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Supporting application of Geospatial Applications and Data in the Caribbean region: accessing global and regional datasets

Use of United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER)

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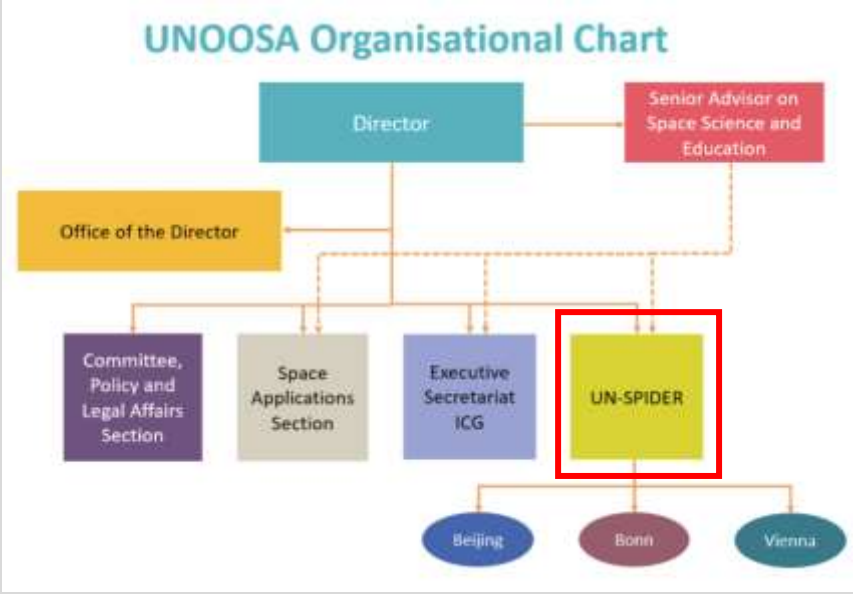
Contents

¿What is UN-SPIDER?

- United Nations programme established in 2006 under UNOOSA.
- Stands for “United Nations Platform for Space-based Information for Disaster Management and Emergency Response”

Organizational Chart



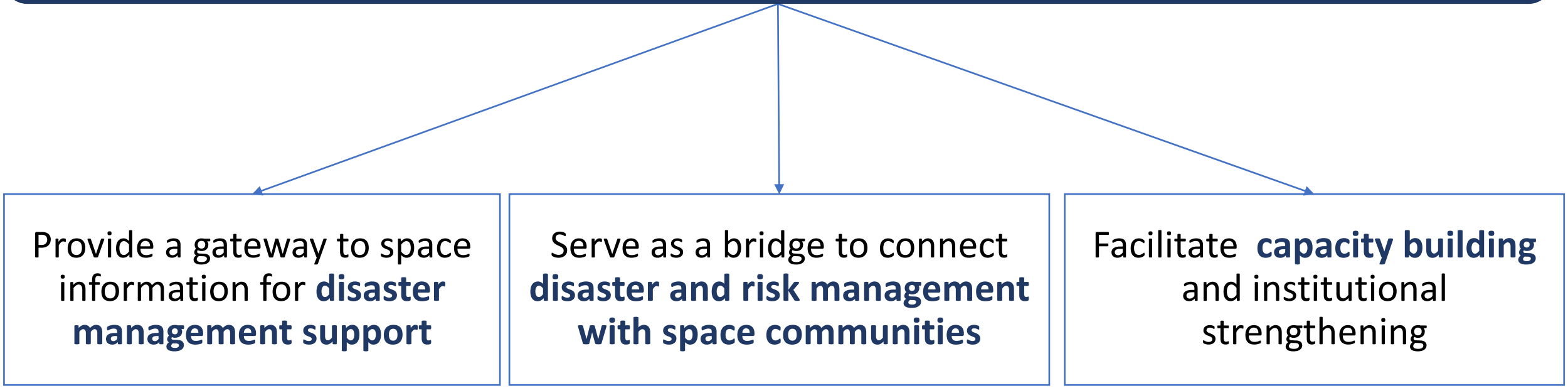
UN-SPIDER Goal:

“Ensure that all countries and international and regional organizations **have access** to and develop the **capacity** to use all types of **space-based information** to **support the full disaster managment cycle**”

Actions to achieve the goal:

UN-SPIDER Goal:

"Ensure that all countries and international and regional organizations **have access** to and develop the **capacity** to use all types of **space-based information** to **support the full disaster management cycle**"



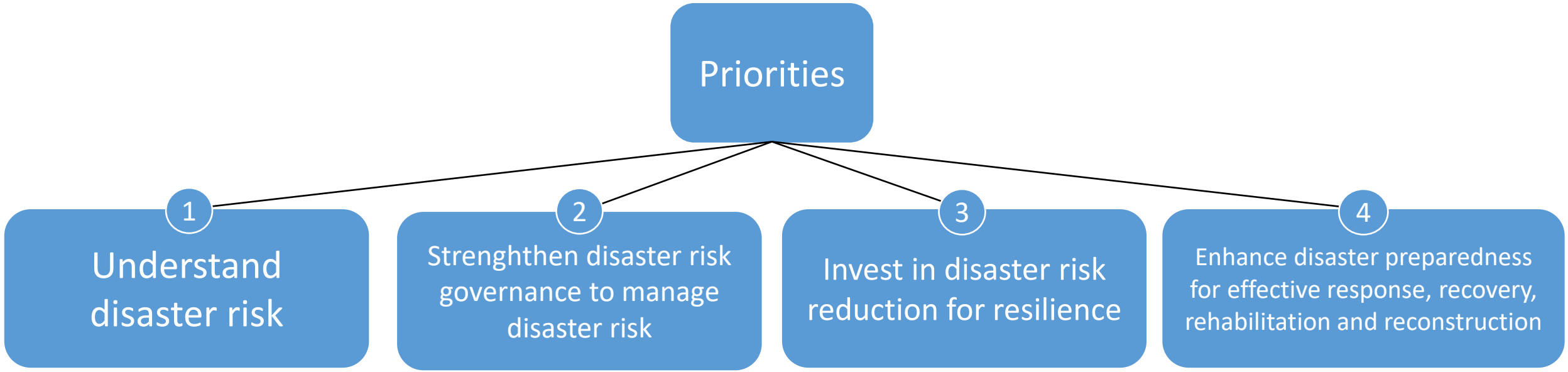
UN-SPIDER related to the Sendai Framework

UNDRR United Nations Office for Disaster Risk Reduction

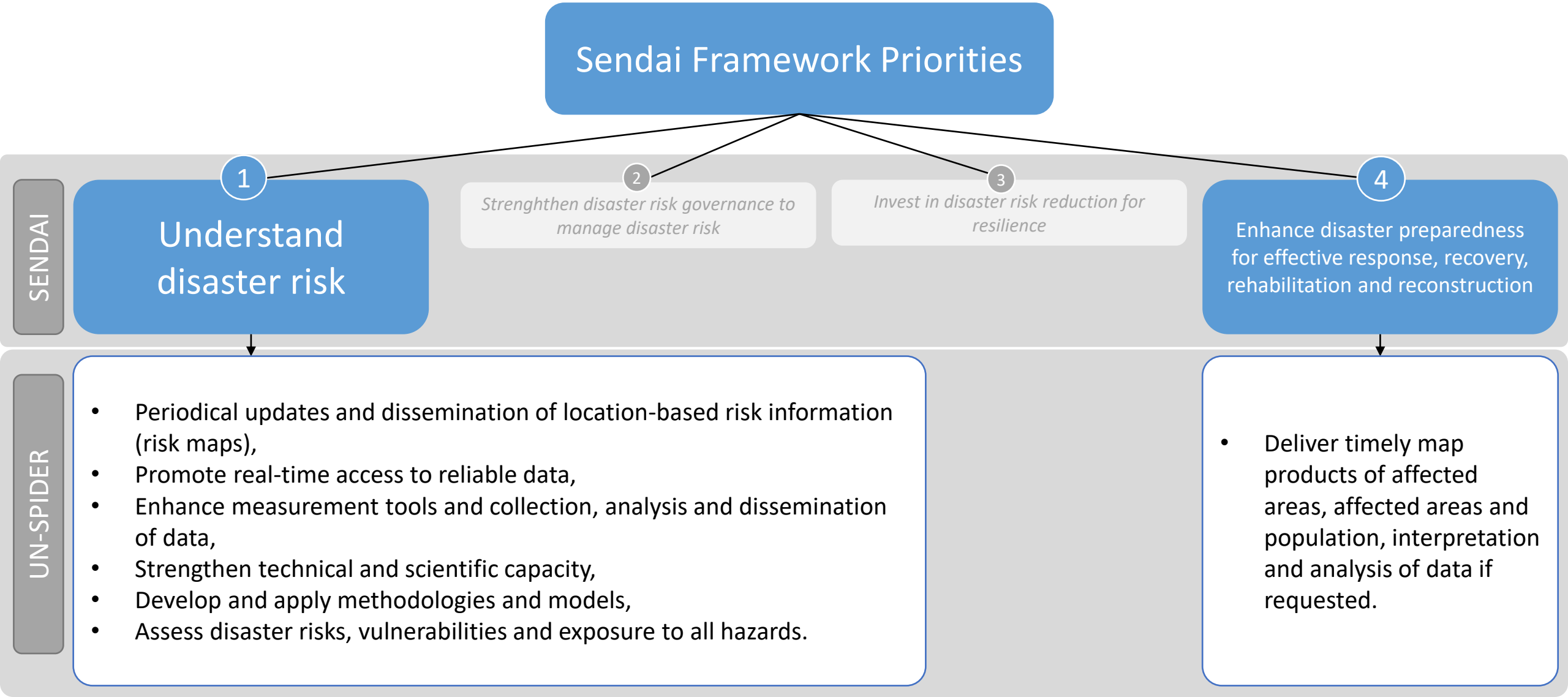
Sendai Framework for Disaster Risk Reduction (UNDRR, 2015)

GOAL

*"Reduce **hazard exposure and vulnerability to disaster, increase preparedness for response and recovery and strengthen resilience**."*



UN-SPIDER related to the Sendai Framework



International Charter Space and Major Disasters

Is a **worldwide collaboration among space agencies**, through which satellite-derived information and products are made available to support disaster response efforts.

Members of the International Charter:

- ABAE
- ESA
- CNES
- NOAA
- CONAE
- ISRO
- JAXA
- USGS
- UKSA & DMCii
- CNSA
- DLR
- KARI
- INPE
- EUMETSAT
- ROSCOSMOS
- UAESA
- Satellite data provided by Planet and DigitalGlobe

UNOOSA/UN-SPIDER and UNITAR/UNOSAT are **not formal members** of the mechanism **but are authorized to request the activation** of the mechanism on behalf of UN agencies, in countries affected by disasters.

Members cooperate on voluntary basis

They commit resources to support the Charter by providing data and products

They act as project managers for activations

Name

International Charter "Space and Major Disasters"

Year established

2000

Phases covered

Response, Recovery

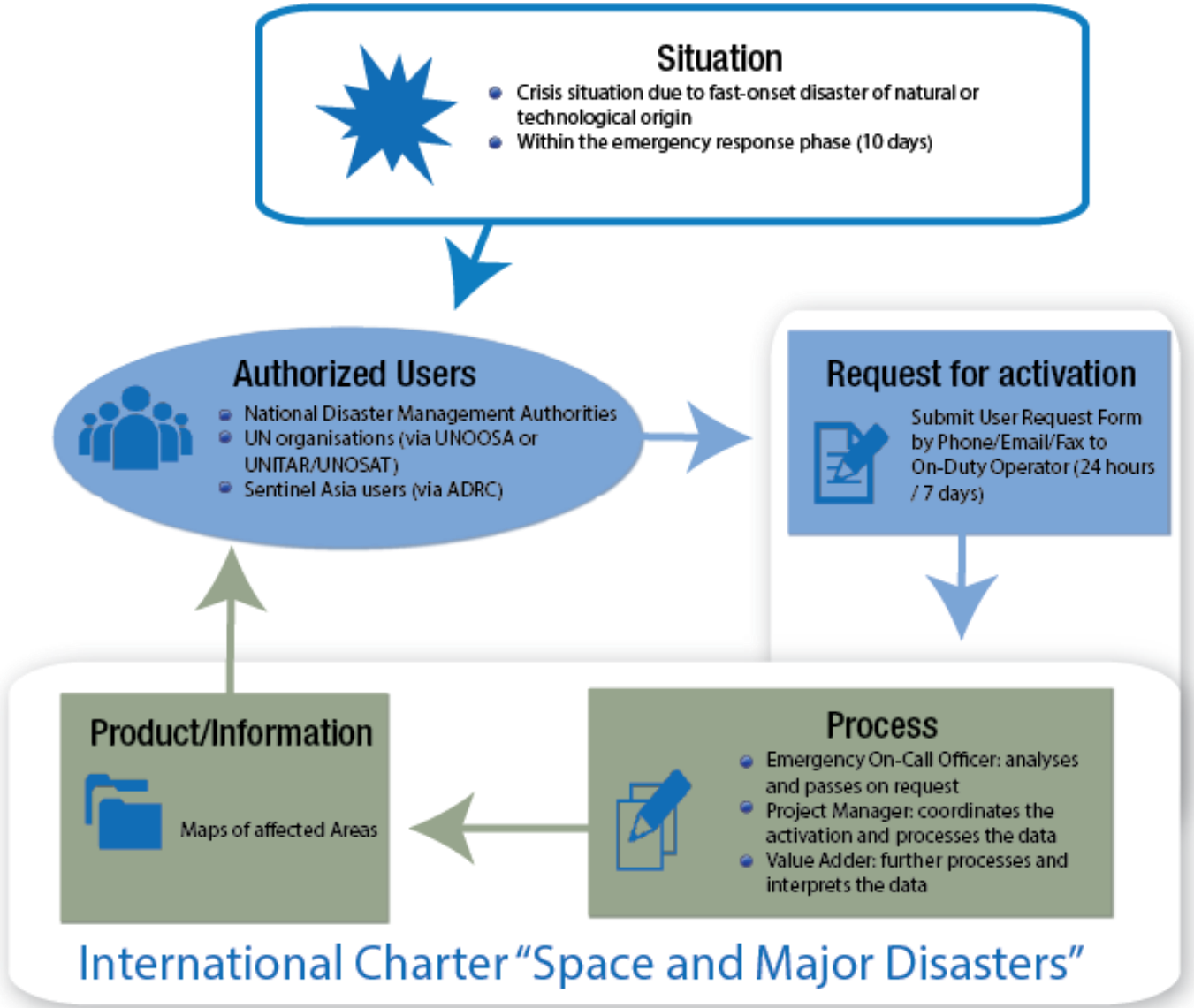
Areas covered

World

Website

http://www.disasterscharter.org

International Charter Space and Major Disasters Work Flow



Source: UN-Spider website

https://www.un-spider.org/international-charter-space-and-major-disasters

Activation and response details

1 Situation

The Charter can only be activated in:

- Instances of fast-onset disasters,
- Cannot be activated for slow-onset disasters like droughts.
- Within the emergency response phase (up to 10 days after the disaster has ocurred),

2 Authorized Users

- Members of the Charter
- Registered national disaster management authorities,
- UN Agencies (via UNOOSA/UNITAR/UNOSAT)
- Sentinel Asia Users

3 Request for activation

- AU call a confidential telephone number,
- Fill out and send request form
- If validated, proceeds to pass to the Emergency On-Call Officer

4 Process

- The Emergency On-Call Officer analyzes the request,
- Prepares a plan using available satellite resources,
- Processes the images
- May add value collaborating with the analysis and interpretation, to contribute to damage assessment.

5 Product Information

- Prepares a plan using available satellite resources, Provide with several products of the affected areas:

-Maps (PDF),
-Excel sheets (Data),
-Vector files (GIS Data),
-Geodatabases,
-Webmap link.

Product Information: ETA & IOTA response

HONDURAS MAPS

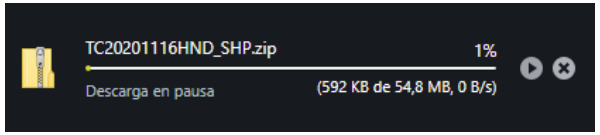
TC20201116HND

- Satellite detected waters in Cortes, Atlantida, and Yoro departments of Honduras as of 25 November 2020 - 27 Nov 2020 - 13:05
- Satellite detected waters in Gracias a Dios department of Honduras as of 25 November 2020 - 26 Nov 2020 - 12:35
- Satellite detected waters in Cortes, Atlantida, and Yoro departments of Honduras as of 23 November 2020 - 25 Nov 2020 - 12:05
- Satellite detected waters in Cortes and Yoro departments of Honduras as of 18 November 2020 - 20 Nov 2020 - 11:07
- Satellite detected waters in Colon and Yoro departments of Honduras as of 18 November 2020 - 19 Nov 2020 - 17:53
- Satellite detected waters in Olancho Department of Honduras as of 18 November 2020 - 19 Nov 2020 - 17:47
- Satellite detected waters in Atlantida and Yoro Departments of Honduras as of 18 November 2020 - 19 Nov 2020 - 17:41
- Satellite detected water extents between 13 & 17 November 2020 in Honduras - 18 Nov 2020 - 16:38
- UNOSAT Live Web Map: Tropical Cyclone Iota, Honduras - 18 Nov 2020 - 10:33

ETA and IOTA hurricanes

Product Information: ETA & IOTA response

Vector file

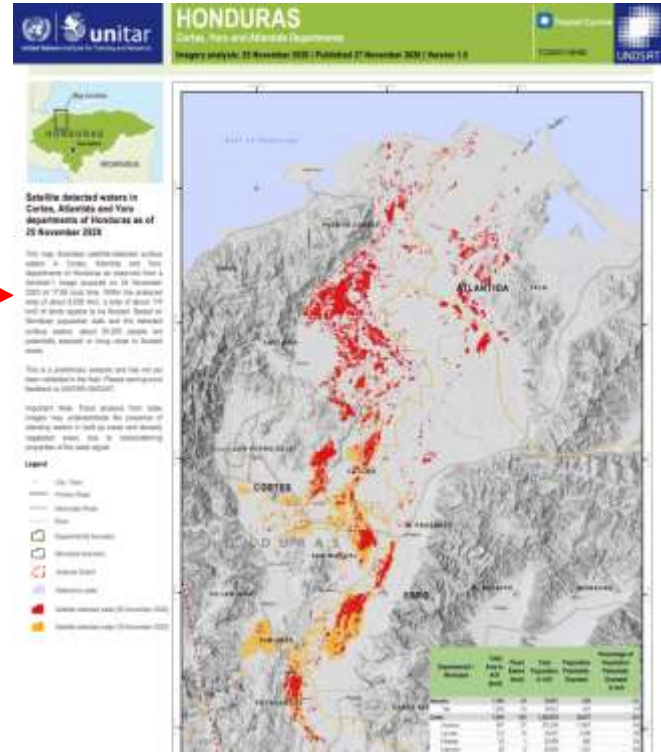


Product Links

- PDF (1.1MB) - *Static viewing and printing*
- SHAPEFILE - *Download a Shapefile of data*
- WEBMAP - *Dynamic viewing in a browser*
- GEODATABASE - *Download data in the ESRI format*
- TABLE - *Excel*

Departmental / Municipal	Total Area in AOI (km2)	Flood Extent (km2)	Total Population in AOI	Population Potentially Exposed	Percentage of Population Potentially Exposed in AOI
Atlantida	**1.039**	**18**	**78.637**	**439**	**1%**
Tela	1.039	18	78.637	439	1%
Cortes	**1.834**	**124**	**1.325.075**	**30.077**	**2%**
Choloma	467	57	271.238	11.867	4%
La Lima	112	10	78.001	2.388	3%
Pimienta	55	1	22.698	480	2%
Potrerillos	99	9	26.959	1.101	4%
Puerto Cortes	383	28	129.553	2.785	2%
San Manuel	141	8	68.469	1.618	2%
San Pedro Sula	455	10	716.514	9.756	1%
Santa Cruz de Yojo	121	1	11.643	80	1%
Yoro	**1.099**	**27**	**260.380**	**4.609**	**2%**
El Negrito	565	7	51.016	141	<1%
El Progreso	534	20	209.364	4.468	2%
Total	**3.972**	**169**	**1.664.092**	**35.124**	**2%**

Population data: WorldPop [2020]
Boundary data: Sistema Nacional de Información Territorial (SINIT)
Satellite data: Sentinel-1 as of 25 November 2020 at 17:58 Local time
Analysis: UNITAR - UNOSAT



https://unitar.org/maps/map/3206

Additional services

- Database that provides links to facilitate imagery accesibility:

-Satellite imagery

-Elevation models

-Land use and land cover maps

-Real time data products

Caribbean GeoPortal (esri)
Type: baseline data, hazard specific data, land use, land cover data
Costs: free
Hazard: Severe Storm
Format: export data, export map, visualization of data (e.g. web GIS or real time monitoring)
Publisher:

Central America Data Portal (FEWS NET - USGS, USAID)
Type: hazard specific data
Costs: free
Hazard: Drought, Flood, Forest Fire, Mass Movement
Format: export data, visualization of data (e.g. web GIS or real time monitoring)
Publisher: United States Geological Survey (USGS)

Clorofila A - INSTITUTO DEL MAR DEL PERU (IMARPE)
Type:
Costs: free
Hazard: Floración de Algas Nocivas
Format: export map
Publisher: Instituto del mar del Peru (IMARPE)

Famine Early Warning Systems (FEWS NET - USGS)
Type: hazard specific data
Costs: free
Hazard: Drought, Insect Infestation
Format: export data, export map, statistical data (e.g. graphs), web processing/cloud computing
Publisher: United States Geological Survey (USGS)

Fire Hotspots and Risk Maps (RedLaTIF)
Type: hazard specific data
Costs: free
Hazard: Forest Fire
Format: visualization of data (e.g. web GIS or real time monitoring)
Publisher: RedLaTIF

Land Cover Map (LCI - USGS)
Type: land use, land cover data
Costs: free
Hazard:
Format: export data, export map
Publisher: United States Geological Survey (USGS)

https://www.un-spider.org/links-and-resources/data-sources

Additional services

- Materials for self-training

-Geographic Information System Mapping

-Satellital Image processing

-Web GIS

-Web processing

-Database/Library

-Others

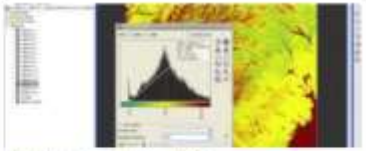
ArcGIS Map Viewer (esri)
Software type: Web GIS (display only)
Costs: Free
Operating System: Online

ArcGIS Online (esri)
Software type: Web GIS (display only)
Costs: Free
Operating System: Online

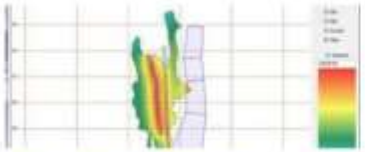
ArcHydroTools
Software type: Extension
Costs: Free
Operating System: Windows, MacOSX

ArcSWAT (Texas A&M University)
Software type: Extension
Costs: Free
Operating System:

ASTRIUM Sample Imagery (ASTRIUM)
Software type: Web processing (cloud computing)
Costs: Free
Operating System: Online



BEAM raster toolbox (ESA)
Software type: Desktop image processing (remote sensing software - raster data)
Costs: Free
Operating System:



CAPRA CRISIS 2007 (WB, ISDR, CEPREDENAC)
Software type: Crowdsourcing/VGI
Costs: Free
Operating System: Windows

CAPRA ERN-Hurricane (WB, ISDR, CEPREDENAC)
Software type: Tool/Converter
Costs: Free
Operating System: Windows

CAPRA MapViewer (WB, ISDR, CEPREDENAC)
Software type: Desktop image processing (remote sensing software - raster data)
Costs: Free
Operating System:

1 2 3 4 5 6 7 8 Next › Last »

https://www.un-spider.org/links-and-resources/gis-rs-software

Additional services

- Online training courses

-Remote Sensing

-Precipitation measurement

-Water bodies monitoring

-Air Quality

-Among others

Preview	Title	Available from	Provided by
	ARSET - Agricultural Crop Classification with Synthetic Aperture Radar and Optical Remote Sensing	05/10/202119/10/2021	NASA's Applied Remote Sensing Training Program (ARSET), Agriculture and Agri-Food Canada (AAFC), European Space Agency (ESA), Indian Space Research Organisation (ISRO), and United Nations Office for Outer Space Affairs (UNOOSA).
	ESA Land Training 2021	20/09/202124/09/2021	European Space Agency (ESA)
	ARSET - Monitoring Coastal and Estuarine Water Quality: Transitioning from MODIS to VIIRS	14/09/202121/09/2021	National Aeronautics and Space Administration (NASA)
	International Precipitation Working Group (IPWG) and Global Precipitation Measurement (GPM) Applications Training	08/09/202122/09/2021	International Precipitation Working Group (IPWG) and Global Precipitation Measurement (GPM) Applications Program

https://www.un-spider.org/links-and-resources/online-training-opportunities

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Thank you!

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