

DALA database: Disaster profiles and Policy applications

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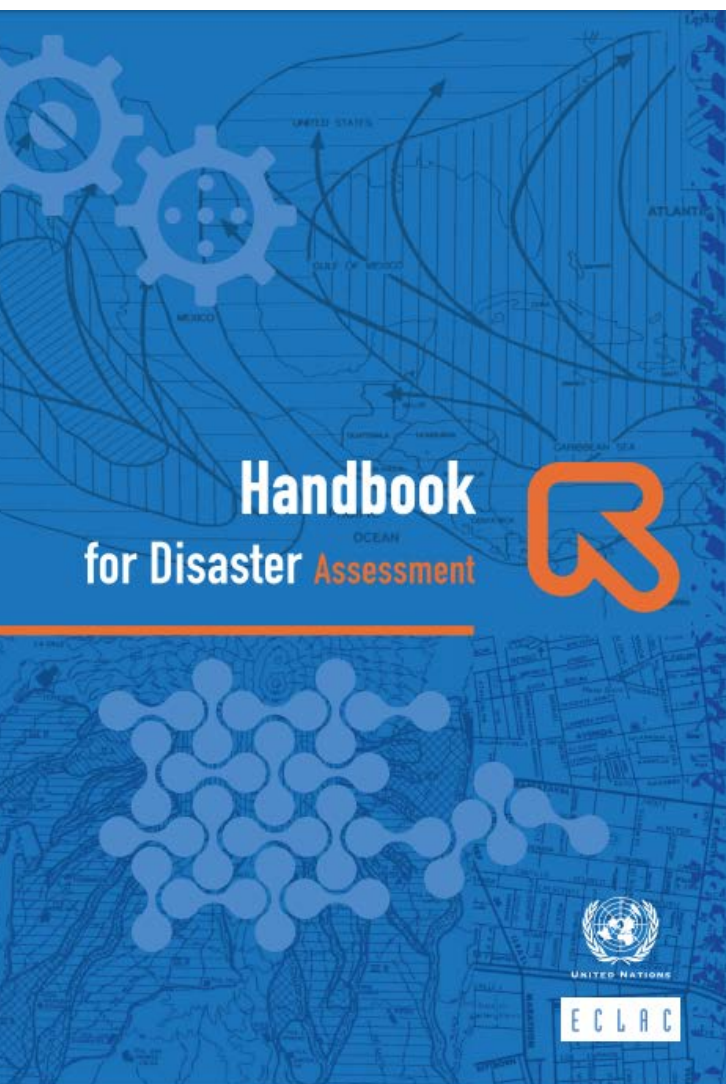
Focal point for disaster assessment

Office of the Secretary of the Commission

ECLAC

OUTLINE

1. ECLAC's recent work on disasters
2. DALA reports
3. Example of disaster profile: Storms



DALA

ECLAC has been a pioneer in the field of disaster assessment and in the development and dissemination of a disaster assessment methodology. Starting in 1973 with the earthquake that struck Managua, Nicaragua in December 23, 1972, ECLAC has made:

- More than 110 assessments of the social, environmental and economic effects and impacts of disasters in 28 countries in the region. Two of these disasters were epidemics
- **Based on its experience in this matter, ECLAC developed a Handbook for disaster assessment in 1991, its last edition was published in 2014.**



DALAs

- **Since 2015, ECLAC has led 14 assessments applying the new methodology:**

2015: Hurricane Joaquin (Bahamas)

2016: Terremoto del 16 de abril (Ecuador); Hurricane Earl (Belize); Hurricane Matthew (Bahamas).

2017: Floods 2016 (Argentina); Hurricane Irma (Bahamas, Anguilla, Sint Maarten); Hurricanes Irma and María (Turks and Caicos Islands, British Virgin Islands)

2018: Volcán de Fuego eruption (Guatemala)

2019: Hurricane Dorian (Bahamas)

2020: Hurricanes Eta and Iota (Guatemala and Honduras)

Guía de ejercicios para la evaluación de desastres



DALA methodology trainings

Since 2014, ECLAC has done the following activities to disseminate its methodology:

- More than 50 face-to-face courses in which public officials from 21 countries of Latin America and the Caribbean participated.
- Development of distance learning courses in English and Spanish. Both include a specific module for the assessment of epidemics
- Publication of the Exercise Guide to support these courses

A DALA report consist of:

1. **Estimation of effects:** damage, losses, and additional costs
2. **Estimation of impacts:** household level and macro-economic and impacts
The values are to be expressed in a disaggregated manner taking into consideration breakdowns by sector of economic activity, geo-political divisions, and groupings of affected population. All work is done following the 2014 version of the methodology.
3. **Recommendations for resilient reconstruction:** organized using the Sendai Framework for DRR





Core Concepts

Damage refers to the effects the disaster has on the assets of each sector, expressed in monetary terms. It is estimated by the *replacement price*, which is the current price (before the disaster) of an asset equivalent to the one destroyed.

Losses are the value of **goods that go unproduced and services that go unprovided** during a period running from the time the disaster occurs until full recovery and reconstruction is achieved. Calculating them means **setting a value on production that will be forgone**, which will obviously have an impact on GDP, employment, public finances and external accounts.

Additional costs refer to outlays required to produce goods and temporarily provide services as a result of the disaster.

Estimations by sector

Affected population



Social

- Education
- Health
- Housing

Infrastructure

- Transportation
- Water and sewerage
- Power
- Telecommunications

Economic sectors

- Agriculture and fisheries
- Manufacturing
- Commerce
- Tourism

Environment and
macroeconomic impact

Affected population

	Deaths	Missing	Injured	Evacuated persons	Other effects
Abaco	56		265		
Grand Bahama	11		28		
Total	67 (as of 29 October 2019)	282 (NEMA Hurricane Dorian Daily Brief, Friday 18 October 2019)	293 (treated for injuries between 2-11 September)	4,861 persons registered by the Department of Social Services *	The entire population in Abaco and Grand Bahama experienced a disruption in electricity, water and telecommunications Approximately 10,645 students were affected.

* Not considering those that might have evacuated on private boats

Affected population

Classified as **primary**, **secondary** or **tertiary** depending on the magnitude of the effects suffered

Usually assessments focus on primary affected population

Persons **directly** affected by the consequences of the disaster:

- Deceased
- Injured
- Sheltered
- Displaced
- Homeless

Effects: Hurricane Dorian

Million (\$)



	Damage	Losses	Additional costs
Social sectors	1,597	92	82
Infrastructure sectors	239	197	16
Productive sectors	621	400	20
Environment	7	27	102
Total	2,464	717	221

Effects: Hurricane Dorian Million (\$)



	Public	Private
Damage	229	2,235
Losses	130	587
Additional costs	105	116
Total	464	2,938

Effects: Hurricane Dorian

Million (\$)

	Damage	Losses	Additional Costs
Social	1,597	92	82
Housing	1,487	65	58
Education	72	6	19
Health	38	21	5
Infrastructure	239	197	16
Power	131	69	6
Telecommunications	42	54	1
Water and Sewerage	15	37	2
Transport	51	37	7
Productive	621	400	20
Tourism	530	325	15
Commerce	78	65	5
Fisheries and Agriculture	14	10	0
Environment	7	27	102
Total	2,464	717	221

Impacts

Hurricane Dorian

The estimated impact of Hurricane Dorian is one percentage point of the GDP. This implies that post-disaster, the economy is expected to grow 0.9 per cent. This will result in a decrease in salaries of \$ 51.3 million and profits of \$ 60.9 million.

The situation is different when the focus is on local economic activity. In the case of Abaco, the impact was estimated at 7.3 percent of its GDP. Taking place on that island, 47 percent and 60 percent of the country's worker remunerations and profits decrease, respectively. In Grand Bahama, the impact was 2.0 percent of its GDP.

Disaster profiles

Storms (1972-2010)

2000 USD

	Damage	Losses	Total	Avg Damage	Avg loss	Damage/Loss
Storms- Central America	13231	6366	19597	827	398	2,1
Storms-Caribbean	14160	7910	22069	708	395	1,8
Total	27391	14276	41666	1535	793	

ECLAC assessed 16 storms in Central America and 20 storms in the Caribbean

Disaster profiles

Storms (1972-2010). Losses

Percentage

	Productive	Social	Infraestructure
Storms- Central America	63	14	23
Storms-Caribbean	83	8	9

Losses on the productive subsector

	Agriculture	Tourism and retail	Manufacture
Storms- Central America	57	17	27
Storms-Caribbean	30	70	

OVERVIEW OF THE DALA METHODOLOGY

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