National Weather Service
Southeast River Forecast Center

Hydrologic Vulnerability Assessment

issued

Wednesday, September 30, 2015

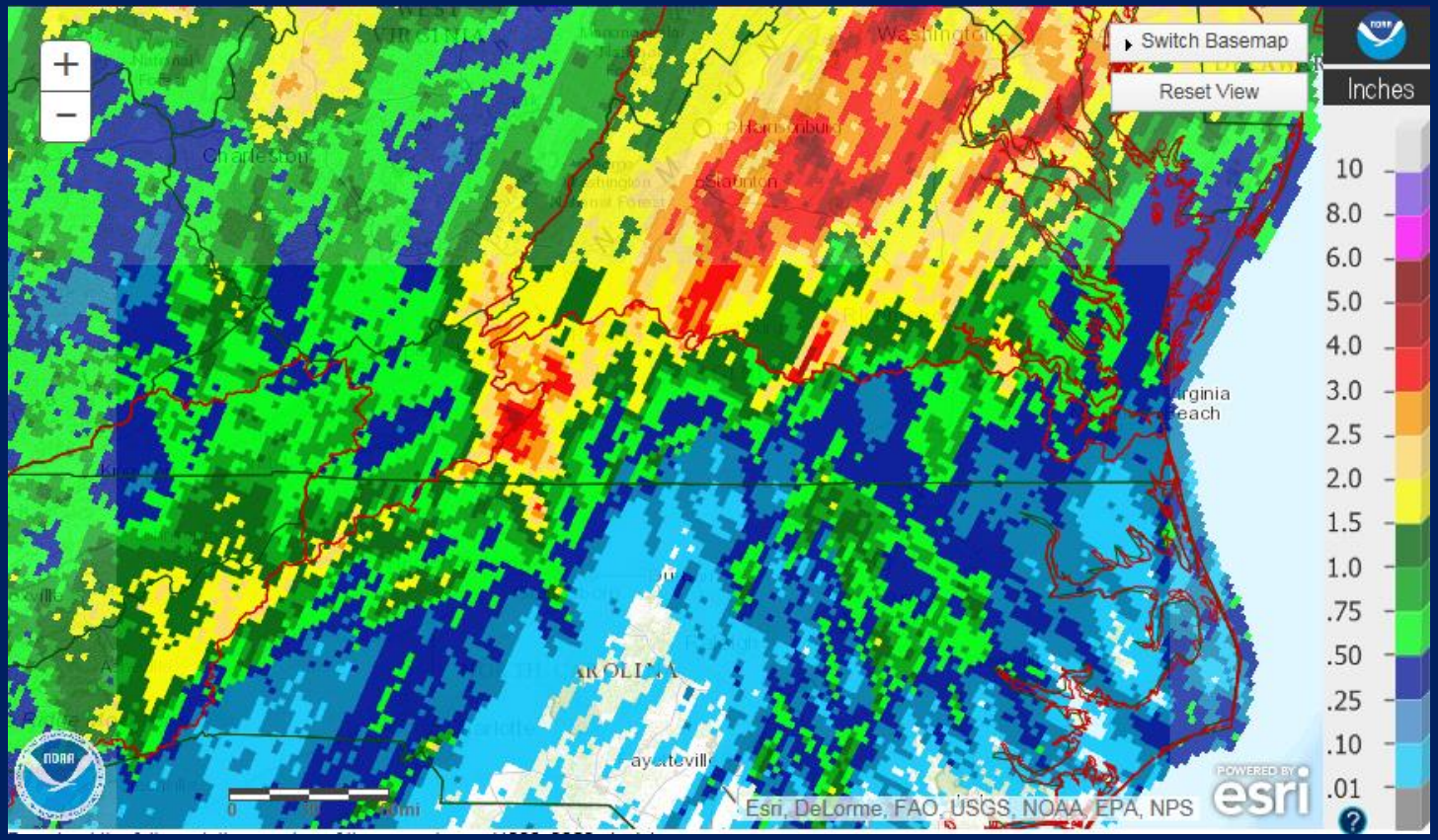
for

North Carolina, South Carolina, and Virginia

Key Points

- Depending on Hurricane Joaquin's future track, strength and condition …
- Inland flooding from heavy rainfall is the greatest potential impact to North Carolina and Virginia…with the possibility of South Carolina being effected.
- The most vulnerable areas are in the western portions of North Carolina and Virginia near the mountains due to recent rainfall in the area.

Past Precipitation



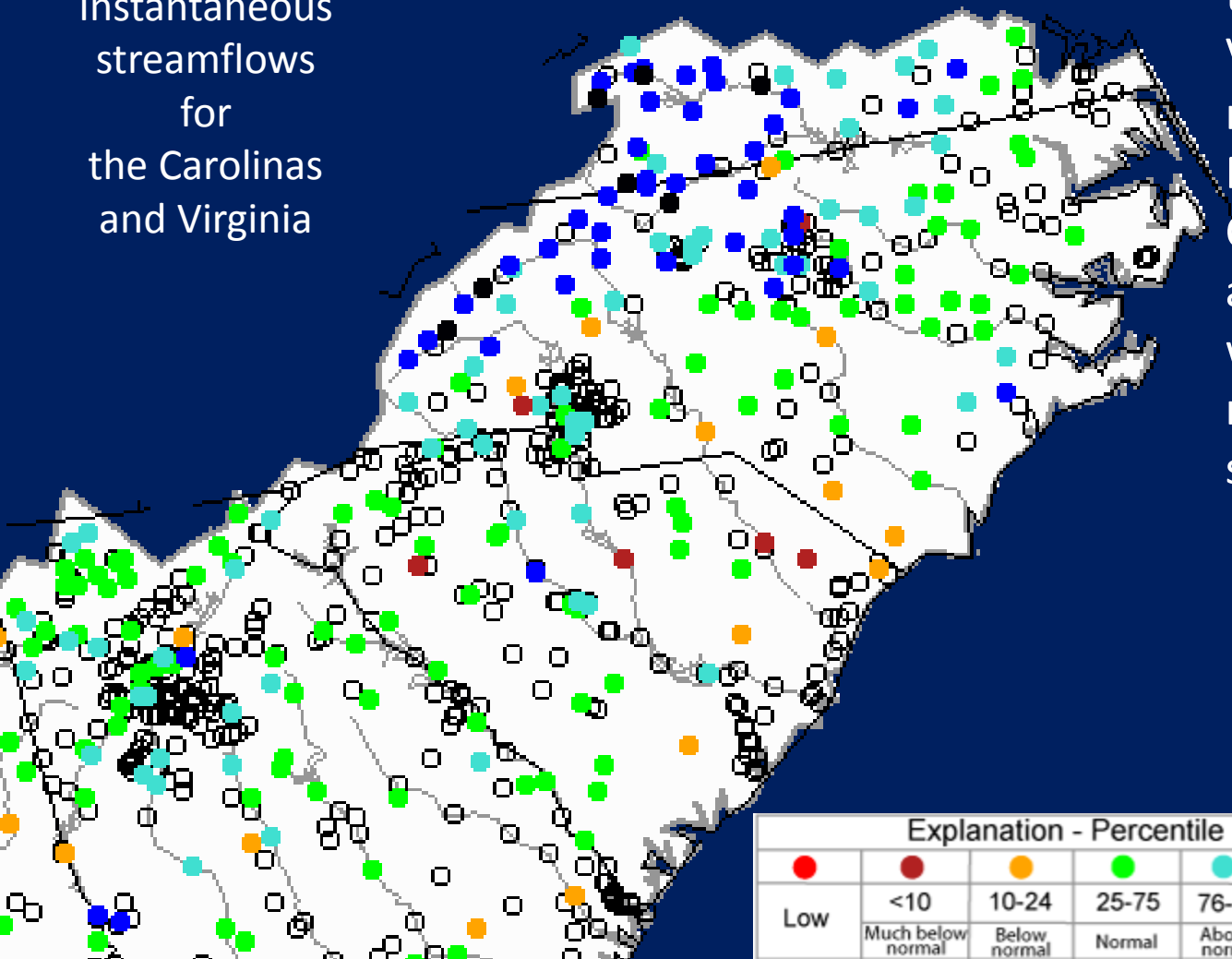
24-hour precipitation ending at 11AM EDT the Carolinas and Virginia

- Through 8 AM EDT…The western Carolinas and Virginia were most effected by the recent rains. Rainfall that fell over other areas that didn't produce flooding are still making the soils wet and more likely to produce runoff with the expectation of rain in the coming days.

Current Streamflows

day, September 30, 2015 11:30ET

Instantaneous streamflows for the Carolinas and Virginia

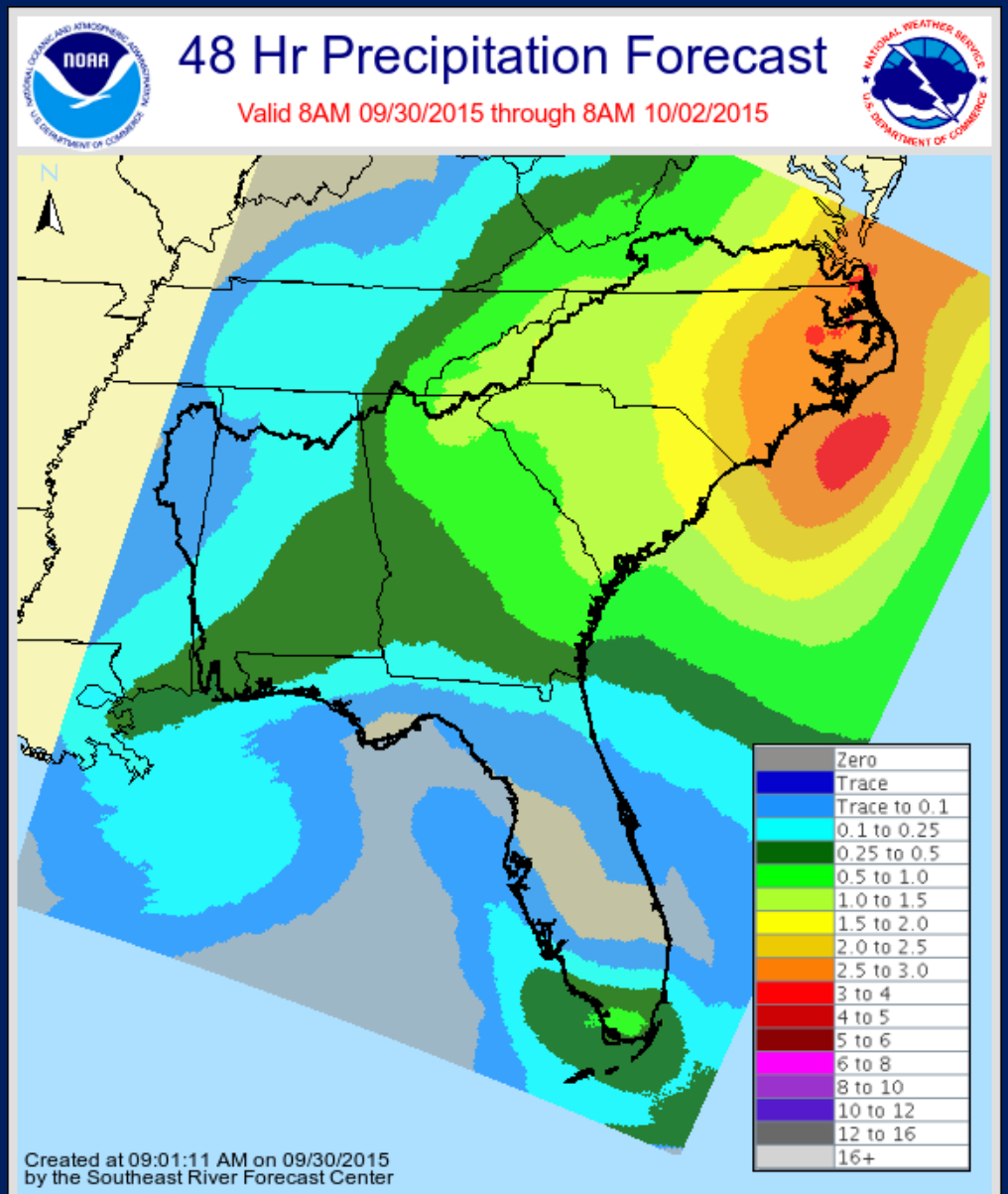


- Today's streamflows in the Carolinas and Virginia show a large range of conditions. Much of the western Carolinas is showing above normal conditions with normal to below normal as you move south and east.

Explanation - Percentile classes

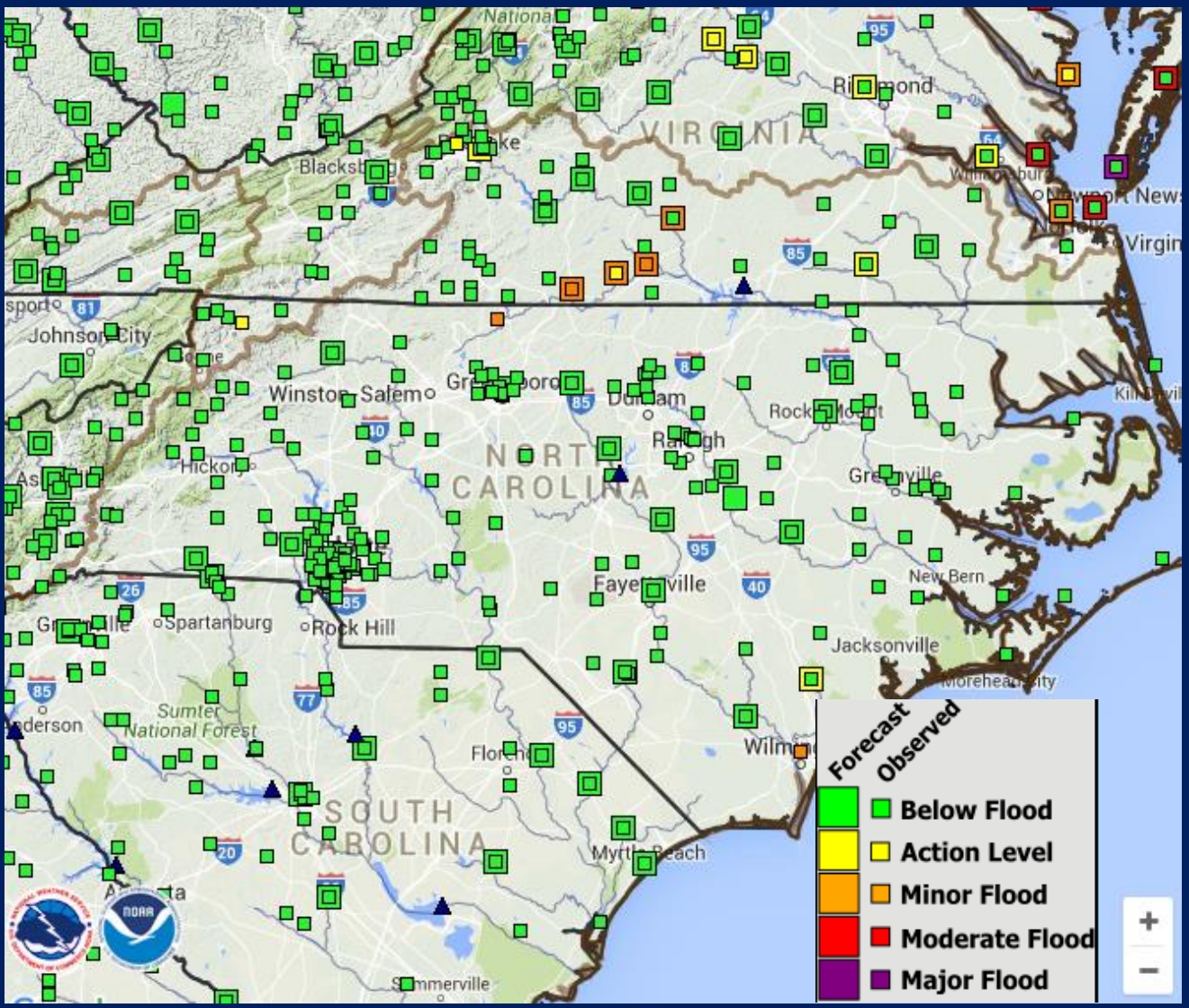
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

Forecast Precipitation



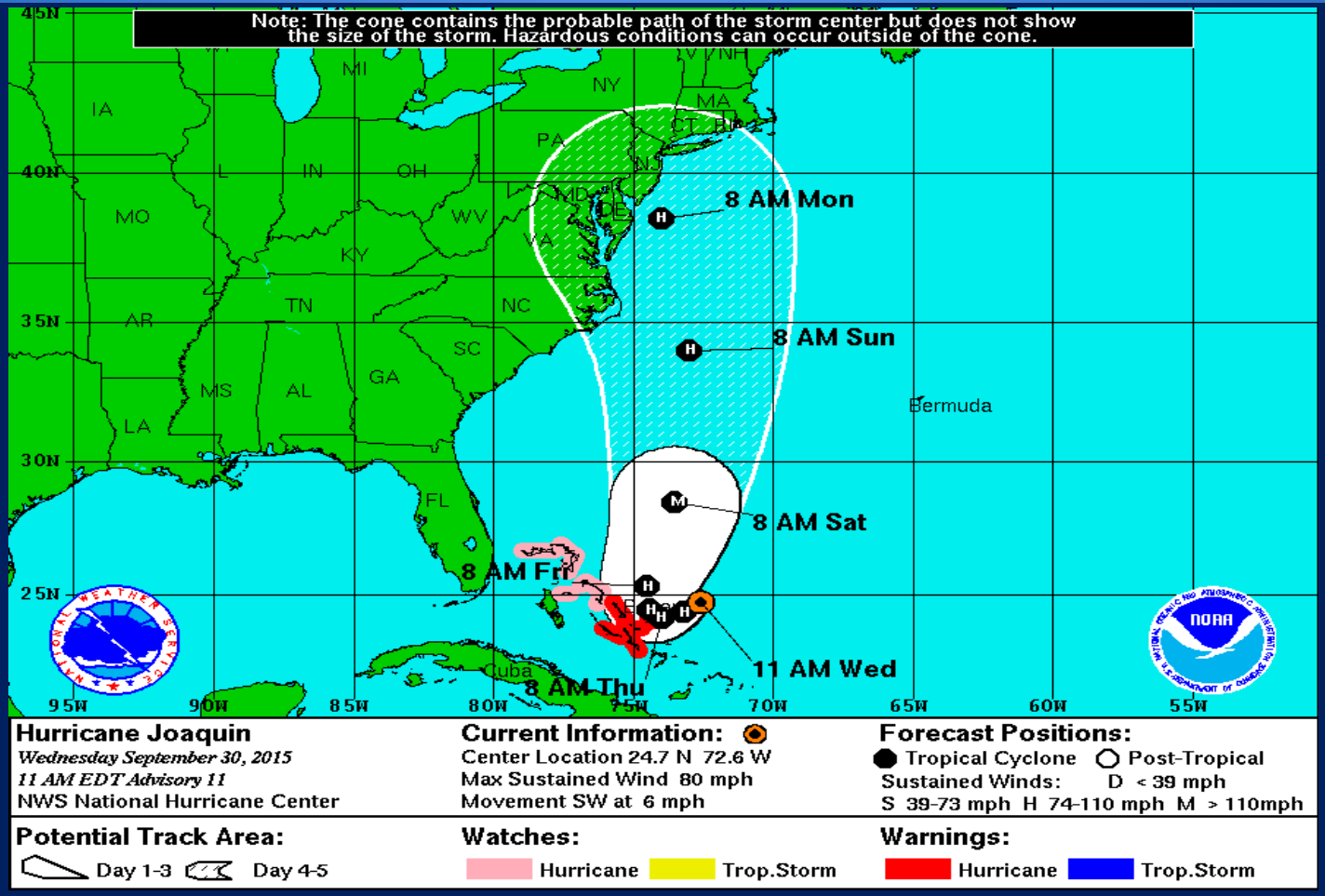
- This is the 2 day WPC forecast that is being used by the SERFC forecasters to produce river forecasts in the Southeast.
- This rainfall forecast should only cause issues along the North Carolina coast at this time.
- Widespread river flooding is not likely due to this forecasted rainfall; however, localized thunderstorms could produce sharp rises in a short period of time

Forecast River Conditions



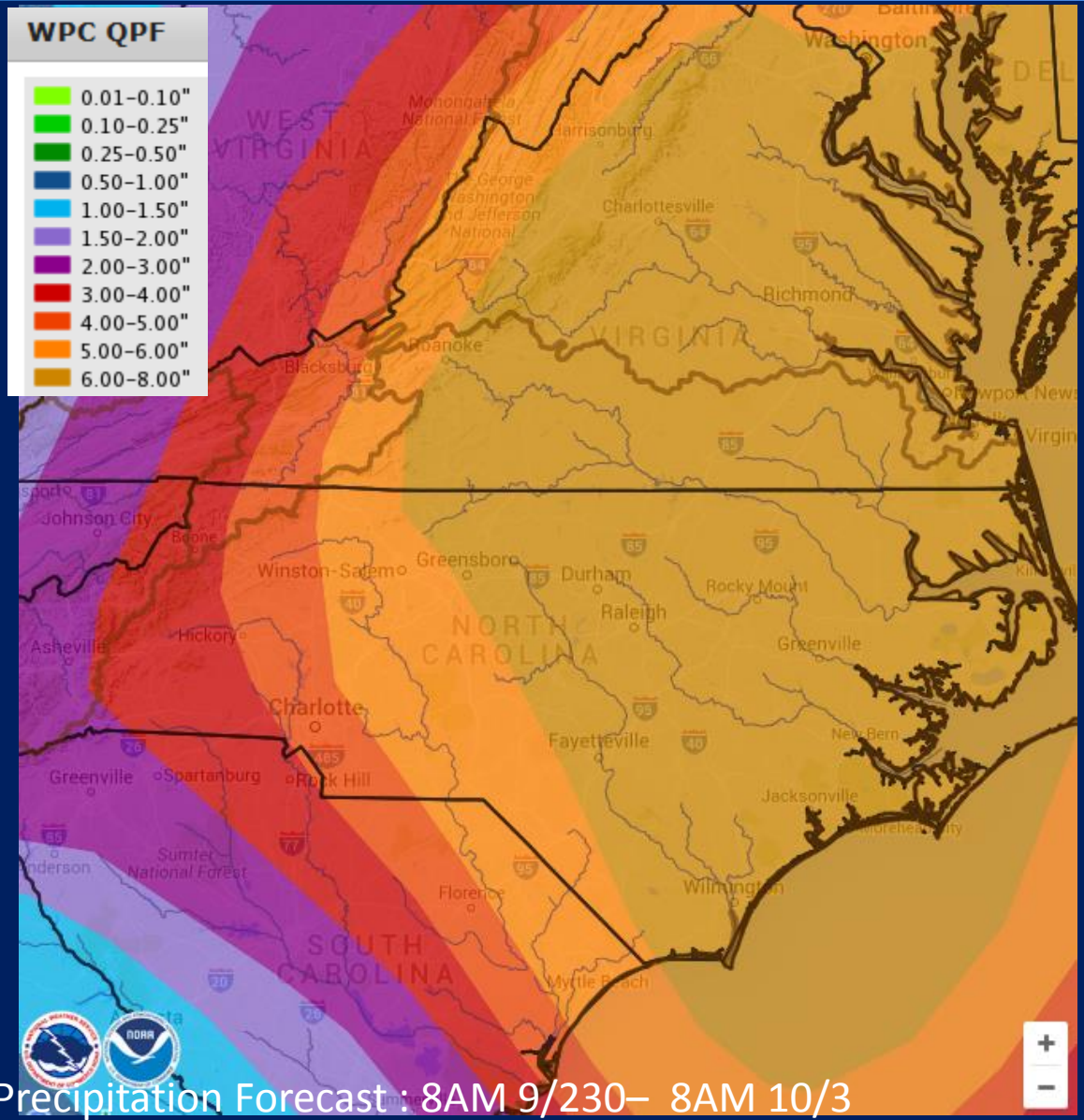
Here is the current forecast for the rivers in the effected areas. These forecasts include past rainfall and a 48-hour rainfall forecast. Currently, only 4 forecasts are in flood or are forecast to be in flood based on that information.

Current Forecast Track



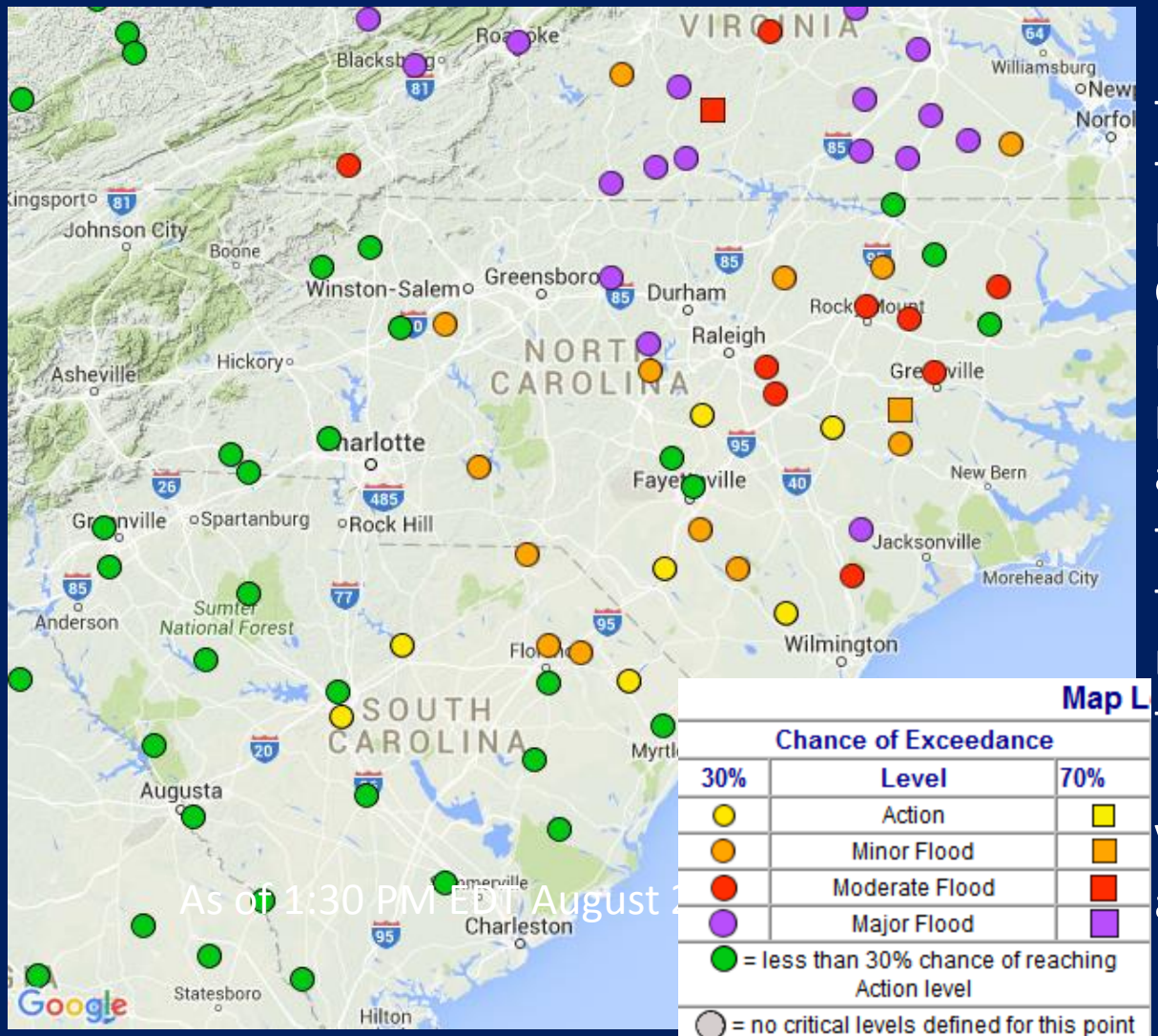
As Joaquin strengthens in the Atlantic, the forecast track is still very uncertain. Some models take the storm off in to the Atlantic and away from the coastal US, others steer it towards the US coast anywhere from Wilmington, NC all the way up to New England.

Days 1-5 Forecast Precipitation



- Although there is still a great deal of uncertainty in the forecast track of the storm, the potential for heavy rainfall exists. Here is the 5-day forecast for rain. This graphic includes the 2-day rainfall from earlier.
- Widespread 6 to 8 inches are possible with much of the rain inland on days 3 and 4 in this forecast.
- Again…there is still much uncertainty in these forecast…check back with your local WFO or the SERFC regularly during the coming days.

Meteorological model Ensemble River Forecasts



Here is MMEFS…this shows the potential of river flooding based upon multiple model runs of the GEFS meteorological model. This output produced has minimal adjustments by SERFC forecasters. At this point, there is a 30% chance of moderate to major flooding in many rivers in North Carolina and Virginia. Please plan accordingly.

SERFC Operational Status

- SERFC will not be open 24-hours tonight September 30, 2015. Our normal office hours are 6am-11pm 7-days a week
- Our next message will be a Daily Operational Support Message and will be issued Thursday, October 1, 2015
- Today's morning forecasts are available at: http://weather.gov/serfc
- Please Contact us at sr-alr.rivers@noaa.gov if you have any questions.

Helpful Bookmarks

- Monitor the NWS weather radar
  http://www.srh.noaa.gov/serfc/?n=radar
- SERFC Briefing page
  http://www.srh.noaa.gov/serfc/?n=quickbrief
- NWS National Quantitative Precipitation Forecasts
  http://www.hpc.ncep.noaa.gov/qpf/qpf2.shtml
- NWS Meteorological Model Ensemble probabilistic river forecasts (MMEFS)
  http://www.erh.noaa.gov/mmefs/