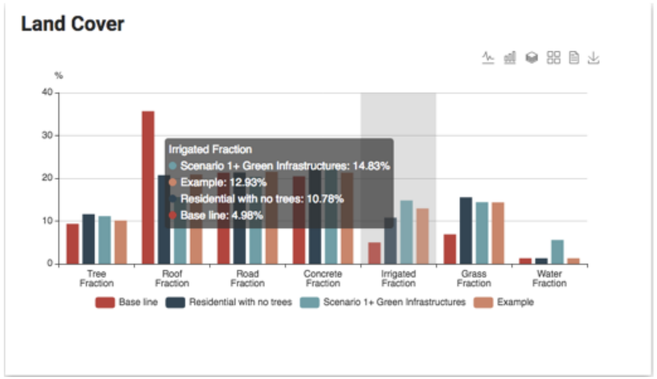
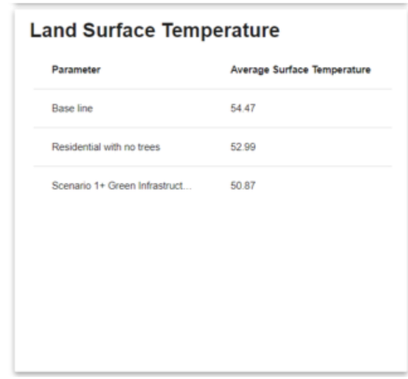


Analytics

- Scenario planning and testing
- Diagnostic tools





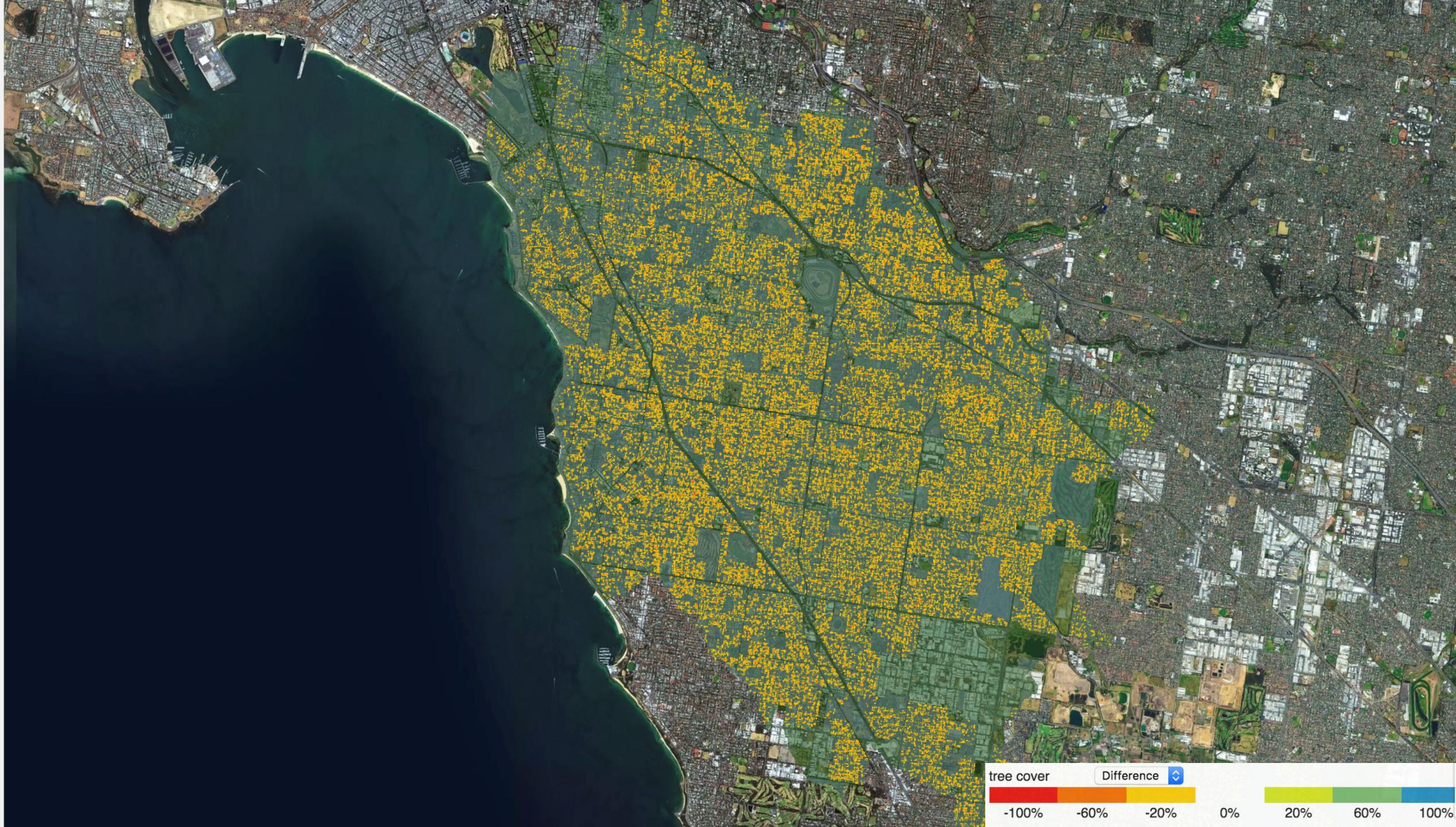


Collaboration

- Collaborative planning and decision-making
- Easy to use and accessible interface

Collaboration

- Collaborative planning and decision-making
- Easy to use and accessible interface
- Visualisations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Difference
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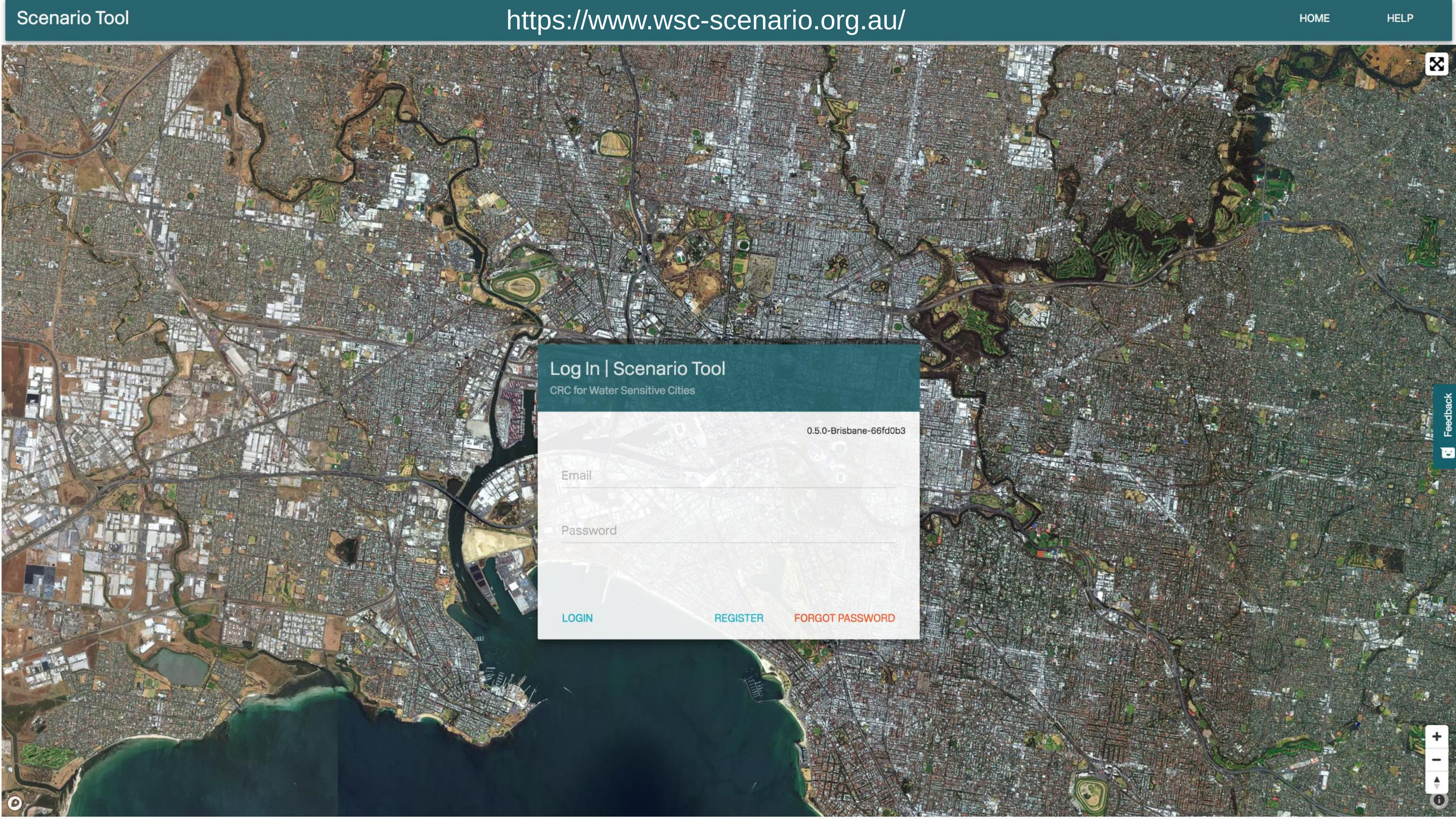
Scenario Tool
https://www.wsc-scenario.org.au/
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