

# Data Management within Land Use Division

- Goals and function of the Land Use Division.
- Brief overview of GLIS.
- Database management problems.
- Conclusions.

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# Primary goals of the division

- To provide information product outputs from the GIS data and the NWIS system through collaboration with local, regional and international agencies. (example : working with CIMH for climate forecasting and climate modelling)
- To build in house capacity in the use of GIS for water and land resource management
- Develop a GIS protocol for data management including quality control and sharing.

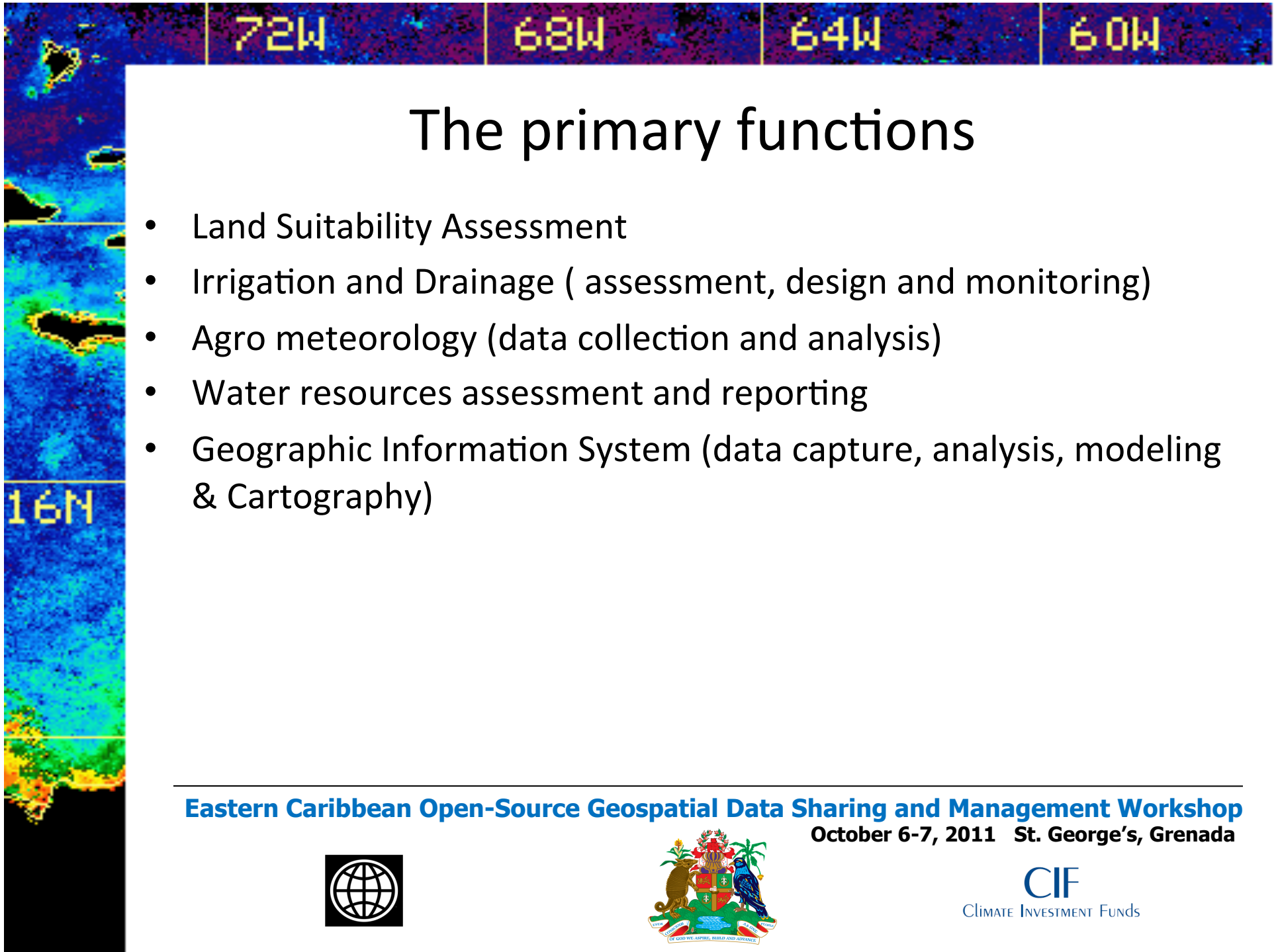
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# The primary functions

- Land Suitability Assessment
- Irrigation and Drainage ( assessment, design and monitoring)
- Agro meteorology (data collection and analysis)
- Water resources assessment and reporting
- Geographic Information System (data capture, analysis, modeling & Cartography)

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# Main clients

Government Ministries & Agencies

Farmers

Extension Officers

Utility Companies

Engineers

Agricultural Planners

Environmentalists

Students

NGO's

Consultants(Local, Regional and International)

General Public

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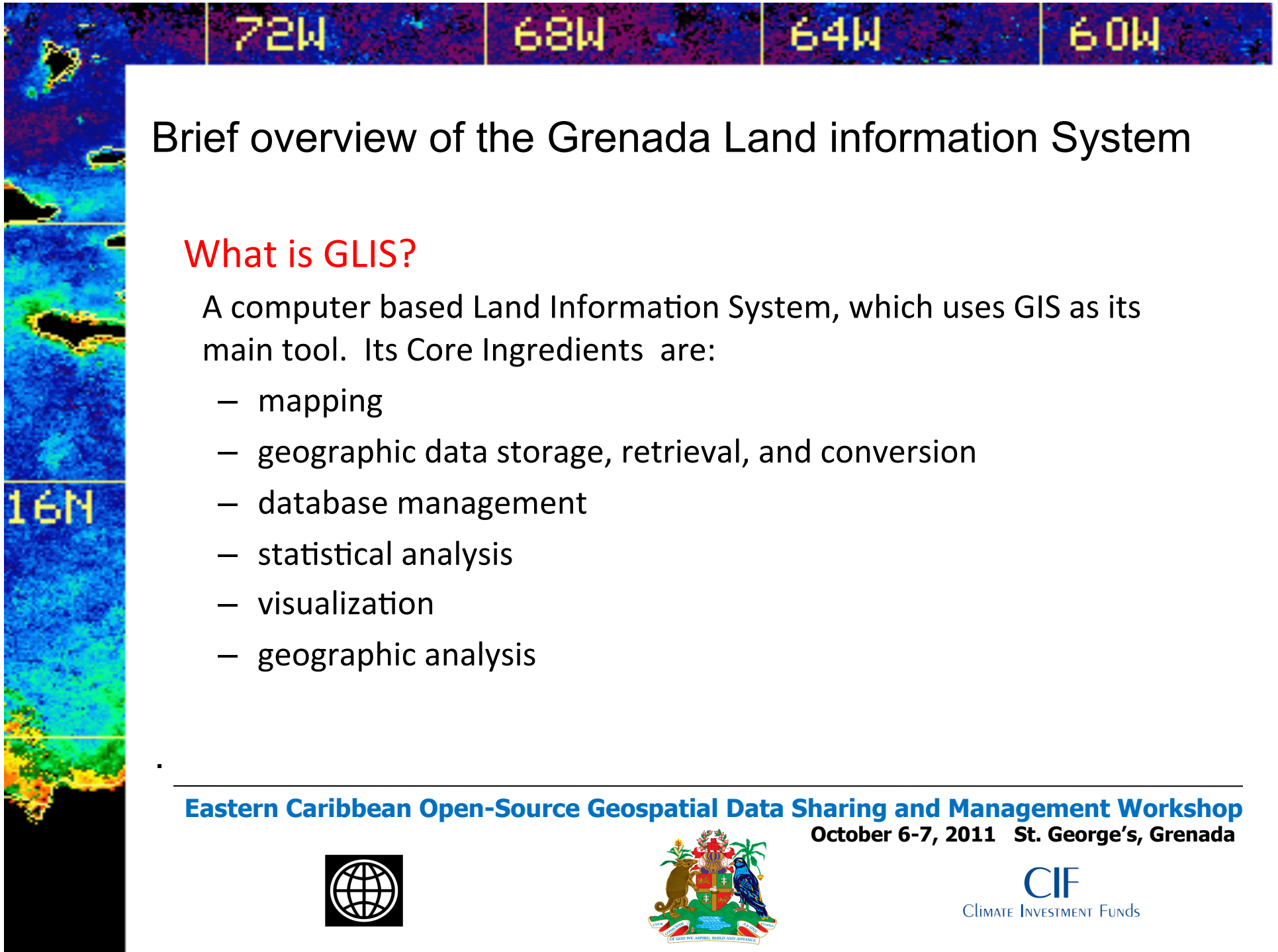
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## Brief overview of the Grenada Land information System

### What is GLIS?

A computer based Land Information System, which uses GIS as its main tool. Its Core Ingredients are:

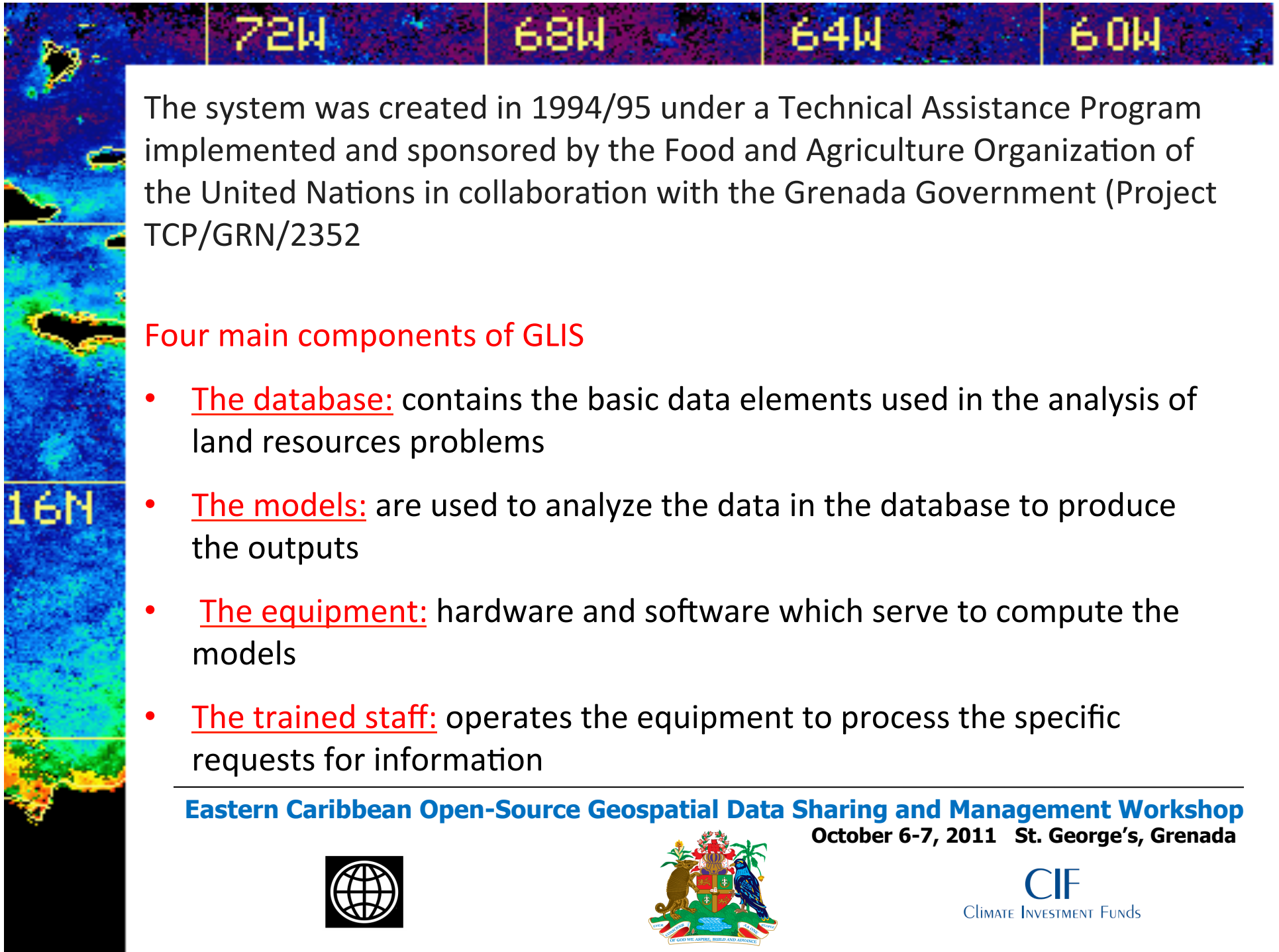
- mapping
- geographic data storage, retrieval, and conversion
- database management
- statistical analysis
- visualization
- geographic analysis

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The system was created in 1994/95 under a Technical Assistance Program implemented and sponsored by the Food and Agriculture Organization of the United Nations in collaboration with the Grenada Government (Project TCP/GRN/2352)

### Four main components of GLIS

- The database: contains the basic data elements used in the analysis of land resources problems
- The models: are used to analyze the data in the database to produce the outputs
- The equipment: hardware and software which serve to compute the models
- The trained staff: operates the equipment to process the specific requests for information

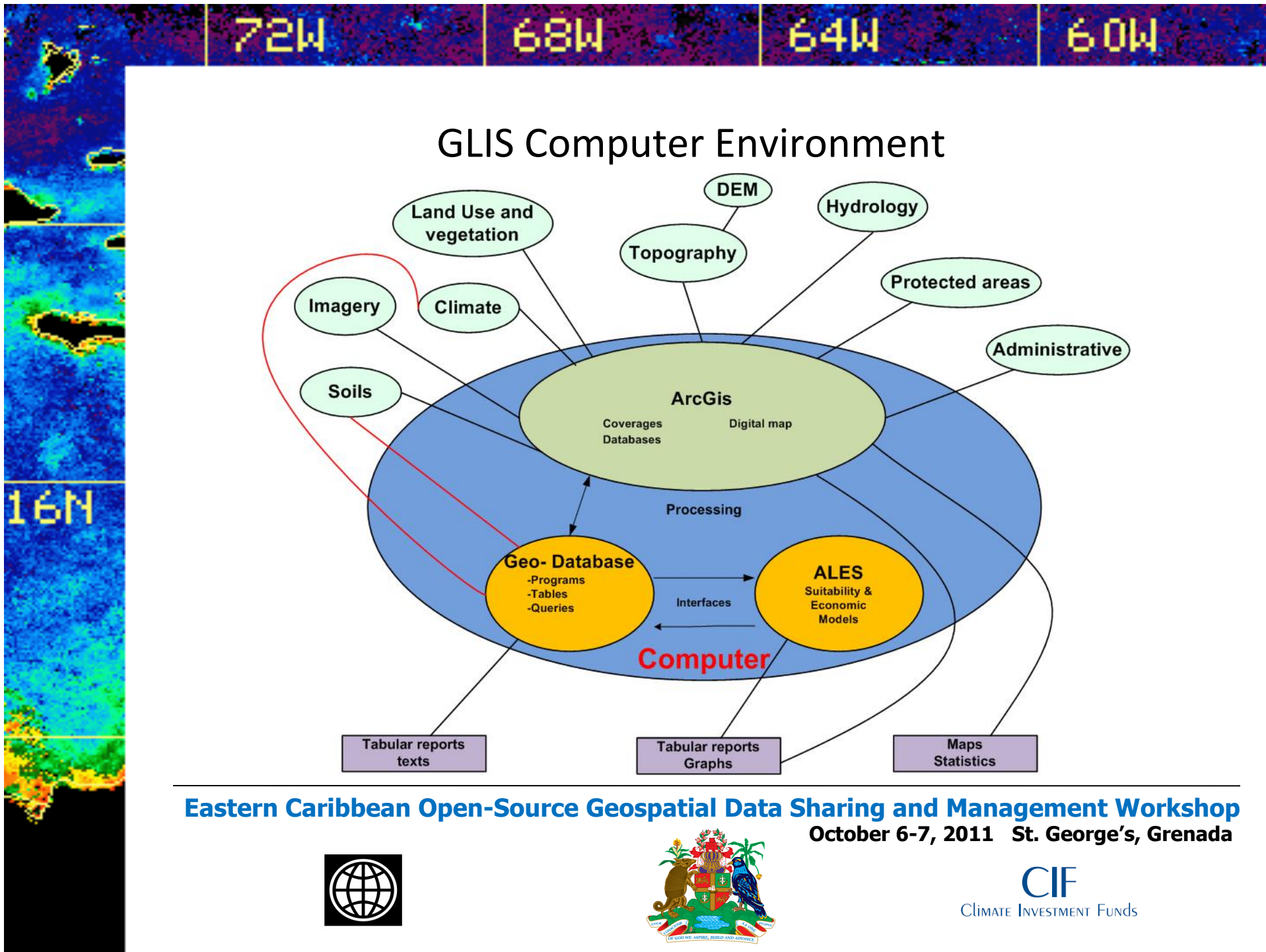
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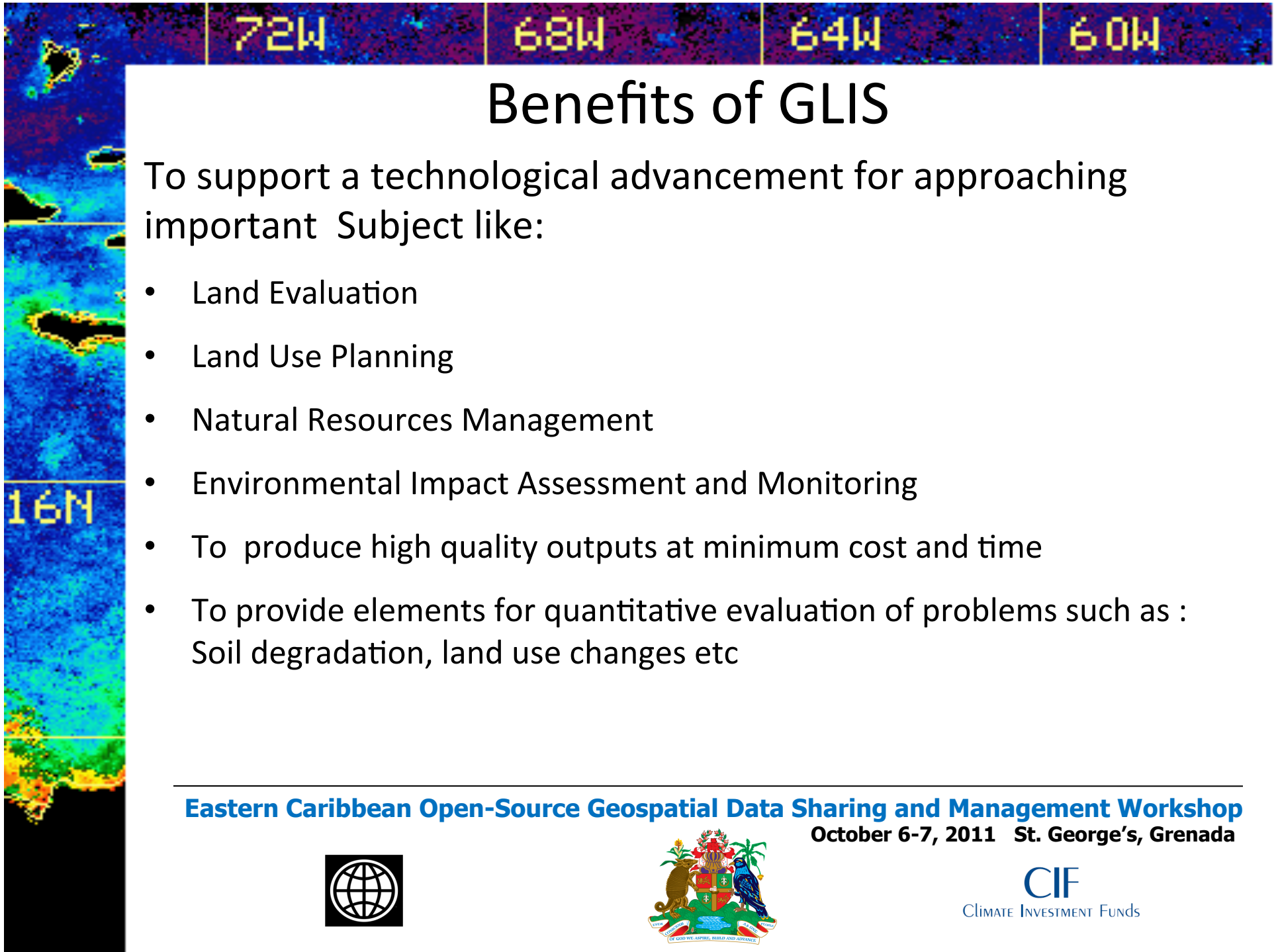
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# Benefits of GLIS

To support a technological advancement for approaching important Subject like:

- Land Evaluation
- Land Use Planning
- Natural Resources Management
- Environmental Impact Assessment and Monitoring
- To produce high quality outputs at minimum cost and time
- To provide elements for quantitative evaluation of problems such as :  
Soil degradation, land use changes etc

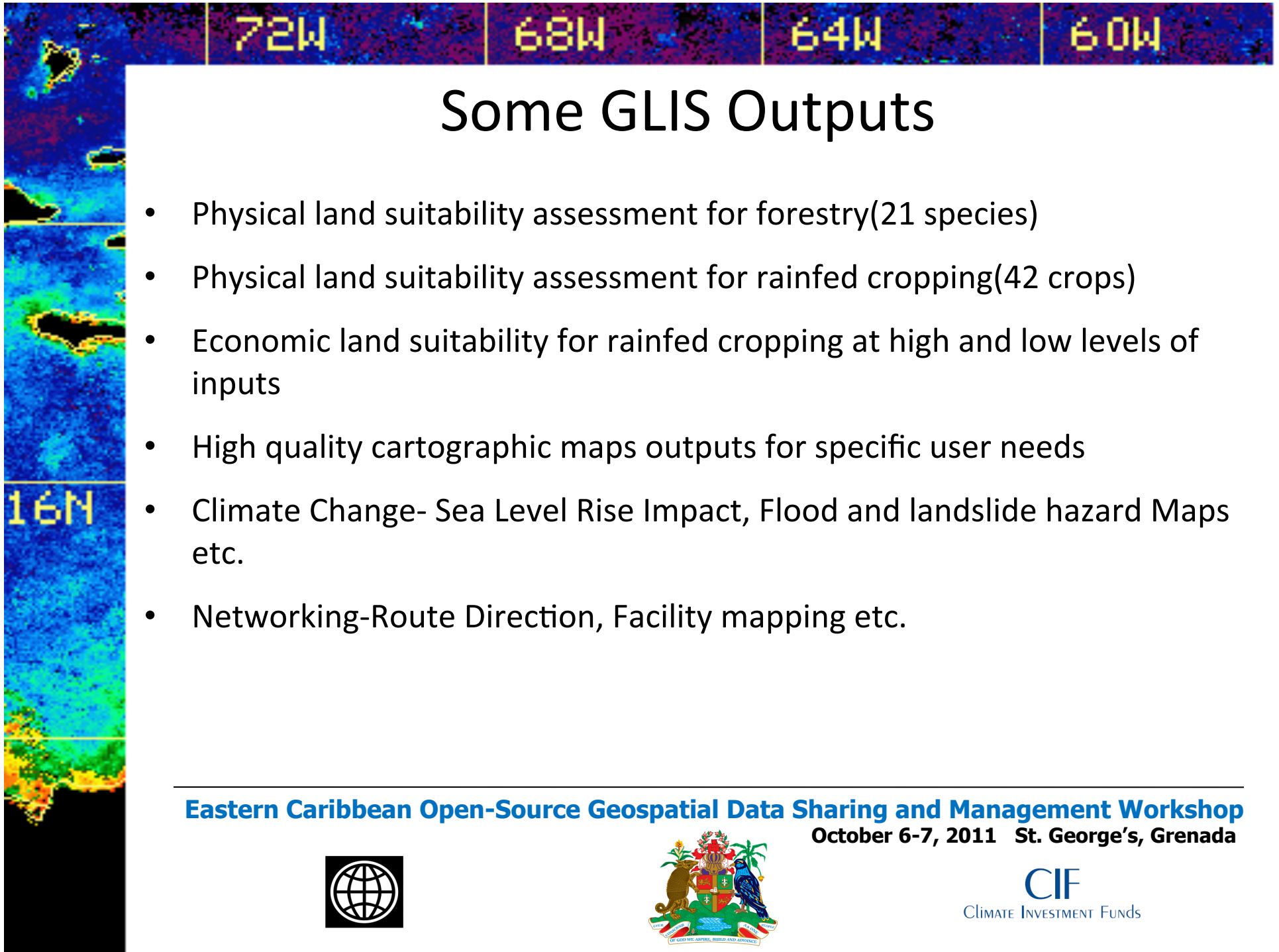
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## Some GLIS Outputs

- Physical land suitability assessment for forestry(21 species)
- Physical land suitability assessment for rainfed cropping(42 crops)
- Economic land suitability for rainfed cropping at high and low levels of inputs
- High quality cartographic maps outputs for specific user needs
- Climate Change- Sea Level Rise Impact, Flood and landslide hazard Maps etc.
- Networking-Route Direction, Facility mapping etc.

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# Hardware

Hardware	Number of units	Model and Version	Year acquired
Personal computers	4	Dell Optiplex GX520, Precision 670 Hp Proliant ML150	2004, 2006, 2008
Field laptop computers	1	Dell	2008
Digitizers	none		
Large format scanners	none		
Printers	2	HP Color LaserJet 3600n, Hp Design jet	
Plotters	1 (Non functional)	Hp design jet 800 42"	2004
GPS	none		
Digital cameras/video	1	Caplio 500SE GPS Camera	2010
External Hard drives	1	Western Digital 640GB	2008
Networks	1	Ethernet 10/100 Mb	2009

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# Software

Name of software	Version and year of acquisition	Type	DB platform	Operating system	No. of users	Main uses
ArcGIS	8.0/2003	standalone	Ms Access	Windows XP pro	3	GIS related
NWIS	4.0/2008	Web-based	MySQL	Server:XP Client: internet Explorer 8.0	N/A	GIS Agro met
MS Office	2007	Stand alone		Windows XP pro	3	
ALES		Standalone	Dbase	Dos	2	Land suitability
EcoCrop		Standalone	Dbase	DOS, Windows	2	Land suitability
FAO SDBM (soil database program)		standalone	Dbase	DOS	2	Soil Information

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# Competency Level of Staff

Computer literate?	4
Trained in the use of GIS software?	1
Trained in the use of GPS?	1
Trained in the use of database software?	2
Network administration?	1
Computer programming?	1
Postgraduate qualifications	0
Graduate qualifications	2
Post-secondary qualifications	3

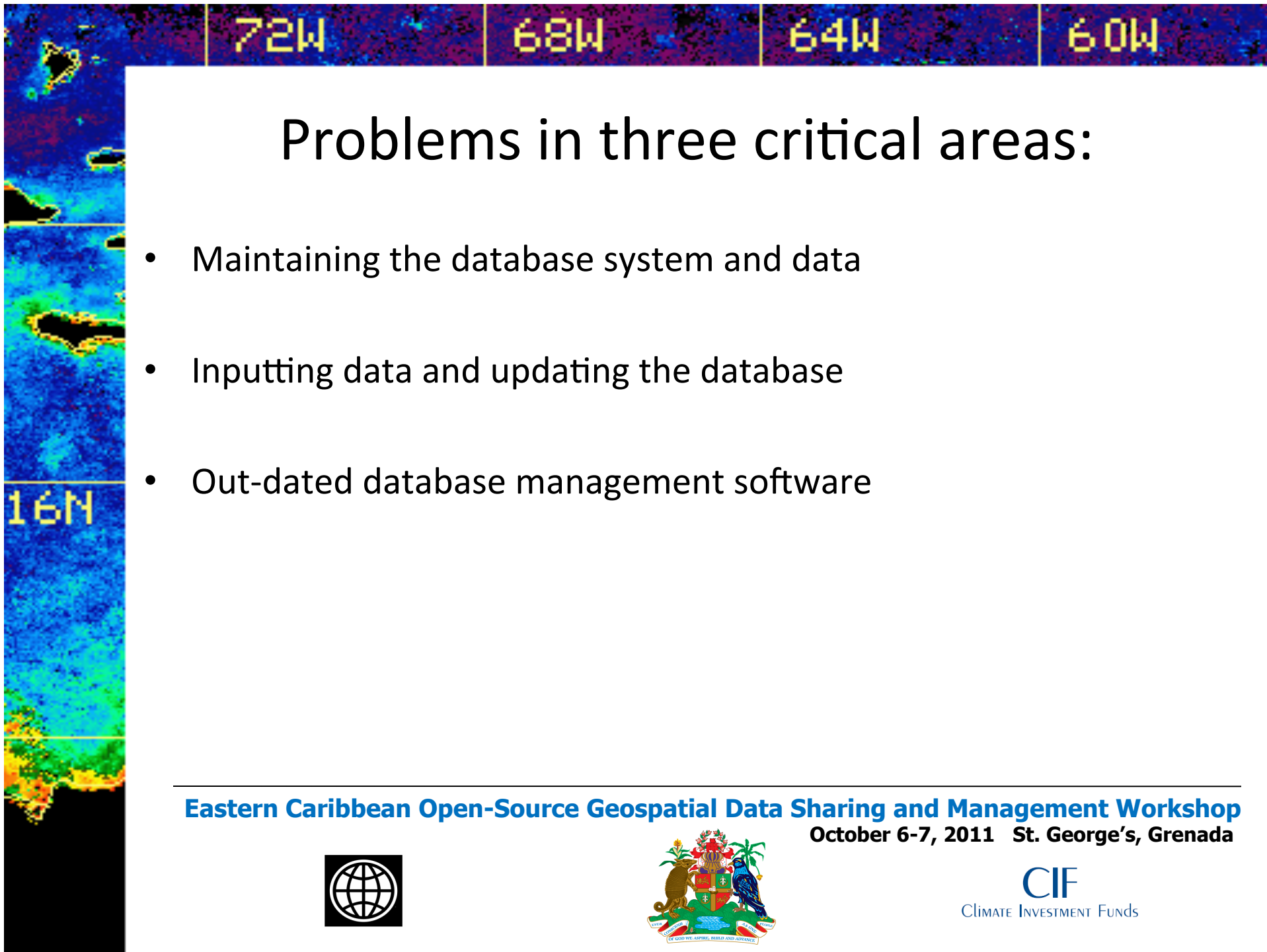
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## Problems in three critical areas:

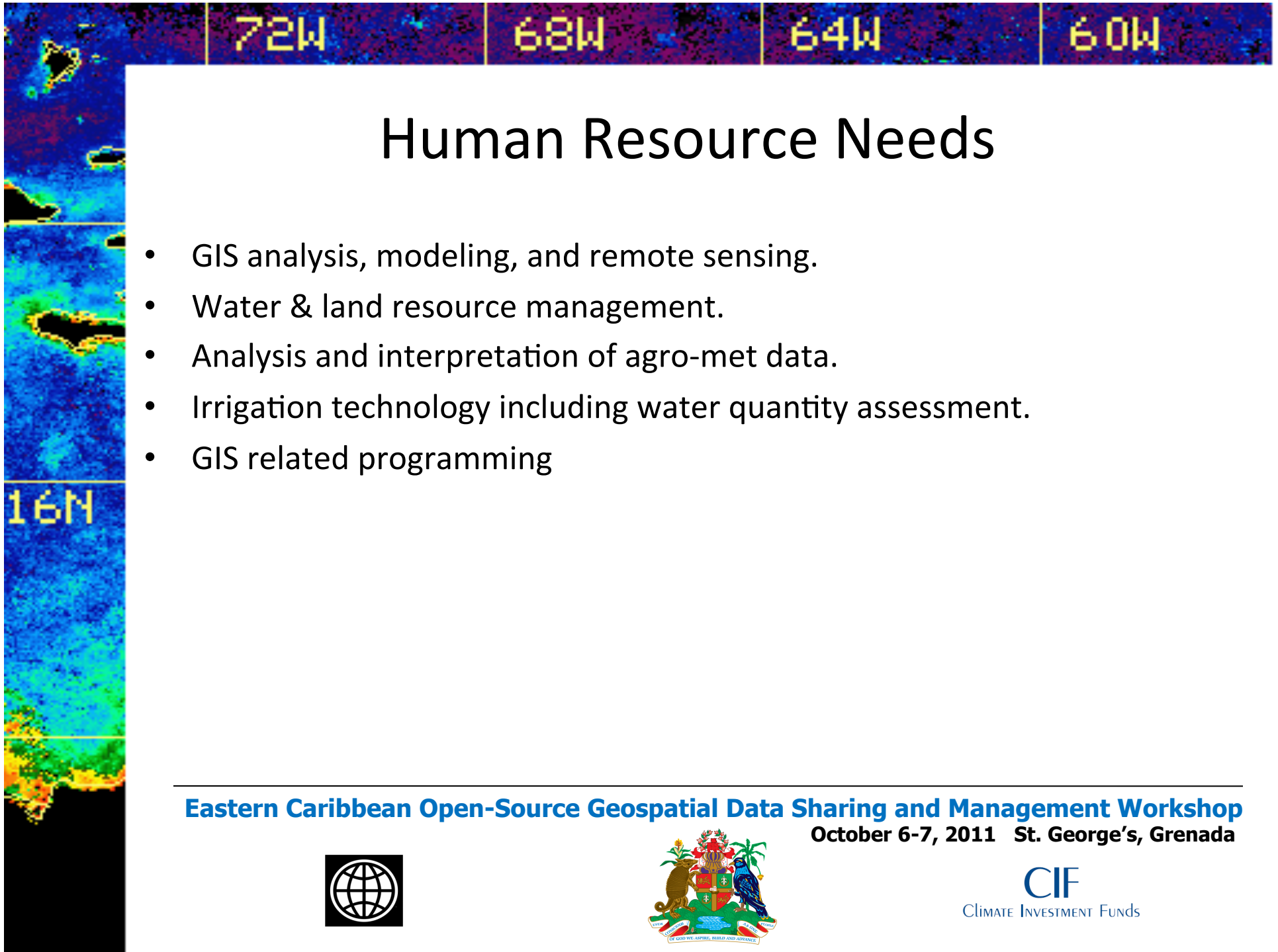
- Maintaining the database system and data
- Inputting data and updating the database
- Out-dated database management software

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# Human Resource Needs

- GIS analysis, modeling, and remote sensing.
- Water & land resource management.
- Analysis and interpretation of agro-met data.
- Irrigation technology including water quantity assessment.
- GIS related programming

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# Data Management Challenges

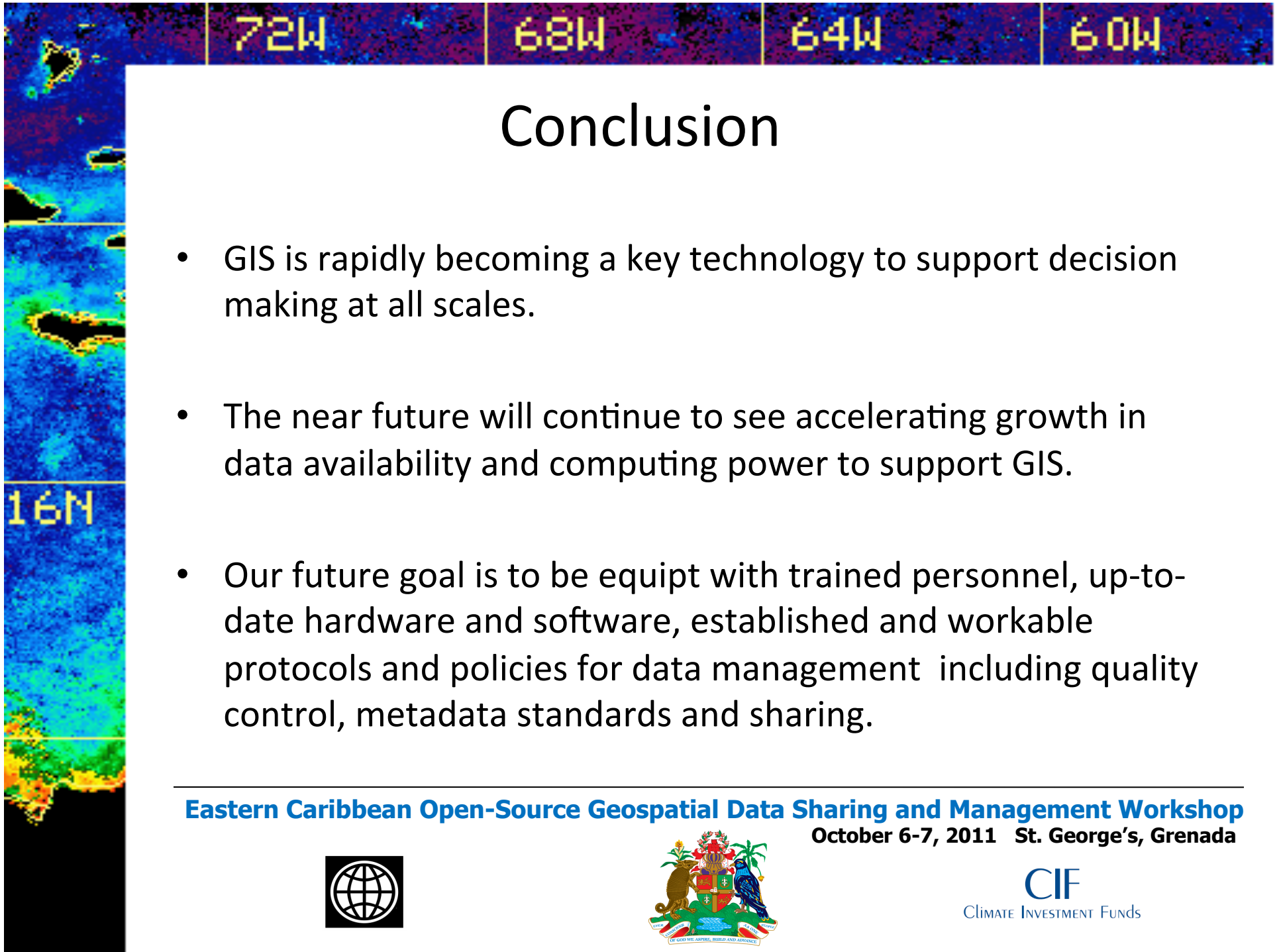
- The lack of an official mandate for data collection and data update.
- The lack of funding for data collection and data management.
- The lack of an official protocol for data quality control and quality assurance.
- There is no mandate to maintain metadata and data dictionary for the data themes
- The lack of key resources: personnel, hardware, and software to innovate current operations
- The lack of standards and protocols on data sharing.
- Inability to cost services provided to internal and external clients

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## Conclusion

- GIS is rapidly becoming a key technology to support decision making at all scales.
- The near future will continue to see accelerating growth in data availability and computing power to support GIS.
- Our future goal is to be equipt with trained personnel, up-to-date hardware and software, established and workable protocols and policies for data management including quality control, metadata standards and sharing.

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