Whitsunday Regional Council QCoast 2100

Coastal Hazard Adaptation Strategy

Whitsunday Regional Council

Whitsundays Overview

Area: **23,862.7km²**

Population (2016): **34,380**

Projected Population to 2036

Modest Growth: **47,200**

High Growth: **55,000**

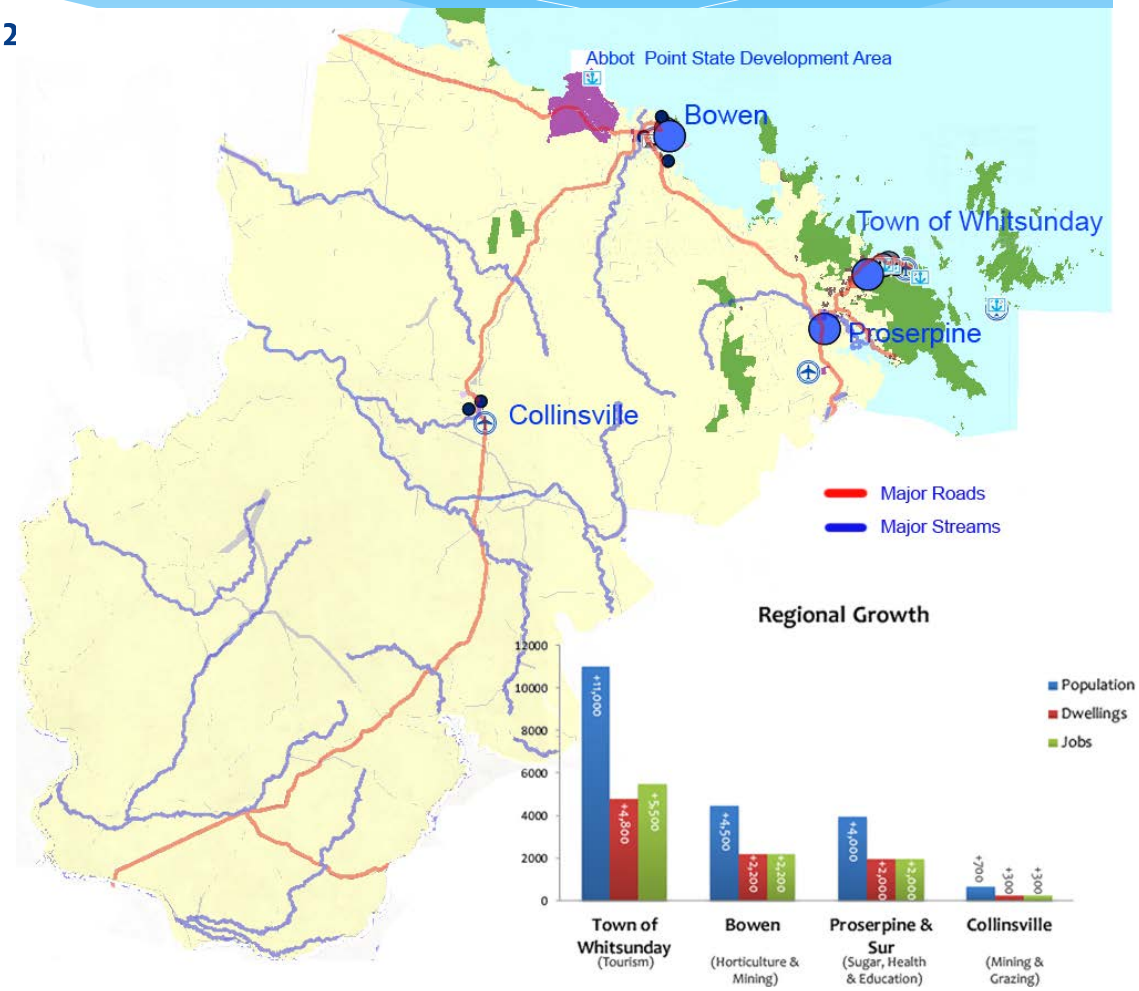
Key Industries:

Bowen: Horticulture and Mining

Town of Whitsunday: Tourism

Proserpine: Cropping, Health & Education

Collinsville: Mining and Grazing



WRC Coastline

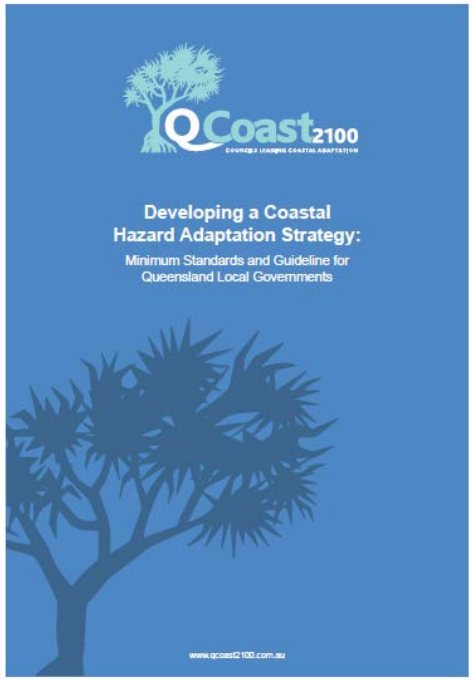
Coastline Length: **600km**

High storm tide risk: **460km2**

* 15 tropical cyclones since 1907
* Approximately 16% of council area situated in a floodplain
* Don River (north) and Proserpine River (South)

WRC climate change journey

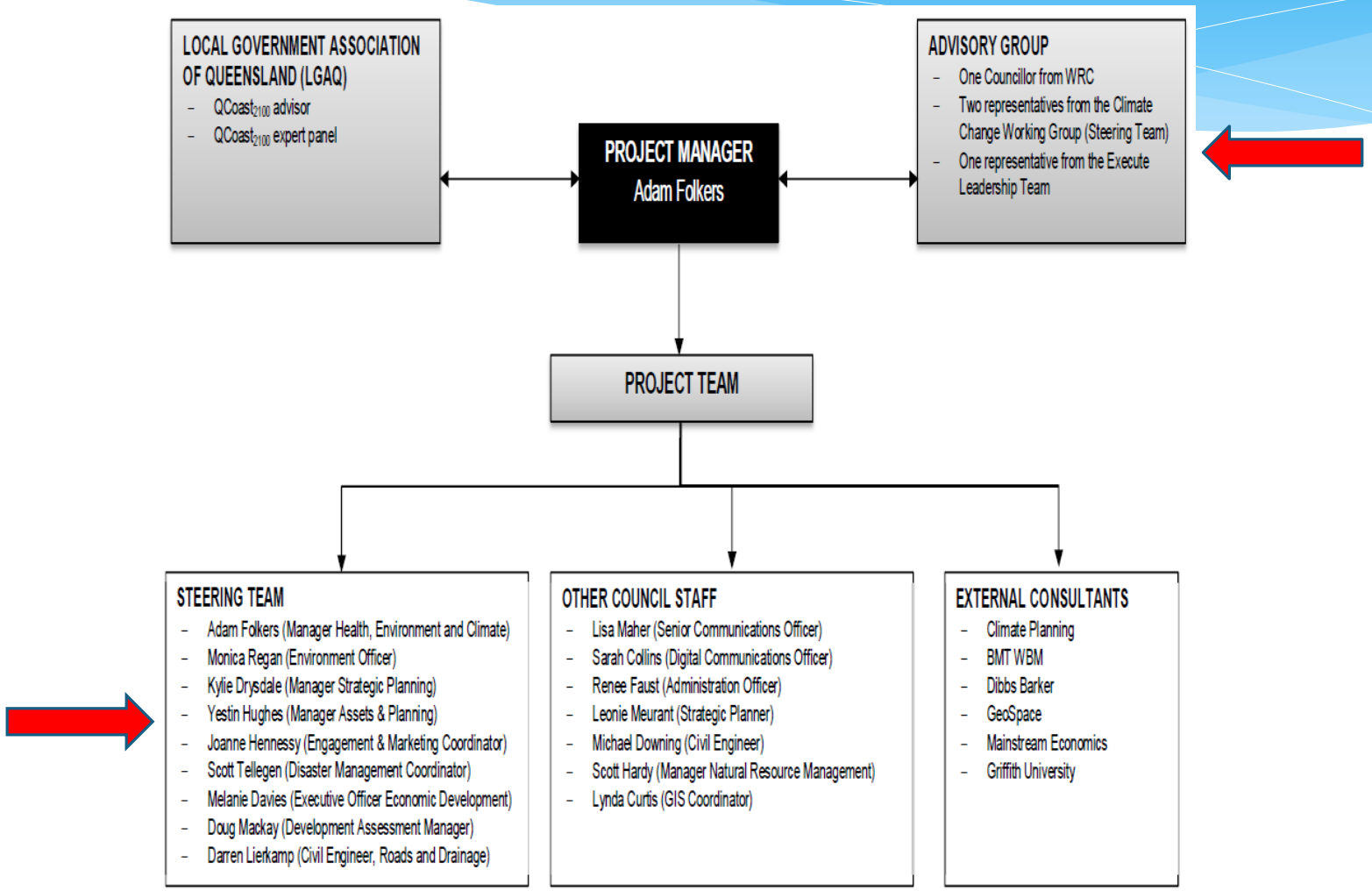
- 2014: Governance review
- July 2016: Policy and Strategy formally adopted
- 2016: LGAQ funding received to develop CHAS ($513,000)
- February 2017: MOU signed with Kingborough Council



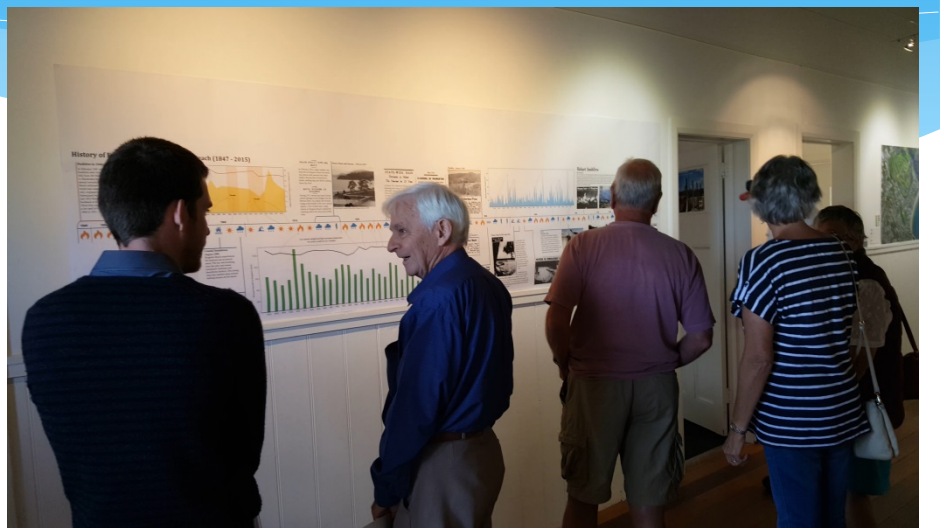
CHAS Projects Deliverables

Phase 1	– **Management Committee** – Project Management Plan – Stakeholder Engagement Plan – Communication Plan
Phase 2	– Scoping Study – **Historical Analysis** – Community Engagement
Phase 3	– **Coincident Flood & Storm Tide Modelling** – Coastal Erosion Assessment – Coastal Inundation Modelling – Groundwater Asset Review
Phase 4	– Asset Exposure Assessment – Spatial Maps of Assets – Metadata Table – Biodiversity and Ecosystem Assessment – **Indigenous and Cultural Study** – Economic Assessment of Key Coastal Settlements – Stakeholder Engagement – Asset Valuation – Vulnerability Assessment
Phase 5	– Risk Assessment Report – **Coastal Hazard Risk Maps** – Economic Indicators Report – Damage Curves – Council Workshops
Phase 6	– Assessment Criteria – **Proposed Adaptation Options Report** – Stakeholder Workshops
Phase 7	– Multi-Criteria Analysis Report – **Cost-Benefit Analysis Report** – Appraisal Outcomes Report – MCA Workshops
Phase 8	– Stakeholder Feedback – Implementation Strategy – Change Management Plan – **Climate Change Adaptation Strategy**

Phase 1 – Management Comitee

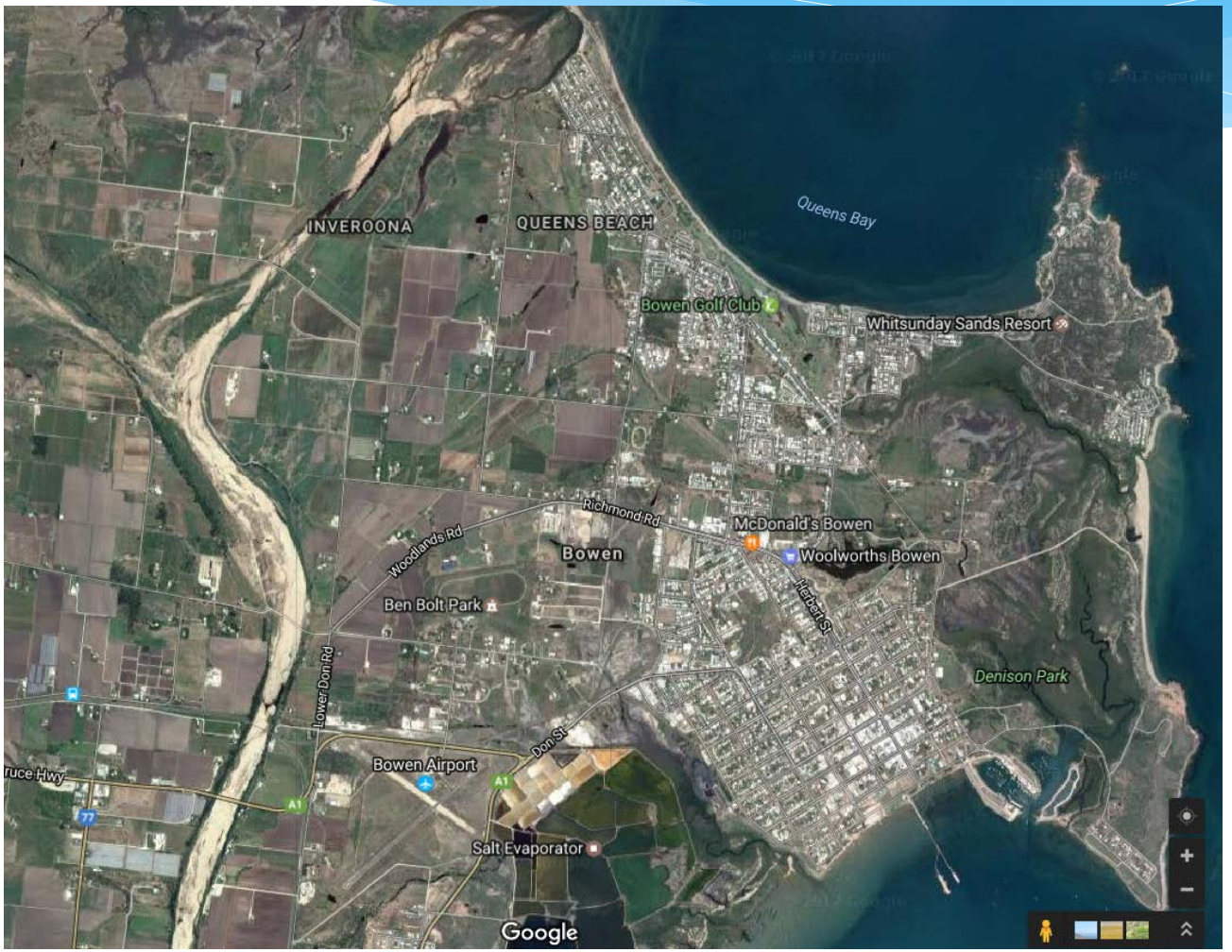


Phase 2 Historical analysis report
(Community engagement)

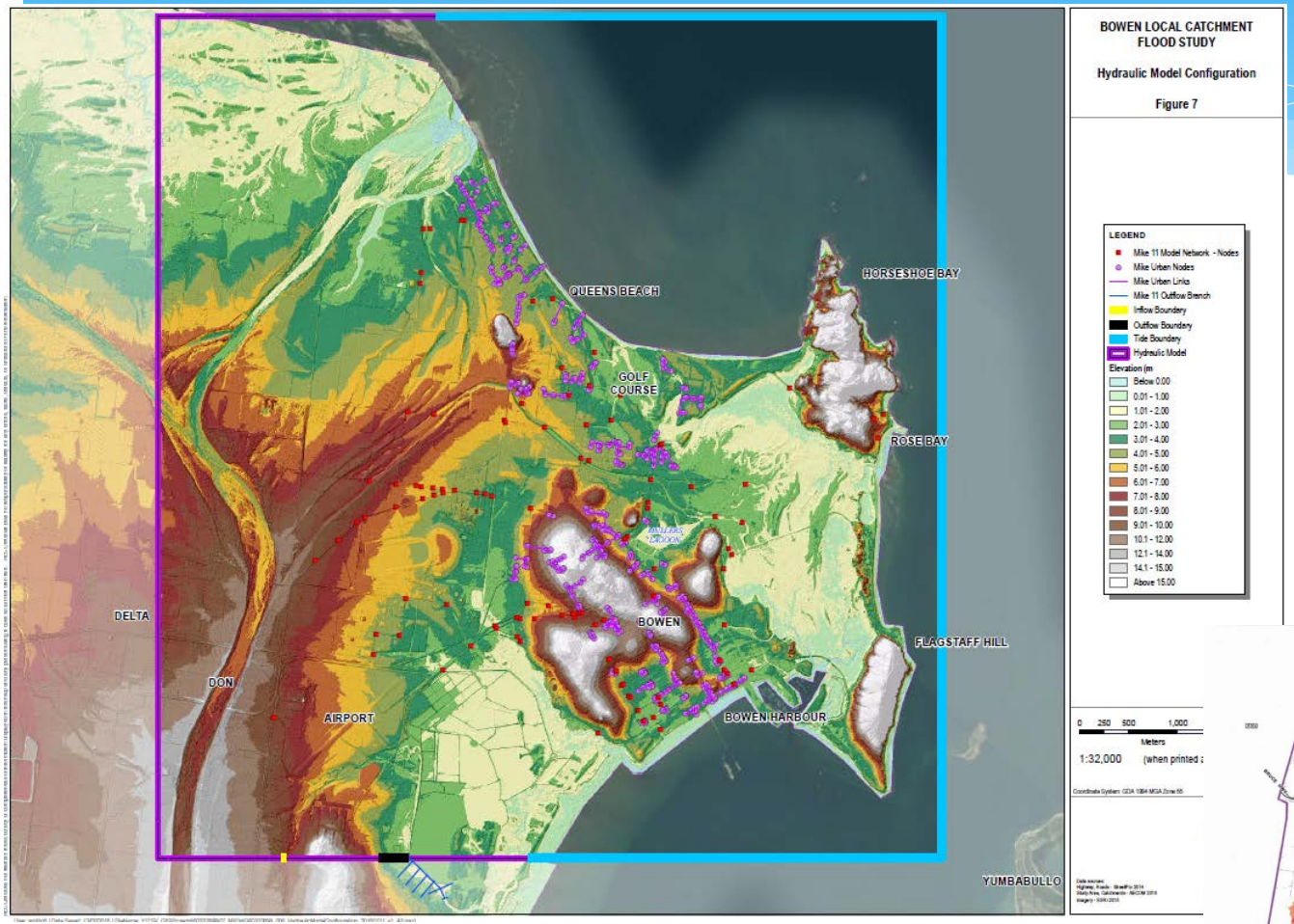


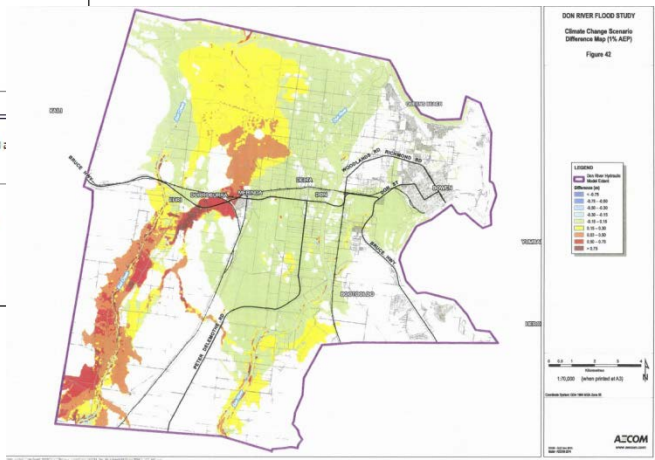
Phase 3

* Bowen Water Hazard Assessment Study

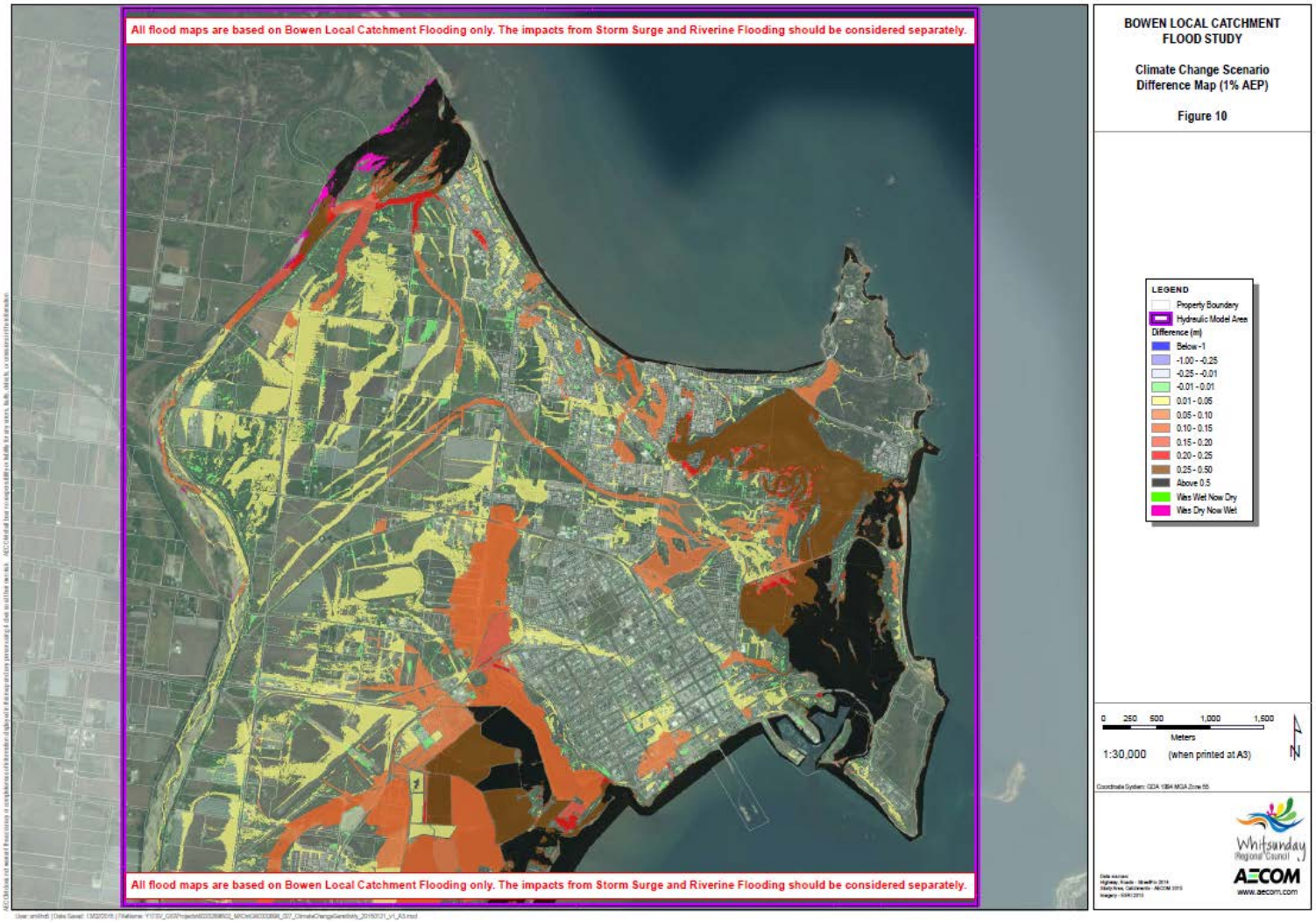


Don River Flood

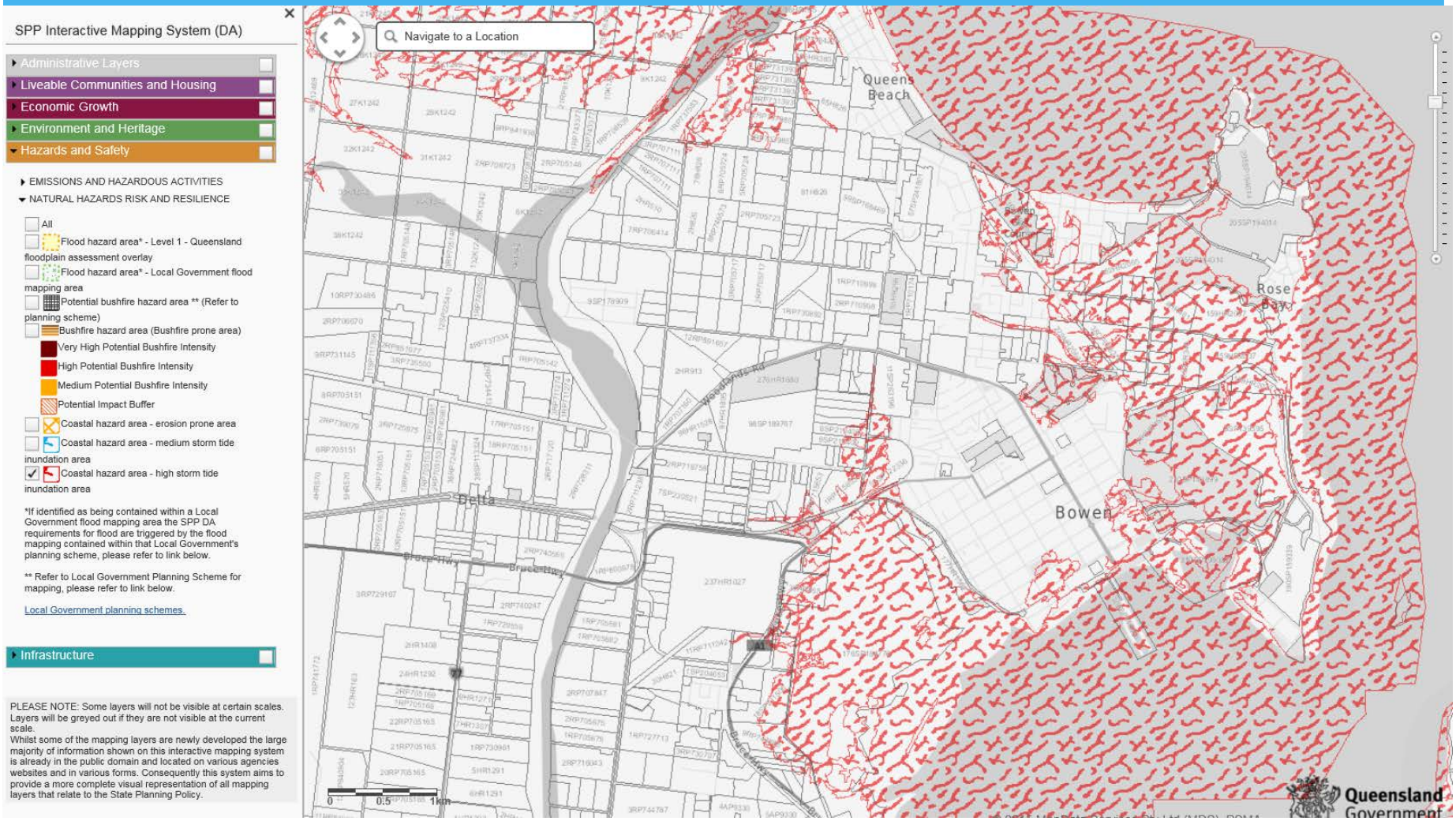




Local Flooding



Storm Surge


SPP Interactive Mapping System (DA)
Navigate to a Location
Administrative Layers
Liveable Communities and Housing
Economic Growth
Environment and Heritage
Hazards and Safety
EMISSIONS AND HAZARDOUS ACTIVITIES
NATURAL HAZARDS RISK AND RESILIENCE
All
Flood hazard area* - Level 1 - Queensland floodplain assessment overlay
Flood hazard area* - Local Government flood mapping area
Potential bushfire hazard area ** (Refer to planning scheme)
Bushfire hazard area (Bushfire prone area)
Very High Potential Bushfire Intensity
High Potential Bushfire Intensity
Medium Potential Bushfire Intensity
Potential Impact Buffer
Coastal hazard area - erosion prone area
Coastal hazard area - medium storm tide inundation area
Coastal hazard area - high storm tide inundation area
*If identified as being contained within a Local Government flood mapping area the SPP DA requirements for flood are triggered by the flood mapping contained within that Local Government's planning scheme, please refer to link below.
** Refer to Local Government Planning Scheme for mapping, please refer to link below.
Local Government planning schemes.
Infrastructure
PLEASE NOTE: Some layers will not be visible at certain scales. Layers will be greyed out if they are not visible at the current scale.
Whilst some of the mapping layers are newly developed the large majority of information shown on this interactive mapping system is already in the public domain and located on various agencies websites and in various forms. Consequently this system aims to provide a more complete visual representation of all mapping layers that relate to the State Planning Policy.
Queens Beach
Rose Bay
Bowen
Delta
Bruce Hwy
Woodwark Rd
0
0.5
1km
Queensland Government

Phase 3 - Leading Practice Bowen Water Hazard Assessment Study

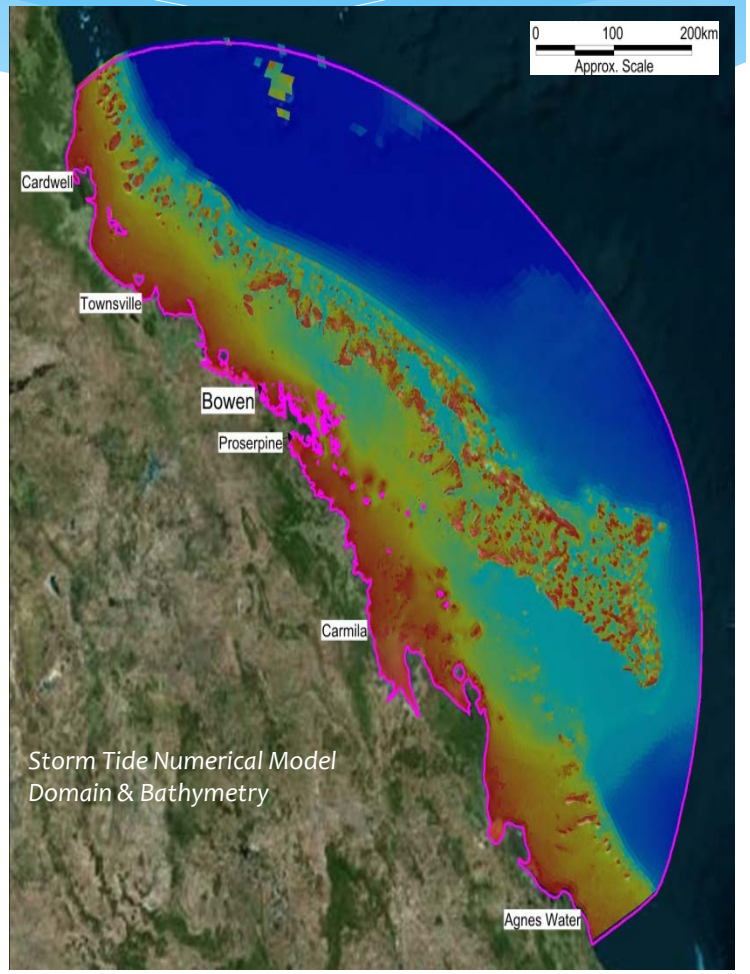
- **Key objectives**
  - Update storm tide water level statistics
  - Consider climate change or 'future climate' scenarios
  - Determine probability of coincident catchment flooding and storm tide inundation for greater Bowen region
  - Identify and map the storm tide hazard and coincident event inundation hazard

BMT WBM

SEA

Future Climate Scenarios

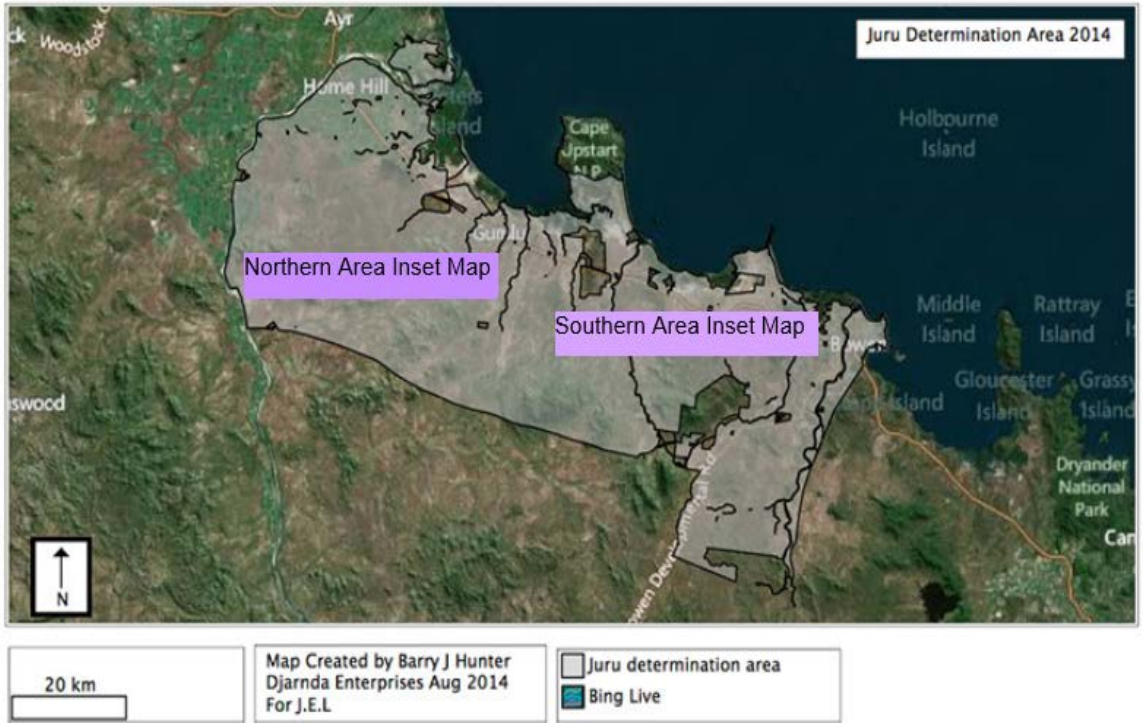
* **TBC, consistent with**
  - WRC Climate Change Policy & Climate Adaptation Strategy 2016-2020
  - IPCC AR5 potential climate change impacts on future sea level rise
  - Australian Rainfall and Runoff (AR&R) Revision Project 15
  - Consideration of annual, inter-annual (ENSO) and inter-decadal (IPO) variability of each hazard



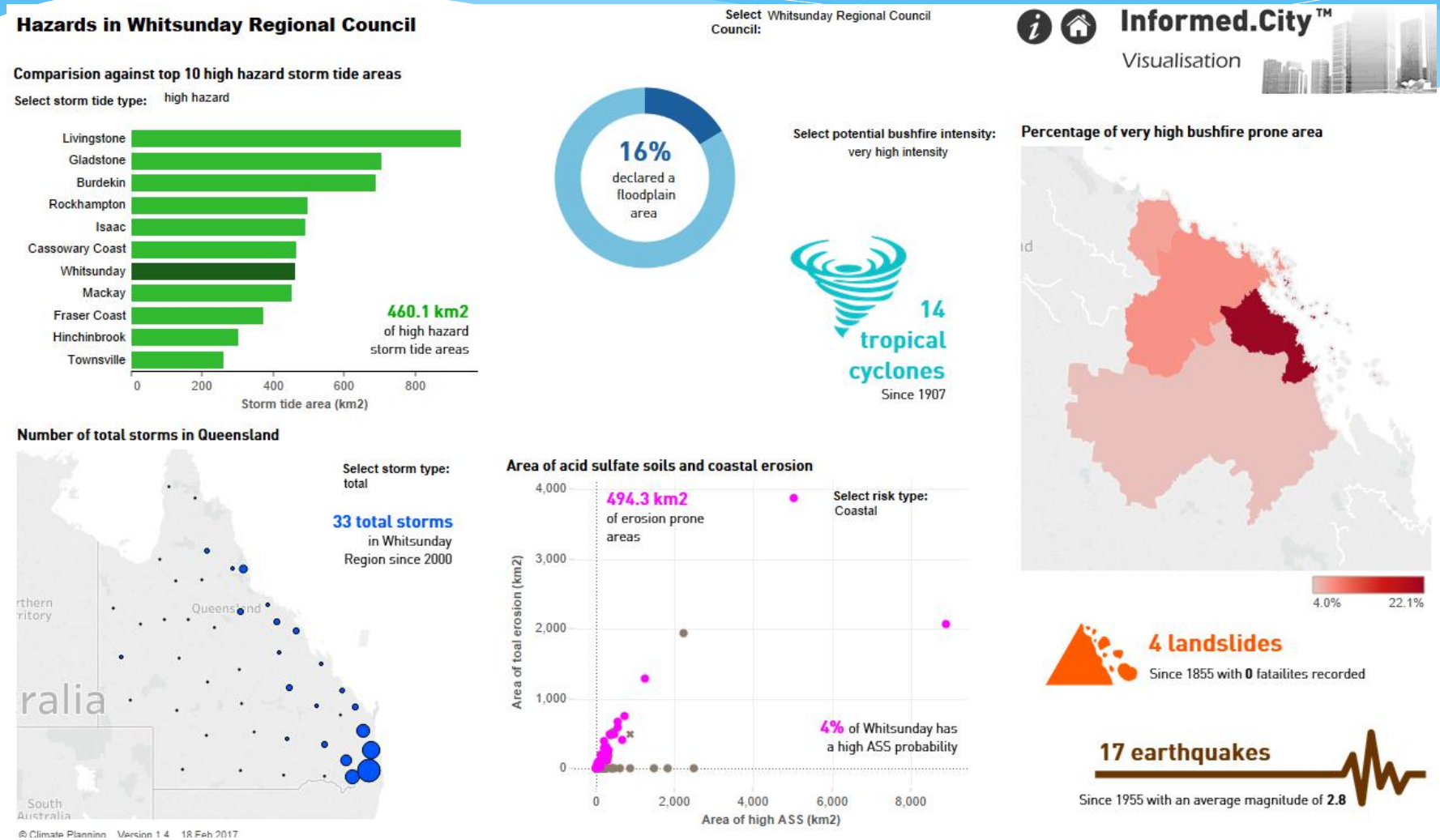
Storm Tide Numerical Model Domain & Bathymetry

BMT WBM SEA

Phase 4 - Traditional Owners Cultural Significant Sites Assessment



Phase 5 – Risk Assessment



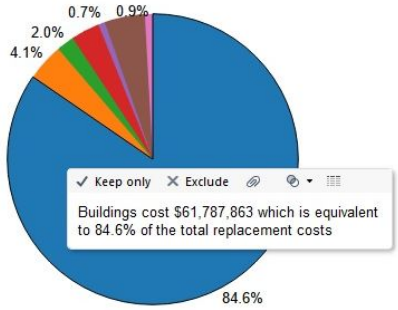
Analysis of 2010 Coincident Flood (1%-5%) scenario for Kingston Beach

Total replacement costs

Buildings	$61,787,863
Structures	$3,278,186
Roads & footpaths	$3,011,639
Social amenities	$2,325,659
Sewerage	$1,447,577
Water main	$640,258
Stormwater	$544,343
Total	$73,035,525

Select risk type:

2010 Coincident Flood (1%-5%)

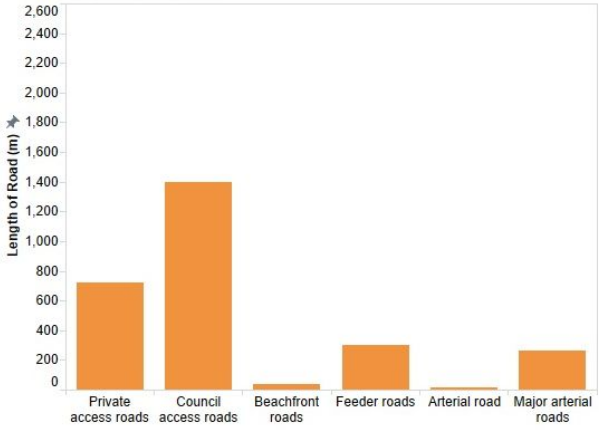


Select scenarios to compare:

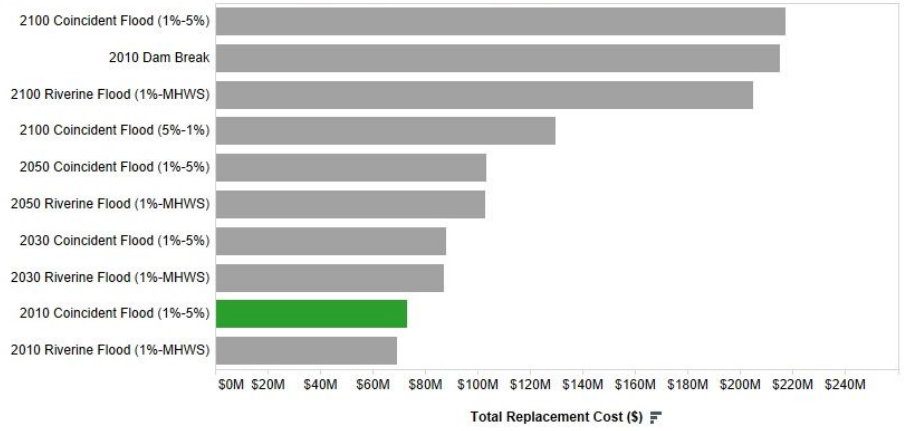
(All)

Buildings
Social amenities
Water main
Roads & footpaths
Stormwater
Sewerage
Structures

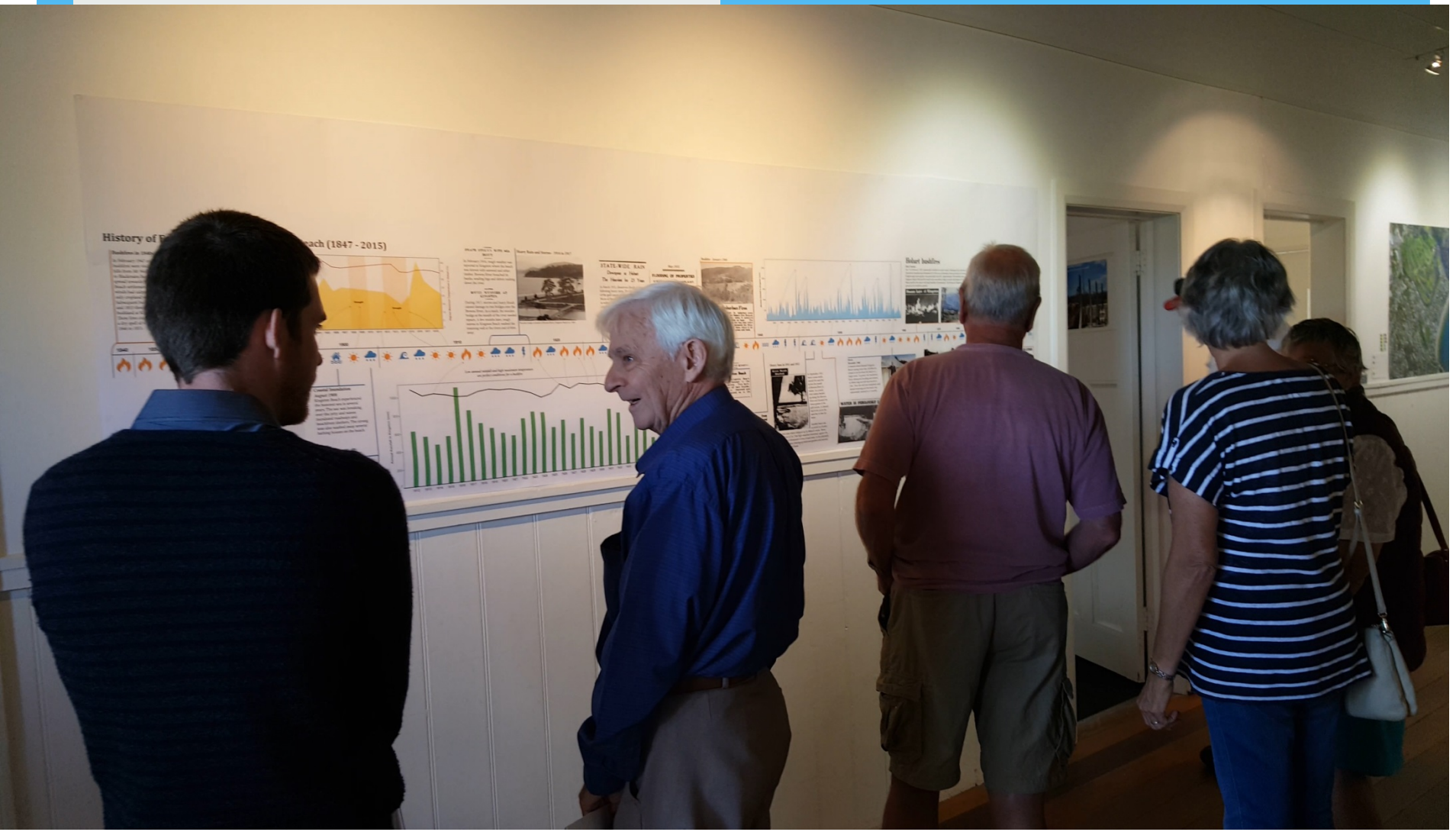
Length of affected roads



2010 Coincident Flood (1%-5%) comparision of total replacement costs

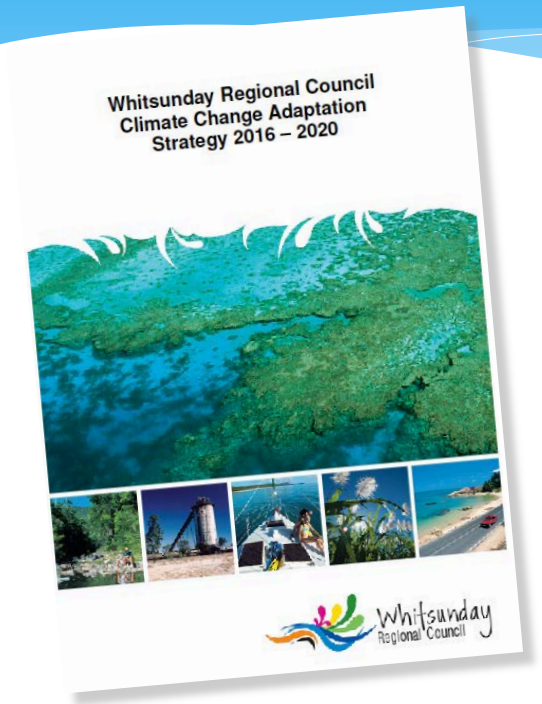


Phase 6


History of
each (1847 - 2015)
STATE-WIDE RAIN
FLOODING IN PROPERTIES

Phase 7

Phase 8



ZERO TO HERO