

**OCTs Regional Risk Reduction Initiative (R3I)
Provision of Services to Caribbean OCTs
Lot 1: GIS and Vulnerability Assessment**

TITLE OF PRESENTATION

Aruba; May 4-6, 2011

**Formal Launch of OCTs Regional Risk Reduction Initiative (R3I): Provision of Services to Caribbean OCTs ; Lot 1:
GIS and Vulnerability Assessment**



Phase I - Hazard mapping and Vulnerability capacity assessment

Phase I sub-tasks:

I-a: Review of hazard mapping and vulnerability capacities

I-b: Data collection and data needs assessment

I-c: Recommendations, planning and strategy development

Phase I - Hazard mapping and Vulnerability capacity assessment

Phase I involved Islands:

Task	TCI	CI	MNT	ARU	CUR	BON	SAB	EUS
Phase I: HM/VA capacity assessment								
I-a Synthesis of B-Tool and other studies	X	X	X	X	X	X	X	X
I-b Data needs assessment and existing data collection	X	X	X	X	X	X	X	X
I-c Recommendations, planning and strategy development	X		X	X	X			
1. Long term capacity development and use strategy								
2. Detailed implementation methodology for the contract	X	X	X	X	X	X	X	X



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I-a: Review of Hazard Mapping & Vulnerability Capacities

Expected Results:

- A synthesis of all surveys relevant to disaster management in the OCTs or broader groups of countries
- An analysis of each country's capacity in terms of GIS software, hardware, and human resources
- Access to regional or national capacities (e.g. UK or Netherlands).

Methods

- Literature review
- In-country interviews and discussion with key stakeholders
- Preparation of draft report
- Review of draft report
- Finalization of draft report



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I-a: Review of Hazard Mapping & Vulnerability Capacities

Documents to be reviewed

- ✓ B-Tool assessment conducted in May-June 2010 by R3I and earlier assessments
- ✓ UNESCO-IHE work on flooding in St Maarten
- ✓ Countries strategy papers (disaster management work plans)
- ✓ Baseline assessment tool (CDEMA)
- ✓ IT assessment (CDEMA)
- ✓ Economics of Climate Adaptation study for Cayman Islands (CCRIF)
- ✓ 2006 UN Inter-Agency Task Force for Disaster Reduction (IATF/DR) global survey
- ✓ 2006 Meteorological Services for Civil Aviation
- ✓ 2008 IOC UNESCO ICG Carib
- ✓ 2008 UNISDR-PPEW / UNU-EHS Joint Early Warning Questionnaire
- ✓ 2009 CDEMA TCHWS Project Country Assessment Questionnaire

I-b: Data collection and data needs assessment

Expected Results

- Collection of existing data relevant to Disaster Risk Reduction for each island
- Quality analysis of existing data
- Pre-processing of collected data for future spatial analysis
- Data sharing

Methods

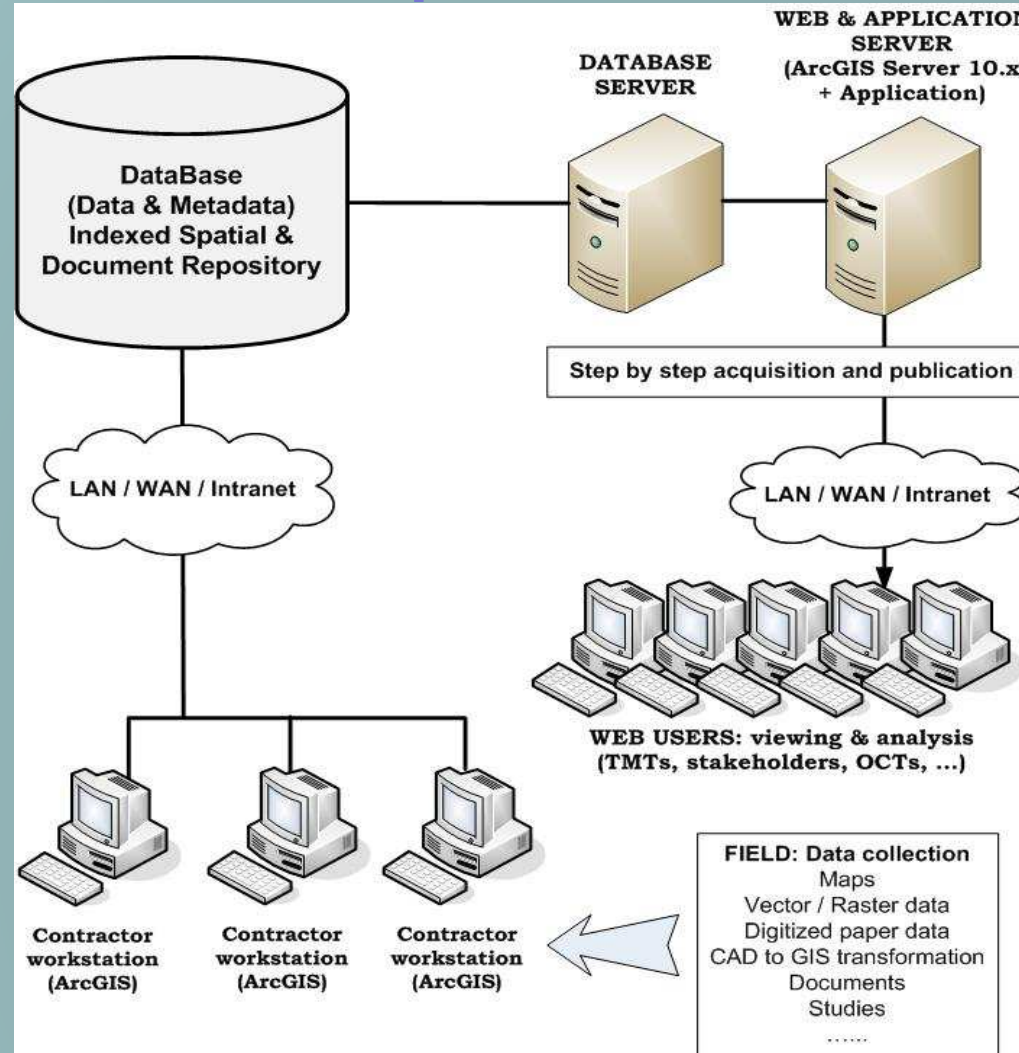
- Internet search for sources of extra-regional data
- In-country collection of data from local key stakeholders (Questionnaire)
- Draft Data publication into the Indexed Spatial & Document Repository
- Preparation of activity report.



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Design of a Indexed Spatial & Document Repository





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Design of a Indexed Spatial & Document Repository

System dedicated to data repository, accessible via web, using ESRI-based products (ArcGIS Server 10) that are already used in several countries of OCTs.

It will collect:

- Spatial data and documents repository for all the data collected with a particular focus on metadata;
- Information source to be accessed to all the stakeholders and entities involved in the Project



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Design of a Indexed Spatial & Document Repository

At this stage, the WEB-GIS will not be supported by a really working Geo-Database structure and homogeneous data (data clean up and normalization inside a GeoDB is foreseen in Phase II), but includes:

- Classification and upload of maps, spatial data and relevant attributes “as-is” (landslide hazard maps, flood and storm surge hazard maps, etc.),
- Metadata related to all the data collected (origin, accuracy, update year, etc.),
- Linkage to documentation collected during the surveys (studies, geological assessments, volcanic assessments, hazardous material management, and early warning systems outputs).
- All the project documentation



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Potential Sources of Data

All local stakeholders

- Disaster management department
- Hydro and met offices
- Lands and surveys department
- Planning departments
- local NGOs e.g. the Red Cross
- Water, electricity and other utilities
- Airport and harbour authorities
- Environment and health offices
- Community development offices
- Private sectors
- local professional associations

International

- UN-SPIDER for all satellite support
- PAHO1

Regional

- CIMH; CMO; CDEMA; CCRIF
- University of Puerto Rico
- Puerto Rico Seismic Network (PRSN)
- Montserrat Volcano Observatory (MVO)2
- Conseil Généraux de Martinique et Guadeloupe
- UWI, Seismic Research Centre

Extra-regional

- NOAA; USGS
- Meteo-France
- British and US Navies
- Royal Netherlands Academy of Arts and Sciences (KNAW)3
- (IAVCEI and Caribbean Volcanoes



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I-c: Recommendations, planning and strategy development Expected Results

Long term strategy for HM/VA capacity development.

- Human and material resources
- Training and skills continuity
- Sustainable investment and operational budget
- Medium and long term objectives

Short term planning and implementation planning

- Detailed work plan for the immediate development capacities of the disaster offices.
- Plan should focus on:
 - Partnership with disaster management offices
 - Transfer of skills through training applied to the real exercise of HM/VA

Legal context

A synthesis of all relevant national laws and regulations to ensure that strategies and plans are coherent with the legal context.



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I-c: Recommendations, planning and strategy development

This phase will also be devoted to the drafting of the “Data Reconstruction Plan”, consisting in the definition of a road map able to fill-up all the involved databases and reach the project’s goals

Spatial data could exist in different conditions between the different layers and among the data in each layer. The following, briefly enlists these conditions which we should deal with:

- *Format homogeneity*
- *Datum and coordinate system homogeneity*
- *GIS compatibility*
- *Geometric clean-up*
- *Metadata Definition*
- *Data Completeness assessment*



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Summary of Processes (1a)

Phase I-a: Review of hazard mapping and vulnerability assessment capacities in all beneficiary islands

- ✓ Design and implementation of a capacity assessment tool
- ✓ Collection and review of available relevant policies, reports, and documents related to disaster risk reduction in OCTs or broader groups of countries
- ✓ Interview with key informants
- ✓ Data analysis and development of synthesis
- ✓ Preparation and submission of draft capacity assessment report
- ✓ Review of draft report and preparation of final capacity assessment report



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Summary of Processes (1b)

Phase I-b: Data needs assessment, data collection, and data quality assessment

- ✓ Regional Training workshop1: Introduction to GIS Concepts and Applications
- ✓ Design of needs and requirements assessment tools
- ✓ Administration of the tool and collection of existing data
- ✓ Data gap and data quality assessment
- ✓ Pre-processing of collected data into usable GIS formats and upload into the “Indexed Spatial & Document Repository WEB-GIS”
- ✓ Preparation and submission of draft data assessment report
- ✓ Compilation of pre-processed GIS data with metadata information and upload into the “Indexed Spatial & Document Repository WEB-GIS”.
- ✓ Preparation and submission of final data assessment report

Summary of Processes (1c)

Phase I-c: Recommendation, planning & long term strategy development

- ✓ Review of R3I objectives and implementation principles
- ✓ Review of best practices in regional disaster risk reduction (e.g. CDM, HFA)
- ✓ Development of draft long and short term developmental strategies
- ✓ Stakeholder consultation on draft strategies by stakeholders
- ✓ Development of short term implementation plan
- ✓ Review of draft short term implementation plan by stakeholders
- ✓ Draft delivery of a ***Data Restructuring Plan***
- ✓ Preparation and submission of final strategy and implementation plans

Deliverables: Phase I

Phase 1-a

- ✓ Approved capacity assessment report
- ✓ Approved data needs, data gap, and data quality assessment report

Phase 1-b

- ✓ Regional Training workshop1 report
- ✓ Delivery of “Indexed Spatial & Document Repository WEB-GIS” (draft) containing compiled pre-processed GIS existing data for each island

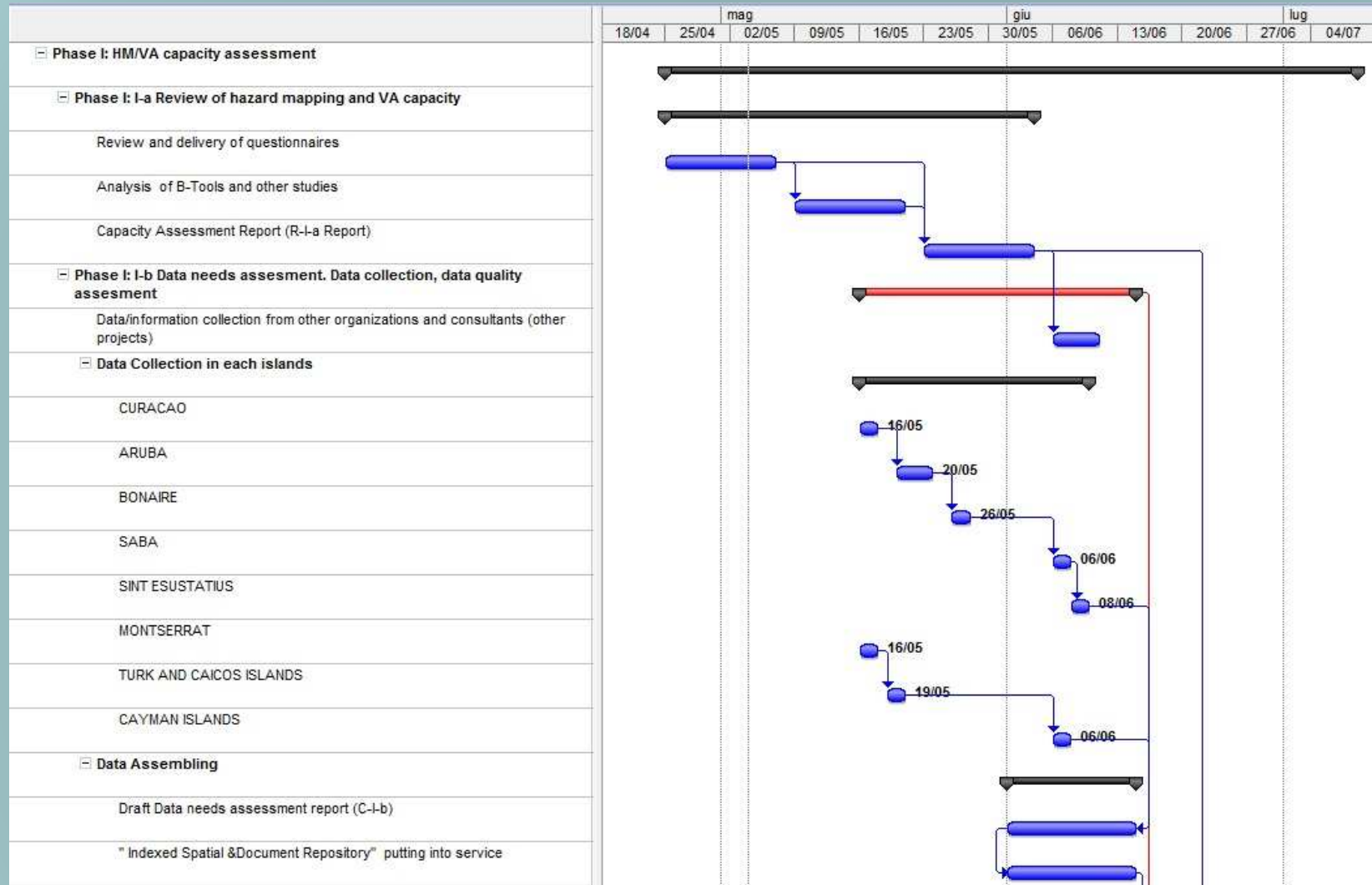
Phase 1-c

- ✓ Stakeholder consultation report
- ✓ Approved long and short term developmental strategies report
- ✓ Approved short-term implementation plan

Phase I - Schedule

	Task	from	to
I-a Review of hazard mapping and VA capacity			
	Analysis of B-Tools and other studies	May 9	June 10
	Capacity Assessment Report (R-I-a Report)	May 23	June 6
I-b Data needs assesment. Data collection, data quality assesment			
	Data/information collection from other organizations and consultants	May 10	June 10
	Data Collection in each islands (Curacao ,Aruba, Bonaire ,Saba, Sint Eustatius, Montserrat,Turk and Caicos Islands, Cayman Islands)	May 10	June 30
	Draft Data needs assessment report (C-I-b)	May 23	June 10
	Indexed Spatial &Document Repository putting into service	May 30	June 10
I-C Reccomandation, Planning and long term strategy			
	Regional Training workshop1: Introduction to GIS Concepts and Applications	To be decided	
	Visit to islands and Draft Long term developmental strategies (Turk and Caicos islands, Montserrat, Aruba, Curacao)	May 23	June 10
	Short term implementation Plan	June 6	June 15
	Data Reconstructing Plan	June 6	June 10
	Per country Needs assessment and Long term capacity development (Final reports C-I-b&c)	June 6	June 27
	Detailed implementation Methodology for the contract	June 27	July 1

Phase I - Schedule



Phase I - Schedule

