Tropical Forecast Discussion for September 22, 2010

Synoptic Overview:

At 1500UTC, 22 September, there were only two tropical systems of interest in the Atlantic Basin. Tropical Strom Lisa (PGI45L) was meandering within weak steering in the eastern Atlantic and PGI46L/AL95 had entered the Caribbean Sea. Lisa was forecast to move slowly to the NW over the next several days without gaining much intensity while PGI46L/AL95 was slowly organizing and identified by NHC in the tropical outlook as having a 60% chance of developing into a tropical cyclone over the next 48 hours.

Synoptic features included a broad and moderately-strong ridge centered over the western Atlantic extending across the Gulf of Mexico and a series of weak troughs over the eastern Atlantic, north of 25° latitude (Fig.1). Weak ridging was prevalent south of 25° N. The ridge in the western Atlantic was steering AL95 to the west while the combination of weak troughs and ridging in the eastern Atlantic was responsible for the sow motion of TS Lisa.

Fig. 1: Surface synoptic analysis of the Atlantic basin at 1500 UTC 20 September.

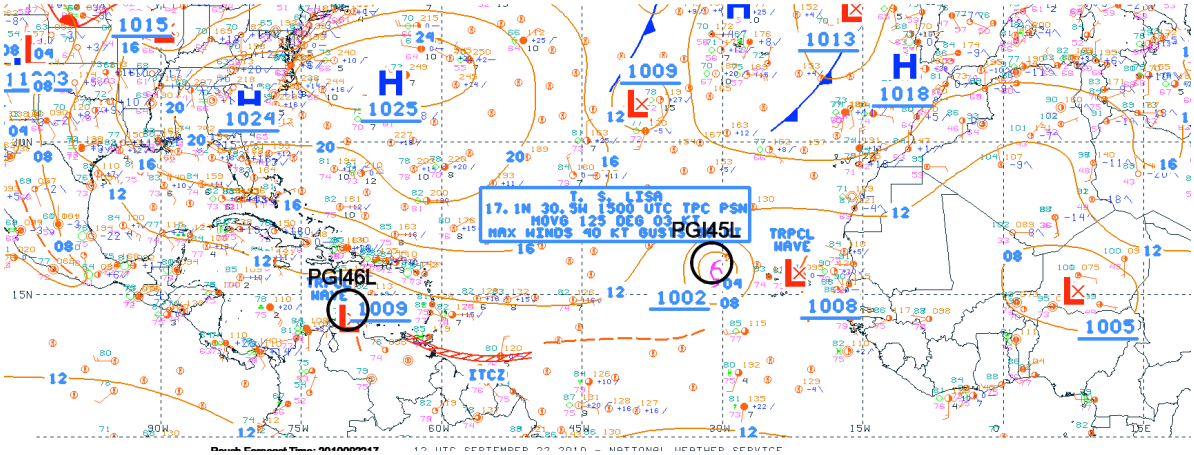
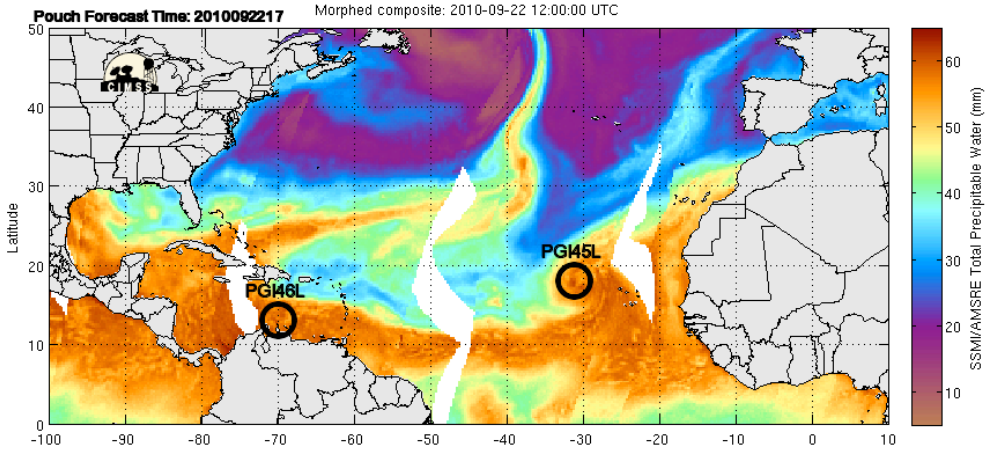


Fig. 2: TPW image of the Atlantic basin



Tropical Strom Lisa (PGI45L):

TS Lisa continued to struggle to maintain its status as a weak tropical storm. A weak trough located to the north of Lisa was imparting some shear and Lisa was imbedded within a region of dry air. Only small areas of moderate convection near Lisa's center were able to maintain the vortex (Fig. 3). Lisa was located near a col and was expected to meander for 24-36 hours before resuming a low NW track (Fig. 4)

Fig. 3: Visible Satellite image of TS Lisa

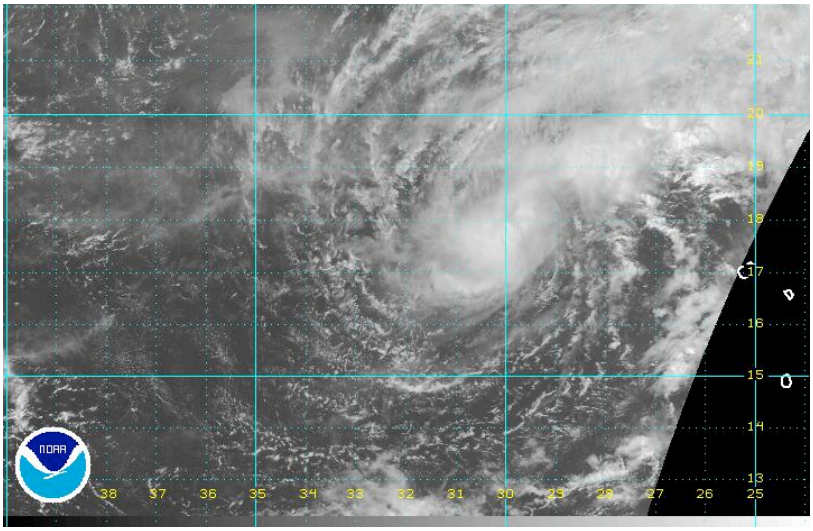
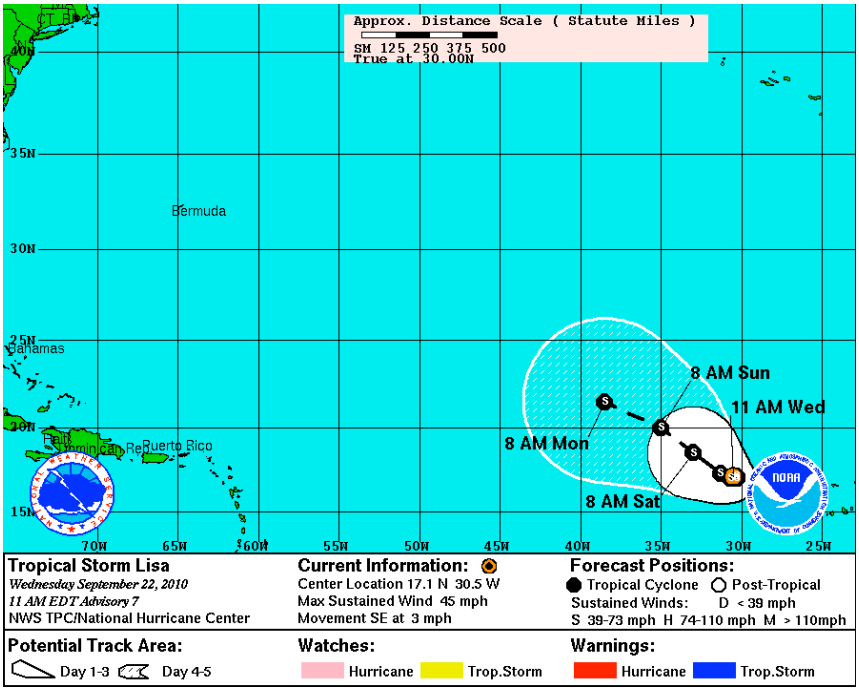


Fig. 4: NHC official 5-day track forecast for TS Lisa



PGI46L/AL95:

PGI46L was a well-defined tropical wave moving westward at about 15 kt in the eastern Caribbean. The level of organization had improved since yesterday but it still lacked an earth relative, closed circulation, at least as of 1500 UTC. The NCAR GV was flying a mission at the time of the discussion and had not yet reached the western and southern periphery of AL95. The wave consisted of mainly scattered area of convection with a major rainband east of the pouch center that exhibited some curvature (Fig. 5)

Fig. 5: Visible satellite image of PGI46L/AL95

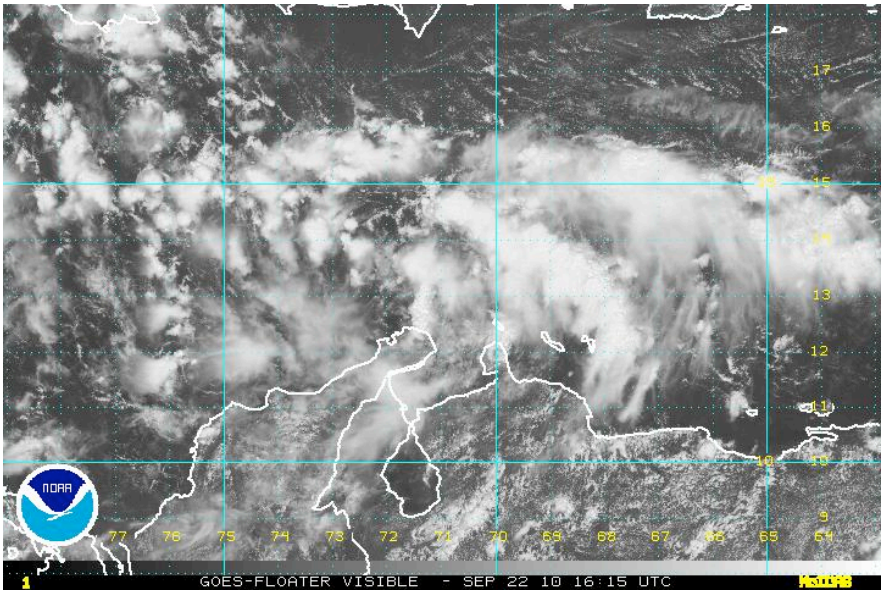
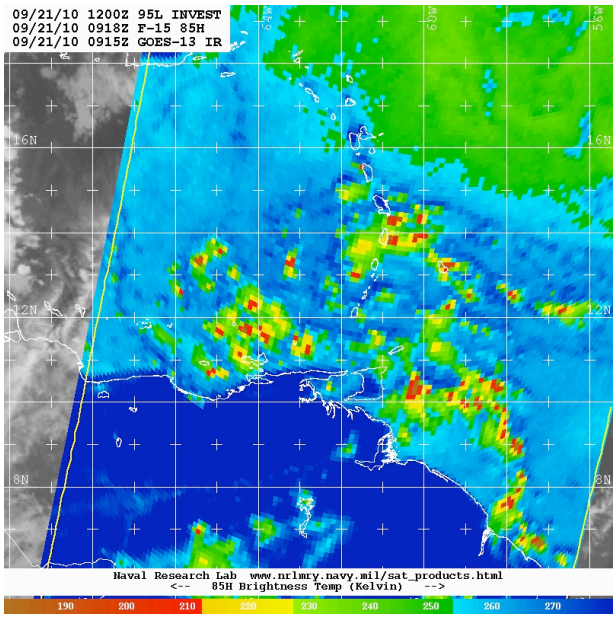
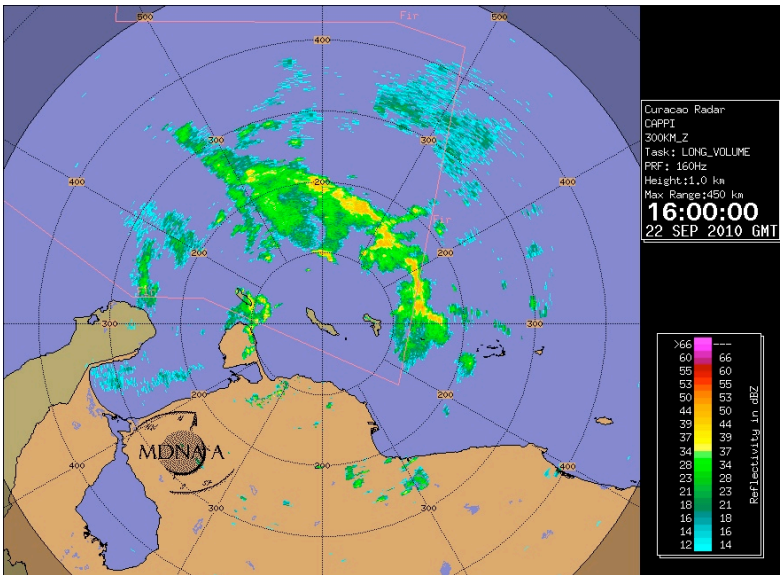


Fig. 6: 85 GHZ microwave image of AL95



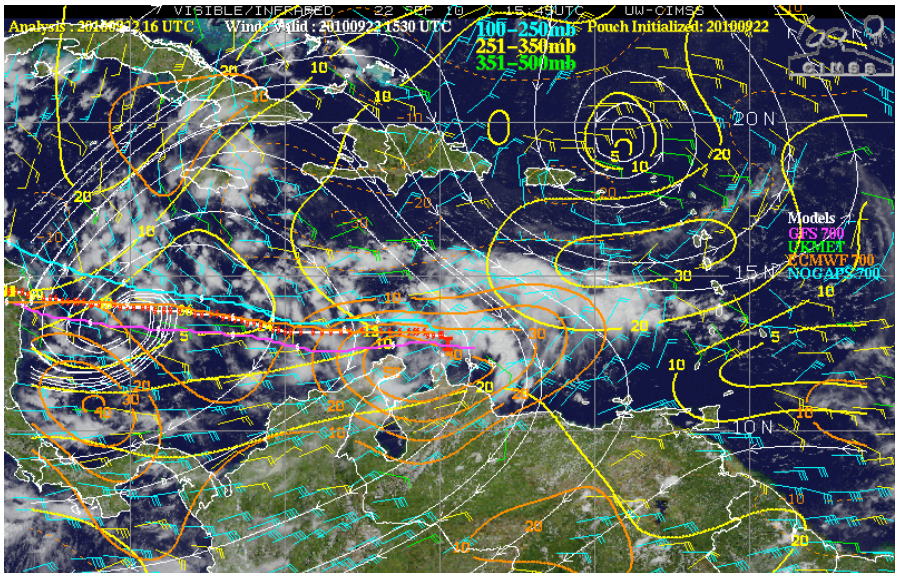
Microwave satellite imagery (Fig. 6) and radar imagery from Curacao (Fig. 7) also showed the mainly scattered nature of the convection but loops from the radar showed that some areas of convection were rotating about some broad center, inferring that, at least at mid-levels, PGI46L had a closed circulation.

Fig. 7: Curacao radar image of AL95



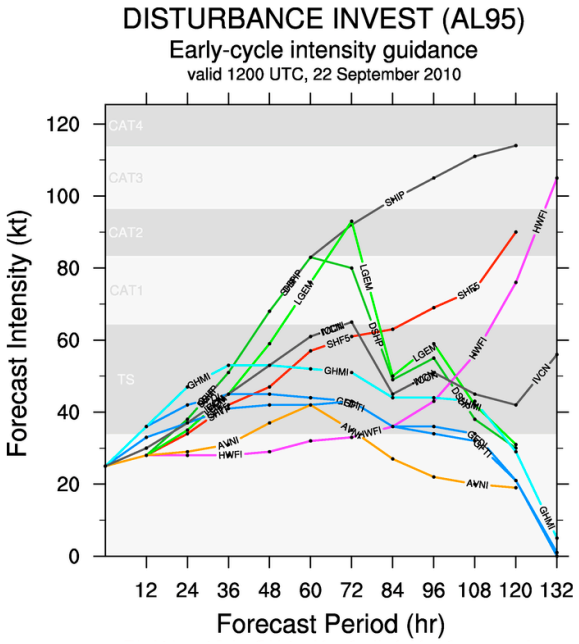
CIMMS analyses (Fig. 8) revealed that the vorticity had increased and had become more consolidated that yesterday and the vorticity center was located near the center of the convection very near the South American coast.

Fig. 8: CIMMS analyses of low-level vorticity, vertical wind shear, upper level winds, and model forecast tracks for PGI46L/AL95.



Shear was moderate, about 10-15 kt over the system and the upper-level winds were primarily from the east. SSt's (not shown) were between 28°-29°C and the wave and its nearby environment were very moist so that the environmental conditions were somewhat favorable for further development. The guidance for intensification of this system was not as aggressive as 24 hours ago but still indicated that AL95 would develop onto a TS or hurricane within a few days.The dynamical models only indicated modest strengthening to a TS while Ships had AL95 reaching Category 2 hurricane status in 3 days.

Fig. 9: 1200 UTC intensity guidance for AL95/PGI46L



All of the track guidance showed a westerly motion over the next 3-4 days placing AL95 inland over Nicaragua or Honduras, along the Honduras coast, or over open water in the western Caribbean in 3-4 days (Fig. 10). The future intensity would, of course, depend on whether or not PGI46L remained over water or not.

The track forecast beyond about 4 days is both interesting and complex. Most of the guidance showed a slowing of the westward progress of AL95 after about 72-96 hours. Some model guidance suggested that the system might stall and meander or even move NE while in the Western Caribbean, others indicated a northward track into the Gulf of Mexico, while at least one model has PGI46l tracking across Central America into the EPAC. The consensus track was a slowing down at about 96-120 hours and a track to the north afterwards. Fig. 11 shows the GFS ensemble track guidance that shows the range of possibilities of the long-range future track of the system except, perhaps, the track across Central America.

The forecaster of this discussion believes that AL95 will develop into a depression or storm in 36-48 hours and into a hurricane between 48 and 96 hours.

Fig. 10: 1200 UTC track guidance for AL95

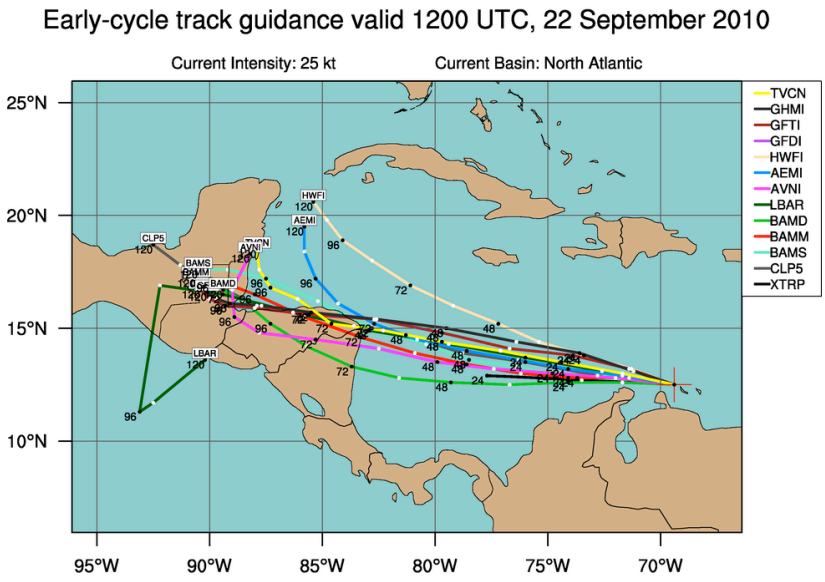
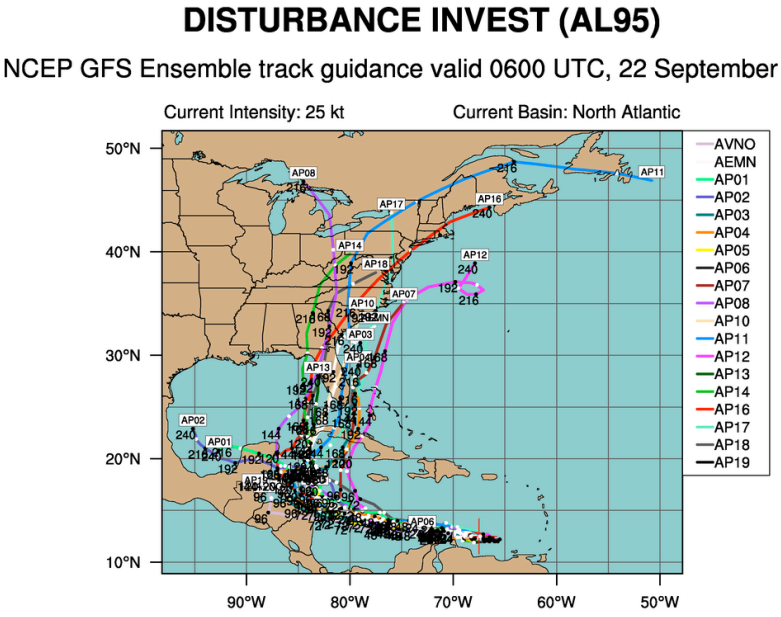


Fig. 11: Long-range ensemble track guidance for PGI46L



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