Tools, methods and collaboration for adaptation: some initiatives from the Pacific region

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ORGANISATIONS

Software Tools and Models

Applications and Technical Assistance

Education and Training

CLIMsystems
Decision making in a climate changed world

(Formerly members of IGCI, Waikato University)

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University of the
Sunshine Coast
Queensland, Australia

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SimCLIM

The integrated modelling system for assessing impacts and adaptation to climatic variability and change

R. Warrick
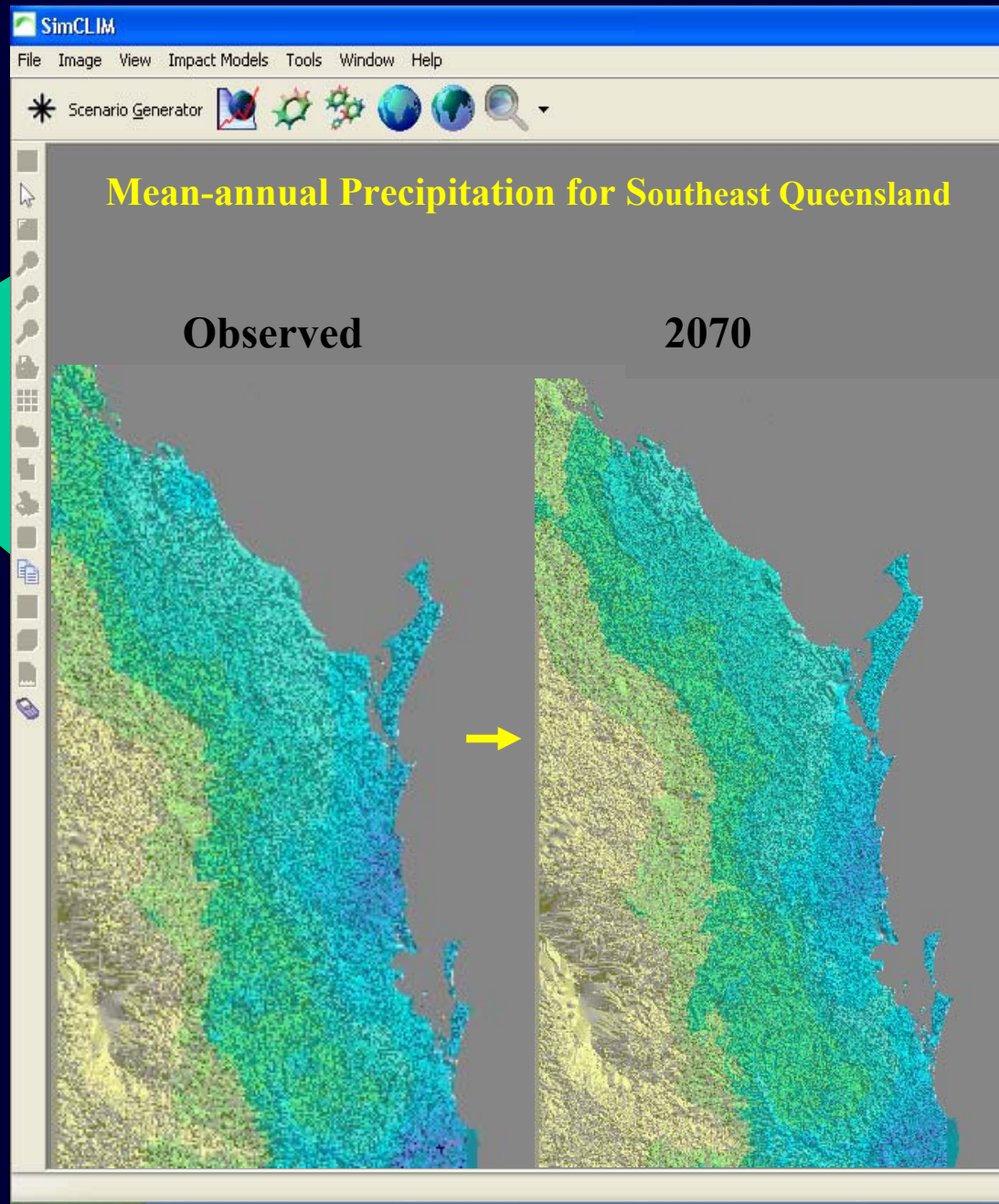
The SimCLIM System

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SimCLIM can be used to:

- **Describe baseline climates**

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- **Create climate scenarios (including GCM ensembles)**

Mean-annual Precipitation for Southeast Queensland

Observed → **2070**

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- **Examine uncertainties**
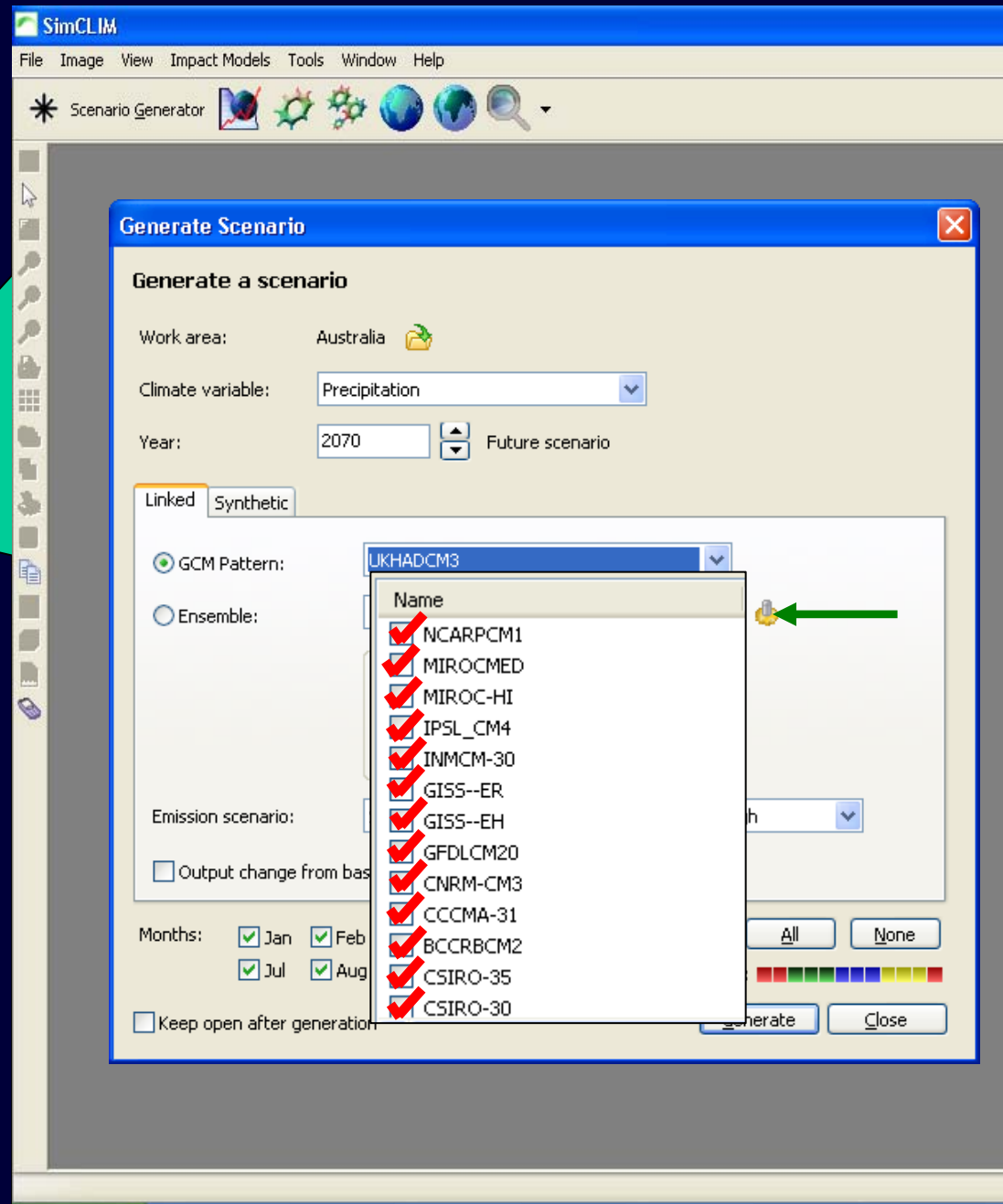
SimCLIM contains 21 GCM patterns from IPCC AR4

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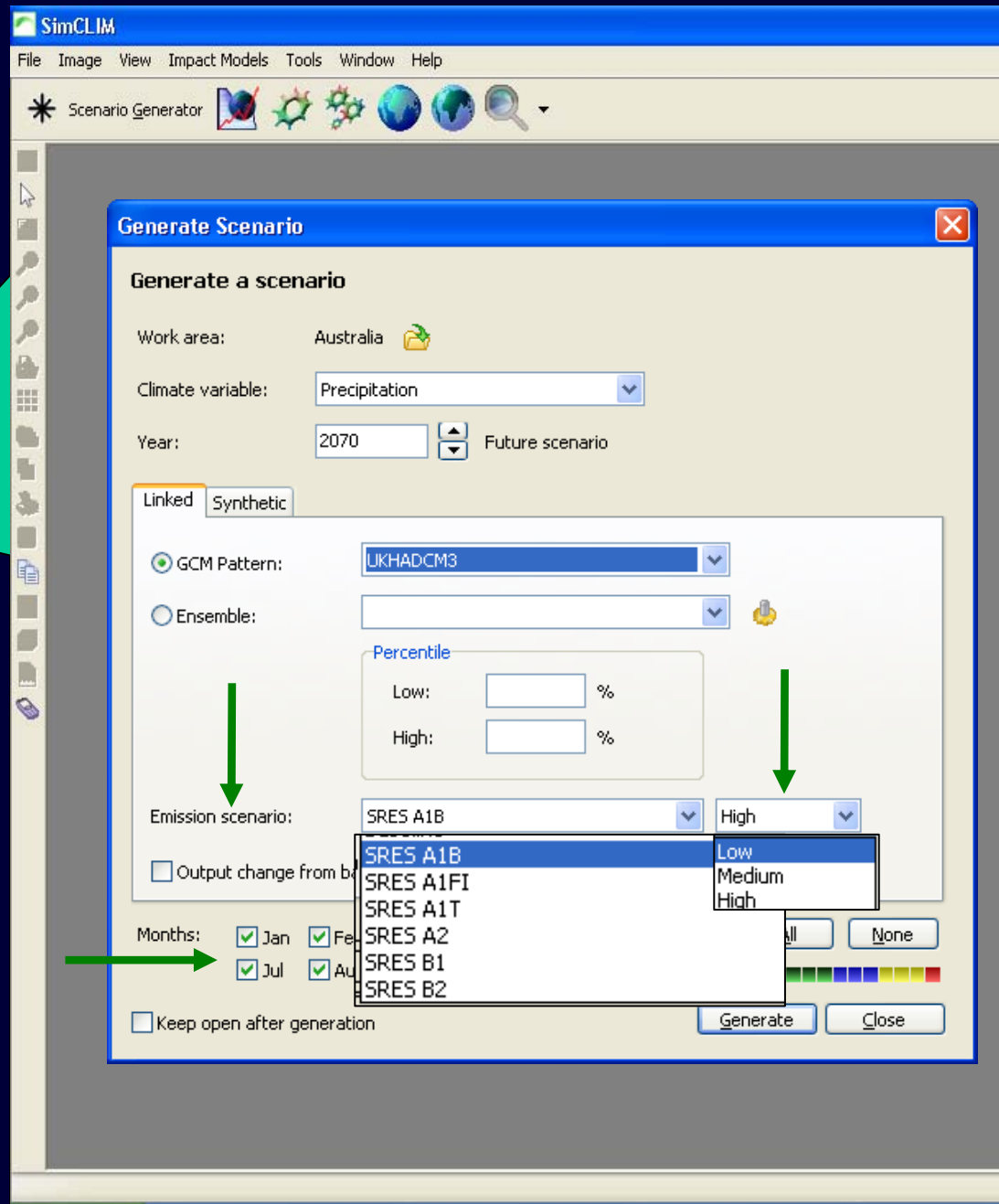
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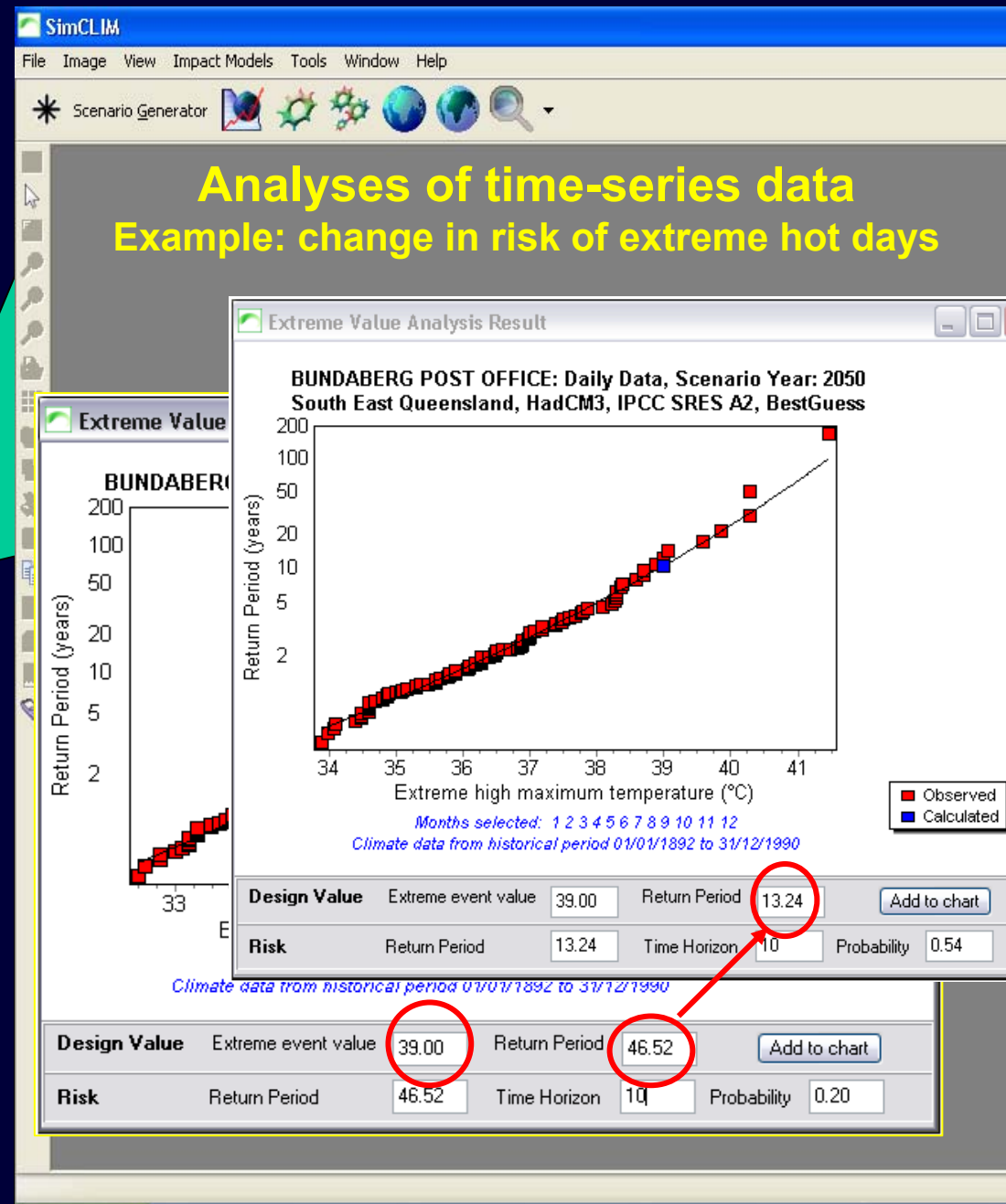SimCLIM contains 21 GCM patterns from IPCC AR4
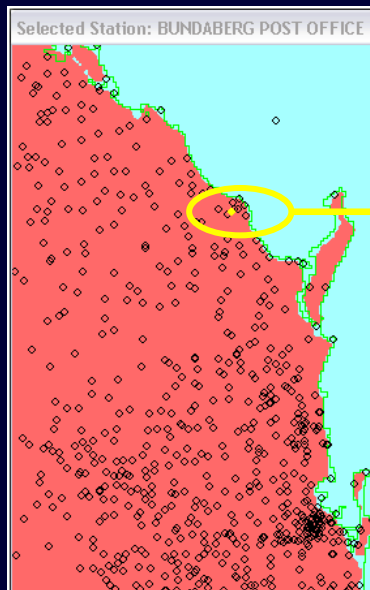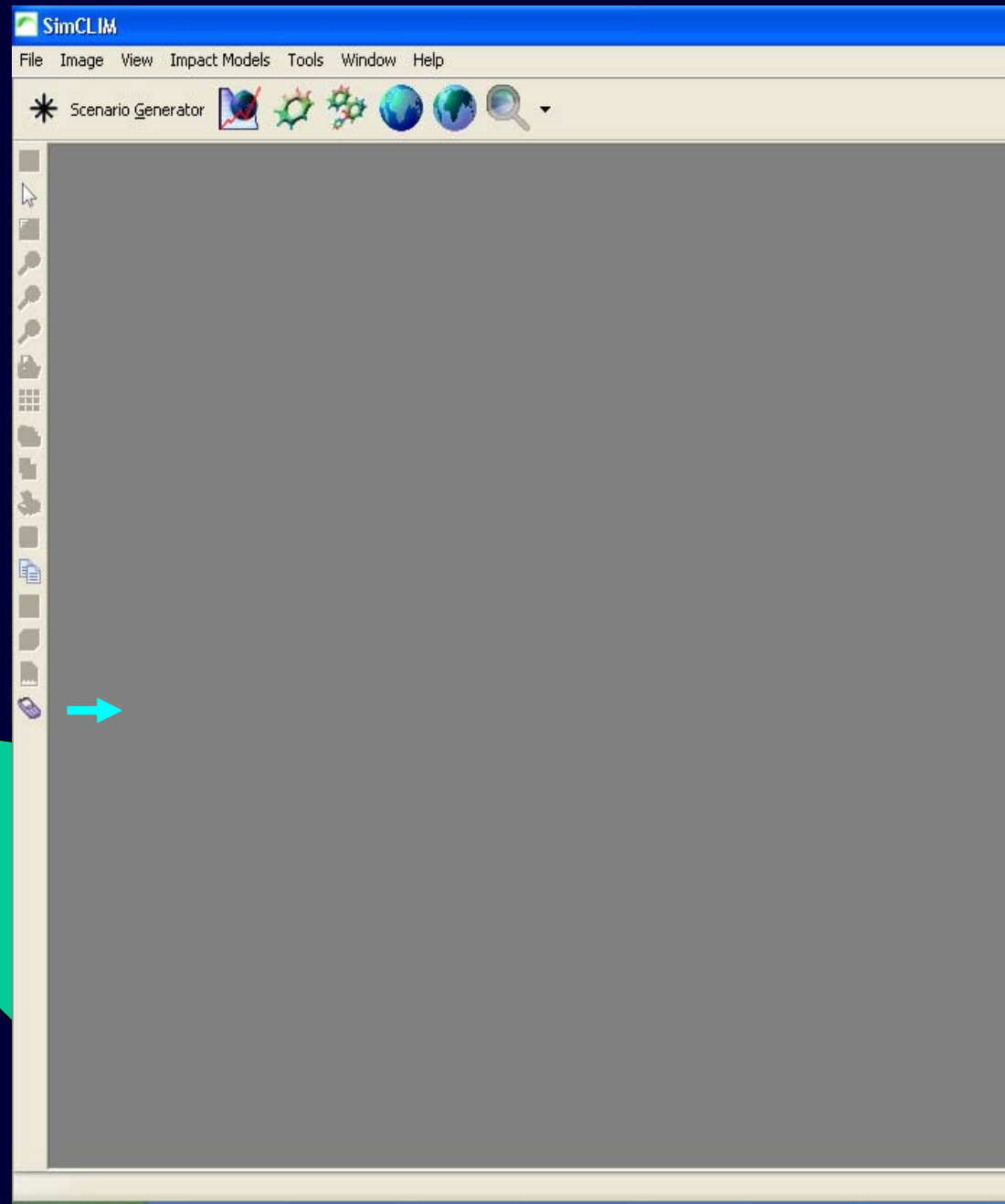
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Analyses of time-series data
Example: change in risk of extreme hot days

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- **Assess risks**
- **Investigate adaptation**

Model run
Variable: Daily rainfall
Station: Brisbane Aero
Time-series: 1961-1990

Water

| SimCLIM |
| File Image View Impact Models Tools Window Help |

Scenario Ge

Station | Model Inputs

Daily water consumption (litre) 600.0   Water tank size (litre) 90000.

Water catchment area (m2) 250.0   Initial water storage(%) 50.0

Length of critical dry period (days) 2

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- **Examine climate variability and extremes**

- **Examine impacts**

- **Assess risks**
- **Investigate adaptation**

SimCLIM Water Tank Model

Climate change and adaptation options for reducing the risks of tank failure

SimCLIM

File Image View Impact Models Tools Window Help

Scenario Generator

Climate Scenario run
Model Scenario run
Year: 2050 Daily rainfall
Variable:
Station: Brisbane Aero
GCM: HadCM3
Emission: SRES A1-Fi
Time series 1961-1990
Climate Sensitivity: HIGH

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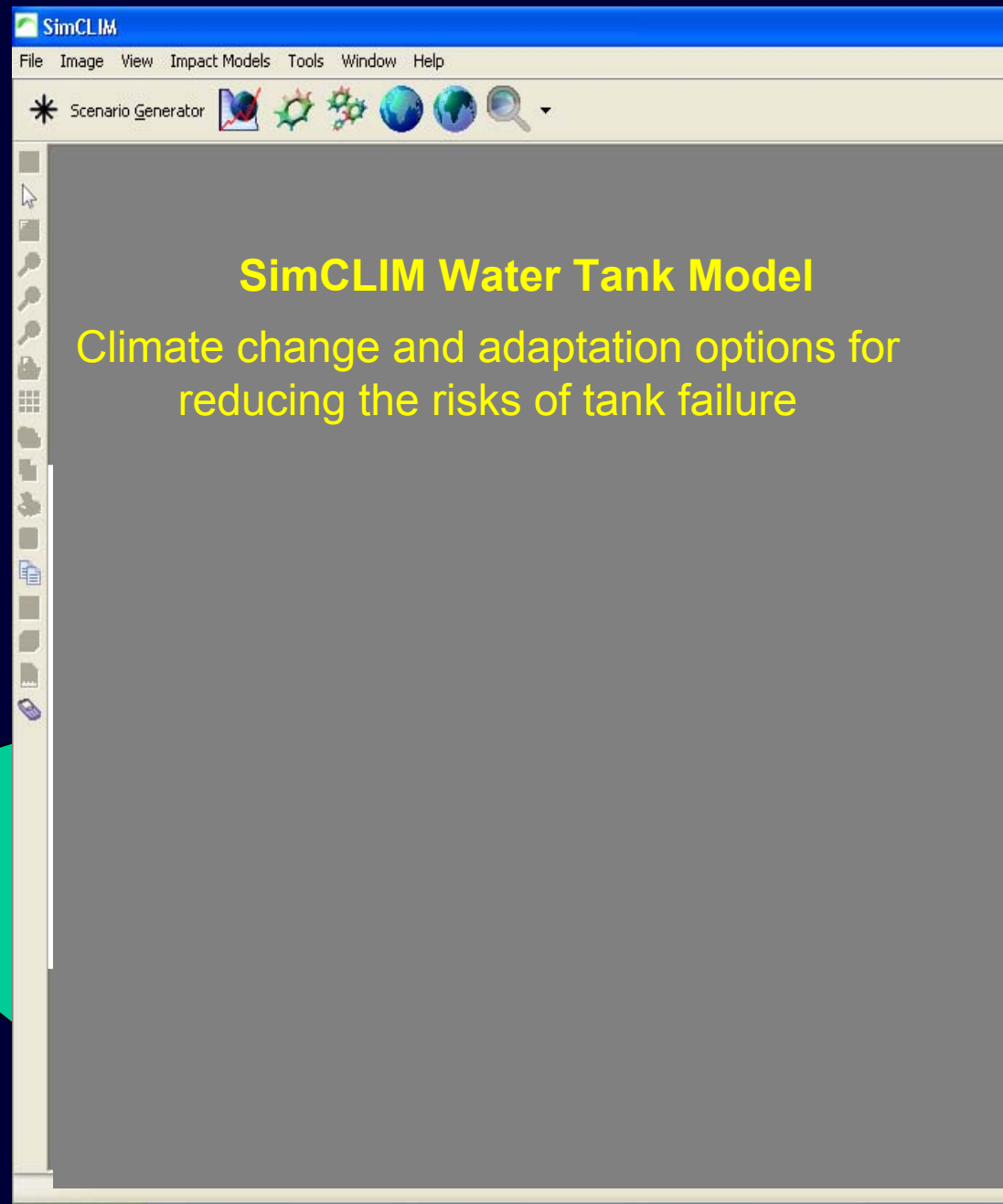
SimCLIMs have been built for:

Albay, Philippines	India (plus States)	South Korea
Australia (plus States)	Ireland	Sri Lanka
Bahamas	Japan	Taiwan
Baltic States	Java, Indonesia	Tanzania
Botswana	Luzon, Philippines	Tonga
Brazil	Mindanao, Philippines	Vanuatu
Cambodia	Mexico	Mongolia
Canada	Nambucca, Australia	Malaysia
China	Nauru	South East Queensland
Cook island	New Zealand	UK
Denmark	Nigeria	Ukraine
Fiji	Pakistan	USA (plus 48 States)
Ghana	Solomon Islands	

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UNIVERSITY of the SUNSHINE COAST

Post-Graduate Programme leading to:

- **Graduate Certificate**

- **Graduate Diploma**

- **Masters**

in **Climate Change Adaptation**

core courses:

ENS310 Climate Change Adaptation
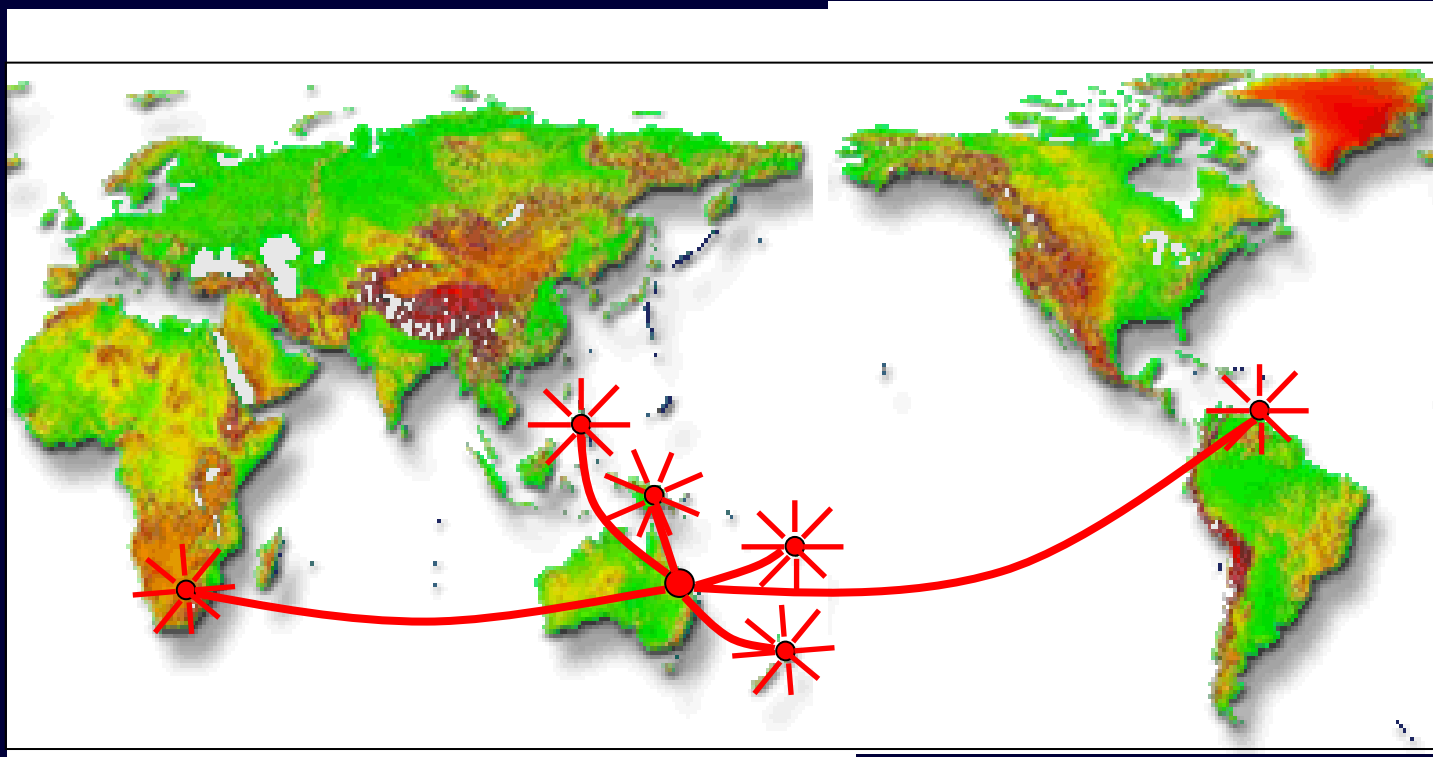ENS320 Climate Change Mitigation Theory and Practice
ENS314 Climatic and Hydrological Systems
ENS715 Applied Climatic and Hydrological Systems Project
ENS708 Environmental and Sustainability Evaluation
ENS709 Environmental and Sustainability Evaluation Project

Collaborative Network for Climate Change Adaptation

Organisation	Region	Status
University of the Sunshine Coast, Queensland, Australia	Pacific	Established as the hub
University of the South Pacific, Fiji	Pacific	MoU signed
IGCI, University of Waikato, New Zealand	Pacific	MoU signed
University of Papua New Guinea, PNG	Pacific	MoU signed
University of the West Indies, Trinidad and Tobago	Caribbean	Final draft MoU awaiting signature
University of the Philippines Los Banos	SE Asia	Agreed in principle, draft MoU
University of Botswana	Southern Africa	Agreed in principle, draft MoU

Collaborative Network for Climate Change Adaptation
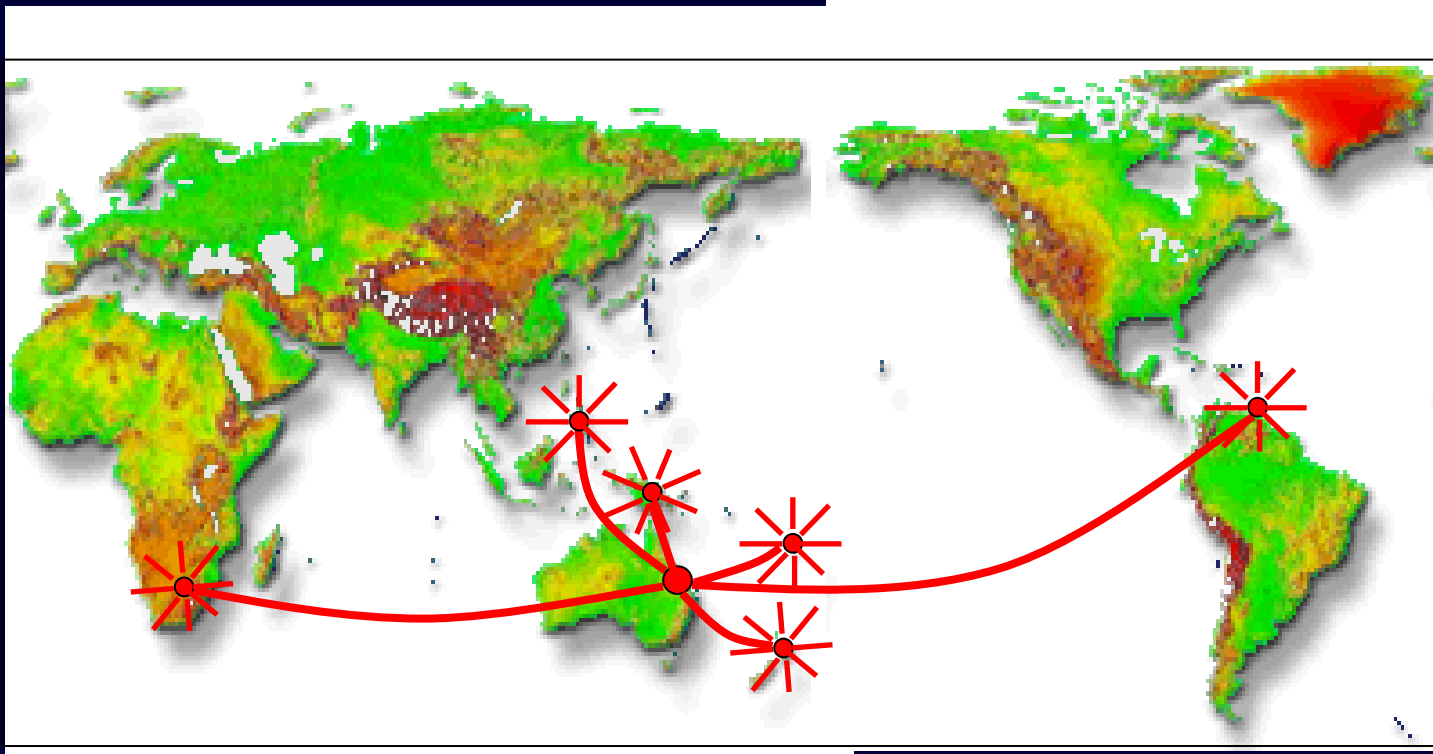
- Training and education,
- Institutional strengthening and knowledge sharing
- Research
- Applications
- Regional engagement

Thank you.....

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