

CariCOF Drought Outlook

By the end of February 2022

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Participating territories

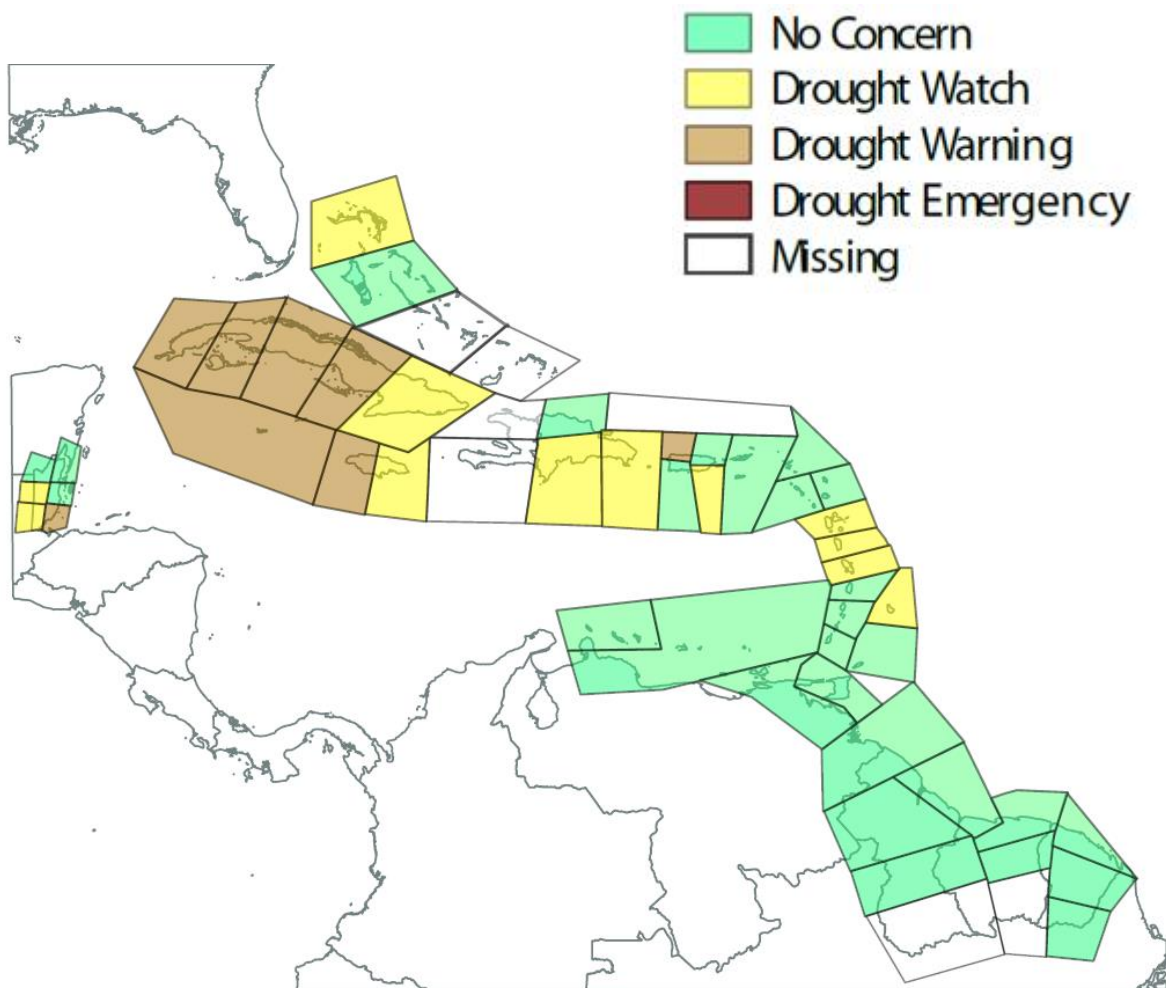
Antigua & Barbuda, Aruba, Bahamas, Barbados, Belize, Cayman Islands, Cuba, Curaçao, Dominica, Dominican Republic, French Guiana, Grenada, Guadeloupe, Guyana, Haïti, Jamaica, Martinique, Puerto Rico, St. Barth's, St. Kitts & Nevis, St. Lucia, St. Maarten/St-Martin, St. Vincent & the Grenadines, Suriname, Trinidad & Tobago and the US Virgin Islands



What is the predicted short-term drought concern by the end of February 2022?

Current update (November 2022):

- We are transitioning into the dry season.
- A **drought warning** should be considered for southeast Belize, Cayman Islands, most of Cuba, western Jamaica, and northwest Puerto Rico.
- A **drought watch** should be considered for the northernmost Bahamas, Barbados, southwest and west-central Belize, eastern Cuba, Dominica, southern Dominican Republic, Guadeloupe, eastern Jamaica, Martinique and southwest Puerto Rico.

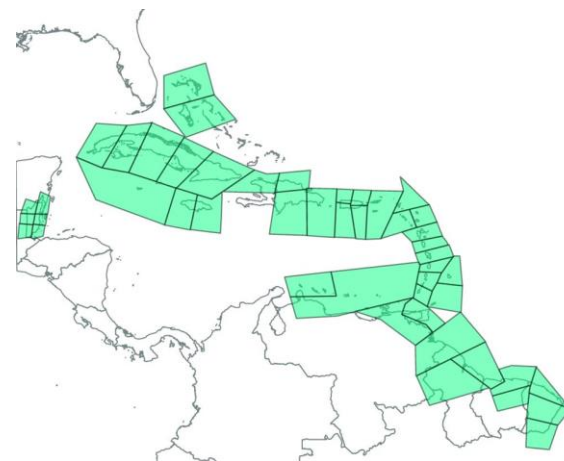


Short-term drought alert levels at the end of February 2022

(updated November 2021 – based on a 6-month SPI for September 2021 to February 2022)

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For climate information specific to your country, please consult with your national meteorological service. CariCOF outlooks speak to recent and expected climate trends across the Caribbean in general.



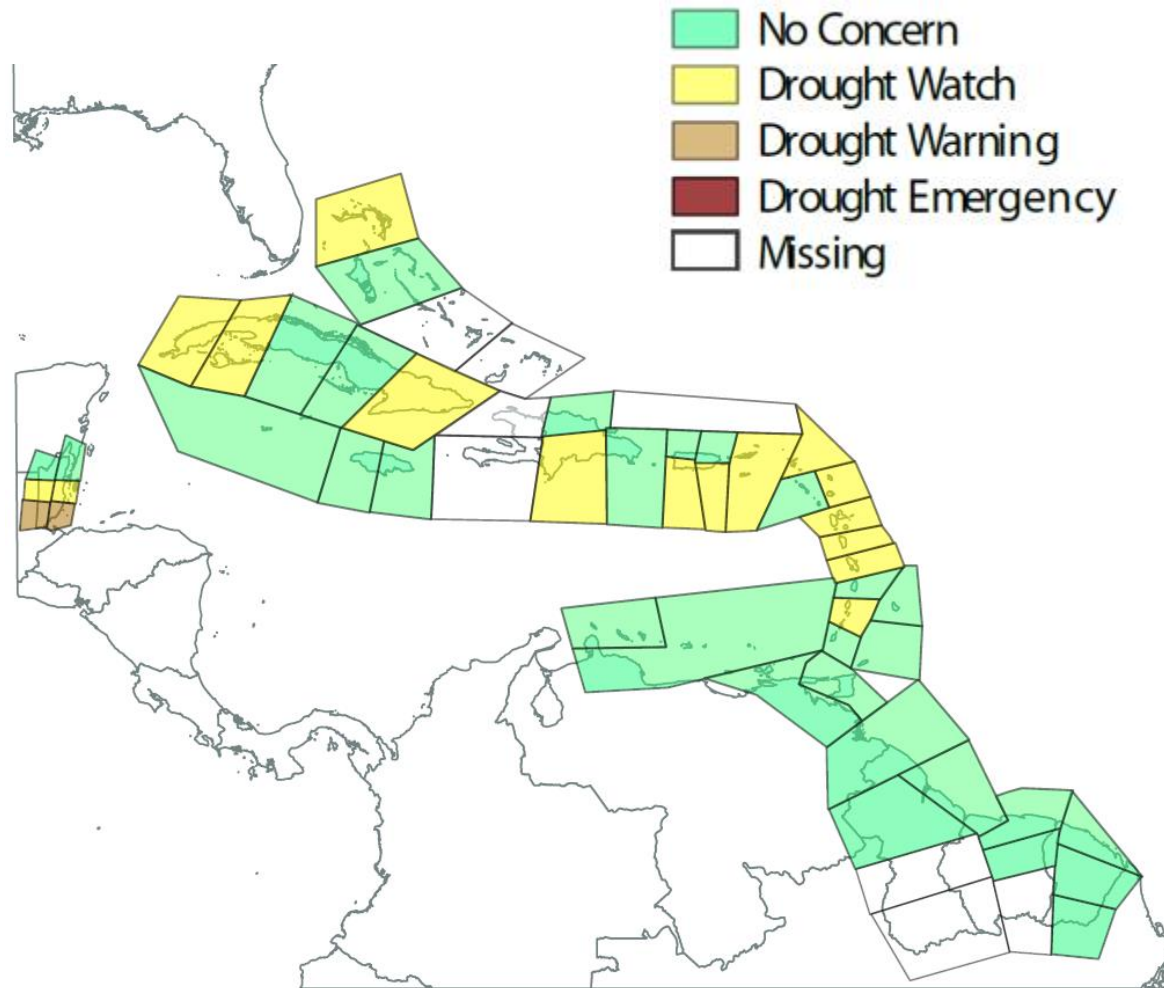
Previous update (October): short term drought alert levels at the end of January 2022

Impactful drought tends to occur with larger rainfall deficits from the usual amounts while in the wet season (i.e., severely dry) than in the dry season (i.e., moderately dry). This provides a partial explanation to the change to a higher alert category for some between the October and the November updates.



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What is the predicted long-term drought concern at the end of May 2022?



- This 12-month SPI-based drought outlook uses observations through October 2021, with potential impacts on large surface water reservoirs and groundwater. In general, impacts are expected if the 12-month SPI is ≤ -0.8 (*moderately dry or worse* – ref.: CDPMN).
- A **drought warning** should be considered for southern Belize.
- A **drought watch** should be considered for the northernmost Bahamas, central Belize, eastern and western Cuba, Dominica, southern Dominican Republic, Leeward Islands (except St. Kitts), Martinique, southern Puerto Rico, and St. Vincent.

Long-term drought alert levels at the end of May 2022

(updated November 2021 – based on a 12-month SPI for June 2021 to May 2022)

For climate information specific to your country, please consult with your national meteorological service. CariCOF outlooks speak to recent and expected climate trends across the Caribbean in general.

Drought outlook – shorter-/longer-term concerns?

- **Current drought** (*situation up to the end of October 2021*): (more information [here](#))
 - Moderate (or worse) short-term drought has developed in Antigua & Barbuda, northernmost & southeastern portions of the Bahamas, southeast Barbados, far north & southeast Belize, Western & parts of Eastern Cuba, east Dominican Republic, east Guadeloupe, Martinique, much of Puerto Rico, and St. Barth's.
 - Moderate (or worse) long-term drought has developed in northwestern parts of The Bahamas, south Belize, Western Cuba, southwest Dominica, along the south coast of the Dominican Republic, throughout the Leeward Islands, in Martinique, St. Barth's, St. Croix, and St. Vincent.
- **Short-term drought** (*expected situation by the end of February 2022*):
 - Short term drought is evolving in southeast Belize, Cayman Islands, most of Cuba, western Jamaica, and northwest Puerto Rico.
 - Short term drought might possibly develop or continue in northernmost Bahamas, Barbados, southwest & west-central Belize, eastern Cuba, Dominica, southern Dominican Republic, Guadeloupe, eastern Jamaica, Martinique, and southwest Puerto Rico.
- **Long-term drought** (*expected situation by the end of May 2022*):
 - Long term drought is evolving in southern Belize.
 - Long term drought might possibly develop or continue in northernmost Bahamas, central Belize, Eastern & Western Cuba, Dominica, southern Dominican Republic, Leeward Islands (except St. Kitts), Martinique, southern Puerto Rico, and St. Vincent.
 - Areas ending up in long term drought by the end of May may experience lower than usual water levels in large reservoirs, large rivers and groundwater at that time.

* *We advise all stakeholders to keep monitoring drought and look for our monthly updates.* *



| ALERT LEVEL | MEANING | ACTION LEVEL |
|-------------------|------------------------------|--|
| NO CONCERN | No drought concern | <ul style="list-style-type: none"> ✓ monitor resources ✓ update and ratify management plans ✓ public awareness campaigns ✓ upgrade infrastructure |
| DROUGHT WATCH | Drought possible | <ul style="list-style-type: none"> ✓ keep updated ✓ protect resources and conserve water ✓ implement management plans ✓ response training ✓ monitor and repair infrastructure |
| DROUGHT WARNING | Drought evolving | <ul style="list-style-type: none"> ✓ protect resources ✓ conserve and recycle water ✓ implement management plans ✓ release public service announcements ✓ last minute infrastructural repairs and upgrades ✓ report impacts |
| DROUGHT EMERGENCY | Drought of immediate concern | <ul style="list-style-type: none"> ✓ release public service announcements ✓ implement management and response plans ✓ enforce water restrictions and recycling ✓ enforce resource protection ✓ repair infrastructure ✓ report impacts |



THRESHOLDS

Goodness Index

| Skill | Thresholds |
|---|------------|
| Negative Skill | < 0 |
| Very Limited | 0 – 0.1 |
| Limited | 0.1 – 0.2 |
| Moderate | 0.2 – 0.25 |
| Fair | 0.25 -0.3 |
| Good | > 0.3 |
| ROC score (<i>area under the curve</i>) | |
| Discrimination | Thresholds |
| No | < 0.5 |
| Poor | 0.5 0.6 |
| Moderate | 0.6 – 0.7 |
| Fair | 0.7 -0.8 |
| Good | 0.8 – 0.95 |
| Very Good | > 0.95 |

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Drought

| SPI threshold for impactful drought used in forecasts issued starting in November and ending in April | -0.8 (moderately dry or worse) |
|---|--|
| SPI threshold for impactful drought used in forecasts issued starting in May and ending in October | -1.3 (severely dry or worse) |
| Alert Levels | Probabilities of exceeding SPI threshold |
| No Concern | < 33.3333 |
| Drought Watch | 33.3334 – 50 |
| Drought Warning | 50 – 83.3333 |
| Drought Emergency | ≥ 83.3334 |



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