

Collaboration amongst Regional Centres and Networks

Methods and Tools

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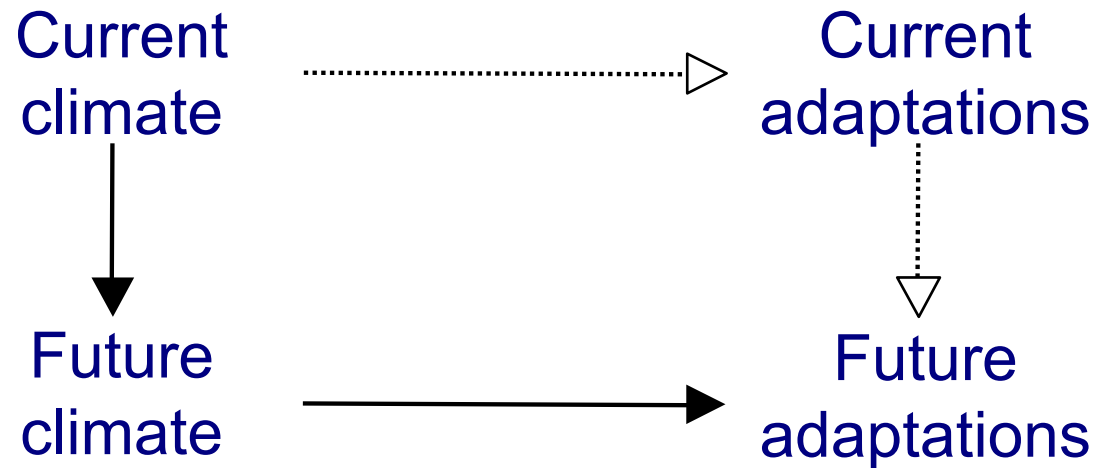
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Methods and tools viewed through risk

- Impacts, vulnerability and adaptation assessments
 - Scoping risk – do we have a problem?
 - Analysing risk – what are the problems that we face? (what, when, where)
 - Evaluating risk – what adaptation options do we have for managing risk?
- Adaptation planning and practices
 - Managing risk – which adaptation options are the most effective?
- Monitoring and evaluation of adaptation
 - Monitoring and evaluating risk – are we seeing the benefits?

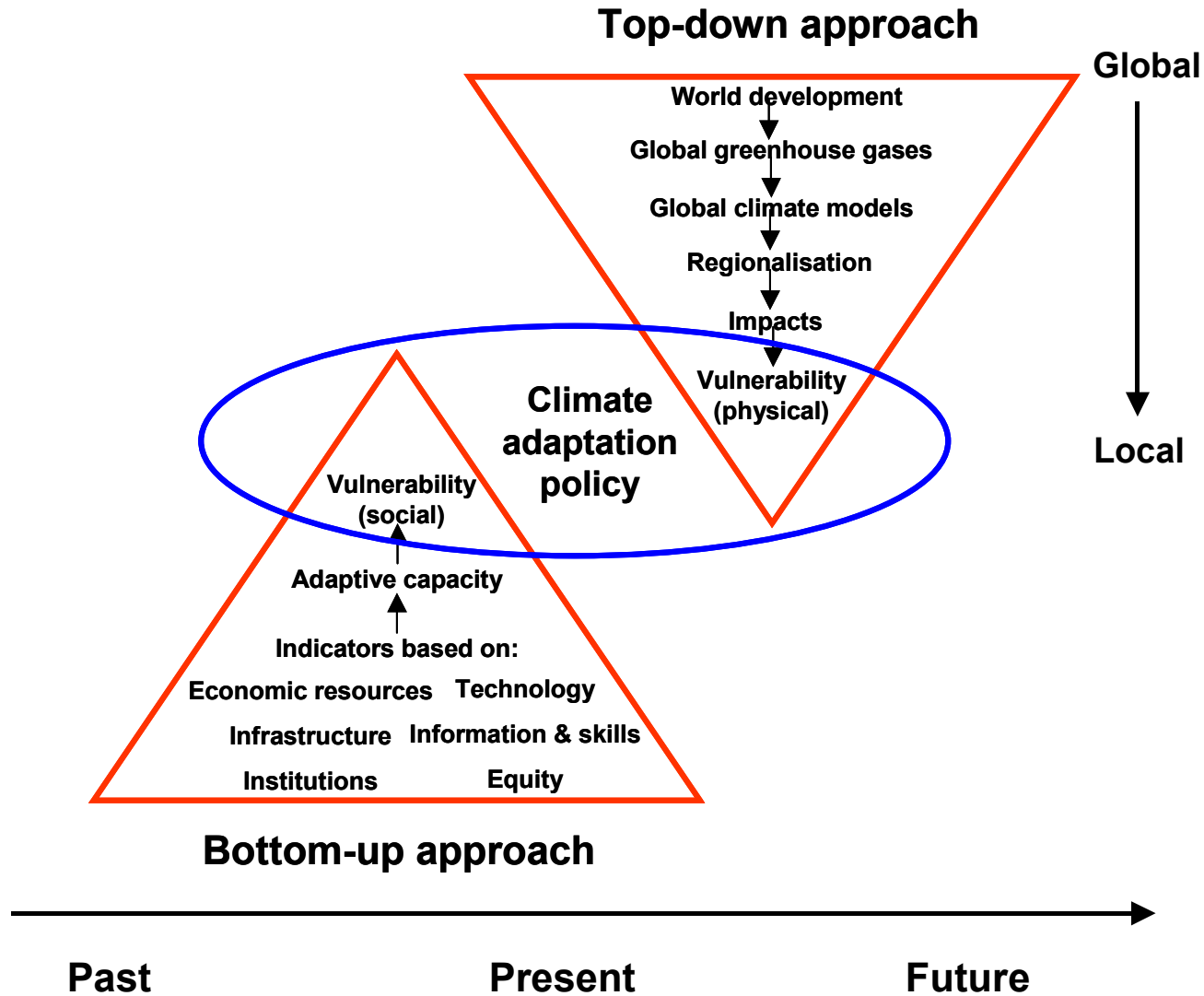
Linking climate to adaptation over time



Applying risk assessment to adaptation

| Assessment | Policy question | Stage of risk assessment | Methodological approaches | Scenario requirement |
|-------------------|---|---|---|---|
| First generation | Is climate change a problem? | Scoping the question, risk identification | Sensitivity analysis | Incremental scenarios for primary climate variables |
| Second generation | What are the potential impacts of unmanaged climate change? | Risk analysis | Scenario-driven impact assessment | Model derived scenarios for multiple variables at global and regional scale |
| Third generation | How do we effectively adapt to climate change? | Risk evaluation | Risk assessment Vulnerability assessment | Model derived scenarios for many variables, consistent with other scenarios, integration at a range of scales |
| Fourth generation | Which adaptation options are the most effective? | Risk management | Risk management Mainstreaming adaptation | Dynamic scenarios of climate and other key drivers, conditional probabilities |
| Fifth generation | Are we seeing the benefits? | Implementation and monitoring | Implementation, monitoring and review | Updating scenarios through observation and learning by doing |

Top-down v bottom up



Natural hazard-driven approach (so-called top down)

- Approach
 - What risks are faced under these hazards?
- Method
 - Analyse possible outcomes from a given climate hazard(s) ± other drivers of change
- Outcome
 - An understanding of current/future climate-related risks
- Scenarios
 - Exploratory scenarios of climate with other biophysical and socio-economic conditions
 - Probabilities of hazard constrained
 - Main drivers known
 - Chain of consequences understood
 - $P(\text{Hazard}) \times \text{Consequences}$
 - Largely exploratory
- Criteria:

Vulnerability-driven approach (so-called bottom up)

- Approach
 - Who or what is at risk?
- Method
 - Determine the likelihood of critical threshold exceedance/level of harm
- Outcome
 - Understanding of exposure to harm and harmful processes
- Scenarios
 - Characterisation of socio-economic outcomes; can use climate scenarios or diagnose exposure through inverse methods
- Criteria:
 - Probabilities of hazard not constrained
 - Many drivers resulting in vulnerability
 - Multiple pathways and feedbacks
 - $P(\text{Vulnerability})/\text{Hazard}$ (e.g. critical threshold exceedance)
 - Largely normative

Resilience-driven approach (solution focussed bottom up)

- Approach
 - What opportunities arise from change?
 - Assess ability to withstand shocks, recover from setbacks and manage change
- Method
 - Better knowledge of coping mechanisms and socio-political institutions, barriers to adaptation, increased benefits
- Outcome
- Scenarios
 - Baseline adaptation, adaptation analogues from history, other locations other activities
- Criteria:
 - Impacts and/or vulnerability understood
 - Evidence of successful adaptation
 - Benefits thought to be likely
 - Barriers to adaptation recognised
 - Risks that require treatment
 - Willingness to act

Policy-driven approach

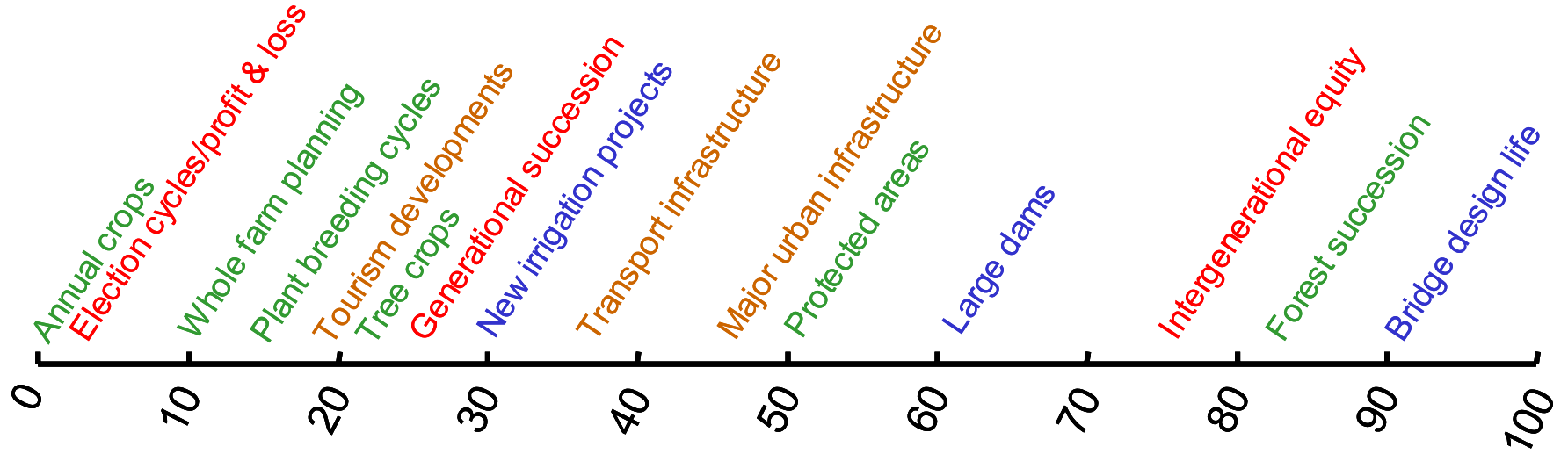
- Approach
 - How will our future plans be affected by climate change?
- Method
 - Assess the efficacy of an existing or proposed policy under climate change
- Outcome
 - Fitter policy under climate change
- Scenarios
 - How a specific policy plays out under climate and other change
- Criteria:
 - Policy aims are sensitive to climate change
 - Desire to “mainstream” adaptation

Framing adaptation

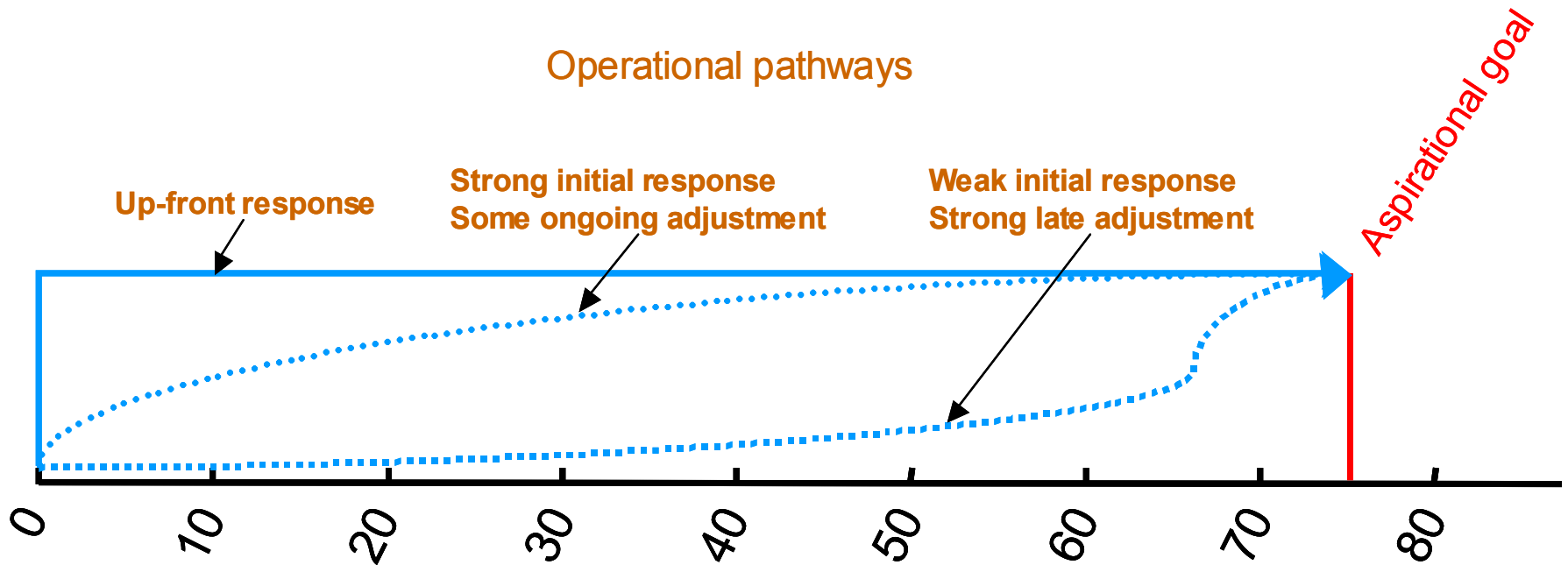
- Goal setting
- Where do we want to go? (aspirational goals)
- How do we want to get there?

- What are the risks?
- What are the barriers? (e.g., lack of adaptive capacity)

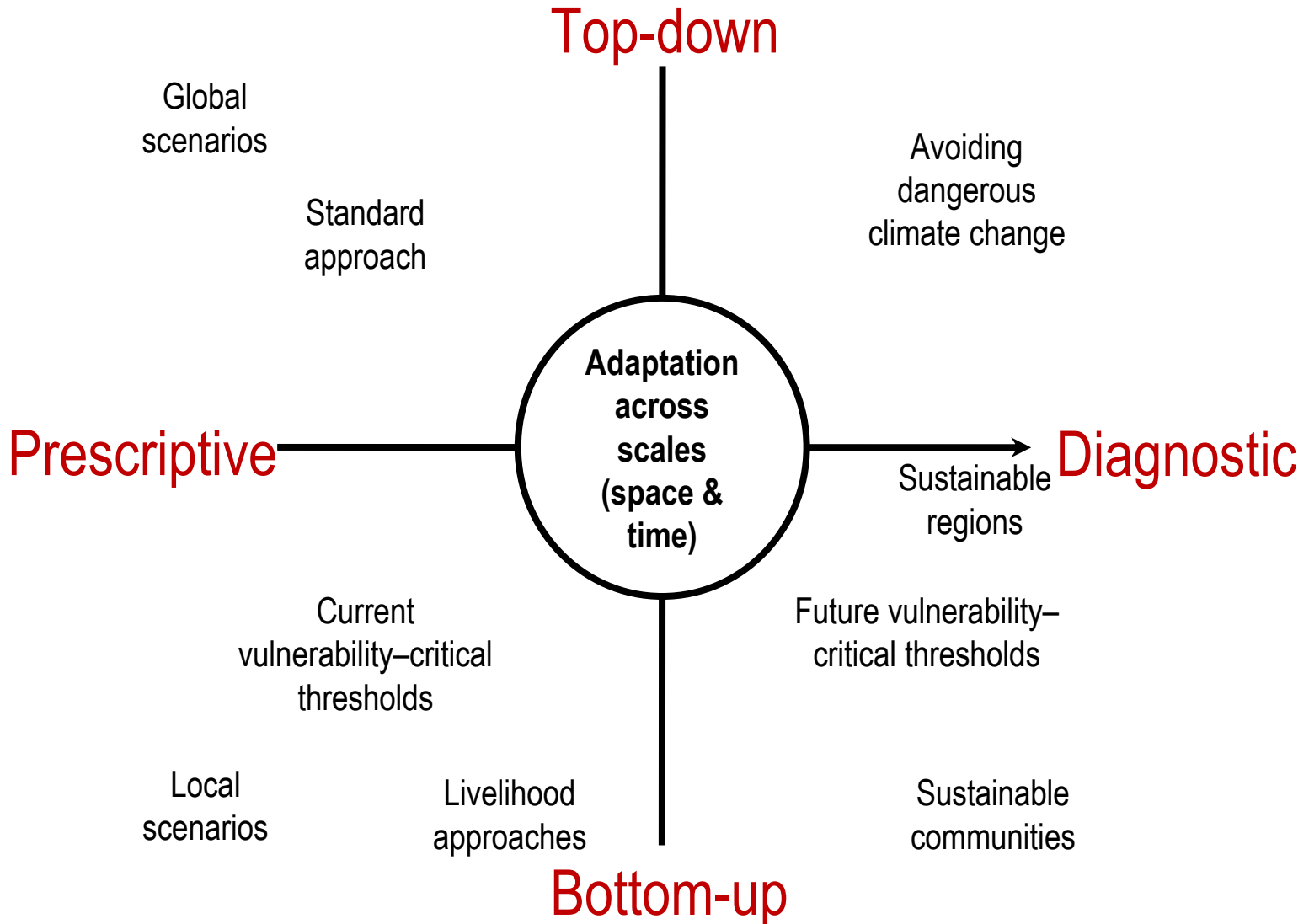
Planning horizons



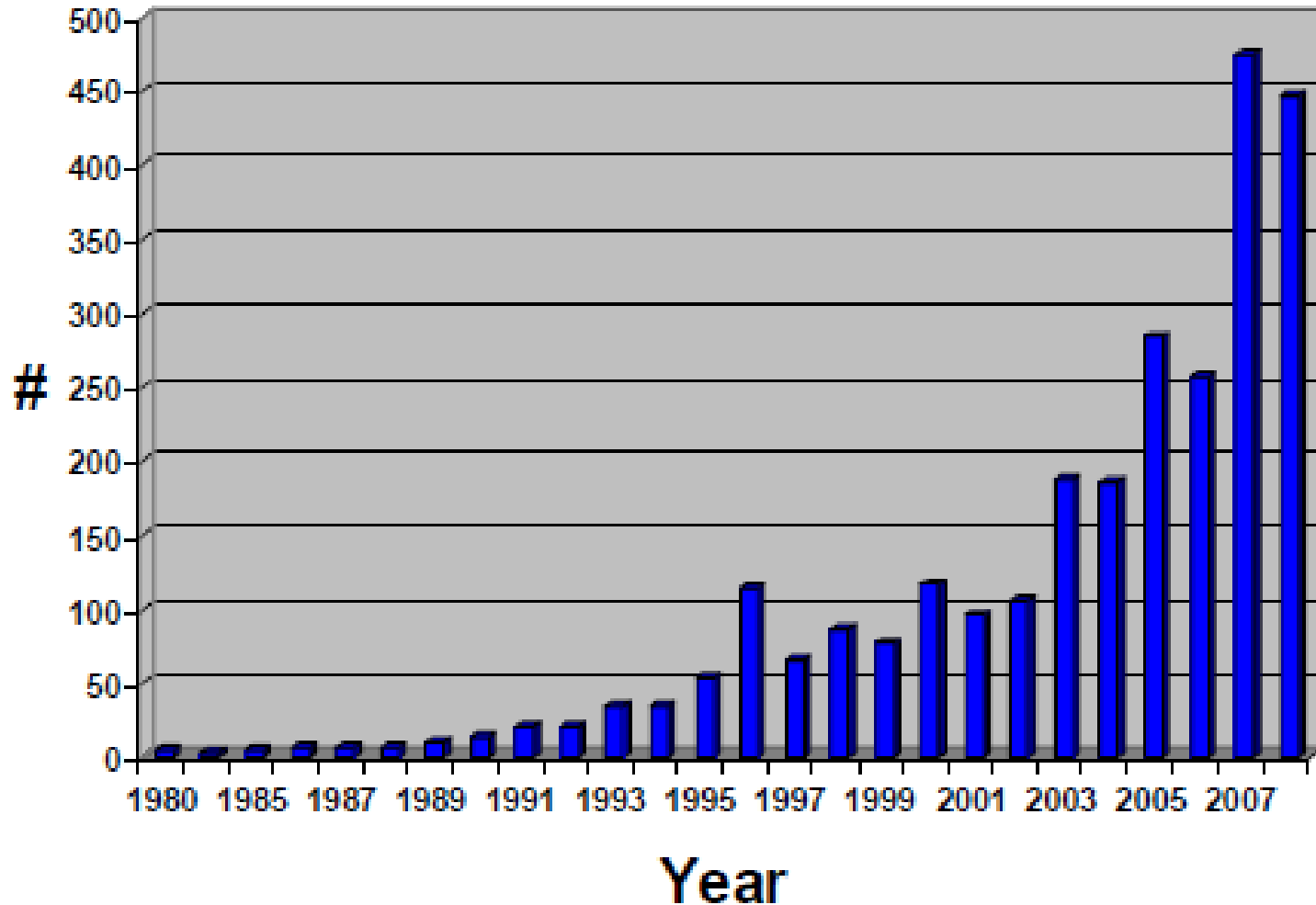
Operational pathways and aspirational goals



Scales and directions of approach



“Climate change” and “adaptation” publications Googled



Adaptation planning guidance

| Guidance Instrument | Inputs | | | | | Processes | | | | | | | Outputs | | | | | | |
|---|-----------------------------|------------------------------|-------------------------------|--------------------------------|---------------------------------|------------------------------------|----------------------------------|------------------------------------|-----------------------------------|--------------------------------------|---|--|-------------------|---------------------------|---------------|----------------------------|--|----------------|-----------------------------------|
| | Assessment of human capital | Assessment of social capital | Assessment of natural capital | Assessment of physical capital | Assessment of financial capital | Stakeholder / community engagement | Objectives, goals and priorities | Identification of success criteria | Identification of climate drivers | Identification of on-climate drivers | Impact, vulnerability and risk assessment | Acknowledgement of assumptions and uncertainties | Options appraisal | Exploitation of synergies | Mainstreaming | Communication and outreach | Definition of roles and responsibilities | Implementation | Monitoring, evaluation and review |
| IPCC Technical Guidelines for Assessing Climate Change Impacts and Adaptations | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ■ | ■ | ● | ■ | ■ | ● |
| Handbook on Methods for Climate Change Impact Assessment and Adaptation Strategies | ● | ● | ● | ● | ● | ● | ■ | ● | ● | ● | ● | ● | ● | ● | ■ | ● | ■ | ■ | ● |
| Coastal Adaptation To Climate Change: Can the IPCC technical guidelines be applied? | ● | ● | ● | ■ | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ■ | ● | ■ | ● | ● |
| Annotated Guidelines for the Preparation of National Adaptation Programmes of Action | ● | ● | ■ | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ■ | ● | ■ | ● | ● |
| Climate adaptation: Risk, uncertainty and decision-making | ● | ● | ■ | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ■ | ● | ■ | ● | ● |
| Adaptation Policy Frameworks for Climate Change | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Surviving Climate Change in Small Islands – A guidebook | ● | ● | ● | ● | ● | ● | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ■ |
| Adapting to Climate Change: An introduction for Canadian Municipalities | ● | ● | ● | ● | ● | ● | ■ | ■ | ● | ● | ■ | ● | ● | ● | ● | ● | ■ | ■ | ● |
| Climate Change Impacts & Risk Management: A guide for business and government | ● | ● | ■ | ● | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Adapting to Climate Change: A Queensland Local Government guide | ● | ● | ■ | ● | ■ | ● | ■ | ● | ● | ● | ■ | ● | ● | ● | ■ | ● | ● | ● | ● |
| Adapting to Climate Variability and Change: A guidance manual for development planning | ● | ● | ■ | ● | ■ | ● | ■ | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Climate Change Adaptation Actions for Local Government | ■ | ● | ■ | ■ | ■ | ● | ■ | ● | ● | ● | ■ | ● | ● | ● | ■ | ■ | ■ | ● | ■ |
| Preparing For Climate Change: A guidebook for local, regional, and state governments | ● | ● | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ■ | ● | ● |
| Climate Change Adaptation and Mitigation in the Tourism Sector: Frameworks, Tools and Practices | ● | ● | ● | ● | ● | ● | ■ | ● | ■ | ● | ■ | ● | ■ | ● | ● | ● | ● | ● | ● |
| Coastal Hazards and Climate Change: A guidance manual for local government in New Zealand | ● | ● | ● | ● | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ■ | ● | ■ | ■ | ● | |
| Developing an Action Plan | ● | ● | ■ | ● | ● | ● | ● | ● | ■ | ● | ■ | ● | ● | ● | ● | ● | ● | ● | ● |
| Planning in a Changing Climate: The strategy | ● | ● | ■ | ■ | ● | ● | ● | ● | ■ | ● | ■ | ● | ● | ● | ● | ● | ● | ● | ● |
| Preparing for climate change: A guide for local government in New Zealand | ■ | ● | ■ | ■ | ● | ● | ■ | ● | ● | ● | ● | ● | ● | ● | ■ | ■ | ■ | ● | ● |
| UKCIP Adaptation Wizard | ● | ● | ■ | ■ | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| Climate Resilient Cities: A Primer on Reducing Vulnerabilities to Disasters | ● | ● | ● | ● | ● | ● | ■ | ■ | ● | ● | ■ | ● | ● | ● | ● | ● | ● | ● | ■ |

● Criterion present
 ■ Criterion absent

Content-driven online resources (eg. www.weadapt.org)

weADAPT 3.0 | Home | RSS | Email | Print | Page

weADAPT

Learn Share Connect on Climate Adaptation

Username:

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The Adaptation Layer

weADAPT has been collaborating with Google.org to explore ways of improving access to information on climate adaptation using Google Earth. Based on input from users we have created a quick and easy way to find out who is working on what and where. This also allows you to share the work you are doing with a wide audience and raise awareness on important issues. [Click here](#) to find out more and see our example Google Earth stories.

Explore

[The Netherlands](#)
[Climate Assistance Programme \(NCAP\)](#)
Dutch development support to combat climate change was encouraged by the creation of the UNFCCC in 1992,...

[Swedish International Development Cooperation Agency](#)
How we work Sida's Swedish development cooperation is part of a global cooperation in which Sweden is...

What's new and why weADAPT?

This website is literally an expression of it's content, including it's network of users and knowledge partners and information on various projects and initiatives. This content is enriched by state-of-the-art semantic search technologies.

This means we are going *beyond* just sharing knowledge - this release not only makes our collective knowledge linked and integrated in meaningful ways that were not previously possible, but also completely dynamic and responsive to your needs and interests.

[Experience weADAPT 3.0 yourself.](#)

GCAP Adaptation Academy

Global Climate Adaptation Partnership (GCAP) offers comprehensive Certified Climate Adaptation Training that is suitable to a highly diverse range of professionals.

With demand for climate adaptation expertise already outstripping supply, GCAP's Adaptation Academy plays a critical role in support of climate adaptation projects and experts throughout the world.

Climate adaptation requires a forever changing combination of knowledge and skills, bridging the natural and social sciences with technical analytical skills and 'people skills' to foster collaborative learning and support organisational change.

Find out more [here](#)

New

- [Increasing resilience](#)
- [EastAfricaADAPT](#)
- [ACTS](#)
- [CSAG](#)

Gender And Climate Change

Recognising differential vulnerability is important when developing adaptation strategies. [Read more.](#)

Top 10 Subjects on the site today

- [Climate change](#)
- [Global warming](#)
- [Adaptation](#)
- [Adaptation to global warming](#)
- [Vulnerability](#)
- [Risk](#)
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Take home messages

- Assessments need to consider “whole of climate” – change and variability, not just model projections from greenhouse gas scenarios
- Current adaptation is the starting point for understanding future adaptation
- Areas is growing so quickly that common methods and learning from experience is not well established
- Approaches are many and varied
- Trade-offs exist between
 - Simplicity and comprehensiveness
 - “Recipes” and knowing which method is appropriate

Collaborating on methods and tools

- What can regional networks and information centres do?
 - Provide information for risk scoping from online data-bases
 - Provide information from other projects for prospective stakeholders/investors in new projects
 - Provide tools for adaptation projects
 - Conduct meta-analyses of projects
 - Develop templates for method selection
 - Regularly review lessons from both successes and failures
 - Share and develop common learning on cultural and governance issues for a region

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