



UNOSAT

Tropical Cyclone Fiona-22

Population Exposure Analysis in the Dominican Republic

20 September 2022

Population Exposure Analysis
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Geneva, Switzerland

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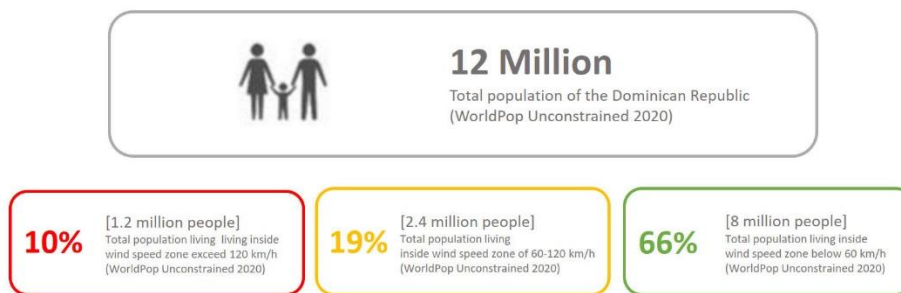


Overview

Tropical cyclone FIONA-22 formed on 14 September 2022 over the Caribbean Sea east of Guadeloupe with the maximum sustained winds up to 220 km/h. The category 4 tropical cyclone FIONA-22 reached the coast of the Dominican Republic on 19 September 2022. According to GDACS, Tropical Cyclone FIONA-22 can have a high humanitarian impact based on the maximum sustained wind speed, exposed population, and vulnerability.

Based on data of the forecasted tropical cyclone path of wind speeds zones from Joint Research Centre (Issued on 20 September 2022 09:00 UTC), and population data from WorldPop Unconstrained 2020, UNITAR-UNOSAT has prepared a population exposure analysis for the Dominican Republic. About 66% of population of the Dominican Republic living inside wind speed zone below 60 km/h, 19% living inside wind speed zone of 60-120 km/h and 10% living inside wind speed zone above 120 km/h.

Population Exposure in Dominican Republic as of 20 September 2022



The population exposure has been calculated using a 100m resolution WorldPop dataset.
This is a preliminary analysis & has not yet been validated in the field.

**Dominican Republic Population Exposed to Sustained Wind Speed Zones Tropical Cyclone
Fiona-20
(20 September 2022, 03:00 UTC)**

Province	Population			Total Population
	Wind Speed Zones			
	<60 km/h	60 - 120 km/h	>120 km/h	
Dominican Republic	7,978,774	2,399,276	1,244,225	12,032,096
Azua	247,878	-	-	247,878
Baoruco	47,593	-	-	156,154
Barahona	81,717	-	-	216,577
Dajabón	65,373	-	-	65,373
Distrito Nacional	1,123,781	-	-	1,123,781
Duarte	14,337	337,583	2,843	354,763
El Seibo	-	-	90,414	90,414
Elías Piña	38,173	-	-	63,803
Españolat	251,529	71,427	-	322,955
Hato Mayor	-	24,510	81,137	105,647
Hermanas Mirabal	51,174	41,167	-	92,342
Independencia	-	-	-	65,772
La Altagracia	-	-	536,837	536,837
La Romana	-	-	299,823	299,823
La Vega	481,980	-	-	481,980
María Trinidad Sánchez	-	93,496	99,944	193,440
Monseñor Nouel	187,365	-	-	187,365
Monte Cristi	182,391	-	-	182,391
Monte Plata	48,747	182,476	2,726	233,949
Pedernales	-	-	-	59,092
Peravia	290,284	-	-	290,284
Puerto Plata	69,255	268,592	-	337,847
Samaná	-	493	113,379	113,872
San Cristóbal	665,456	-	-	665,456
San José De Ocoa	62,297	-	-	62,297
San Juan	225,089	-	-	240,668
San Pedro De Macorís	-	362,723	17,122	379,845
Sanchez Ramírez	66,930	91,874	-	158,804
Santiago	1,066,728	18	-	1,066,746
Santiago Rodríguez	55,142	-	-	55,142
Santo Domingo	2,421,498	924,918	-	3,346,416
Under National Administration	-	-	-	328
Valverde	234,055	-	-	234,055
Total	7,978,774	2,399,276	1,244,225	12,032,096

Cyclone track: Joint Research Centre (JRC) as of 20 September 2022, 09:00 UTC

Wind speed zones: Joint Research Centre (JRC) as of 20 September 2022, 09:00 UTC

Administrative Levels: OCHA Field Information Services Section (FISS), HDX - 01 July 2021

Spatial Demographic Data: WorldPop (2020), 100 m spatial resolution

Analysis: UNITAR-UNOSAT (20 September 2022)

Download full excel table [here](#).

DOMINICAN REPUBLIC

IMAGERY ANALYSIS: 20/09/2022 PUBLISHED 20/09/2022 V1



TROPICAL CYCLONE TC20220920DOM

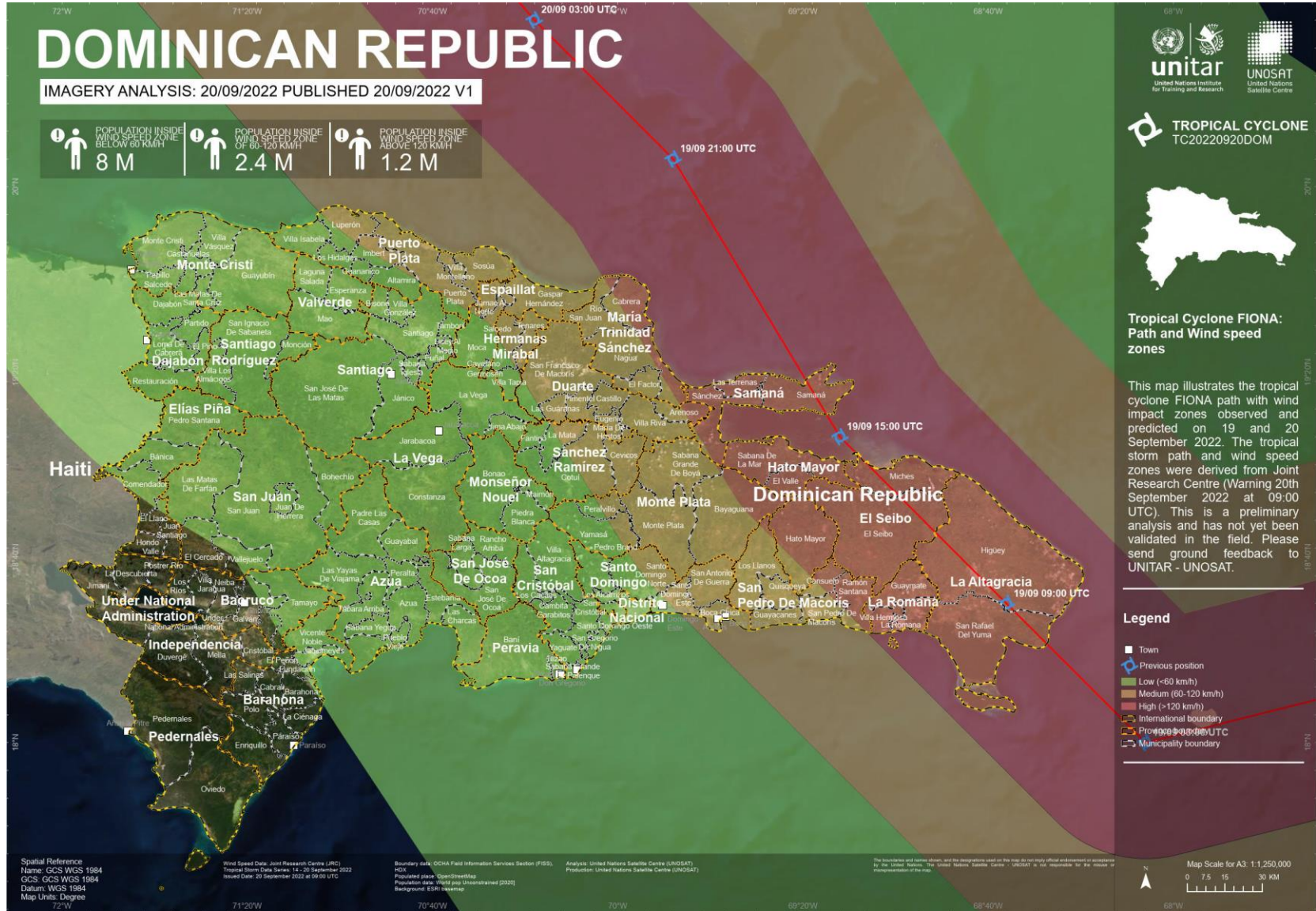


Tropical Cyclone FIONA: Path and Wind speed zones

This map illustrates the tropical cyclone FIONA path with wind impact zones observed and predicted on 19 and 20 September 2022. The tropical storm path and wind speed zones were derived from Joint Research Centre (Warning 20th September 2022 at 09:00 UTC). This is a preliminary analysis and has not yet been validated in the field. Please send ground feedback to UNITAR - UNOSAT.

Legend

- Town
- Previous position
- Low (<60 km/h)
- Medium (60-120 km/h)
- High (>120 km/h)
- International boundary
- Province boundary
- Municipality boundary



Spatial Reference: Name: GCS WGS 1984, GCS: GCS WGS 1984, Datum: WGS 1984, Map Units: Degree
Wind Speed Data: Joint Research Centre (JRC) Tropical Storm Data Series: 18: 20 September 2022, Issued Date: 20 September 2022 at 09:00 UTC
Boundary data: OCHA Field Information Services Section (FIS), HDX
Populated place: OpenStreetMap, Population data: World pop Unconstrained (2020), Background: Esri imagery
Analysis: United Nations Satellite Centre (UNOSAT), Production: United Nations Satellite Centre (UNOSAT)
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