

GUIDE TO ARTIS TROPICAL CYCLONE REPORTS

Current Conditions

Detailed list of storm's latest observed intensity, size and movement

Observation	Description / Units
Center position	Latitude N : Longitude W
Maximum Winds	1-min sustained, mph
Radius of Maximum Winds (RMW)	Distance from center to maximum winds (miles)
Forward Speed	Storm speed (mph)
Direction	Moving to, compass direction (heading in degrees)

Latest Forecast

Narrative forecast of storm track, intensity, landfall probability and landfall wind speeds, and regions at risk of loss

US Landfall Scenarios

Forecast tracks from a set of select operational models and model ensembles. Includes the GEFS (US), ECMWF (European) and UK (Met Office) model ensemble means as well as the official forecast from the National Hurricane Center (NHC). Aeolus cone of uncertainty reflects one standard deviation right and left of the ensemble mean (central) track.

Expert Commentary

Additional discussion focused on the latest model forecasts and potential losses


Insurance Industry Loss Estimate

Distribution of 100+ modeled estimates of insured loss due to wind and storm surge. Losses are plotted by probability based on the ratio of binned scenarios to the total ensemble count. Right of the histogram are loss estimates from select operational models and distribution percentiles.

ARTIS Tropical Cyclone Report

Tropical Storm Bonnie


Aeolus Real-Time Information Service
Report Generated: Wed Jul 20 2022 04:18 EDT Forecast Valid: 1200 GMT 08-Jun-2022



Current Conditions

STORM NAME: Tropical Storm Bonnie
POSITION: 26.70°N : 87.50°W
MAXIMUM WINDS: 40.0 mph
MAX WIND RADIUS: 23.0 miles
SAFIR-SIMPSON CATEGORY: CAT0
FORWARD SPEED: 23.0 mph
DIRECTION: NW (312.9°)

Forecast Risk and Confidence Metrics



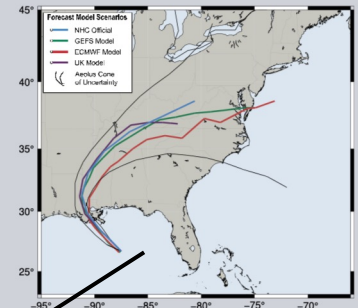
Landfall risk is **VERY HIGH**: Probability of a U.S. landfall within 5 days is 100%.
Intensity risk is **HIGH**: Expected maximum landfall windspeed is 133 mph.
Risk of loss is **HIGH**: Ensemble mean total loss of 16.35B USD is rated 8/10.

Latest Forecast

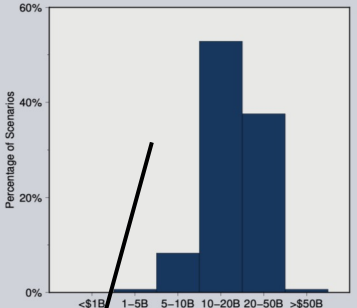
Track and Intensity: Bonnie is expected to be tracking NW at 18 mph in 24 hours, then track NNE at 20 mph in 48 hours. Maximum sustained wind speeds are currently around 40 mph. Depending on the conditions encountered prior to moving onshore, the strongest winds at landfall could range from 45 to 169 mph.

Landfall and Impact Region: U.S. landfall is nearly certain within the 5-day forecast window with landfall probability currently estimated at 100%. If it does occur, landfall is expected within the next 12 to 116 hours at which time Bonnie is forecast at major hurricane strength with maximum winds of about 133 mph. Bonnie poses a threat of insured loss to the states of Alabama, Louisiana, Mississippi, and Texas.

Landfall Scenarios and Potential Losses



U.S. Landfall Scenarios



Industry Insured Loss Scenarios

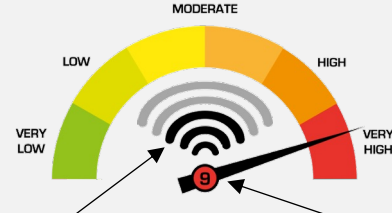
NHC Official	\$15.0B
GEFS Model	\$24.0B
ECMWF Model	\$19.2B
UK Model	\$15.3B
20th Pctl Loss	\$12.7B (9.7B)
50th Pctl Loss	\$18.1B (15.1B)
80th Pctl Loss	\$26.4B (20.5B)

Map on left shows potential track scenarios from the major operational forecast models. Center panel shows histogram of insured losses (Billion USD) from the full forecast ensemble of 157 individual scenarios. Tickers on right indicate loss values for each of the mapped scenarios (box colors match track colors) and select loss percentiles with estimates from the last published forecast in (). All losses are estimated by combining hazard data from the operational forecasts with detailed catastrophe model and exposure analysis. Shown are industry insured gross property losses due to wind and storm surge combined.

Expert Commentary

Tropical Storm Bonnie is tracking towards the central Gulf coastline and is an imminent threat for landfall. The current forecast track takes Bonnie to the Louisiana coastline in the next 24 to 48 hours. In its journey to the coast, Bonnie is expected to intensify rapidly while extracting both energy and moisture from the warm waters of the Gulf of Mexico. At landfall, the storm is expected to achieve major hurricane strength and produce winds of over 120 mph at landfall. The latest forecast indicates insured losses are likely to range from about 13B to 26B USD including the impacts of wind and storm surge.

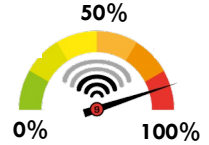
Risk and Confidence Metrics



Signal strength indicates confidence in forecasted risk level

Meter reading indicates risk level on a scale of 0 to 10

Landfall Risk

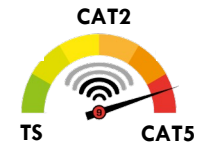


Landfall Risk

Meter: Probability of landfall at any wind speed

Signal: Confidence level based on consensus across forecast track ensemble

Intensity Risk

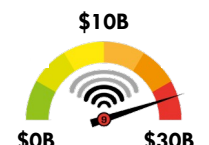


Intensity Risk

Meter: Expected level of damaging winds at landfall

Signal: Confidence level based on consensus across all forecast landfall intensities

Loss Risk



Loss Risk

Meter: Level of forecasted industry loss indexed by combining landfall risk, intensity risk and insured exposure

Signal: Confidence level based on consensus across all forecast scenarios of insured loss