



A Weather-Ready Nation

HAPA Project Report

Volume 3, Issue 1, October 13, 2016

Disclaimer

This is an EXPERIMENTAL project report based on the Hovmoller Analysis and Prognostics Approach (HAPA) conducted at the WFO New Orleans/Baton Rouge Forecast Office (WFO LIX). This report is a means of bringing situational awareness to large scale events and potential impacts that may require decision support or emergency response activities in the foreseeable future. This project is NOT a long range forecast product for day-to-day conditions. HAPA is an interpretative method of integrating established numerical model guidance, climatological and earth systems monitoring and subject matter expertise from various sources to provide an outlook to potential weather hazards in the 8 to 60 day range. The intended audience of this report is media, NWS partners, stakeholders, and the general public. **Users must refer to the latest official NWS forecasts and outlooks for any decision-making activities.**



WFO New Orleans/Baton Rouge, LA

Another season underway—A somber start with Hurricane Matthew deaths

The 2017 edition of the Hovmoller Analysis and Prognostic Approach was kicked off on September 25th with an initial report to establish a baseline. No real significant events were indicated in the original report due to extensive dryness from high pressure influences over much of the eastern half of the nation. This is not to say impactful weather did not occur.

The most significant weather feature was undoubtedly major Hurricane Matthew that developed in the eastern Caribbean Sea, passing close to the Aruba-Bonaire-Curacao (ABC) Islands in the southern Caribbean Sea before taking a fateful turn northward. Matthew intensified to a major hurricane (Category 3 or higher on the Saffir-Simpson scale) while heading into heavily populated and impoverished western Haiti and easternmost Cuba. Then Matthew took a path slowly through the Bahamas, inflicting devastation to a large portion of that island nation. The hurricane, while still maintaining at least Category 3 intensity, turned parallel to the Florida Peninsula and moved essentially just along the coast enough to graze hurricane force conditions upon the protruding capes of eastern Florida and South Carolina. Torrential rainfall over the Carolinas brought deadly freshwater flooding to a large area before Matthew weakened significantly while pulling away from the U.S. mainland. Deaths attributed to Matthew numbered over one-thousand, including 39 in the southeastern United States. Most of these deaths were due to drowning from the extensive flooding from torrential rains in the Carolinas and Virginia. Some deaths were due to fallen trees onto structures and vehicles. Still a few more were due to carbon monoxide poisoning from improper use of generators. One death was due to electrocution from contact with a live fallen powerline during clean-up.

More recently, and as this is being written, Hurricane Nicole intensified to a major system, attaining Category 4 status on approach to Bermuda. This would only be the fourth major hurricane of this magnitude to pass over or very near Bermuda, but the third in the past 13 years – last visited by Gonzalo in 2014 and Fabian in 2003. The other one dates back to October 1922.

In this edition, only a handful of dates are noteworthy for some detectable weather impacts. Some indications of inclement weather in the Deep South is noted on or around October 20th, and is currently being indicated in the conventional weather models. Some attention is also being given to November 8th—Election Day for the U.S. Presidency. There is a potential for some weather that may influence voter turnout in some locations.

Outlooks and dates for consideration

Oct 17 [4 days out]: A weak upper level disturbance is expected to move through the Gulf States but have little in the way of impactful weather.

Oct 20 [7 days out]: A more significant system may have some attendant severe thunderstorms across the Gulf States.

A long stretch of quiet and dry weather then onsets into the early days of November.

Nov 8 [26 days out]: Election Day does appear to have some indications of a system moving through the middle of the nation from the Great Lakes States southward to the Gulf States. This could have a bearing on voter turnout in several to many precincts that may be impacted by inclement weather.

Nov 15 [33 days out]: Some cooler air appears to finally arrive to bring an onset of fall-like weather that then becomes re-enforced a week later on Nov 22 [40 days out].

Nov 24 [42 days out]: Thanksgiving Day does not have any indications of inclement weather in the mid-Gulf States at this time as modifying high pressure will likely be in place should the Nov 22nd system be on time.

So many heavy rain events...

There appears to be a noticeable increase in extreme rain events. Southeast Louisiana had record rainfall in March that was eclipsed by an even larger rain event in August. Flooding rains impacted North Carolina this summer only to be followed again by Hurricane Matthew. At this time, another potentially historic rain event is about to unfold on the Pacific Northwest coast, where totals may exceed 30 inches in some locations over the next week. While some rain is welcomed in the drought stricken west coast region, this much rainfall at once will become problematic. More heavy rain events will likely impact the nation before this year is over. The HAPA technique will be challenged to identify precursory conditions for such events to offer sufficient lead time for decision-makers.

Users must refer to the latest official NWS forecasts and outlooks for any decision-making activities.

October 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

November 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

A more detailed, technical explanation of these outlooks are available upon request to the e-mail address below.

Contact Information

National Weather Service Forecast Office

62300 Airport Drive

Slidell, LA 70460

Author POC: Robert.ricks@noaa.gov

Next Update: October 26, 2016