

1999 Tropical Atlantic Activity Report

Brian D. McNoldy

The hurricane season is officially over, so it's time for the annual Hurricane Season Summary. I sent out about 80 updates to my 27-member mailing list over the past 6 months (wow, that's a lot!); now it's time for the final one. I'm going to format the summary in the same fashion as I did last year, so it might even look a bit familiar if you were a subscriber last year. I will keep the same basic outline: the Saffir-Simpson Scale, Lifetimes and Intensities, Climatology, and Landfall. As usual, my data and typing could contain errors, so if you see a mistake, please point it out to me.

Saffir-Simpson Scale of Tropical Cyclone Intensity

CATEGORY	WINDS (mph)	PRESSURE (mb)
Depression	23-39	N/A
Tropical Storm	40-73	N/A
1	74-95	>980
2	96-110	965-979
3	111-130	945-964
4	131-155	920-944
5	>155	<919

1. Lifetimes and Intensities

NAME	DATES OF ACTIVITY	MAX WIND (mph)	MIN PRES (mb)
ARLENE	11 JUN - 18 JUN	60	1000
TD2	03 JUL - 03 JUL	35	1004
BRET	18 AUG - 23 AUG	140	945
CINDY	19 AUG - 31 AUG	140	944
DENNIS	24 AUG - 05 SEP	105	962
EMILY	24 AUG - 28 AUG	65	1004
TD7	05 SEP - 07 SEP	35	1005
FLOYD	07 SEP - 17 SEP	155	921
GERT	11 SEP - 23 SEP	150	930
HARVEY	19 SEP - 22 SEP	60	995
TD11	04 OCT - 06 OCT	35	1002
TD12	06 OCT - 08 OCT	35	1007
IRENE	13 OCT - 19 OCT	105	958
JOSE	17 OCT - 25 OCT	100	977
KATRINA	28 OCT - 01 NOV	40	999
LENNY	13 NOV - 21 NOV	155	929

2. Climatology and Statistics

The average annual number of tropical disturbances (over the past 53 years) is:

- 9.9 named storms
- 5.9 hurricanes
- 2.5 major hurricanes

This year, the numbers were well above that average (which has recently been the trend, except 1997)

- 12 named storms (14 in 1998)
- 8 hurricanes (10 in 1998)
- 5 major hurricanes (3 in 1998)

Interestingly, all 5 major hurricanes were CAT4's. There were no storms that peaked at CAT3, and none reached CAT5. It is quite rare to have 4 CAT4's in one season... the most recent year I could find that came close was 1995 with 3 of

them: Felix, Luis, and Opal. You have to go back a long way before 1995 to find another comparable year (1961 had 2 CAT4's and 2 CAT5's).

There were a total of 77 named storm days (days during which a named storm was present). 43 of those days were "hurricane days", and 15 of those days were "intense hurricane days". This is 193% of the climatological mean, i.e., this season was about twice as active as the "normal" season. The average numbers are 46.9 named storm days, 23.7 hurricane days, and 4.7 intense hurricane days.

Here is a summary of highlights (VERY brief):

Arlene never made it to hurricane status, but started the season off very early, the afternoon of June 11.

Bret formed in the southern Bay of Campeche and eventually reached CAT4 before making landfall on an unpopulated region of Texas' south coast. His persistent northward motion was missed by the models that all took him westward into Mexico near Tampico.

Cindy never got close to land, but is worth mentioning because she formed so far east (19.4W). Only a handful of storms have ever formed east of 20W.

Dennis formed just east of the Bahamas, approached the US, then headed out to sea... but not too far. He lingered off the coast of Cape Hatteras, NC for almost a week before moving westward again and making landfall just north of Cape Lookout, NC.

Floyd was tied for the most powerful storm of the year. He formed in the central Atlantic in the first week of September. Winds reached 155mph as he passed over the Bahamas, then continued his journey making US landfall as a CAT2 on Cape Fear, NC. Floyd caused incredible flooding in many of the eastern states, especially NC.

Harvey and Irene were both fairly weak storms (Harvey never even reached hurricane status), and both made landfall on the western side of the southern Florida peninsula, in the Everglades. Both storms were also forecast by models to hit the Tampa region... both stayed further south.

Jose formed very far south (10N) in the third week of October. He peaked at CAT2 intensity just as he passed over the northern Leeward Islands.

Lenny was tied with Floyd for the most powerful hurricane of the year. He formed in the western Caribbean Sea, then moved EASTWARD across the Caribbean, strengthening to a CAT4 storm with 155mph winds. He stalled over the northern Leeward Islands for 2 days, causing immense destruction. Models were initially reluctant to even make him a hurricane. That changed quickly. Lenny was the first storm of such intensity to move eastward across the Caribbean. Also, he was only the 5th major November hurricane since records began in 1886.

From Aug24 to Aug28, there were three named storms in the Atlantic, Cindy, Emily, and Dennis. Not too outstanding, but it was the most active time frame of the season (last year, there were 4 active hurricanes at the same time). Other multi-storm periods this year were: 1) Floyd and Gert were both active between 11Sep and 17Sep; 2) Gert and Harvey were both active between 19Sep and 22Sep; 3) Jose and Irene were both active between 17Oct and 19Oct. Basically, the point is that the season came in bursts of activity.

3. Landfall

There were 10 landfalling storms this year... only 5 of which made landfall on the US. Compare this to last year, when 7 of 14 named storms made landfall, and all 7 landfalls were on the US (at some point).

The first column is the storm name, second column is the date of landfall, third column is the approximate local time of landfall, fourth column is max winds (mph) at landfall, and the fifth column is the nearest location to landfall.

TD2	7/3	0000	35	Nautla, Mexico
BRET	8/22	1800	125	Padre Island, TX
DENNIS	9/4	1700	70	Cedar Island, NC
TD7	9/6	1000	35	just N of Ciudad Madero, Mexico
FLOYD	9/14	1700	140	Great Abaco Island, Bahamas
	9/16	0300	110	Cape Fear, NC
HARVEY	9/21	1700	50	Chokoloskee, FL (Everglades)
IRENE	10/14	0900	75	Cape Sable, FL (Everglades)
JOSE	10/20	1200	100	Antigua

	10/21	0800	75	US Virgin Islands
KATRINA	10/29	0800	40	Puerto Cabezas, Nicaragua
	10/31	0100	30	Xkalak, Mexico
LENNY	11/18	1300	135	Anguilla, St.Maarten, St.Bartelemy
	11/19	2300	70	Antigua

Thanks to everyone who read the updates, to those who provided the list with weather conditions/updates when the storms hit land, and to those who provided me with feedback about the updates. I also want to thank fellow CSU-ite Eric Blake for proofreading this message and supplying me with the climatological "storm days" data used in Section 2.

One more hurricane season left in the millenium. Until then, stay safe and have a great winter and spring. Hurricane Season 2000 begins June 1, the first name in the lineup is Alberto.

Brian

A text file of tracking data for each storm (time, lat, lon, wind, pres, movement, etc):

<http://www.mcwar.org/tropatlan/stormtracks99.zip>

A PostScript image of all 1999 Atlantic storm tracks:

http://www.mcwar.org/tropatlan/atl_storm_plot_1999.ps

~~~~~  
**Brian D. McNoldy**

Colorado State University

Dept. of Atmospheric Science

Fort Collins, CO 80523-1371

Phone: (970) 491-8398

Fax: (970) 491-8449

E-mail: [mcnoldy@CIRA.colostate.edu](mailto:mcnoldy@CIRA.colostate.edu)

URL: <http://thor.cira.colostate.edu/>  
 ~~~~~

"Don't drink and derive."

"Your friend is the man who knows all about you, and still likes you."