

An Integrated Water Resources Management approach for building climate resilience in the Caribbean: **Module 6: Approaches, Tools and Resources**



UNESCO-IHE
Institute for Water Education



Credits and Acknowledgements

- Slides are adapted from Cap-Net 2009 Training Slides unless otherwise stated. See <http://www.cap-net.org/training-material/iwrm-as-a-tool-for-adaptation-to-climate-change-english/>
- Unless otherwise stated, case studies and examples are provided from ***Cap-Net, WMO/APFM, UNESCO-IHE, REDICA and GWP-C. 2015. (Draft) IWRM as a Tool for Adaptation to Climate Change with Caribbean Case Studies. Training Manual and Facilitators Guide. Cap-Net.***
- This training package is produced by Global Water Partnership - Caribbean and CAPNET/Caribbean WaterNet with Funding from the GWP-C Water Climate and Development Programme (WACDEP)
- WACDEP is executed by GWP-C in Partnership with the Caribbean Community Climate Change Centre (CCCCC)

Goal and Objectives of the session

At the end of this session, participants will:

- Be familiar with general approaches to building climate resilience in the water sector
- Be familiar with available online tools and resources.
- Understand the applicability of IWRM in the Caribbean Context.

How can we start?



Sourcebook

- Provides a framework for enhancing climate resilience throughout the decision-making cycle
 - Understanding the problem,
 - Identifying and appraising options,
 - Delivering solutions,
 - Monitoring and moving forward
- Target audience: water resources managers and water service providers seeking to manage to manage climate impacts

Framework/Sourcebook

- Way of approaching climate issues
- Puts climate in our context as water professionals
- Bite sized pieces
- Helps us think through what we need to do without getting overwhelmed
- Its about IWRM!!!!



Overview of Sourcebook

- Touches on all aspects of the training material presented
- Presents a wide range of tools, methods and approaches, and links to sources of further information.
- Encourages a questioning mode of thinking to help users develop climate resilient solutions relevant to their own countries and contexts
- Not intended to be followed as a process from cover to cover. Each section can be used independently depending on the user's interest, specific and entry point.



Understanding the problem

The overall purpose of this phase of decision making is to arrive at a common understanding on the priority existing and future climate *risks to water resources and water service provision, and their potential impacts on development objectives.



*Risk - combined probability and severity of an event occurring (IPCC)

Resources: GWP-C Climate Resilience & Water Security Knowledge Platform



English

PRESS ROOM
CONTACT US

Search

+ GWP Regional Websites

WACDEP Funding Knowledge Products Tools & Training Databases Information Exchange



Caribbean Water and Climate Knowledge Platform

Share: [f](#) [t](#) [in](#)

Caribbean Water and Climate Knowledge Platform

Small Island Developing States (SIDS) are deemed to be some of the most vulnerable countries in the world to climate change. This is in part attributed to sea-level rise, coupled with the small size of these territories amidst growing populations and other development challenges. Of these development challenges, achieving water security remains an enduring issue which will only be further exacerbated by the threat of climate change.

The Caribbean Water and Climate Knowledge Platform is an initiative of the [Global Water Partnership-Caribbean \(GWP-C\)](#) under its [Water, Climate and Development Programme \(WACDEP\)](#) for the Caribbean. The Platform has been developed to support the work of the

GWP-C Online Resources



Caribbean Water and Climate Platform

- Databases of technical experts in IWRM
- Database of IWRM projects in the region

GWP Caribbean
WACDEP

Water & Climate
Funding

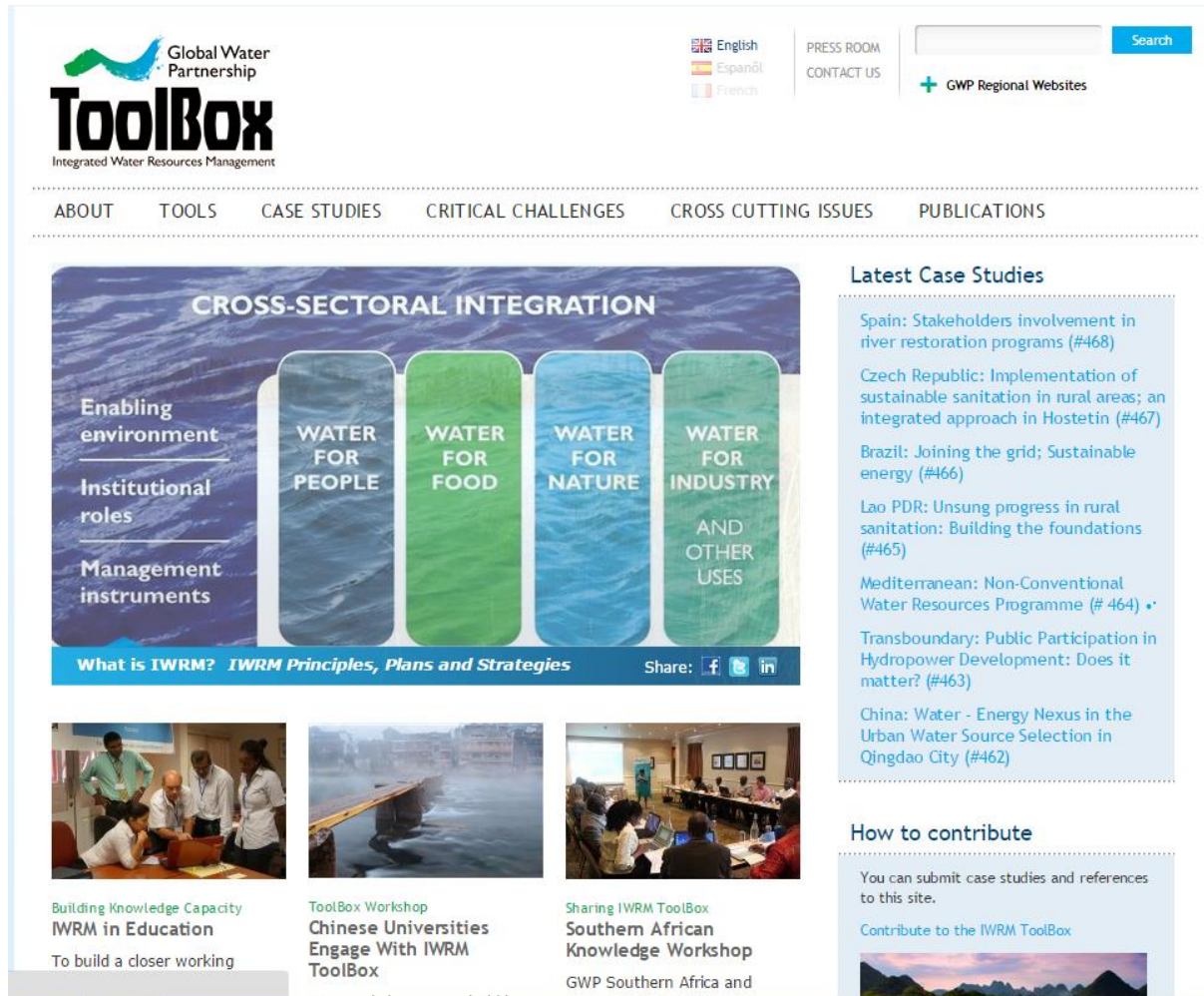
Water & Climate
Knowledge Products

Water & Climate
Tools & Training
Modules

Water & Climate
Databases

Information
Exchange

GWP-C Online Resources



The screenshot shows the homepage of the Global Water Partnership (GWP) Toolbox. The header includes the GWP logo, language options (English, Español, French), and links for Press Room, Contact Us, and a search bar. The main navigation bar lists categories: ABOUT, TOOLS, CASE STUDIES, CRITICAL CHALLENGES, CROSS CUTTING ISSUES, and PUBLICATIONS. The central feature is a 'CROSS-SECTORAL INTEGRATION' graphic with four pillars: 'WATER FOR PEOPLE', 'WATER FOR FOOD', 'WATER FOR NATURE', and 'WATER FOR INDUSTRY AND OTHER USES'. To the left of these pillars are three boxes labeled 'Enabling environment', 'Institutional roles', and 'Management instruments'. Below the graphic is a link to 'What is IWRM? IWRM Principles, Plans and Strategies' with social media share icons. On the right, the 'Latest Case Studies' section lists several entries with brief descriptions and IDs. At the bottom, there are three featured articles with images: 'Building Knowledge Capacity IWRM in Education', 'ToolBox Workshop Chinese Universities Engage With IWRM ToolBox', and 'Sharing IWRM ToolBox Southern African Knowledge Workshop'.

Global Water Partnership
ToolBox
Integrated Water Resources Management

English
Español
French

PRESS ROOM
CONTACT US

Search

+ GWP Regional Websites

ABOUT TOOLS CASE STUDIES CRITICAL CHALLENGES CROSS CUTTING ISSUES PUBLICATIONS

CROSS-SECTORAL INTEGRATION

Enabling environment
Institutional roles
Management instruments

WATER FOR PEOPLE
WATER FOR FOOD
WATER FOR NATURE
WATER FOR INDUSTRY AND OTHER USES

What is IWRM? *IWRM Principles, Plans and Strategies* Share: [f](#) [t](#) [in](#)

Latest Case Studies

- Spain: Stakeholders involvement in river restoration programs (#468)
- Czech Republic: Implementation of sustainable sanitation in rural areas; an integrated approach in Hostetin (#467)
- Brazil: Joining the grid; Sustainable energy (#466)
- Lao PDR: Unsung progress in rural sanitation: Building the foundations (#465)
- Mediterranean: Non-Conventional Water Resources Programme (# 464) •
- Transboundary: Public Participation in Hydropower Development: Does it matter? (#463)
- China: Water - Energy Nexus in the Urban Water Source Selection in Qingdao City (#462)

How to contribute

You can submit case studies and references to this site.

[Contribute to the IWRM ToolBox](#)

Building Knowledge Capacity IWRM in Education
To build a closer working

ToolBox Workshop Chinese Universities Engage With IWRM ToolBox

Sharing IWRM ToolBox Southern African Knowledge Workshop
GWP Southern Africa and

Global Toolbox on IWRM

- Tools
- Case Studies

Understanding the problem: Assessing climate risks

- Identifying the stakeholder groups at risk from water related hazards and dependent on water security
 - Tools like CANARI Guidelines for stakeholder analysis
 - Constructing impact chains to understand how *impacts are interlinked within and across different stakeholder perspectives and sectoral interests.
 - Training tools e.g. UNDP toolkits on impact chains, **GWP-C /CAPNET general training packages**, CERMES/IRI WACEP, various short courses, IDB
 - Prioritising risks according to agreed criteria on the likelihood and severity of the impacts

- Building the evidence base through technical studies

*Impact: The effect of climate variability or long-term change on the functioning of a system

Understanding the problem:

Making a strong case for action

- Identifying impact metrics to make a strong case
 - Revenue losses, health effects
- Using economic assessment of the impact of climate variability and change
- Aligning the case for action with regional, national, and sectoral policies and strategies
 - National policies, regional frameworks
- Communicating the case for action
 - CANARI Tool Box for communicating Climate Change



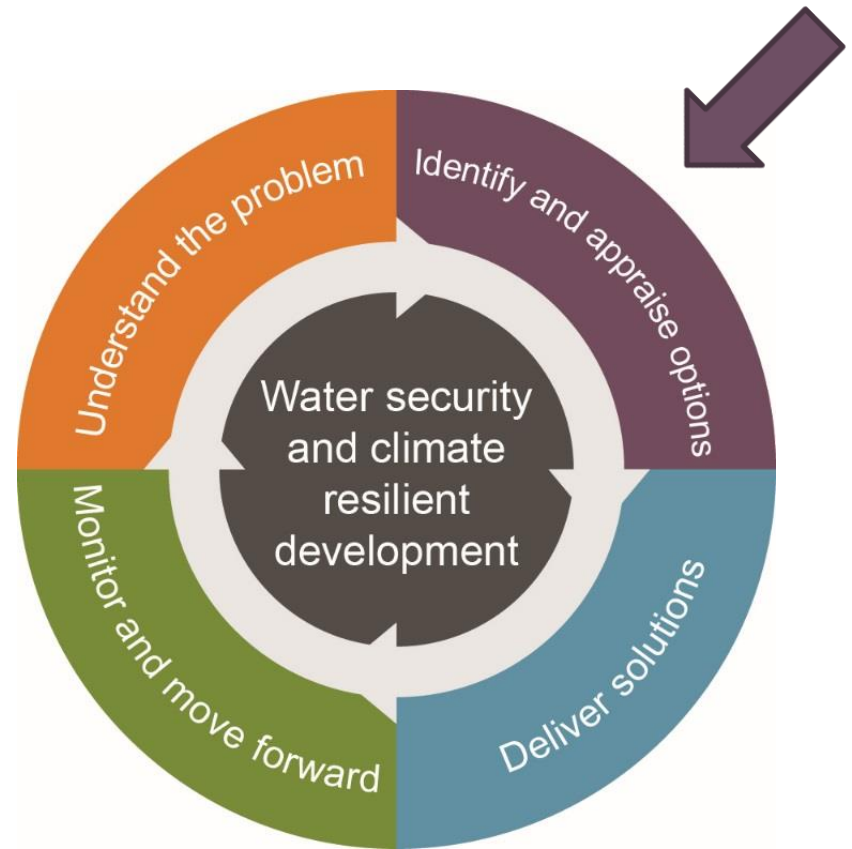
Understanding the problem: Outcome

A strong, evidenced case for investment in climate resilient measures, based on an understanding of the climate risks facing different stakeholders



Identify and Appraise options

The overall purpose of this phase of decision making is to identify and appraise a coherent set of cost effective and feasible climate resilient adaptation options which address urgent and high priority risks.



Identify and appraise options: Understanding the principles of building resilience in water management

Considering how planning systems can accommodate future uncertainties in climate (flexibility)

Considering No and Low Regret Options: deliver benefits under the full range of potential future climate change scenarios e.g. early warning systems

Considering how options which enhance water management will benefit/harm other economic, social and environmental sectors and stakeholders.



Identify and appraise options: Using decision making tools e.g. CCORAL to identify adaptation options

Caribbean Climate Online Risk and Adaptation Tool (CCORAL)

- Online tool available at <http://ccoral.caribbeanclimate.bz/>

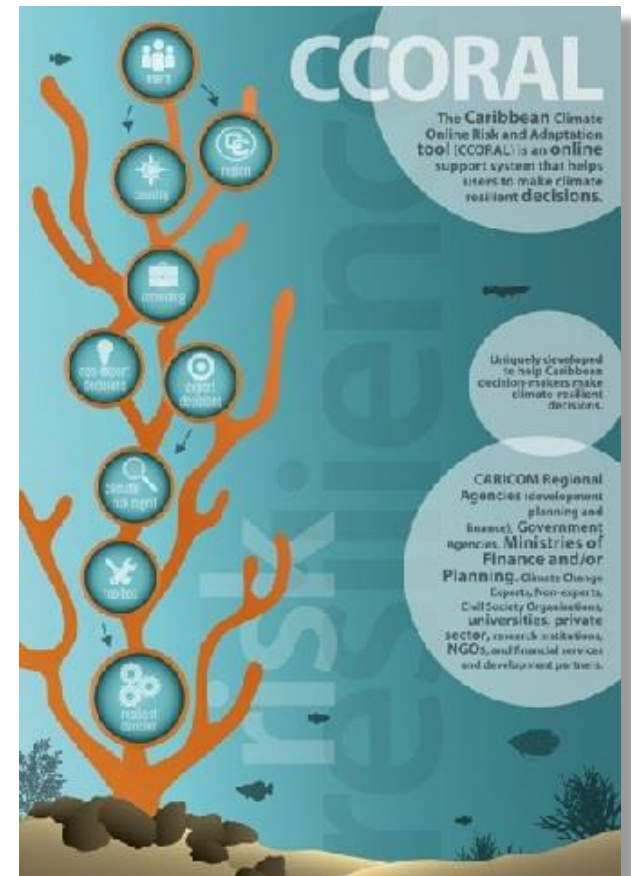
Other tools

- EU Mediation Platform- www.mediation-project.eu
 - Decision making for climate change adaptation.
- Organisation for Economic Cooperation and Development -Strategic Financial Planning (FEASIBLE Tool)

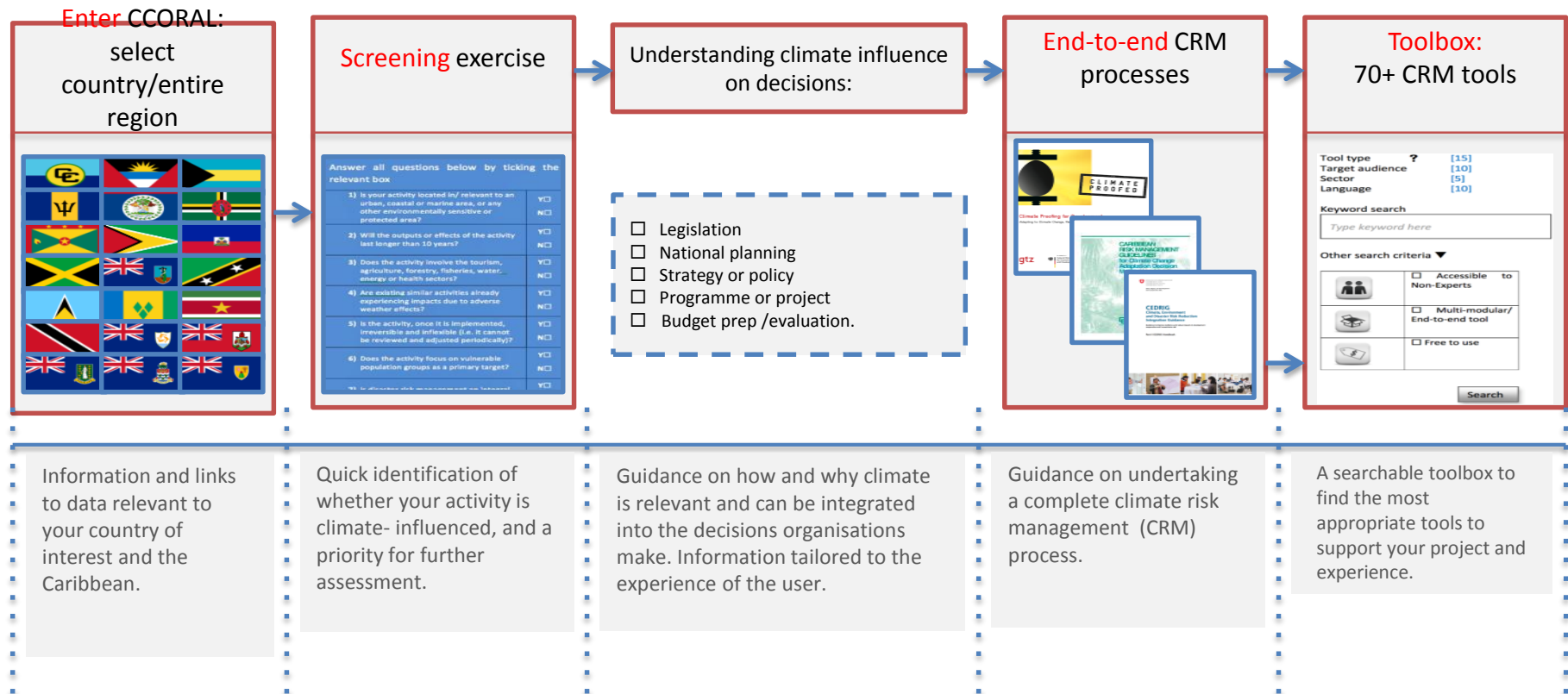


Caribbean Climate Online Risk and Adaptation Tool (CCORAL): What is it?

- A collaborative tool to increase climate resilience
 - Rapid assessment of activities
 - Increased understanding of climate influence
 - Application of climate risk management process
 - Finding tools and learning more
- Options for climate experts and non-experts
- A comprehensive library of resources (clearinghouse)



Caribbean Climate Online Risk and Adaptation Tool (CCORAL): The Process






GWP-C CCORAL-Water Initiative: Enhances Toolbox water sector

Toolbox: 70+ CRM tools

Tool type ? [15]
Target audience [10]
Sector [5]
Language [10]

Keyword search
Type keyword here

Other search criteria ▼

	<input type="checkbox"/> Accessible to Non-Experts
	<input type="checkbox"/> Multi-modular/End-to-end tool
	<input type="checkbox"/> Free to use

Search

A searchable toolbox to find the most appropriate tools to support your project and experience.

Tool type ([explanation](#))

Select Some Options

Sector

Select Some Options

Keyword Search ?

Water

Search

Clear

Target audience

Broad Audience
General decision-makers
Government policymakers
Project/programme managers
Water Resources Managers
Water Utility Technical Staff



Number of tools available: [164]

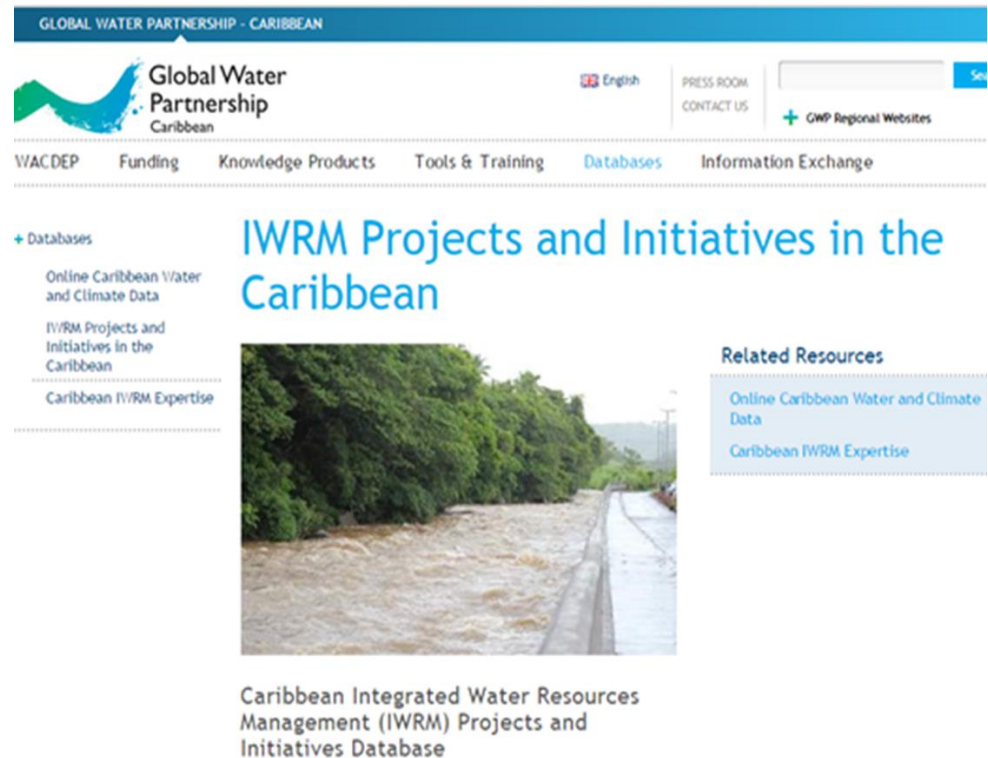
Examples of resources in Toolbox

UNECLAC 2011 document on AN ASSESSMENT OF THE ECONOMIC IMPACT OF CLIMATE CHANGE ON THE WATER SECTOR IN GRENADA

WSP 2008 Designing an Effective Leakage Reduction and Management Program

Identify and appraise options: Building on existing work to identify adaptation options

- Climate resilience/IWRM approach
- Reviewing past plans, policies and risk
- Building on lessons from case studies and ongoing initiatives
- Reviewing regional and international databases to identify opportunities for resilience



The screenshot displays the website for the Global Water Partnership Caribbean. The header includes the organization's name and a language selector set to English. A navigation menu lists various resources: WACDEP, Funding, Knowledge Products, Tools & Training, Databases, and Information Exchange. The main content area features a section titled "IWRM Projects and Initiatives in the Caribbean" with a list of databases including "Online Caribbean Water and Climate Data", "IWRM Projects and Initiatives in the Caribbean", and "Caribbean IWRM Expertise". A large photograph of a river with a concrete bank is shown. To the right, a "Related Resources" box links to the same two databases. The footer identifies the page as the "Caribbean Integrated Water Resources Management (IWRM) Projects and Initiatives Database".

GLOBAL WATER PARTNERSHIP - CARIBBEAN

Global Water Partnership Caribbean

English PRESS ROOM CONTACT US + GWP Regional Websites

WACDEP Funding Knowledge Products Tools & Training Databases Information Exchange


+ Databases

Online Caribbean Water and Climate Data

IWRM Projects and Initiatives in the Caribbean

Caribbean IWRM Expertise

IWRM Projects and Initiatives in the Caribbean



Related Resources

Online Caribbean Water and Climate Data

Caribbean IWRM Expertise

Caribbean Integrated Water Resources Management (IWRM) Projects and Initiatives Database

Identify and appraise options: Prioritising adaptation options for implementation

- Selecting appropriate prioritisation techniques
- Multi criteria analysis (MCA)
- Cost Benefit analysis (BCA)
- Cost Effectiveness Analysis (CEA)



Identify and appraise options: Outcome

A strong, well-articulated and evidenced case for high priority options to build climate resilience.



Deliver solutions

The purpose of this phase of decision-making is to secure finance for projects which will enhance climate resilience.

Main focus of WACDEP currently

i.e. Regional Caribbean
Climate Resilience and Water
Security Investment Plan



Deliver solutions: Taking options forward to Implementation

- Preparing fundable investment projects and programmes
 - Guidance on project preparation processes
- Integrating adaptation options into development planning processes to be more efficient
 - Use existing workplans, budgets, programmes
- Mainstreaming climate resilience
 - Adaptation planning into national planning processes
 - E.g. CCORAL in Grenada



Deliver Solutions:

Identifying sources of finance to implement adaptation options

- Traditional financing sources
 - Tariffs, Taxes, Transfers (ODA/NGOs)
- Appreciating the growing importance of climate finance
 - Global Climate funds e.g. PPCR
 - Sourcebook provides primers, climate finance websites
- Seeking opportunities to fund climate change related actions
 - E.g. forest conservation funds



Monitor and move forward

The purpose of this phase of decision-making is to monitor and evaluate the impacts of investments in climate resilient development.



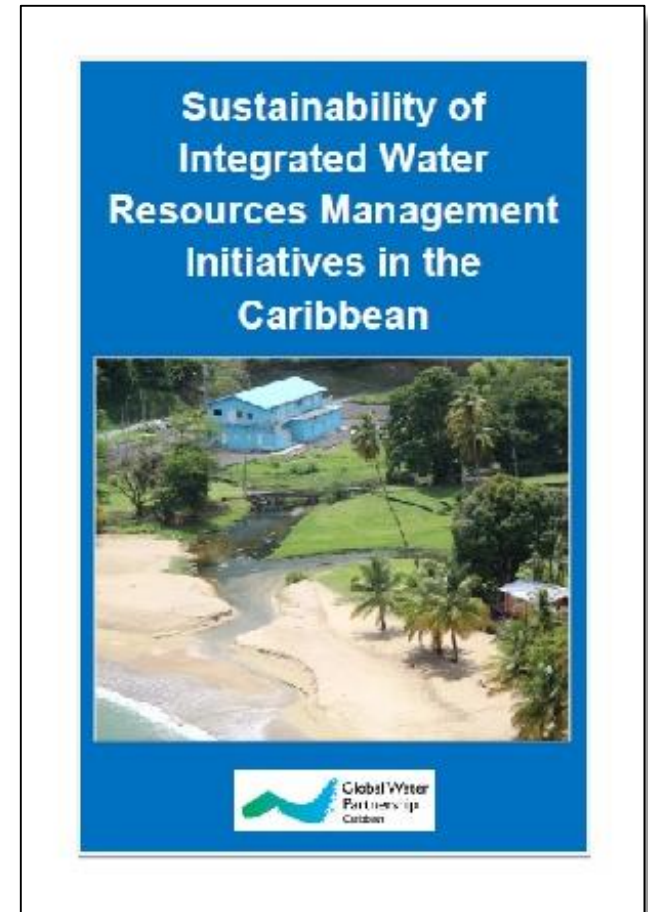
Monitor and move forward: Benefitting from results based monitoring and evaluation

- Results-based monitoring and evaluation
- Incorporating climate change in existing monitoring and evaluation systems
 - Don't need new systems



Monitor and move forward: Learning lessons and communicating findings

- Benefitting from learning reviews
- Disseminating findings and regional learning



Monitoring and Moving forward: Outcome

Enhanced monitoring and evaluation frameworks which track the impact of investments in climate resilience, building on lessons learned.



Use what works for your context!

- Multiple frameworks,
Multiple Tools
- Simple tools,
complicated tools
- Be aware of them
- Use what works for you!



Thank You!

E-mail: info@gwp-caribbean.org

Website: www.gwp-caribbean.org

