



Group on
Earth Observations

Results of Survey of GEO Capacity Building Program & Initiatives

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Survey Objective

Survey, to provide indicative trends on capacity building activities within the Earth Observation community

- Developing an understanding of the extent of Earth observation capacity building.
- Begin to develop an inventory of capacity building programs and initiatives.
- Provide data for identification of gaps.
- Provide data for integration and coordination actions.



Capacity Building as seen by GEO

- encompasses a country's or organization's human, scientific, technological, organizational and institutional resources and capabilities.
- It includes the development of infrastructure capacities (particularly in developing countries), institutional capacities and human resource capacity through education and training.

Scope

- Sample: GEO Capacity Building committee members.
- Only major capacity building programs and initiatives considered.
 - active for the last five years or
 - those that are planned for next two years.
- Covers Education and Training, Institutional and Infrastructure capacity building activities.
- Statistical Unit: Program/Initiative level

Response

- Response rate: 32% of capacity building committee members
- 52 returns received
- 349 data points analysed

However,

- Data from important EO entities missing.
- Need for additional data for complete picture.

Survey fields

- Description on Initiative
- POC and websites details
- Lead organisations
- Type of Activity
Classification
 - Infrastructure
 - Institutional
 - Education and Training
- Geographical Extent
Classification
 - Country Specific
 - Regional
 - Global
- Target Countries/Regions
- SBA addressed
- Programs Continuous/Once off
- Funding Source
- Objectives met

Limitations & Assumptions

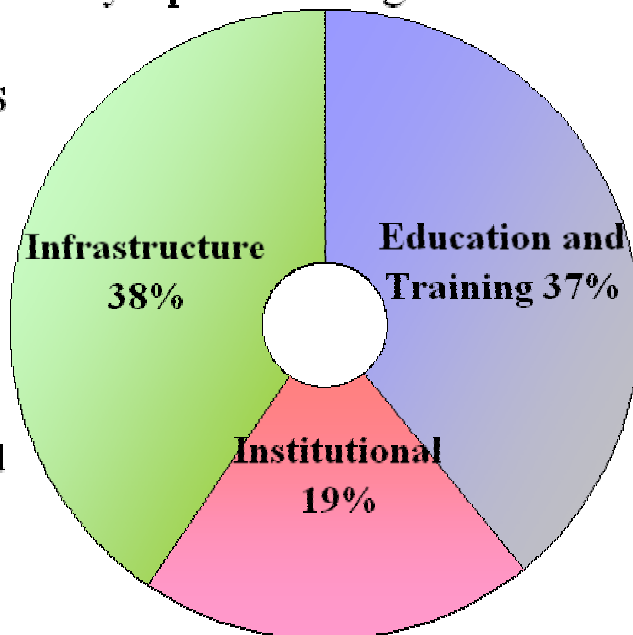
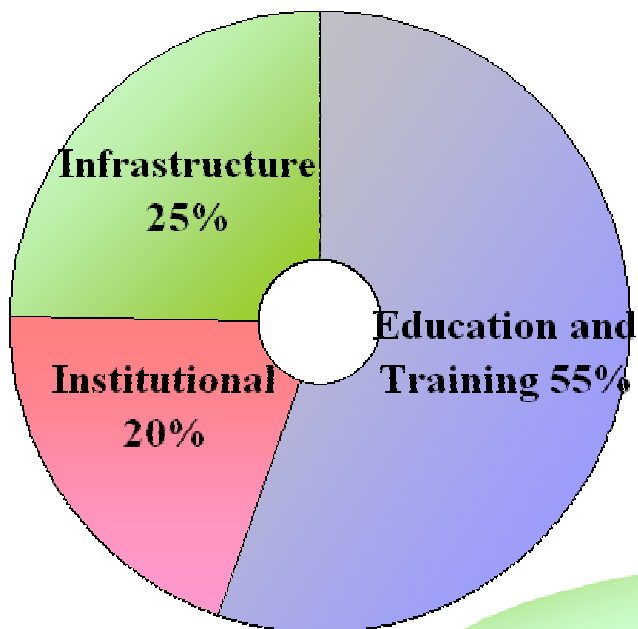
- Small sample, limited survey instrument
e.g.
 - Only providers surveyed
 - Only description of source of funding, no actual numbers
 - Geographical Extent blunt
- Geographical Extent Classification
 - Granularity of regional classification
 - ≥ 3 Countries – Regional programs
 - ≥ 3 Regions - Global programs

List of Indicators

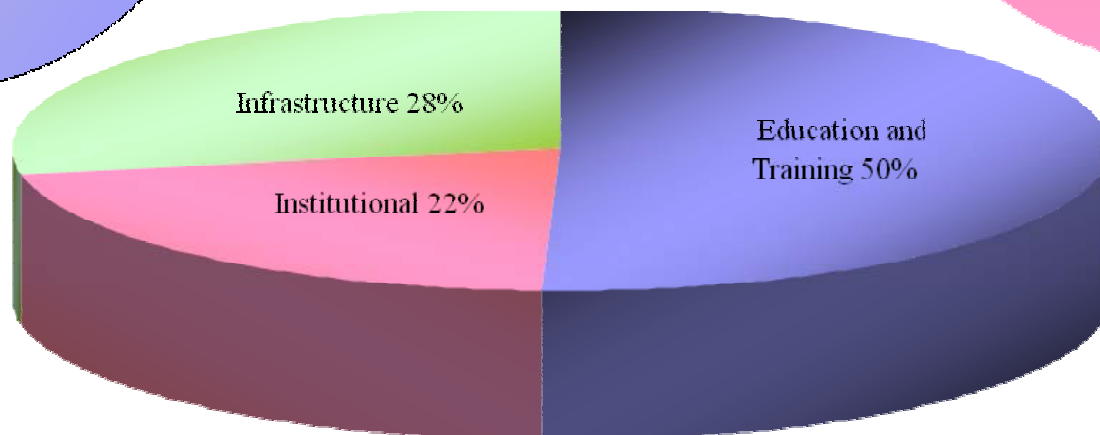
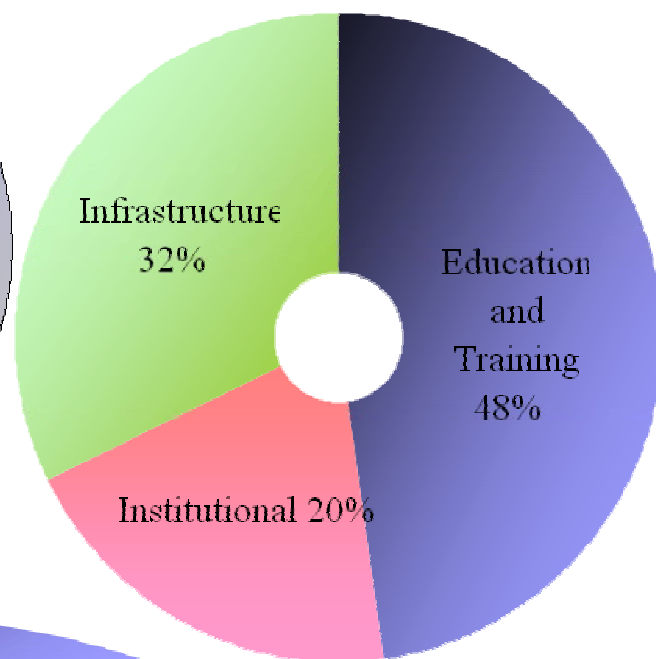
- Breakdown by Type of Activity
 - Global, Regional and Country Specific
- Breakdown by Societal Benefit Area (SBA)
- SBA x Type of Activity
 - Global, Regional and Country Specific
- Duration of programs
- Funding Flows

Country Specific Programs/Initiatives

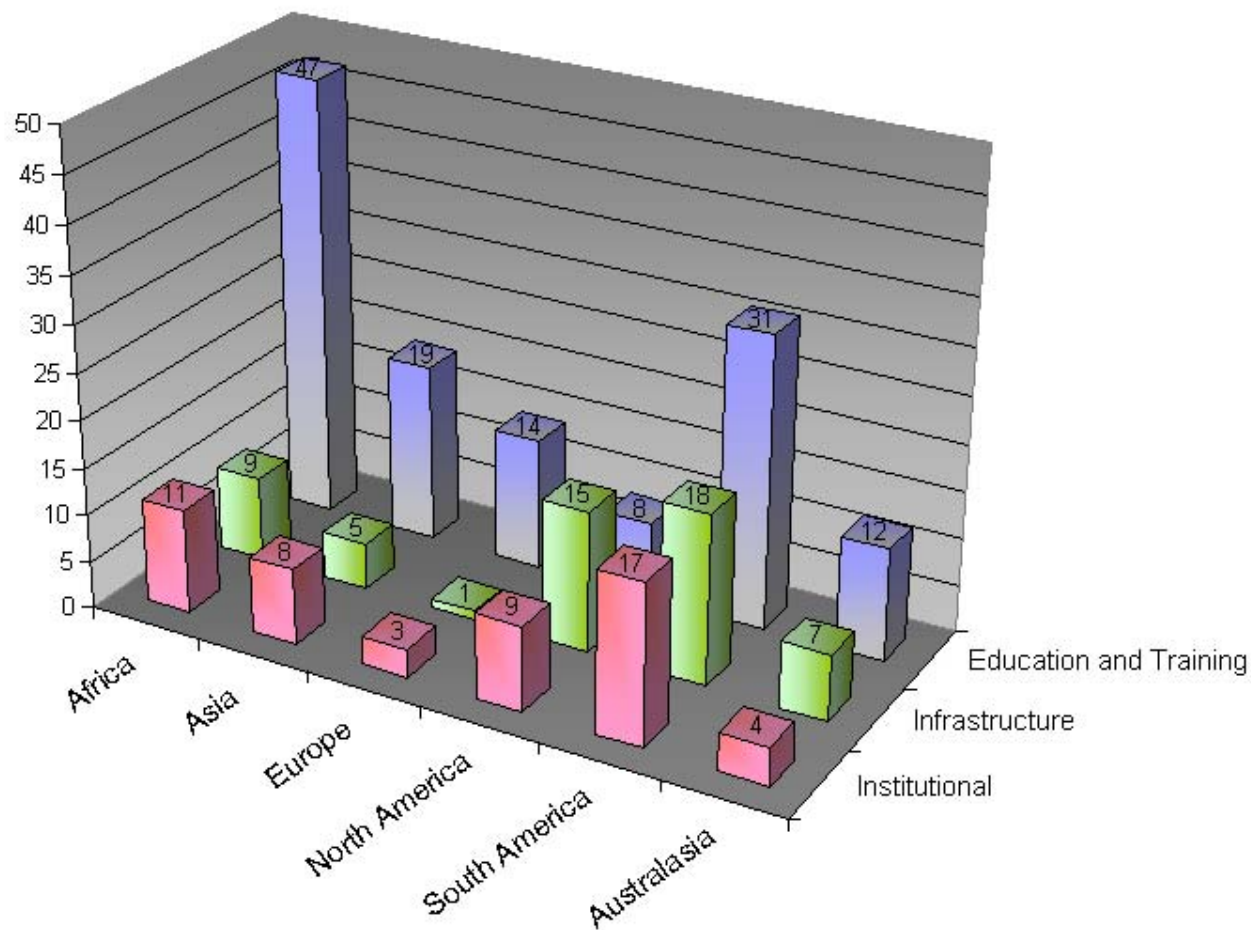
Regional Programs/Initiatives



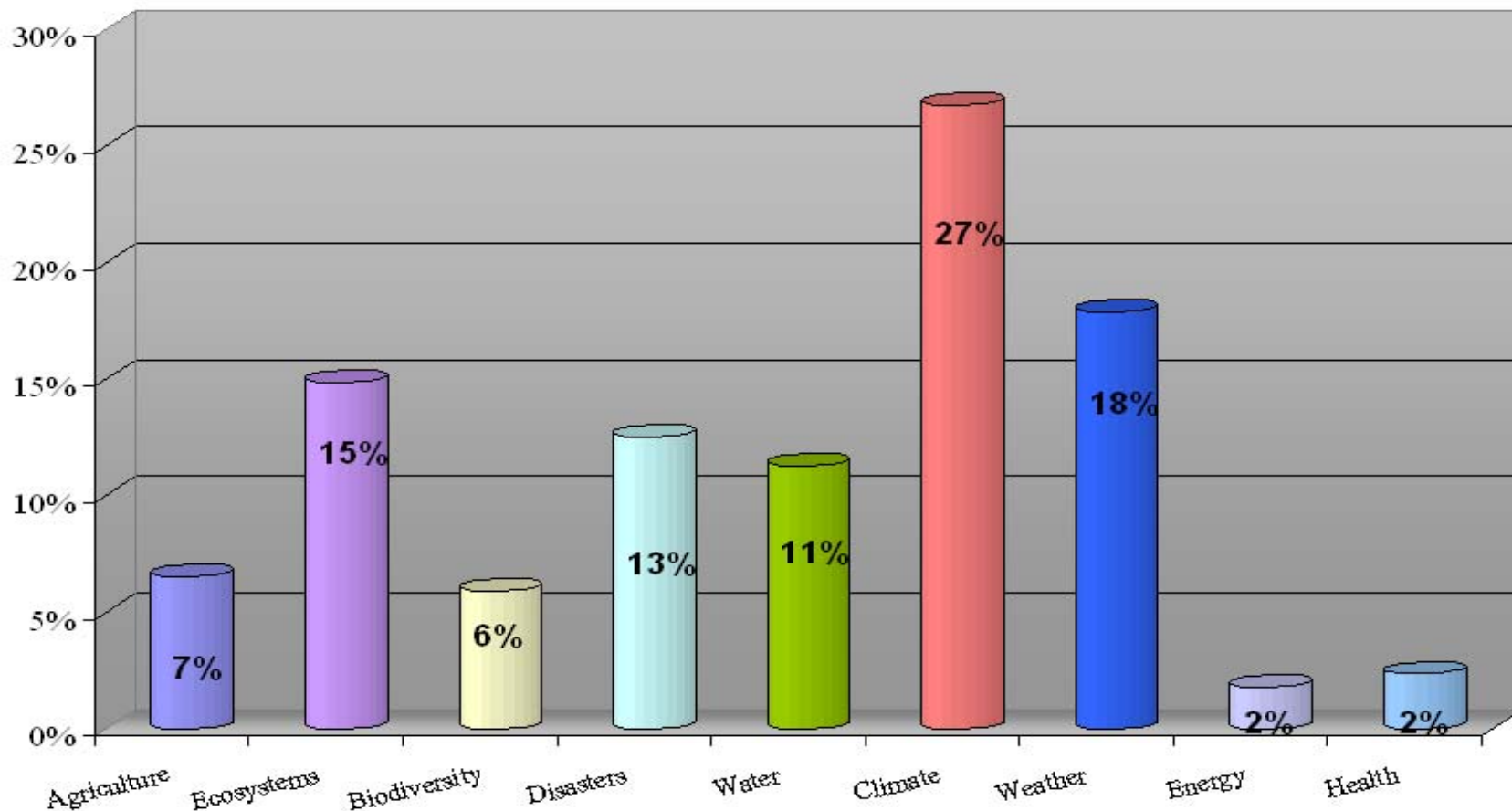
Global Programs/Initiatives



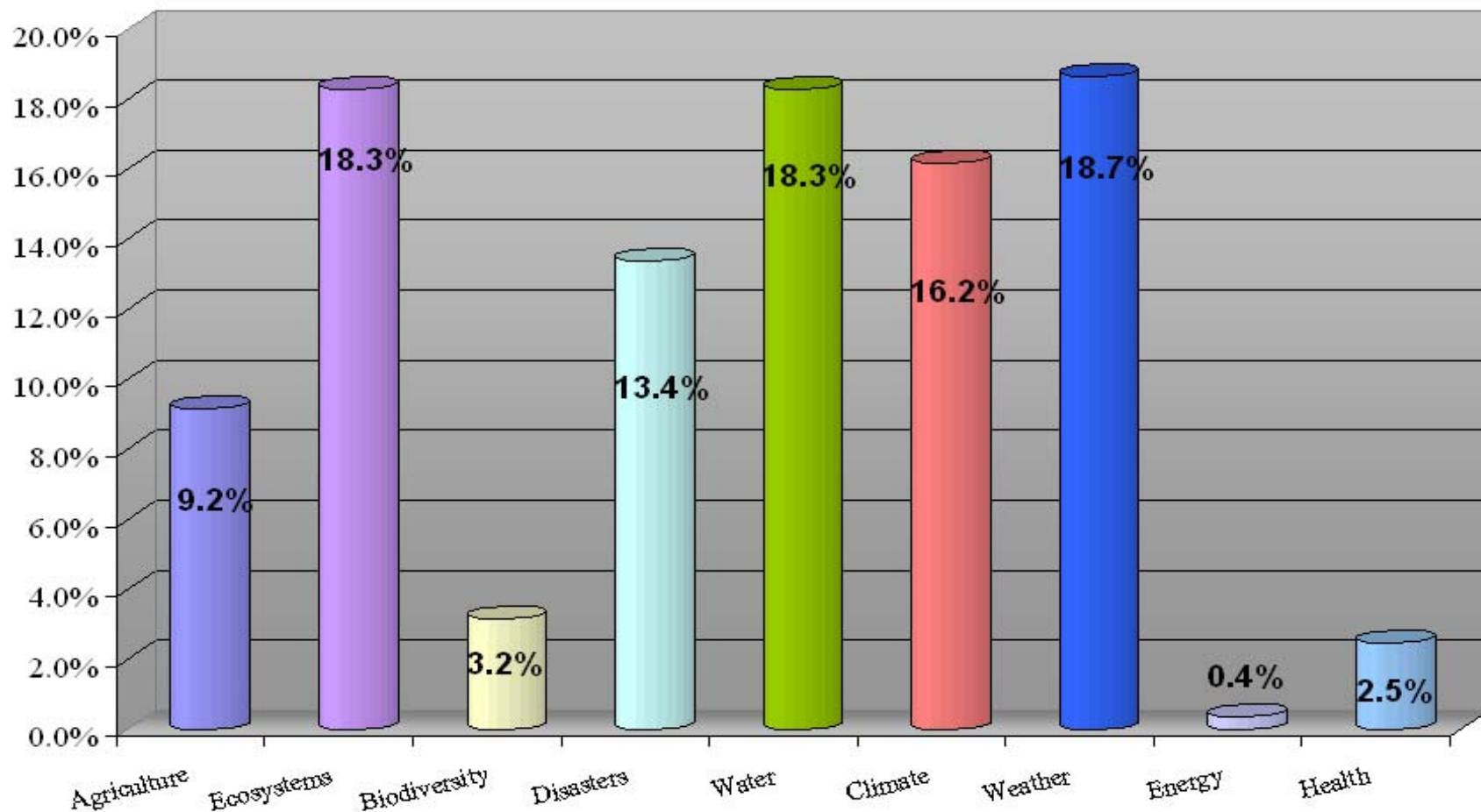
Programs/Initiatives by Region and Type of Activity



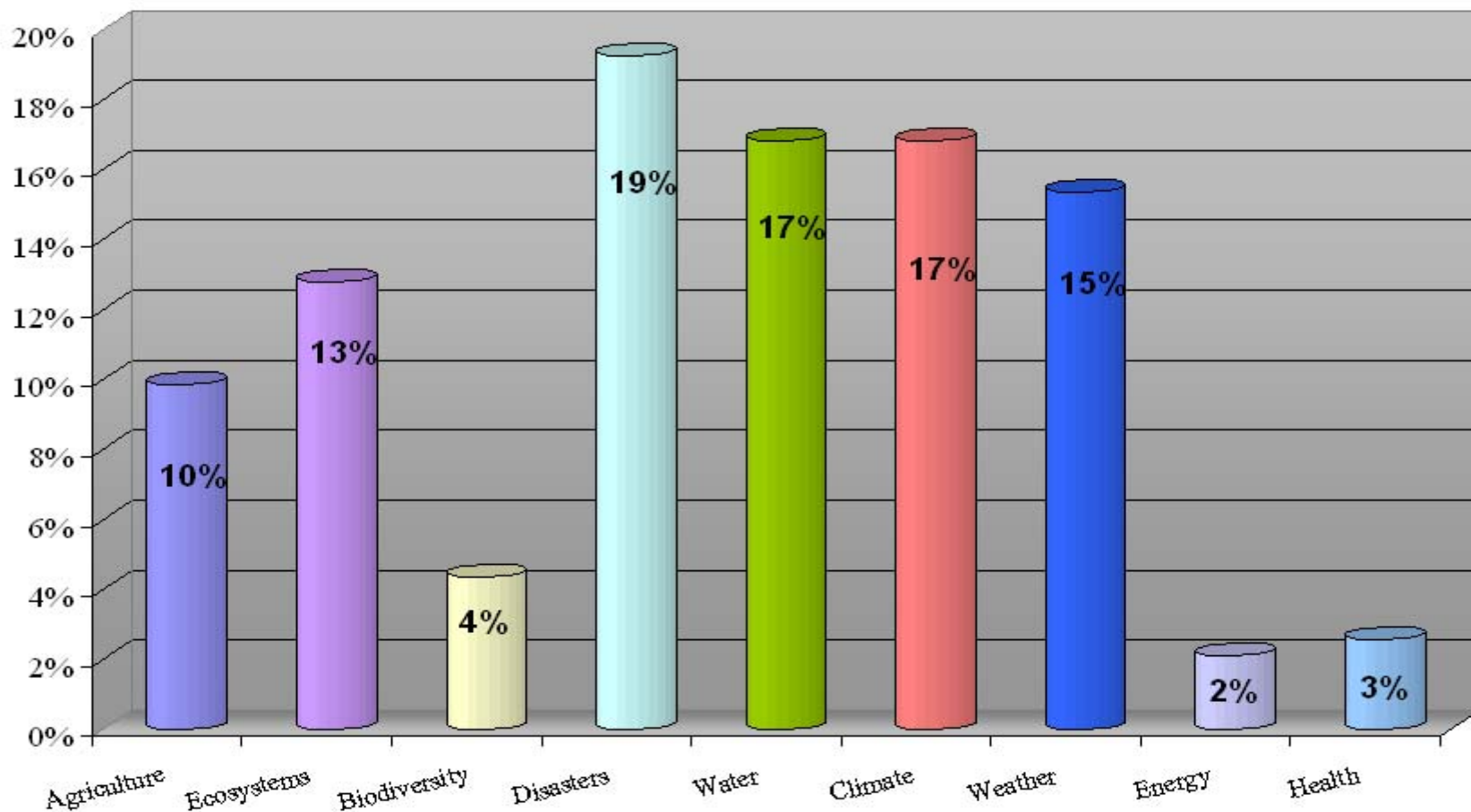
Global Programs/Initiatives x SBA



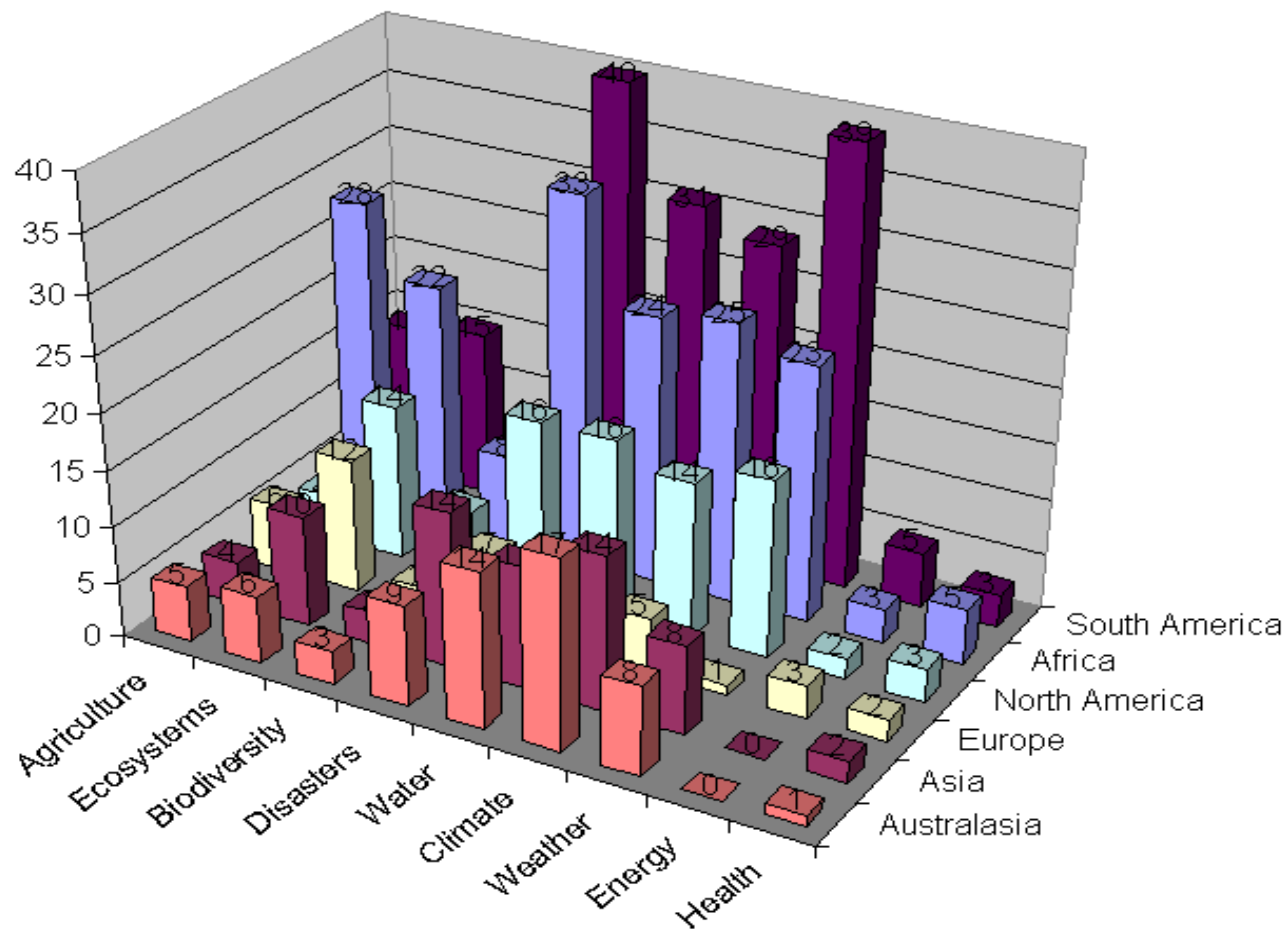
Country Specific Programs/Initiatives x SBA



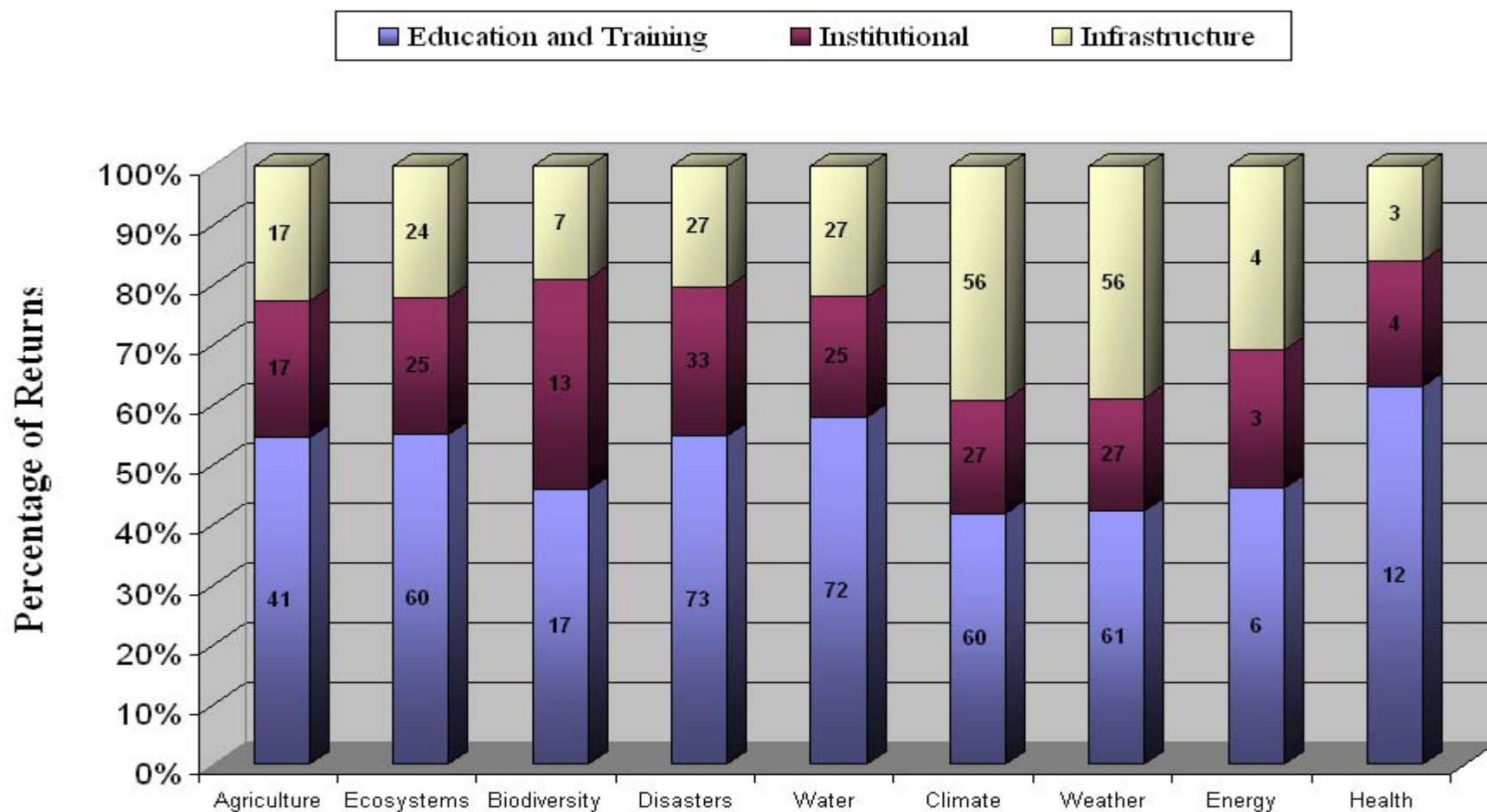
Region Programs/Initiatives x SBA



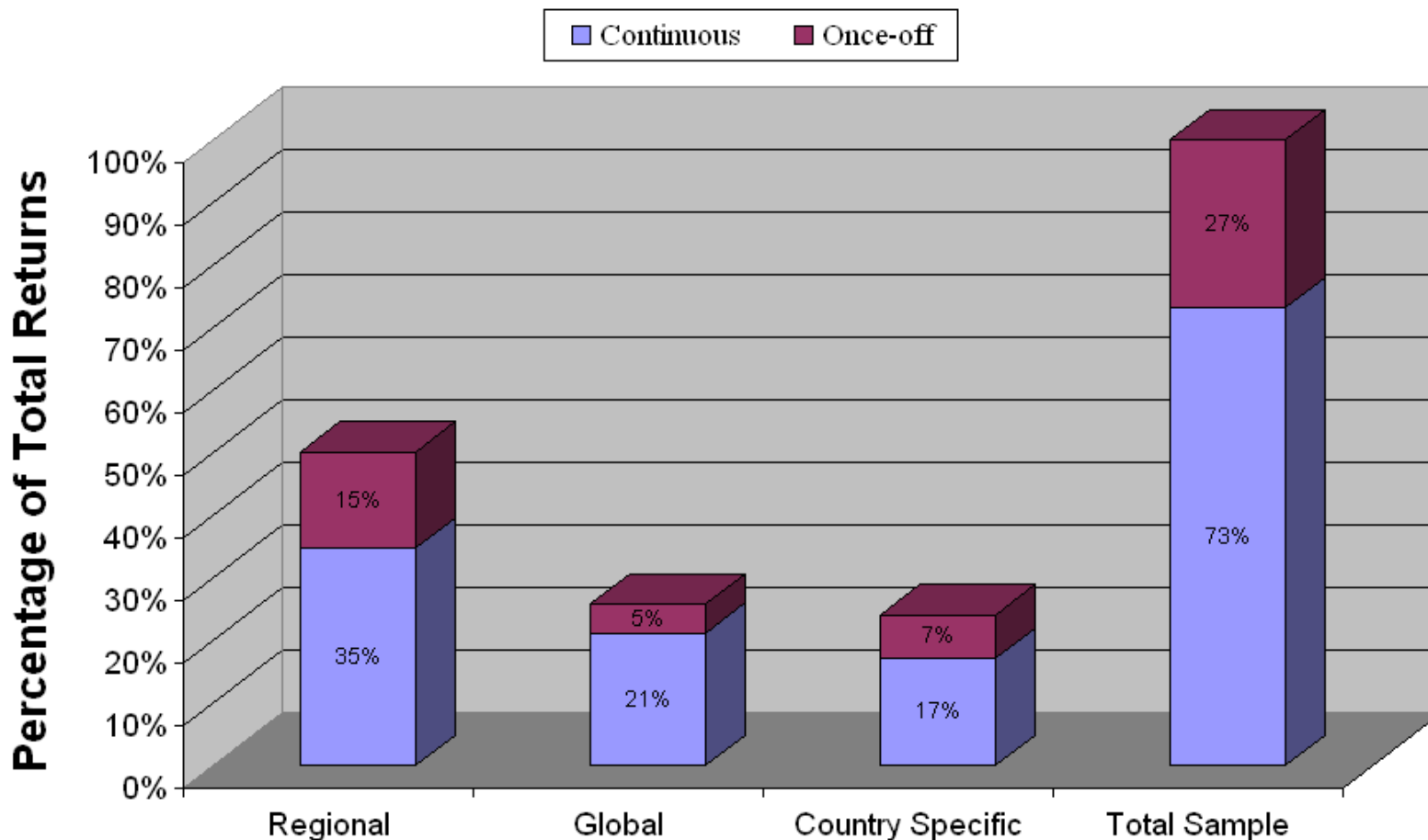
Regional Programs/Initiatives x SBA



SBA x Type of Activity



Are Programs Continuous or once off?



Flow of Funding

Source of funding



National Gov(s)/Agency(ies)

International Orgs (not Space or UN)

International/National Space Agency(ies)

UN Agency

Aid Agency(ies)

Org Membership

Funding Destination

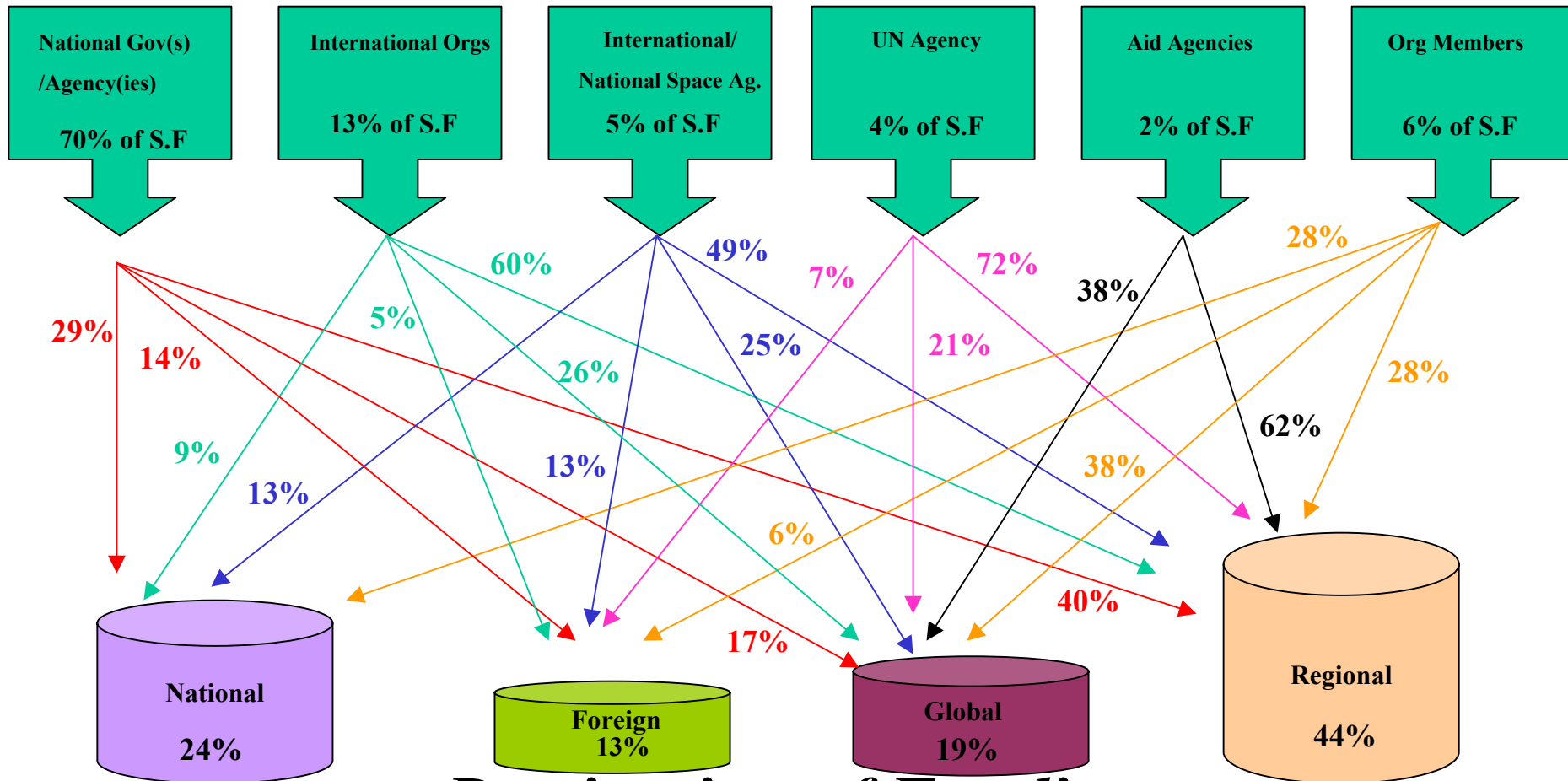


**National
Foreign National**

Global

Regional

Source of Funding

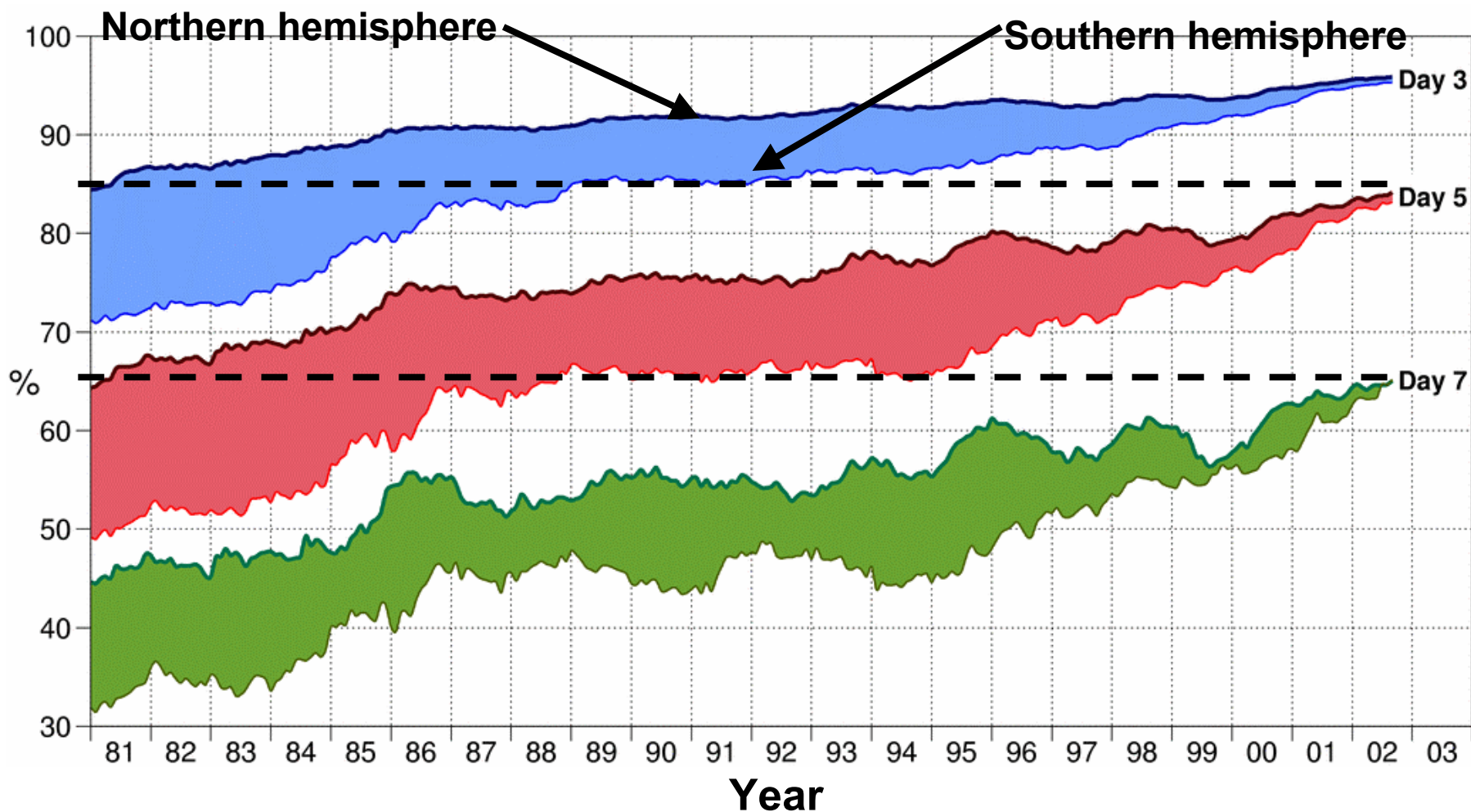


Destination of Funding

Conclusions

- Majority of Capacity Building activities focussed on Education and Training particularly at the regional and global level.
 - Implications for GEOSS providing data
 - Implications for skill retention
- Infrastructure better addressed in more mature GEO areas such as Weather and Climate.
- Institutional capacity building not adequately addressed across all societal benefit areas.
- Very few capacity building programs aimed at health, energy, biodiversity.

Evolution of annual-mean ECMWF forecast skill SH scores now reach NH scores



Some Reflections

- Need extend survey –census type approach
- Build on initial Inventory.
- Sharpen and add additional fields e.g. more data on funding.
- Need to better understand gaps through survey of Users.
- Examine the Role of industry as providers of capacity building.
- São José Survey??

Capacity Building in 10y IP

Partnership between those whose capacity needs developing and those who can develop capacity

- Based on best practice models
- Goal to strengthen capability of countries to
 - Use EO data and products (process, integrate, model, etc)
 - Contribute data and information to global networks and retrieve from them
 - Analyze and Interpret data
 - Integrate data and information



2 Year Targets

7 Capacity Building

GEO will:

Produce a comprehensive review and gaps analysis based on existing regional and international capacity building efforts as a first step in the implementation of GEOSS. GEO will facilitate coordination of those efforts with the objective of achieving the maximum return for the effort expended.

Produce methodologies to monitor and evaluate capacity building initiatives relating to Earth Observation systems.

Facilitate, with existing international, regional and national efforts, the maintenance and strengthening of education, training, research, and communication so that each country reaches and sustains a level of capability that enables them to participate in GEOSS, receiving maximum benefits from it according to their needs.

Facilitate, with developing countries and across all societal benefit areas, the establishment and maintenance of baseline sites for global *in situ* and remote-sensing networks that cannot always be justified on national grounds alone, in cooperation with relevant global research programs and activities to ensure that synergies in observations and understanding are achieved. Examples include the inadequacy of GCOS, GTOS, GOOS, and Global Geodetic Observing System (GGOS) sites in developing countries and the need to establish a minimum set of oceanic, terrestrial and atmospheric reference stations for long-term observations of key variables.

Develop a network of experts involved in existing local, national and global capacity building initiatives related to Earth Observation to facilitate the task of furthering capacity building, and inform the GEO Members and Participating Organizations of existing efforts in capacity building. GEO will encourage users to access this knowledge base.

Encourage, in each societal benefit area, the development of capacity building components as a requirement to any network, project, activity, or user forum that will be a component of GEOSS.

Facilitate access to data and models, particularly for developing countries.

Develop recommended priorities for new or augmented efforts in capacity building, to meet the objectives of the overall GEOSS 10-Year Implementation Plan.



2006 Capacity Building Tasks

- Perform a review of capacity-building initiatives in GEO Members and Participating Organizations, taking into account results of existing surveys, to identify existing and planned capacity-building activities and gaps
- Perform an analysis of existing documentation of Earth observation infrastructure requirements essential to the implementation of GEOSS in developing countries, and document commonly identified gaps
- Perform a review of existing education and training initiatives for Earth observation utilization in developing countries, and promulgate the use of best practices in cooperation with specialized UN agencies and other organisations