

# Climate change may increase impacts

- Historical 50-year ARI 24-hour rainfall at Kelburn **135mm**
- Projected 50-year ARI 24 hour rainfall in 2030 of **146.6 mm**
- If designed to historical ARI, and ARI increases then:
  - More exceedances
  - Greater costs to community
- What ARIs are appropriate under cc scenarios?

# #3. Infrastructure managers must consider climate change

- Business imperative:
  - climate change could impact on your business
- Local government & legislative imperative:
  - RM (Energy and Climate Change) Amendment Act (2004)
  - CDEM Act (2002)
  - Building Act (1991)
  - RM (Climate Protection) Amendment Bill
- Are you prepared?
  - What impacts?
  - What policies are in place?

# #4. CLINZI = climate's long-term impact on NZ infrastructure

- Proof of concept
- Aim: all strategic infrastructure systems and services in case study area are resilient to



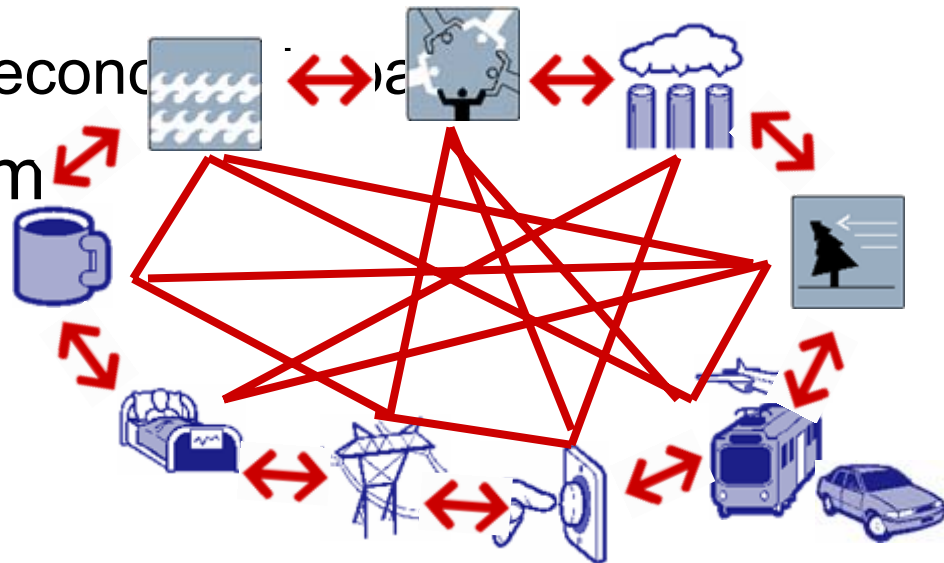
- 2 Pilots:
  - Phase 1: Hamilton City
  - Phase 2: Wellington City

# CLINZI method – 3 features

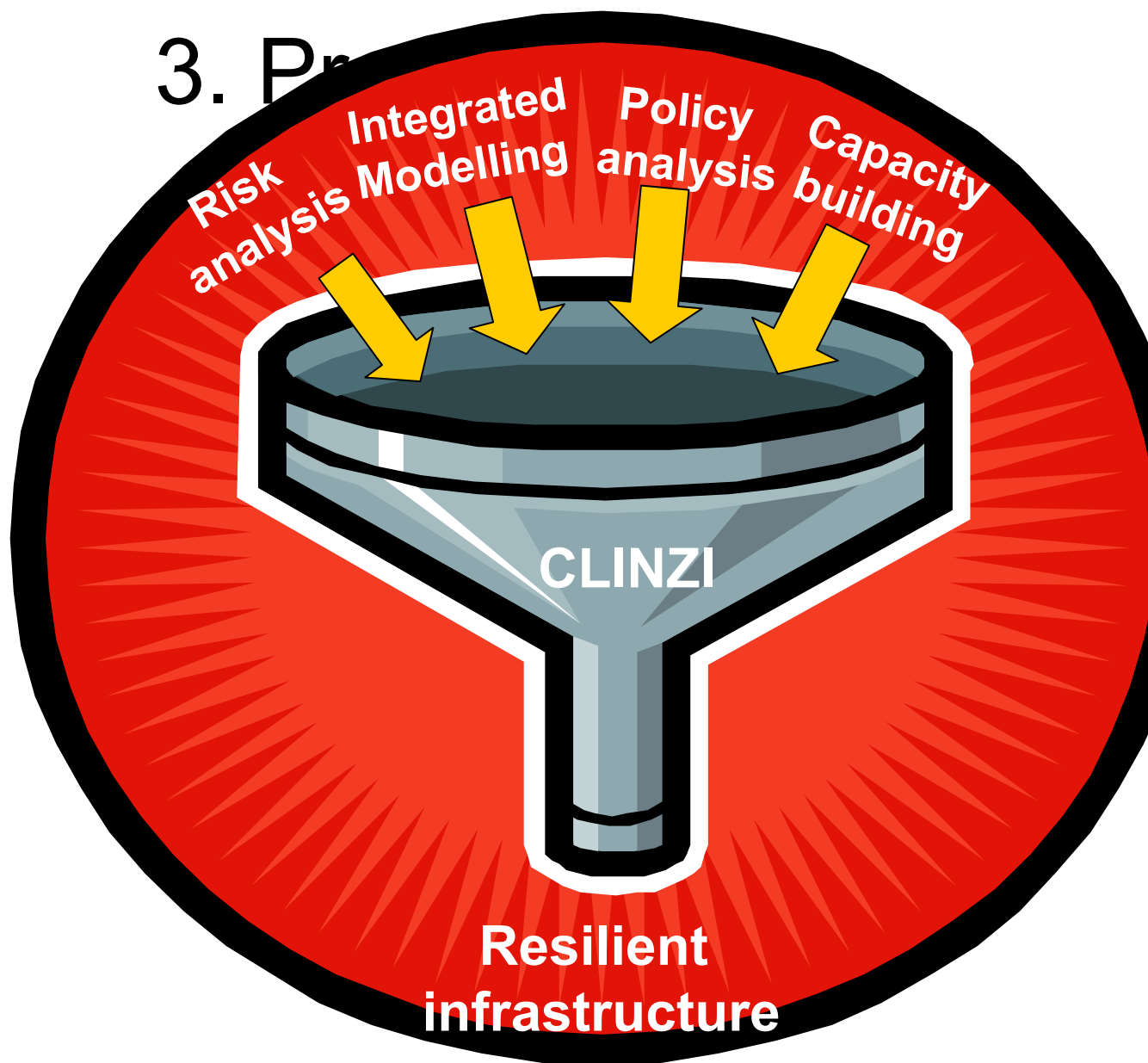
1. CLINZI is more than just weather and structures - whole-system perspective:

- Include 'hard' and 'soft' infrastructure
- 'Green' and 'grey'
- Also look at socio-economic

2. Integrated – system interactions



### 3. Pr



# The Hamilton case study

- Focus on quantitative:
  - Climate means, not extremes
  - Monthly variation
  - Data availability
  - Limited focus on economic impacts



# The Wellington case study

- Used 4-strand method
- Daily modelling
- Means & extremes
- Policy & institutions
- Socio-economic impacts

