

National Weather Service

Southern Region's

SERVICE

ENHANCEMENT PROJECT

1995-96

The Landfall of Hurricane Erin

August 01-02, 1995

**SILVER
AWARD
WINNER**

submitted by the staff of National Weather Service Melbourne, Florida July 5, 1996

SYNOPSIS:

Hurricane Erin made landfall on the shores of east-central Florida (ECFL) during the early morning hours of 02 August, 1995, with the actual center crossing the coast between Vero Beach and Sebastian Inlet just before 2am. Hurricane Erin was classified as a **Category 1** hurricane which offered both forecast and warning challenges to the staff of the National Weather Service Office (NWSO) in Melbourne (MLB), FL. NWSO MLB provides public weather service to the counties of Volusia, Brevard, Seminole, Lake, Orange, Osceola, Indian River, St. Lucie, and Martin counties. This area includes the cities of Daytona Beach, Orlando, and Melbourne. The area also includes certain high profile areas such as the Kennedy Space Center and Walt Disney World. The modernization of the NWS across the country has culminated, locally, with the newly constructed office in Melbourne in 1989 and operation of the WSR-88D in 1991. Forecasters at the MLB office routinely use modernized data sets such as GOES-8 satellite imagery, lightning information, meso-model output, automated surface observations (ASOS), and data from the WSR-88D radar. Data from the WSR-88D/MLB, the first United States network Doppler radar to be deployed in a coastal/near-tropical environment, was used largely during the passage of Erin to inform the public of the timing of landfall, for fine-tuned adjustments to landfall location, and to assess the localized severe weather threat from high winds, tornadoes and flooding rains. Due to the expanse of most tropical cyclone events, we have limited our

Service Enhancement Project entry to the 24-hour period centered on the landfall of Hurricane Erin.

Before the landfall of Hurricane Erin, keeping the public and county decision makers informed was a primary objective as the tropical cyclone approached. Hurricane Preparedness Outreach activities had been quite active during the spring and now individualized coordination with County Emergency Managers, local TV and radio, and supporting agencies had become frequent during the morning hours of August 1st. Hurricane Erin was 275 miles southeast of Melbourne at 8am and was posing a forecast dilemma to the Hurricane Specialists at the National Hurricane Center / Tropical Prediction Center (NHC/TPC), and to its newly appointed Director. Hurricane Warnings were posted as far north as Sebastian Inlet in Indian River County, but did not include Brevard County. Landfall was less than 18 hours away. In the [921 a.m. Hurricane Local Statement \(HLS\)](#), both Brevard and Volusia Counties were advised that Warnings may be extended further north as to take full advantage of daylight hours. Residents of all counties were advised of recommended actions.

During the event, a newly developed product, the Short Term Forecast (NOW), was used to describe expected weather conditions as people prepared for Erin's imminent wrath. Importantly, this product received wide and rapid dissemination via the NOAA Weather Radio and local news media. Just before this time, the NOW had also been formatted to automatically display on The Weather Channel and would be an instrumental mechanism for the transfer of weather information. At Noon, the [NOW](#) called for the increase of thunderstorms associated with the outer bands of Erin with wind gusts to 40 mph and the potential for storms to become severe. Heavy surf and beach erosion were identified as increasing concerns.

After persuasive coordination with NHC/TPC during the morning, Brevard County was officially included in the Warning area. This information was reflected in the [1225 p.m. HLS](#). This proved to be a critically important decision that effectively reduced the risk to the lives of many barrier island residents of Brevard County. [100 p.m. satellite photo of ERIN.](#)

During Erin, the WSR-88D in Melbourne performed admirably and was used extensively to add meaningful weather information to the NOW and HLS. Tried and tested during Hurricane Andrew and Tropical Storm Gordon, radar meteorologists at MLB were confident in the radar's capabilities and aware of certain limitations. To overcome these limitations, MLB had worked very closely with NHC/TPC to develop a Hurricane Operations Plan for the field to optimize the use of the WSR-88D for subsequent tropical cyclone events. Erin provided the opportunity to test these plans in MLB's very own backyard.

[At 327 p.m. \(HLS\)](#), the northern edges of the eye came into radar view as Martin and St. Lucie Counties were receiving periods of very heavy rain within spiral bands, and the increasing threat of tornadoes. By 6 pm ([Graphic #1](#)), the WSR-88D was used exclusively to track the eye and eye wall features to initiate fine-tune adjustments to official forecasts. With daylight hours growing short, weather conditions were expected to deteriorate rapidly. The [650 p.m. NOW](#) described this picture with heightened awareness to the potential for short-lived tornadoes, especially at the coast. The [721 p.m. HLS](#) urged all residents to rush to completion all preparations and evacuations. Additionally, the [758 p.m. NOW](#) conveyed the expected arrival of damaging winds (as seen by radar) that would likely cause power outages thus knocking out street lights and road signals making last-minute travel

treacherous. The causeways connecting the barrier islands were closed and reported as such with the [836 p.m. HLS](#). The [938 p.m. HLS](#) issuance detailed the potential for 100 mph wind gusts and focused the greatest threat for damaging winds and storm surge waters through 1am over southern Brevard County and Indian River County.

With all preparations nearly complete, residents of ECFL ready themselves for landfall. Detailed information regarding the path of the eye wall, the timing and location, and expected weather were emphasized in the [1030 p.m. HLS](#). As the eye wall approaches, residents were told to move to a small room in the center of their homes and use mattresses and strong furniture for protection. [At 1115 pm, a Tornado Warning \(TOR\)](#) is issued for eastern Volusia County as the WSR-88D detected small-scale circulations associated with thunderstorms within the spiral bands. Other storms were also showing this trend offshore Volusia County. The potential for short-lived tornadoes had been highlighted throughout the afternoon and early evening. [Graphic #2](#) shows the three levels of simultaneous information exchange on The Weather Channel: large scale (NHC Statement shown behind on-air meteorologist), intermediate scale (MLB HLS covering the County Warning Area shown as crawler, and local scale (NOW/TOR information being read to viewers by on-air meteorologists). [At 1236 a.m. \(August 2nd\), the HLS](#) relayed eye witness reports of hurricane force winds at Vero Beach. With the advent of landfall, the [108 a.m. HLS](#) capsulized the situation for everyone as there was nothing left to do but bear the brunt of the storm. [Graphic #3](#) and [Graphic #4](#) show zoomed-in radar analysis of both reflectivity ([#3](#)) and wind ([#4](#)) of Erin's inner most spiral bands. The most damaging winds were believed to be associated with these inner most bands. This type of information was routinely placed within the text of the HLS and NOW products. Continued issuances of the HLS and NOW products were used to inform the public throughout the remainder of the event as Hurricane Erin moved inland.

Interestingly, the severe weather threat associated with Hurricane Erin was not over for ECFL although the center had moved west of the area. At 540 a.m., MLB issued another (newly-developed) product called the [Area Thunderstorm Outlook \(ATO\)](#). This product is used to inform Emergency Managers and the public to the threat of thunderstorm hazards for the upcoming day. Meteorological analysis showed the continual threat of severe weather associated with the outer rainbands on the backside of Hurricane Erin. The threat for short-lived tornadoes and flooding rains was once again highlighted. Storm spotters and HAM radio operators were alerted and asked to relay information back to MLB. That afternoon, one of Erin's backside bands did indeed intensify. It produced tornadoes and flooding rain across much of Brevard County as evacuated residents were attempting to return to their homes. [Graphic #5](#) depicts the associated severe weather.

In summary, during this event over 30 products were composed that specifically detailed the severe weather threat and addressed recommended actions on the part of ECFL residents for the protection of their lives and property (NOW, HLS, etc.). If one were to include the severe weather that also occurred during the afternoon of August 2nd, approximately seventy products were issued that specifically addressed the hazards associated with Erin.

On average, this equates to a product issued every 15 minutes for 18 straight hours! The employees of NWS MLB are very proud of this accomplishment in the dedicated effort to keep the people within their county warning area informed. Although there was considerable property damage, remarkably

there were no deaths or injuries directly attributable to the landfall of Erin. We feel that the availability of timely weather information was at least partly responsible. For our efforts, NWS MLB was recognized by NASA and submitted for a NASA award. From a research perspective, Hurricane Erin remains the best scientifically-sampled Hurricane in history. Data from the WSR-88D/MLB radar has been posted by the Hurricane Research Division to the world in attempts to further improve operations during landfalling tropical cyclones. Erin also offered an educational experience to a group of Florida high school science teachers (EXPLORES/FSU) that were in town for their annual meeting and tour of the MLB weather office. As a package, we feel that the ECFL landfall of Hurricane Erin offered the chance for NWS MLB employees to excel in the service to their community. Therefore, we respectfully submit this event for your consideration.

[LIST OF PUBLIC PRODUCTS ISSUED DURING EVENT AND LOCAL ACTIONS TAKEN](#)

[STORM DATA](#)

[POST-STORM REPORT](#)

HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
921 AM EDT THE AUG 1 1995

...HURRICANE WARNING FOR THE FLORIDA EAST COAST SOUTH FROM SEBASTIAN INLET...
INCLUDING LAKE OKEECHOBEE...

...TROPICAL STORM WARNING FOR THE EAST COAST FROM NEW SMYRNA BEACH TO SEBASTIAN
INLET...

...HIGH WIND WATCH FOR HURRICANE FORCE WINDS FOR OKEECHOBEE AND OSCEOLA COUNTIES
TONIGHT...

...FLOOD WATCH THROUGH WEDNESDAY FOR ALL OF EAST CENTRAL FLORIDA...

THIS STATEMENT RECOMMENDS ACTIONS TO BE TAKEN BY RESIDENTS OF MARTIN...ST. LUCIE...
OKEECHOBEE...INDIAN RIVER...OSCEOLA...BREVARD...ORANGE...LAKE...SEMINOLE AND VOLUSIA
COUNTIES.

AT 8AM EDT...HURRICANE ERIN WAS LOCATED ABOUT 275 MILES SOUTHEAST OF MELBOURNE.
THE COORDINATES WERE 25.1 NORTH AND 76.3 WEST. ERIN WAS MOVING TO THE NORTHWEST
AT 13 MPH. BUT ERIN IS EXPECTED TO RETURN TO A WEST-NORTHWEST TRACK LATER TODAY.

MAXIMUM SUSTAINED WINDS WERE 80 MPH. THE MINIMUM CENTRAL PRESSURE WAS 29.09
INCHES OR 985 MB.

AS HURRICANE ERIN APPROACHES THE FLORIDA EAST COAST TODAY WEATHER CONDITIONS WILL
DETERIORATE OVER EAST CENTRAL FLORIDA...ESPECIALLY IN MARTIN...ST. LUCIE...INDIAN RIVER

AND OKEECHOBEE COUNTIES. THE FIRST IMPACT OF THE STORM WILL BE GUSTY WINDS IN THE RAIN BANDS THAT WILL MOVE ONSHORE DURING THE DAY. BY AFTERNOON SUSTAINED WINDS WILL INCREASE TO NEAR 40 MPH WITH HIGHER GUSTS IN RAIN BANDS. HURRICANE FORCE WINDS ARE LIKELY IN THESE AREAS LATE IN THE DAY.

HEAVY SURF WILL BUILD ALONG THE COAST WITH SERIOUS EROSION AND A POSSIBLE STORM SURGE OF 5 TO 8 FEET JUST NORTH OF THE STORM CENTER AT LAND FALL.

TORRENTIAL RAIN OF 5 TO 10 INCHES AND SERIOUS FLOODING IS LIKELY WITH THIS STORM. THE HEAVIEST RAIN IS EXPECTED OVER MARTIN...ST. LUCIE...

OKEECHOBEE AND INDIAN RIVER COUNTIES. HEAVY RAIN COULD EXTEND AS FAR NORTH AS ORLANDO...LEESBURG AND DAYTONA BEACH.

RESIDENTS OF BREVARD AND VOLUSIA COUNTY SHOULD REMAIN ALERT DURING THE DAY. WITH THE TENDENCY FOR ERIN TO SHOW A MORE NORTHERLY TRACK...HURRICANE WARNINGS MAY BE EXTENDED FARTHER NORTH ALONG THE COAST LATER TODAY.

VOLUNTARY EVACUATION IS RECOMMENDED FOR THOSE IN MOBILE HOMES...BARRIER ISLANDS... AND LOW LYING COASTAL AREAS OF MARTIN AND ST. LUCIE COUNTIES. MOBILE HOME RESIDENCE OF OSCEOLA AND OKEECHOBEE COUNTIES SHOULD BE PREPARED TO TAKE SHELTER BEFORE WINDS INCREASE LATER TODAY. A STATEMENT WILL BE ISSUED BY INDIAN RIVER COUNTY BY 11 AM THIS MORNING CONCERNING PROTECTIVE ACTIONS TO BE TAKEN TODAY.

SMALL CRAFT IN THE WATCH AND WARNING AREAS SHOULD REMAIN IN PORT TODAY.

THE NEXT LOCAL STATEMENT WILL BE ISSUED BY THE NATIONAL WEATHER SERVICE IN MELBOURNE EARLY THIS AFTERNOON OR SOONER IF CONDITIONS WARRANT.

SHORT TERM FORECAST
NATIONAL WEATHER SERVICE MELBOURNE FL
1200 PM EDT TUE AUG 1 1995

FLZ041-044>047-053-054-058-059-064-501-011800-
VOLUSIA-LAKE-ORANGE-SEMINOLE-BREVARD-OSCEOLA-INDIAN RIVER-
OKEECHOBEE-ST. LUCIE-MARTIN-MARINE-

.NOW...

...SHOWERS AND THUNDERSTORMS ASSOCIATED WITH HURRICANE ERIN CONTINUE TO MOVE OVER EAST CENTRAL FLORIDA...

THROUGH 2 PM...SHOWERS AND THUNDERSTORMS MOVING OVER THE EAST CENTRAL FLORIDA AREA WILL INCREASE IN AREAL COVERAGE AND BY 2 PM ALL COUNTIES IN THE AREA WILL BE EXPERIENCING PERIODIC SHOWERS AND THUNDERSTORMS. WIND GUSTS TO 40 MPH WILL ACCOMPANY MANY OF THESE SHOWERS AND THUNDERSTORMS AND SOME THUNDERSTORMS MAY

BECOME SEVERE. CONTINUE TO MONITOR FOR PERIODIC UPDATES ON DANGEROUS WEATHER CONDITIONS.

&&

COASTAL RESIDENTS SHOULD CONTINUE TO MONITOR BEACH CONDITIONS AS CONTINUED ONSHORE WINDS WILL PRODUCE HEAVY SURF AND CAUSE SOME BEACH EROSION. FOR MORE INFORMATION REGARDING ERIN AND GENERAL PREPAREDNESS INFORMATION CONTINUE TO MONITOR FOR THE HURRICANE LOCAL STATEMENT.

\$\$

CHOY

BULLETIN - IMMEDIATE BROADCAST REQUESTED
HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
1225 PM EDT TUE AUG 1 1995

...HURRICANE WARNING FOR THE FLORIDA EAST COAST SOUTH FROM NEW SMYRNA BEACH SOUTH...INCLUDING LAKE OKEECHOBEE...

...TROPICAL STORM WARNING FOR THE EAST COAST FROM NEW SMYRNA BEACH TO ST. AUGUSTINE...

...HIGH WIND WATCH FOR HURRICANE FORCE WINDS FOR OKEECHOBEE OSCEOLA ORANGE LAKE AND SEMINOLE COUNTIES TONIGHT...

...FLOOD WATCH THROUGH WEDNESDAY FOR ALL OF EAST CENTRAL FLORIDA...

...TORNADO WATCH IN EFFECT UNTIL 1 AM WEDNESDAY MORNING...

THIS STATEMENT RECOMMENDS ACTIONS TO BE TAKEN BY RESIDENTS OF MARTIN...ST. LUCIE... OKEECHOBEE...INDIAN RIVER...OSCEOLA...BREVARD...ORANGE...LAKE...SEMINOLE AND VOLUSIA COUNTIES.

AT 11 AM EDT...HURRICANE ERIN WAS LOCATED AT 25.8 NORTH AND 76.8 WEST. ERIN WAS MOVING TO THE WEST NORTHWEST AT 12 MPH. MAXIMUM SUSTAINED WINDS WERE 85 MPH. THE MINIMUM CENTRAL PRESSURE WAS 29.06 INCHES OR 984 MB. SOME ADDITIONAL STRENGTHENING IS POSSIBLE BEFORE LANDFALL.

HURRICANE ERIN WILL LIKELY EFFECT AREAS FARTHER NORTH ON THE FLORIDA EAST COAST THAN EARLIER ANTICIPATED.

DUE TO EARLIER WARNINGS...PREPAREDNESS PRECAUTIONS FOR MARTIN...ST

LUCIE...OSCEOLA AND OKEECHOBEE COUNTIES SHOULD BE WELL UNDER WAY. THIS INCLUDES VOLUNTEER EVACUATION OF BARRIER ISLANDS...LOW LYING COASTAL AREAS AND RESIDENTS IN MOBILE HOMES.

WITH THIS LATEST ADVISORY...INDIAN RIVER AND BREVARD COUNTIES SHOULD RUSH TO COMPLETION ACTIONS NEEDED TO PREPARE FOR POSSIBLE HURRICANE FORCE WIND AND STORM SURGE ASSOCIATED WITH ERIN. VOLUSIA COUNTY IS NOW IN A TROPICAL STORM WARNING.

IN BREVARD COUNTY MANDATORY EVACUATION HAS BEEN ORDERED FOR THE BARRIER ISLANDS. VOLUNTARY EVACUATIONS HAVE BEEN RECOMMENDED FOR MERRITT ISLAND...LOW LYING AREAS AND THOSE IN THE COUNTY IN MOBILE HOMES.

INDIAN RIVER COUNTY HAS CALLED FOR VOLUNTARY EVACUATIONS FOR THOSE IN MOBILE HOMES AND THOSE ALONG THE BARRIER ISLANDS.

FOR COASTAL COUNTIES AS WELL AS INTERIOR COUNTIES IN THE HIGH WIND WATCH AREA... RESIDENTS SHOULD PREPARE FOR DANGEROUS WINDS. TAKE TIME EARLY THIS AFTERNOON TO SECURE LOOSE OBJECTS AROUND HOMES...APARTMENTS AND BUSINESSES THAT COULD BE TOSSED ABOUT BY THE STORM. PUT UP STORM SHUTTERS AND BOARD WINDOWS IF POSSIBLE.

DO NOT STAY IN A MOBILE HOME DURING HIGH WINDS. TRY TO FIND A MORE SUBSTANTIAL STRUCTURE. AS THE WINDS PICK UP TONIGHT...GO TO THE INTERIOR OF THE BUILDING...OR THE LOWEST FLOOR. GET INTO A SMALL ROOM LIKE A HALLWAY OR BATHROOM...OR TAKE SHELTER UNDER A STRONG PIECE OF FURNITURE.

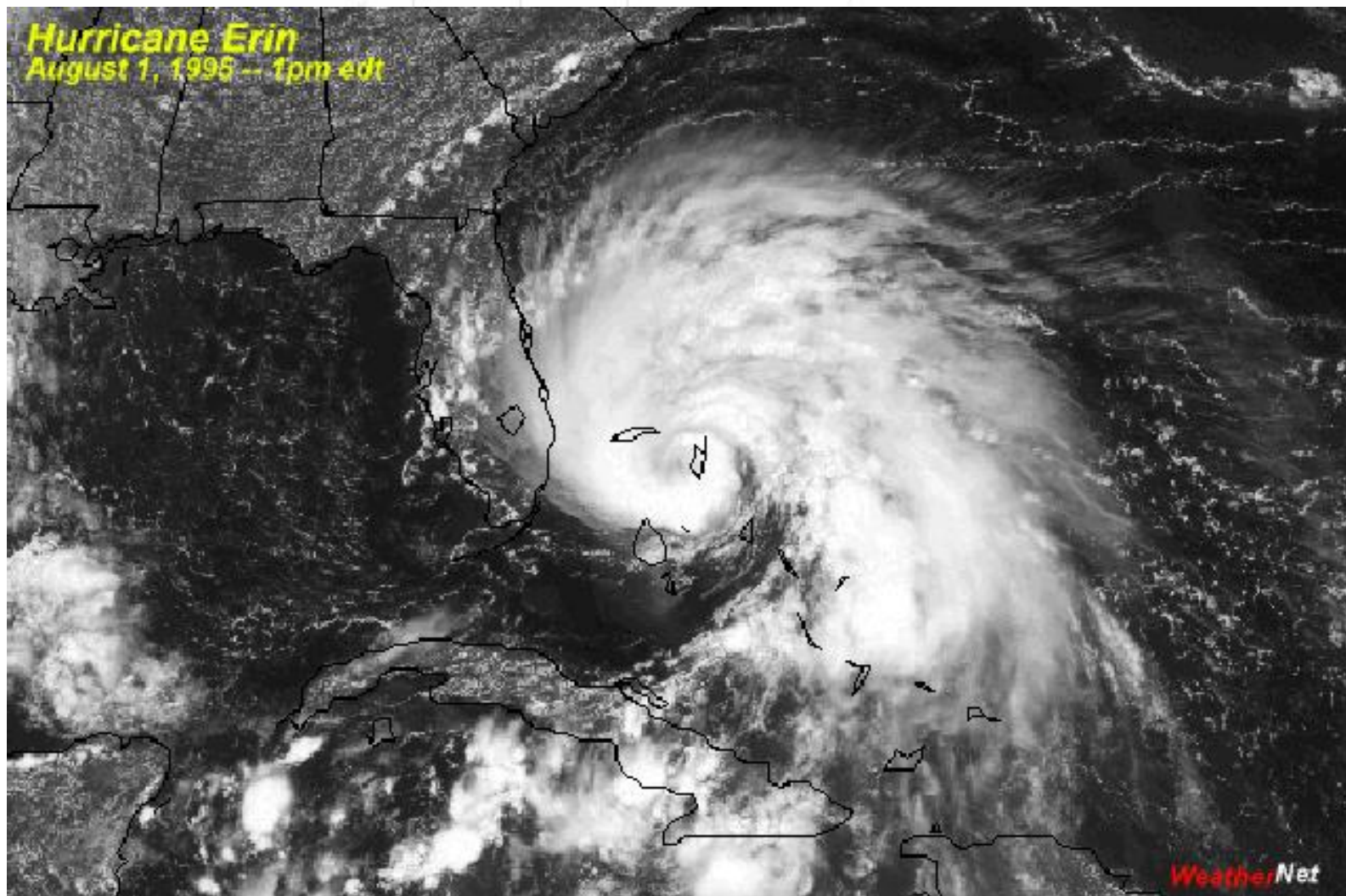
AS ERIN MAKES LAND FALL...A STORM SURGE OF 5 TO 8 FEET IS POSSIBLE MAINLY NEAR AND NORTH OF THE STORM CENTER.

AT NOON THE DOPPLER RADAR AT MELBOURNE SHOWED A BROAD AREA OF VERY INTENSE TROPICAL RAIN APPROACHING THE EAST CENTRAL FLORIDA COAST. RAINFALL AMOUNTS OF 5 TO 10 INCHES ARE POSSIBLE OVER THE AREA. THIS WILL LIKELY PRODUCE SERIOUS FRESH WATER FLOODING OVER SOME PARTS OF EAST CENTRAL FLORIDA.

THE NEXT LOCAL STATEMENT WILL BE ISSUED BY THE NATIONAL WEATHER SERVICE IN MELBOURNE LATE THIS AFTERNOON OR SOONER IF CONDITIONS WARRANT.

DECKER

Hurricane Erin
August 1, 1995 -- 1pm edt



WeatherNet

BULLETIN - IMMEDIATE BROADCAST REQUESTED
HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
327 PM EDT TUE AUG 1 1995

...HURRICANE WARNING FOR THE FLORIDA EAST COAST SOUTH FROM NEW SMYRNA BEACH SOUTH...INCLUDING LAKE OKEECHOBEE...

...TROPICAL STORM WARNING FOR THE EAST COAST FROM NEW SMYRNA BEACH TO ST. AUGUSTINE...

...HIGH WIND WATCH FOR HURRICANE FORCE WINDS FOR OKEECHOBEE OSCEOLA ORANGE LAKE AND SEMINOLE COUNTIES TONIGHT...

...FLOOD WATCH THROUGH WEDNESDAY FOR ALL OF EAST CENTRAL FLORIDA...

...TORNADO WATCH IN EFFECT UNTIL 1 AM WEDNESDAY MORNING.

THIS STATEMENT RECOMMENDS ACTIONS TO BE TAKEN BY RESIDENTS OF MARTIN..ST. LUCIE...

OSCEOLA...BREVARD...ORANGE...LAKE...SEMINOLE AND VOLUSIA COUNTIES.

AT 320 PM THE MELBOURNE NATIONAL WEATHER SERVICE RADAR SHOWED THE CENTER OF HURRICANE ERIN ABOUT 212 MILES SOUTHEAST OF MELBOURNE. THE EASTERN EDGE OF THE STORM HAS BEGUN TO AFFECT SOUTHEAST FLORIDA NEAR MARTIN AND ST. LUCIE COUNTIES. THESE AREAS ARE EXPERIENCING HEAVY RAIN SHOWERS AND SUSTAINED NORTHEAST WINDS OF 20 GUSTING TO 35 MPH.

FURTHER EAST OF FT. PIERCE...RADAR SHOWED AN EXTENSIVE BAND OF HEAVY RAIN MOVING TO THE WEST AT ABOUT 25 MPH. THIS AREA WILL MOVE ONSHORE IN MARTIN...ST LUCIE AND INDIAN RIVER COUNTIES ABOUT 5PM BRINGING TORRENTIAL TROPICAL RAINFALL AND 30 TO 40 MPH WINDS. THIS AREA WILL CONTINUE WEST AND AFFECT BREVARD AND MOST OF THE INLAND COUNTIES OF CENTRAL FLORIDA BY 9PM.

FOR THE REMAINDER OF THE NIGHT...TORRENTIAL RAINS WILL CONTINUE IN MOST AREAS RESULTING IN FRESH WATER FLOODING OF MANY LOW LYING AREAS. WINDS WILL CONTINUE TO BUILD TO HURRICANE FORCE DURING THE EVENING ALONG THE COAST...WITH POSSIBLE HURRICANE FORCE WINDS SPREADING INLAND TO ORLANDO AND LEESBURG BY SUNRISE WEDNESDAY MORNING.

DANGEROUS HEAVY SURF AND COASTAL FLOODING IS EXPECTED ESPECIALLY NORTH OF THE CIRCULATION CENTER AS THE STORM APPROACHES THE COAST.

EVACUATION OF BARRIER ISLANDS AND LOW COASTAL AREAS SHOULD BE WELL UNDER WAY AT THIS TIME. MOST LOW LYING CAUSEWAYS TO THE BARRIER ISLANDS WILL BE FLOODED AS WINDS INCREASE TONIGHT.

PEOPLE IN THE PATH OF THIS STORM WHO LIVE IN MOBILE HOMES SHOULD LOOK FOR SAFE SHELTER. GO TO A SUBSTANTIAL BUILDING OR TO ONE OF THE COUNTY SHELTERS IN YOUR AREA.

IF YOU ARE INLAND AND PLAN TO STAY IN YOUR HOUSE DURING THE STORM WHEN WINDS BEGIN TO RISE...SEEK SHELTER ON THE LOWEST FLOOR IN A SMALL ROOM IN THE INTERIOR OF THE BUILDING. IF POSSIBLE GET UNDER A HEAVY PIECE OF FURNITURE OR UNDER A MATTRESS.

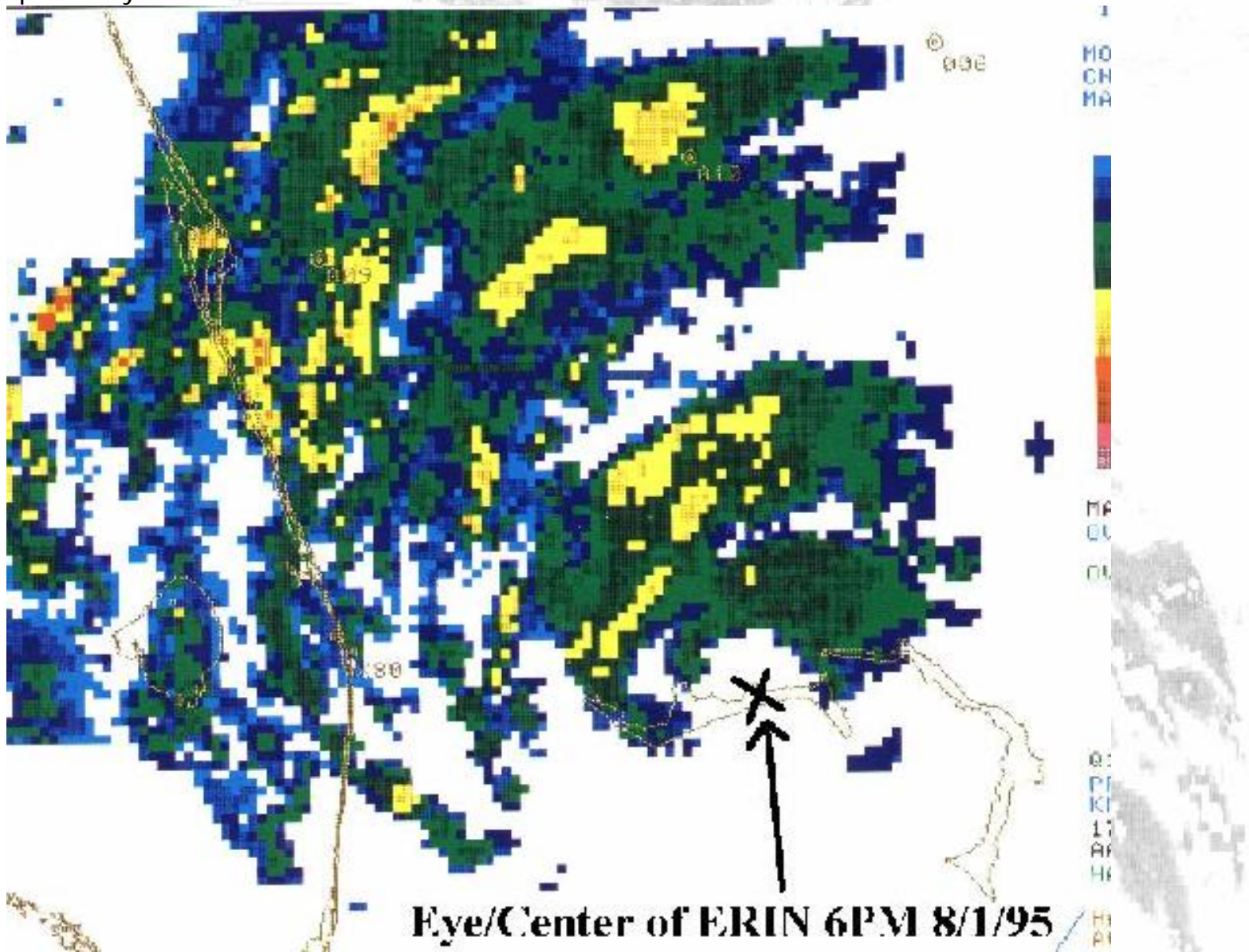
STAY TUNED TO LOCAL RADIO...TV OR NOAA WEATHER RADIO DURING THE EVENING. THE GREATEST THREAT OF HIGH WIND...STORM SURGE FLOODING AND HEAVY RAIN WILL BE IN THE AREAS NEAR AND NORTH OF LANDFALL.

THE NEXT HURRICANE LOCAL STATEMENT WILL BE ISSUED BY THE NATIONAL WEATHER SERVICE IN MELBOURNE EARLY THIS EVENING OR SOONER IF CONDITIONS WARRANT.

DECKER

Graphic 1: WSR-88D radar depiction (composite reflectivity) of Hurricane Erin as the eye crosses Grand Bahama Island at 6pm EDT 01 August 1995. From this point forward, the eye remained a

trackable feature which enable Melbourne forecasters to fine tune NHC/TPC forecasts, tailoring them specifically for east central Florida residents.



SHORT TERM FORECAST
NATIONAL WEATHER SERVICE MELBOURNE FL
650 PM EDT TUE AUG 1 1995

FLZ041-044>047-053-054-058-059-064-501-012330-
VOLUSIA-LAKE-ORANGE-SEMINOLE-BREVARD-OSCEOLA-INDIAN RIVER-OKEECHOBEE-ST. LUCIE-
MARTIN-MARINE-

.NOW...

SHOWERS AND THUNDERSTORMS ASSOCIATED WITH RAINBANDS OF HURRICANE ERIN WERE MOVING ONSHORE. LOCALLY HEAVY RAIN AND STRONGER WIND GUSTS ARE EXPECTED. ALSO... THERE IS THE POSSIBILITY OF SHORT-LIVED TORNADOES WITH THESE THUNDERSTORMS...

ESPECIALLY AS THEY MOVE ONSHORE. THE STRONGER STORMS WERE LINING UP IN BANDS FROM CAPE CANAVERAL EXTENDING NORTHEAST. OTHERS WERE JUST OFFSHORE SEBASTIAN INLET. WINDS WERE INCREASING TO TROPICAL STORM STRENGTH ABOUT 20 MILES OFFSHORE BREVARD COUNTY. THUNDERSTORMS WILL INCREASE IN BOTH NUMBER AND INTENSITY DURING THE EVENING AS ERIN APPROACHES THE COAST.

&&

RESIDENTS SHOULD USE GREAT CAUTION WHEN TRAVELING THE ROADWAYS AS THEY PREPARE FOR ERIN. IF POSSIBLE...REMAIN INDOORS AS WINDS WILL CONTINUE TO INCREASE AND ROADWAYS MAY BECOME BLOCKED BY FLOODING RAINS AND DEBRIS. AS NIGHTFALL APPROACHES...CONDITIONS WILL BECOME MORE HAZARDOUS.

COASTAL RESIDENTS WHO HAVE NOT EVACUATED SHOULD CONTINUE TO MONITOR THE BEACH AREA AS HEAVY SURF WILL BEGIN TO BUILD AND CAUSE SOME BEACH EROSION. MONITOR THE HURRICANE LOCAL STATEMENT FOR MORE INFORMATION ON ERIN.

SHARP

&&

BULLETIN - IMMEDIATE BROADCAST REQUESTED
HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
721 PM EDT TUE AUG 1 1995

...HURRICANE WARNING FOR THE FLORIDA EAST COAST FROM NEW SMYRNA BEACH SOUTH...
INCLUDING LAKE OKEECHOBEE...

...TROPICAL STORM WARNING FOR THE EAST COAST FROM NEW SMYRNA BEACH NORTH TO ST.
AUGUSTINE...

...WEATHER CONDITIONS DETERIORATING RAPIDLY AS RAINBANDS FROM ERIN SPREAD OVER
EAST CENTRAL FLORIDA...

AT 715 PM THE CENTER OF ERIN WAS ABOUT 165 MILES SOUTHEAST OF MELBOURNE MOVING
WEST NORTHWEST NEAR 14 MPH. RAIN SQUALLS IN ERINS RAINBANDS ARE NOW CAUSING
OCCASIONAL WIND GUSTS OF 40 TO 50 MPH ALONG THE COAST FROM AROUND CAPE CANAVERAL
SOUTHWARD TO JUPITER INLET MAKING TRAVEL HAZARDOUS. DOPPLER RADAR INDICATES
CONDITIONS ARE EXPECTED TO RAPIDLY WORSEN AS THE EVENING PROGRESSES WITH
SUSTAINED WINDS OF TROPICAL STORM FORCE EXPECTED ALONG THE COAST BY 8PM. ALL
RESIDENTS MUST RUSH TO COMPLETION ANY PREPAREDNESS ACTIONS OR MOVEMENTS AND
LIMIT TRAVEL THIS EVENING. HAZARDOUS WEATHER CONDITIONS WILL SPREAD INLAND LATER
TONIGHT.

HAGEMEYER

SHORT TERM FORECAST
NATIONAL WEATHER SERVICE MELBOURNE FL
758 PM EDT TUE AUG 1 1995

FLZ041-047-054-059-064-501-020100-
VOLUSIA-BREVARD-INDIAN RIVER-ST. LUCIE-MARTIN-MARINE-

.NOW...

...GUSTY WINDS PRODUCING SOME PROBLEMS...

AT 755 P.M...DOPPLER WEATHER RADAR SHOWED THAT WINDS ALONG COASTAL COUNTIES WERE STEADILY INCREASING WITH GUSTS ABOVE TROPICAL STORM FORCE. IT IS LIKELY THAT SOME TREES AND LIMBS WILL BEGIN TO FALL. THIS MAY CAUSE SOME POWER OUTAGES. ALSO...WIND GUSTS WILL BE HIGHER NEAR THUNDERSTORMS...ESPECIALLY NEAR THE COAST. RESIDENTS FROM ORMOND BEACH...TO CAPE CANAVERAL...TO VERO BEACH...TO JUPITER INLET SHOULD BE ALERT. THE GREATEST CHANCE FOR SHORT-LIVED TORNADOES WILL BE WITH THUNDERSTORMS AS THEY MOVE ONSHORE. SHARP

&&

&&

BULLETIN - IMMEDIATE BROADCAST REQUESTED
HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
836 PM EDT TUE AUG 1 1995

...HURRICANE WARNING FOR THE FLORIDA EAST COAST FROM NEW SMYRNA BEACH SOUTH TO HALLANDALE...INCLUDING LAKE OKEECHOBEE...

...TROPICAL STORM WARNING FOR THE EAST COAST FROM NEW SMYRNA BEACH NORTH TO ST. AUGUSTINE...

...HIGH WIND WARNING FOR HURRICANE FORCE WINDS FOR OKEECHOBEE OSCEOLA ORANGE LAKE AND SEMINOLE COUNTIES TONIGHT...

...FLOOD WATCH THROUGH WEDNESDAY FOR ALL OF EAST CENTRAL FLORIDA...

...TORNADO WATCH IN EFFECT UNTIL 1 AM WEDNESDAY MORNING...

THIS STATEMENT RECOMMENDS ACTIONS TO BE TAKEN BY RESIDENTS OF MARTIN...ST. LUCIE...

OKEECHOBEE...INDIAN RIVER...OSCEOLA...BREVARD...ORANGE...LAKE...SEMINOLE AND VOLUSIA COUNTIES.

AT 830 PM THE MELBOURNE NATIONAL WEATHER SERVICE DOPPLER RADAR SHOWED THE CENTER OF HURRICANE ERIN ABOUT 140 MILES SOUTHEAST OF MELBOURNE MOVING WEST NORTHWEST NEAR 14 MPH. MAXIMUM SUSTAINED WINDS ARE NEAR 85 MPH. THE LEADING EDGE OF HURRICANE ERIN HAS MOVED INLAND TO ORANGE OSCEOLA AND SEMINOLE COUNTIES. WIND GUSTS TO 50 MPH IN THE MELBOURNE AREA SINCE 7PM HAVE KNOCKED DOWN SOME TREE LIMBS...TREES AND POWER LINES. TRAVEL IS NOW HAZARDOUS AND ALL BREVARD COUNTY CAUSEWAYS HAVE BEEN CLOSED DUE TO UNSAFE WIND CONDITIONS.

THE WEATHER WILL CONTINUE TO DETERIORATE ACROSS EAST CENTRAL FLORIDA THIS EVENING WITH THE POSSIBILITY OF TORNADOES...DAMAGING WINDS...FLOODING RAINFALL AND SERIOUS BEACH EROSION AND COASTAL FLOODING THROUGH WEDNESDAY MORNING. STORM TIDES OF 5 TO 8 FEET ABOVE NORMAL CAN BE EXPECTED NEAR AND TO THE NORTH OF WHERE THE CENTER CROSSES THE COAST IN THE EARLY MORNING HOURS. HIGH TIDES ALONG THE EAST COAST WILL OCCUR AROUND MIDNIGHT.

HAGEMeyer

BULLETIN - IMMEDIATE BROADCAST REQUESTED
HURRICANE ERIN LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
938 PM EDT TUE AUG 1 1995

...HURRICANE WARNING FOR THE FLORIDA EAST COAST FROM NEW SMYRNA BEACH SOUTH TO HALLANDALE...INCLUDING LAKE OKEECHOBEE...

...TROPICAL STORM WARNING FOR THE EAST COAST FROM NEW SMYRNA BEACH NORTH TO ST. AUGUSTINE...

...HIGH WIND WARNING FOR HURRICANE FORCE WINDS FOR OKEECHOBEE OSCEOLA ORANGE LAKE AND SEMINOLE COUNTIES TONIGHT..

...FLOOD WATCH THROUGH WEDNESDAY FOR ALL OF EAST CENTRAL FLORIDA...

...TORNADO WATCH IN EFFECT UNTIL 1 AM WEDNESDAY MORNING...

AT 930 PM MELBOURNE NATIONAL WEATHER SERVICE RADAR INDICATED THE CIRCULATION CENTER OF HURRICANE ERIN 130 MILES SOUTHEAST OF MELBOURNE...OR 60 MILES EAST STUART. THE HURRICANE HAD DEVELOPED A 50 MILE WIDE SECTION OF EYE WALL AROUND THE CENTER. THIS EYE WALL FEATURE WILL BE THE FOCUS OF THE MOST SEVERE WEATHER TONIGHT ASSOCIATED WITH HURRICANE ERIN. WINDS IN THE EYE WALL COULD GUST TO NEAR 100 MPH. EARLIER TODAY 100 MPH GUSTS WERE REPORTED WITH ERIN IN THE BAHAMAS.

THE EYE WALL IS MOVING TO THE NORTHWEST AT ABOUT 20 MPH AND THE LEADING EDGE WILL

STRIKE THE COAST OF MARTIN AND ST. LUCIE COUNTIES BY ABOUT 11 PM. AS IT MOVES NORTHWEST THE WESTERN PORTION WILL SWEEP OVER INDIAN RIVER AND SOUTHERN BREVARD COUNTIES.

RESIDENTS IN THE PATH OF THE EYE SHOULD PREPARE FOR DESTRUCTIVE HURRICANE FORCE WINDS ESPECIALLY ALONG THE IMMEDIATE COAST WHERE WINDS ARE EXPECTED TO BE THE MOST SEVERE. PEOPLE IN MOBILE HOMES IN THESE COASTAL COUNTIES SHOULD EVACUATE TO MORE SUBSTANTIAL STRUCTURES. OTHERS RIDING OUT THE STORM IN HOMES AND APARTMENT BUILDINGS SHOULD SEEK SHELTER IN A SMALL ROOM IN THE CENTER OF THE STRUCTURE. GET UNDER A STRONG PIECE OF FURNITURE OR POSSIBLY A MATTRESS.

REPEATING...THE GREATEST THREAT OF DAMAGING WINDS AND COASTAL STORM SURGE WILL EXIST IN MARTIN...ST. LUCIE...INDIAN RIVER...AND SOUTHERN BREVARD COUNTIES FROM ABOUT 11PM TO 1 AM WEDNESDAY MORNING. DAMAGING WINDS ARE EXPECTED IN CENTRAL FLORIDA THROUGH WEDNESDAY MORNING.

DECKER/SHARP

BULLETIN - IMMEDIATE BROADCAST REQUESTED
HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
1030 PM EDT TUE AUG 1 1995

...DESTRUCTIVE WINDS APPROACHING THE COAST...

AT 1025 PM...MELBOURNE NATIONAL WEATHER SERVICE INDICATED THE RADAR CIRCULATION CENTER OF HURRICANE ERIN 25 MILES EAST OF STUART. THE OUTER EDGE OF THE WESTERN EYE WALL OF ERIN WILL BEGIN TO CROSS THE COAST BY 11PM. THIS EYE WALL FEATURE WILL BE THE FOCUS OF THE MOST SEVERE WEATHER TONIGHT ASSOCIATED WITH HURRICANE ERIN. WINDS IN THE EYE WALL COULD GUST TO NEAR 100 MPH. EARLIER TODAY 100 MPH GUSTS WERE REPORTED WITH ERIN IN THE BAHAMAS.

THE EYE WALL IS MOVING TO THE NORTHWEST AT ABOUT 20 MPH AND THE LEADING EDGE WILL STRIKE THE COAST OF MARTIN AND ST. LUCIE COUNTIES. AS IT MOVES NORTHWEST THE WESTERN PORTION WILL ALSO SWEEP OVER INDIAN RIVER AND SOUTHERN BREVARD COUNTIES.

RESIDENTS IN THE PATH OF THE EYE WALL SHOULD PREPARE FOR DESTRUCTIVE HURRICANE FORCE WINDS ESPECIALLY ALONG THE IMMEDIATE COAST WHERE WINDS ARE EXPECTED TO BE THE MOST SEVERE. PEOPLE IN MOBILE HOMES IN THESE COASTAL COUNTIES SHOULD QUICKLY MOVE TO A MORE SUBSTANTIAL STRUCTURE NOW. OTHERS RIDING OUT THE STORM IN HOMES AND APARTMENT BUILDINGS SHOULD SEEK SHELTER IN A SMALL ROOM IN THE CENTER OF THE STRUCTURE. GET UNDER A STRONG PIECE OF FURNITURE OR POSSIBLY A MATTRESS.

AS ERIN CROSSES THE COAST RAINFALL WILL BECOME HEAVY...ESPECIALLY NORTH AND WEST OF THE CENTER. ACCUMULATIONS MAY APPROACH 5 INCHES. HIGHER AMOUNTS ARE POSSIBLE NEAR THE PATH OF ERIN.

REPEATING...THE GREATEST THREAT OF DAMAGING WINDS AND COASTAL STORM SURGE WILL EXIST IN MARTIN...ST. LUCIE...INDIAN RIVER...AND SOUTHERN BREVARD COUNTIES FROM ABOUT 11PM TO 1 AM WEDNESDAY MORNING. DAMAGING WINDS ARE EXPECTED IN CENTRAL FLORIDA THROUGH WEDNESDAY MORNING.

DECKER/SHARP

BULLETIN - EBS ACTIVATION REQUESTED
TORNADO WARNING
NATIONAL WEATHER SERVICE MELBOURNE FL
1115 PM EDT TUE AUG 1 1995

THE NATIONAL WEATHER SERVICE IN MELBOURNE HAS ISSUED A TORNADO WARNING EFFECTIVE UNTIL MIDNIGHT EDT FOR PEOPLE IN THE FOLLOWING LOCATION...

IN EAST CENTRAL FLORIDA

...EASTERN VOLUSIA COUNTY

AT 1115 PM...WEATHER RADAR INDICATED A POSSIBLE TORNADO JUST OFFSHORE VOLUSIA COUNTY APPROACHING THE COAST AT ORMOND BEACH AND HOLLY HILL. THE STORM WAS MOVING QUICKLY TO THE SOUTHWEST AT 50 MPH. COASTAL RESIDENTS SHOULD ACT NOW... ESPECIALLY NEAR THE COAST FROM ORMOND BEACH TO NEW SMYRNA BEACH.

OTHER THUNDERSTORMS OFFSHORE VOLUSIA COUNTY WERE ALSO SHOWING SIGNS OF ROTATION.

THIS IS A DANGEROUS STORM. ACT QUICKLY. IF YOU ARE IN THE PATH OF THIS TORNADO MOVE TO A SHELTER IF AVAILABLE. OTHERWISE GO TO A SMALL INTERIOR ROOM ON THE LOWEST FLOOR POSSIBLE. AVOID WINDOWS. ABANDON CARS AND MOBILE HOMES FOR A REINFORCED BUILDING OR GET INTO A DITCH OR CULVERT.

&

NNNN

Graphic 2: Recently formatted to accommodate the Weather Channel, the Short-Range Forecast was an important avenue for quickly informing the public of the rapidly deteriorating weather. This is an example of a Weather Channel on-air meteorologist reading the latest warning information regarding the tornadic threat in Volusia County associated with one of Erin's rainbands. In addition, information from the latest Hurricane Local Statement is scrolled across the bottom of the screen. Frequently Short-Range Forecasts would scroll down the screen vertically while HLS information scrolled at the bottom horizontally.



BULLETIN - IMMEDIATE BROADCAST REQUESTED
HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
1236 AM EDT WED AUG 2 1995

...CENTER OF HURRICANE ERIN APPROACHING FT. PIERCE...

AT 1235 AM THE BROAD CIRCULATION CENTER OF HURRICANE ERIN WAS NEAR THE COAST OF ST. LUCIE AND INDIAN RIVER COUNTIES. EYE WITNESS REPORTS INDICATE CLOSE TO HURRICANE FORCE WINDS ALONG THE COAST AT VERO BEACH. THROUGH ABOUT 2 AM A BROAD AREA OF HEAVY RAIN ON THE NORTHWEST SIDE OF THE CENTER WILL SWEEP ACROSS ST. LUCIE...INDIAN RIVER AND SOUTHERN BREVARD COUNTY. THESE AREAS WILL LIKELY RECEIVE WIND GUSTS NEAR HURRICANE FORCE.

FARTHER FROM THE CENTER...OTHER BANDS OF SHOWERS WILL SWEEP ACROSS THE INTERIOR COUNTIES PRODUCING LOCAL WIND GUSTS TO 50 MPH THROUGH 2 AM.

LATER THIS MORNING THE REMAINDER OF THE CENTER OF ERIN WILL MOVE ACROSS INDIAN RIVER...SOUTHERN BREVARD...OSCEOLA AND POSSIBLY AS FAR NORTH AS ORANGE AND LAKE COUNTIES. WINDS NEAR HURRICANE FORCE ARE POSSIBLE IN THESE AREAS...MAINLY IN THE HEAVY RAINS NEAR THE STORM CENTER.

RESIDENTS IN THE PATH OF THE HIGH WINDS OF ERIN SHOULD SEEK SHELTER IN A SUBSTANTIAL BUILDING. FIND A SMALL AREA LIKE A BATHROOM...HALLWAY OR CLOSET...UNDER A STRONG PIECE OF FURNITURE.

DECKER

BULLETIN - IMMEDIATE BROADCAST REQUESTED
HURRICANE LOCAL STATEMENT
NATIONAL WEATHER SERVICE MELBOURNE FL
108 AM EDT WED AUG 2 1995

...CENTER OF HURRICANE ERIN APPROACHING FT. PIERCE AND VERO BEACH...

WIND AND RAIN INTENSITY WILL INCREASE ACROSS ALL OF EAST CENTRAL FLORIDA DURING THE NEXT SEVERAL HOURS AS ERIN MAKES LANDFALL.

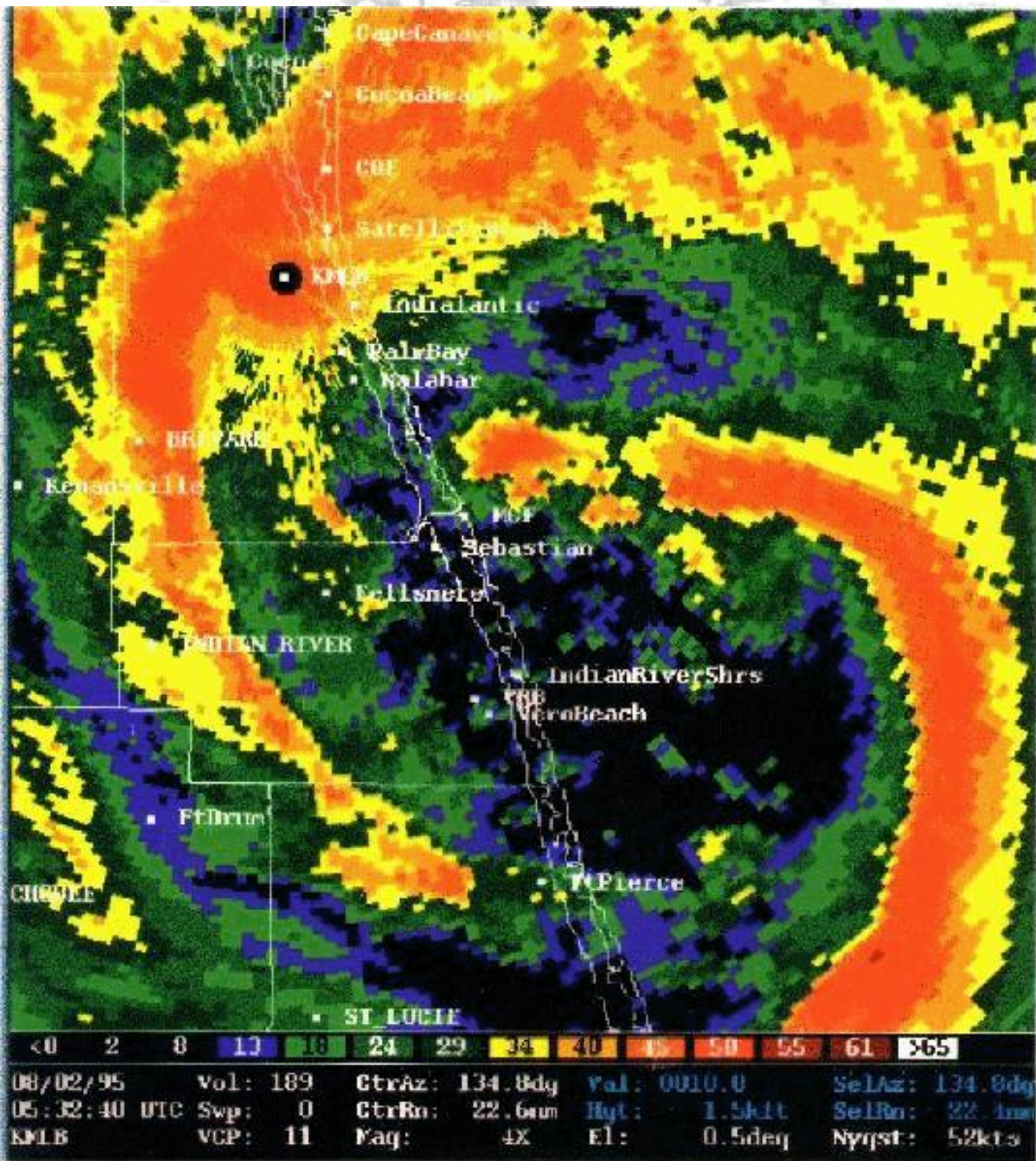
AT 110 AM...THE WESTERN PORTION OF HURRICANE ERIN'S CIRCULATION IS NOW REACHING FT PIERCE AND VERO BEACH. THE STRONGEST RAIN BANDS ASSOCIATED WITH ERIN WILL ROTATE INLAND FROM COCOA BEACH TO VERO BEACH DURING THE NEXT ONE TO TWO HOURS. SUSTAINED WINDS WILL INCREASE TO ABOUT 80 MPH WITH GUSTS TO 100 MPH IN THE STRONGEST SQUALLS. TORRENTIAL RAINFALL WILL OCCUR ACROSS MUCH OF BREVARD AND INDIAN RIVER COUNTIES AND WILL SPREAD INLAND TO OSCEOLA AND OKEECHOBEE COUNTIES. RAINFALL WILL ALSO INCREASE ACROSS VOLUSIA...ORANGE...SEMINOLE...AND LAKE COUNTIES. WIND GUSTS TO AROUND 50 MPH WILL OCCUR ACROSS THESE AREAS AS RAIN BANDS CONTINUE TO REACH FURTHER INLAND.

REPORTS ARE BEING RECEIVED OF EXTENSIVE POWER OUTAGES ACROSS THE COASTAL COUNTIES. TREES...POWERLINES AND ROOF DAMAGE ARE ALSO BEING REPORTED.

RESIDENTS IN THE PATH OF THE HIGH WINDS OF ERIN SHOULD SEEK SHELTER IN A SUBSTANTIAL BUILDING. FIND A SMALL AREA LIKE A BATHROOM...HALLWAY OR CLOSET...UNDER A STRONG PIECE OF FURNITURE.

SPRATT

Graphic 3: As the eye straddles the coast at 132 a.m. 2 August 1995, the nose of a high-reflectivity (DBZ) inner-most band prepares to trike south Brevard County. Erin's highest winds are believed to be associated with these inner-most bands.

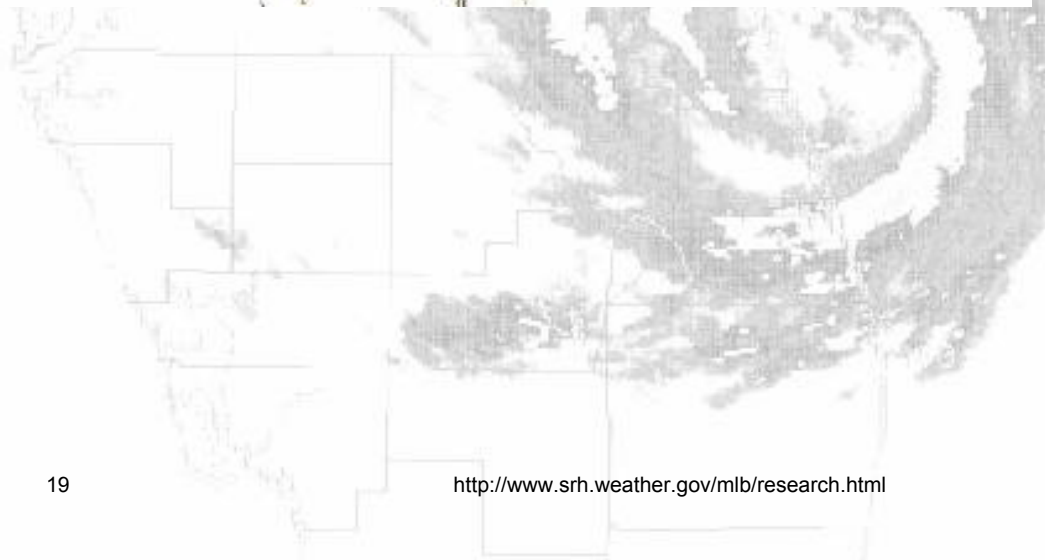
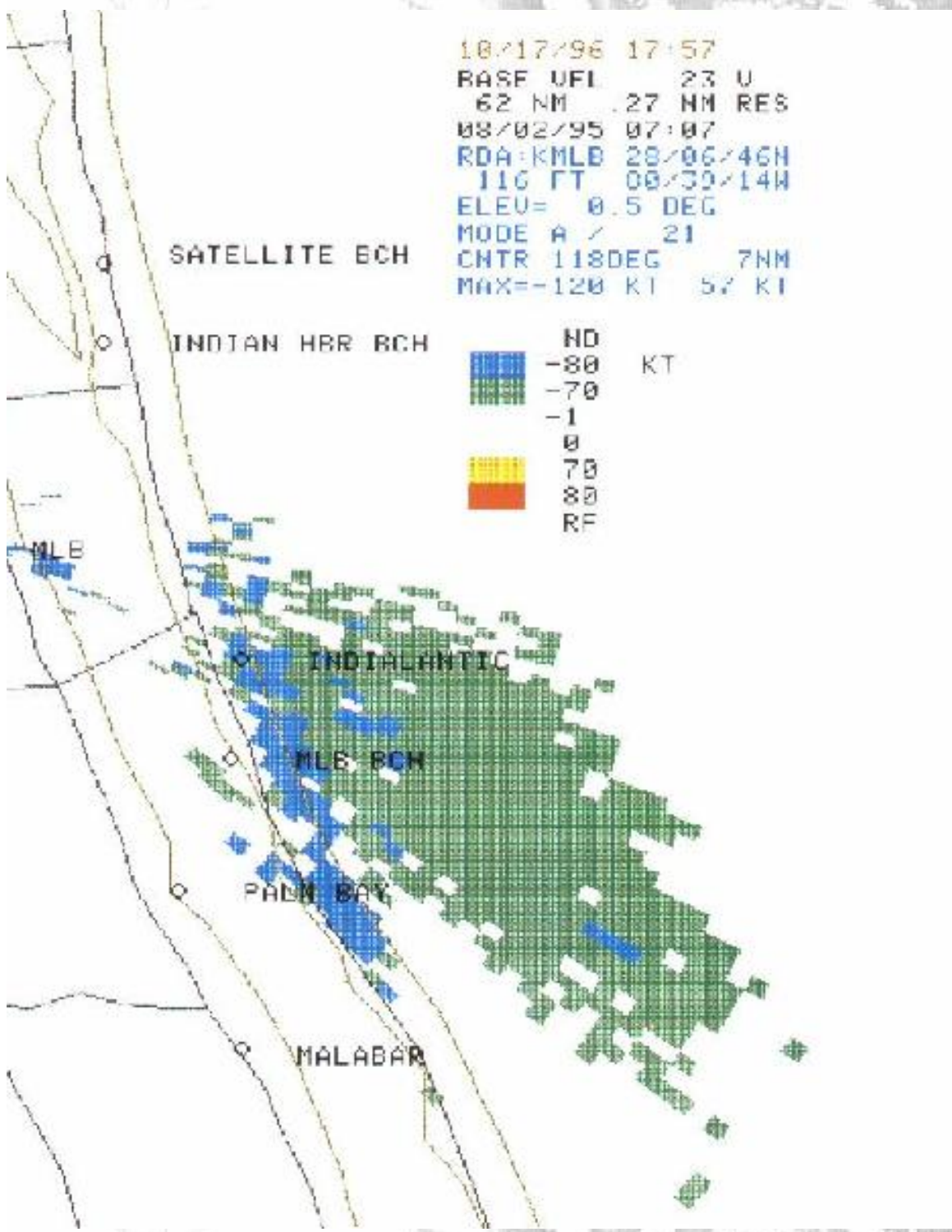
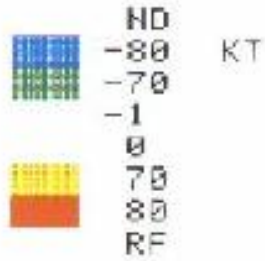


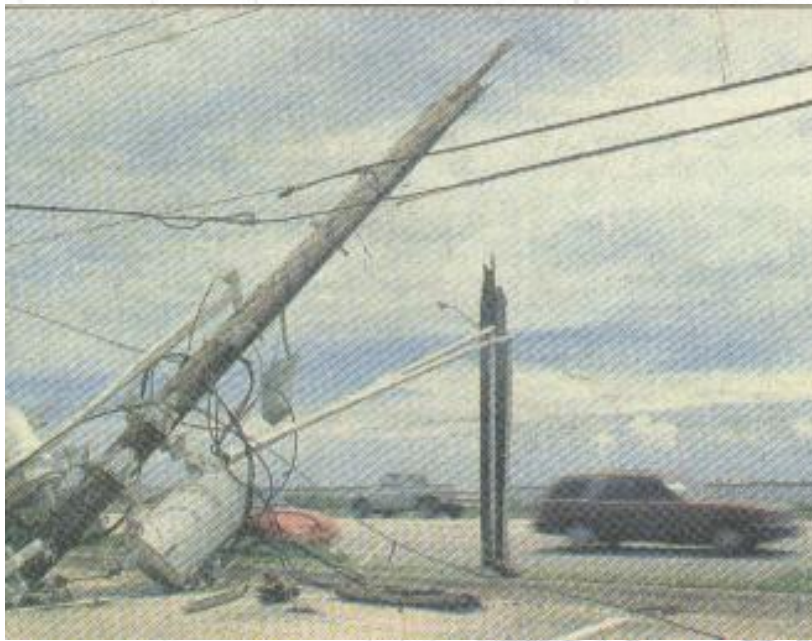
Graphic 4: Employing the "WSR-88D Hurricane Operations Plan" developed by NWS Melbourne and NHC/TPC, radar operators were able to find the strongest winds associated with one of Erin's rainbands as it moved onshore. This information was then incorporated into public weather products. Note the area of >70 kt winds (just offshore) become >80 kt winds as they move onshore (at the coast) with this particular band. See adjacent picture of "snapped off" utility pole.

10/17/96 17:57
BASE UFL 23 U
62 NM .27 NM RES
08/02/95 07:07
RDA:KMLB 20/06/46H
116 FT 00/30/14W
ELEV= 0.5 DEG
MODE A / 21
CHTR 118DEG 7NM
MAX=-120 KT 57 KT

SATELLITE BCH

INDIAN HBR BCH





EAST CENTRAL FLORIDA THUNDERSTORM OUTLOOK
NATIONAL WEATHER SERVICE MELBOURNE FL
540 AM EDT WED AUG 2 1995

...TORNADO WATCH FOR ALL OF EAST CENTRAL FLORIDA UNTIL 5 PM EDT...

TROPICAL STORM ERIN WAS MOVING INLAND WEST NORTHWEST ACROSS EAST CENTRAL FLORIDA EARLY MORNING. STRONG WINDS WITH GUSTS IN EXCESS OF 55 MPH WERE BEING REPORTED IN THE SPIRAL BANDS AROUND ERIN OVER INLAND SECTIONS OF EAST CENTRAL FLORIDA. SHORT-LIVED TORNADOES ARE ALSO POSSIBLE AND ALL OF EAST CENTRAL FLORIDA IS UNDER A TORNADO WATCH UNTIL 500 PM.

PERSONS IN EAST CENTRAL FLORIDA SHOULD REMEMBER THAT TORNADOES SPAWNED WITH TROPICAL SYSTEMS MAY FORM RAPIDLY...REDUCING THE LEAD TIME FOR WARNINGS. BE PREPARED TO SEEK A STURDY SHELTER QUICKLY IF WARNINGS ARE ISSUED.

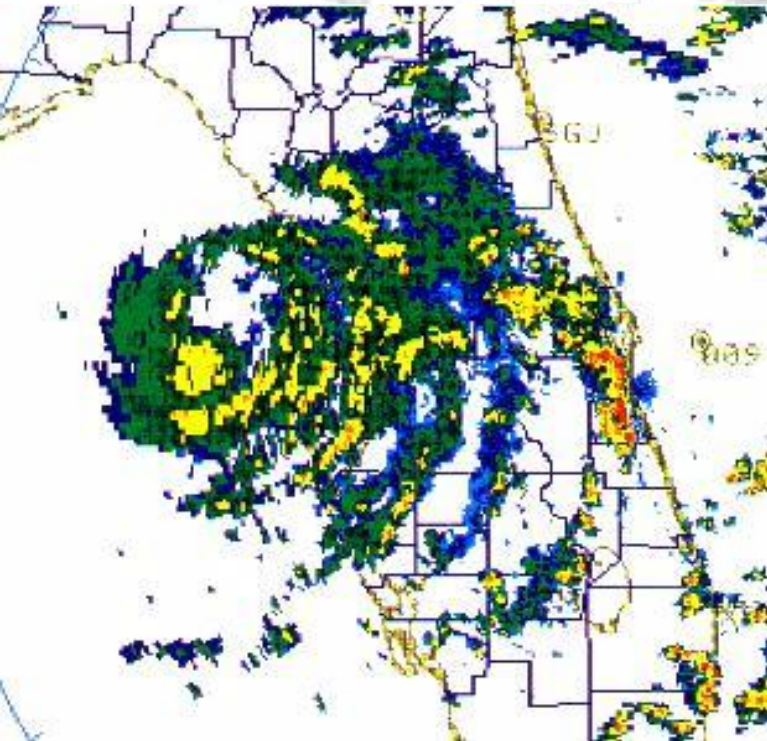
HEAVY RAINS ARE ALSO A THREAT AS RAINFALL TOTALS OF 3 TO 6 INCHES ARE POSSIBLE ALONG THE PATH OF ERIN. A FLOOD WATCH IS IN EFFECT FOR ALL OF EAST CENTRAL FLORIDA TODAY. PERSONS WHO LIVE IN AREAS PRONE TO FLOODING SHOULD BE PREPARED FOR THE POSSIBILITY OF FLOODING.

STORM SPOTTERS AND HAM RADIO OPERATORS SHOULD REPORT ANY SIGNIFICANT WEATHER RELATED EVENTS TO THE NATIONAL WEATHER SERVICE OFFICE IN MELBOURNE.

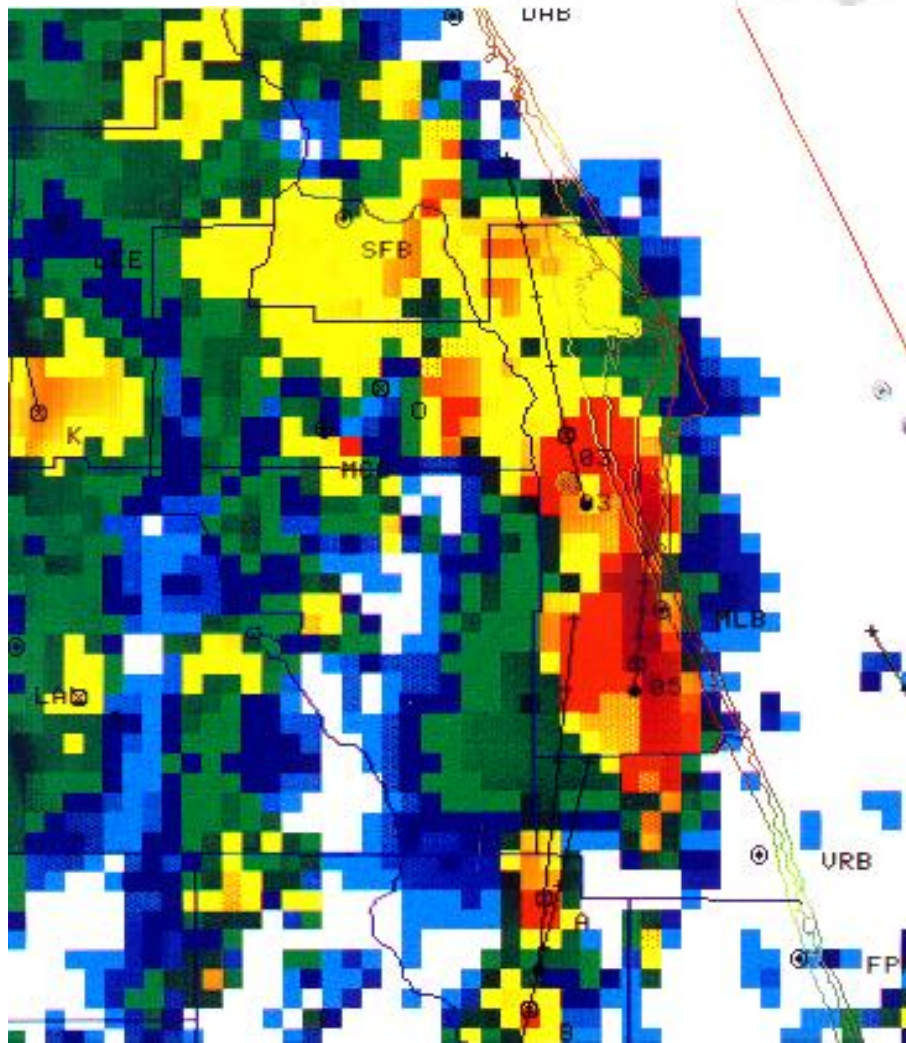
GLITTO

Graphic 5: Well after landfall, while evacuated residents of Brevard County were preparing to return to

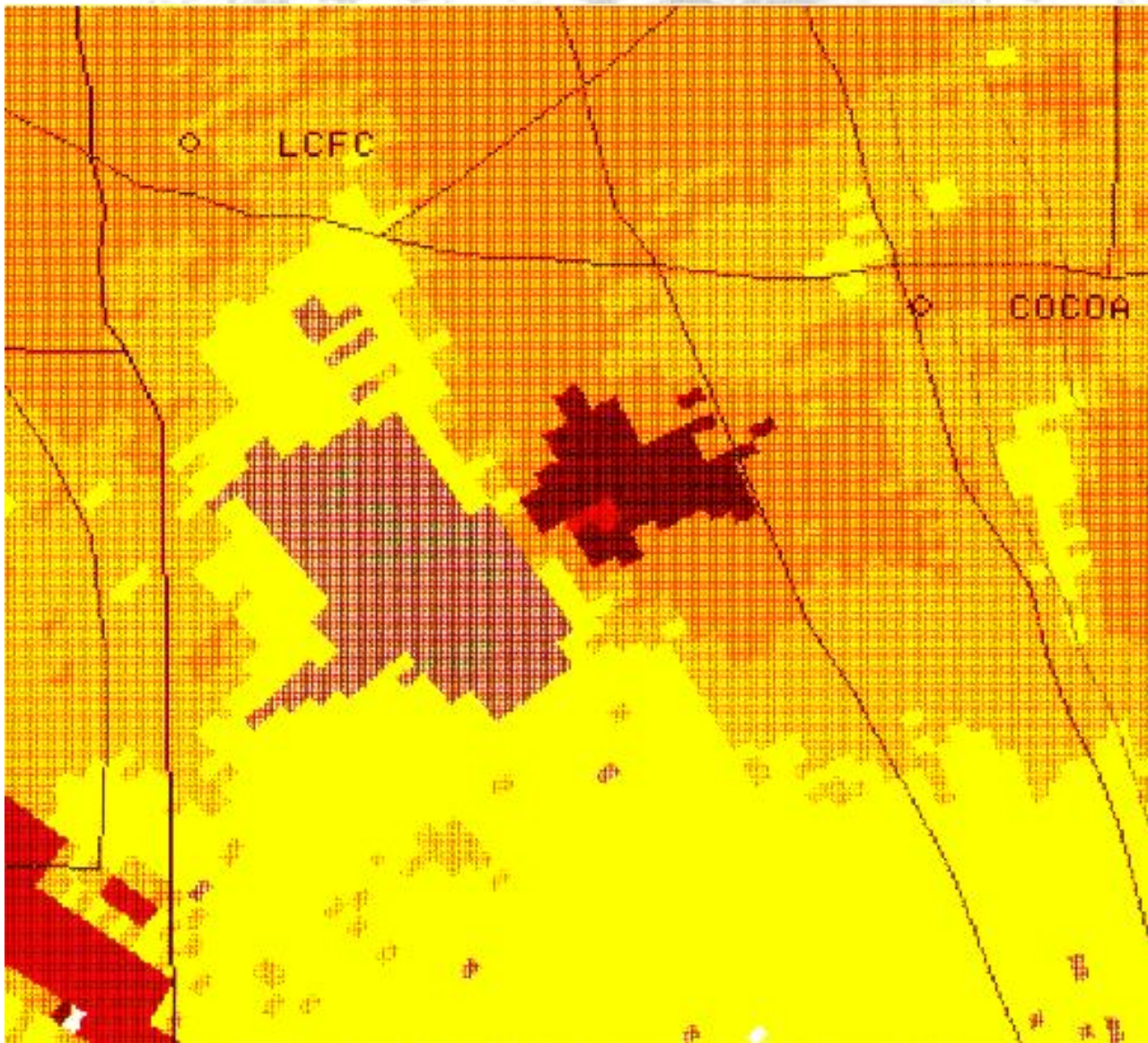
their homes, a backside rainband intensified resulting in additional severe weather. The early morning "Area Thunderstorm Outlook" product highlighted the potential for severe thunderstorms, tornadoes, and flooding rains. Panel 5.1 shows Erin as it entered the eastern Gulf of Mexico trailing a backside rainband over Brevard County at 207 p.m. Panels 5.2 (composite reflectivity) and 5.3 (storm-relative velocity) depict the WSR-88D's view of a mesocyclone within the rainband. This mesocyclone later produced a tornado over north Brevard County. Panel 5.4 shows the final radar estimated Storm Total Precipitation where are a maxima of 8-10 inches are colored in beige. A timely flood warning was issued for Brevard County based on excessive amounts of rain indicated on One Hour Precipitation products during the breaking severe weather event. A picture of dangerous flooding is shown below the radar images.



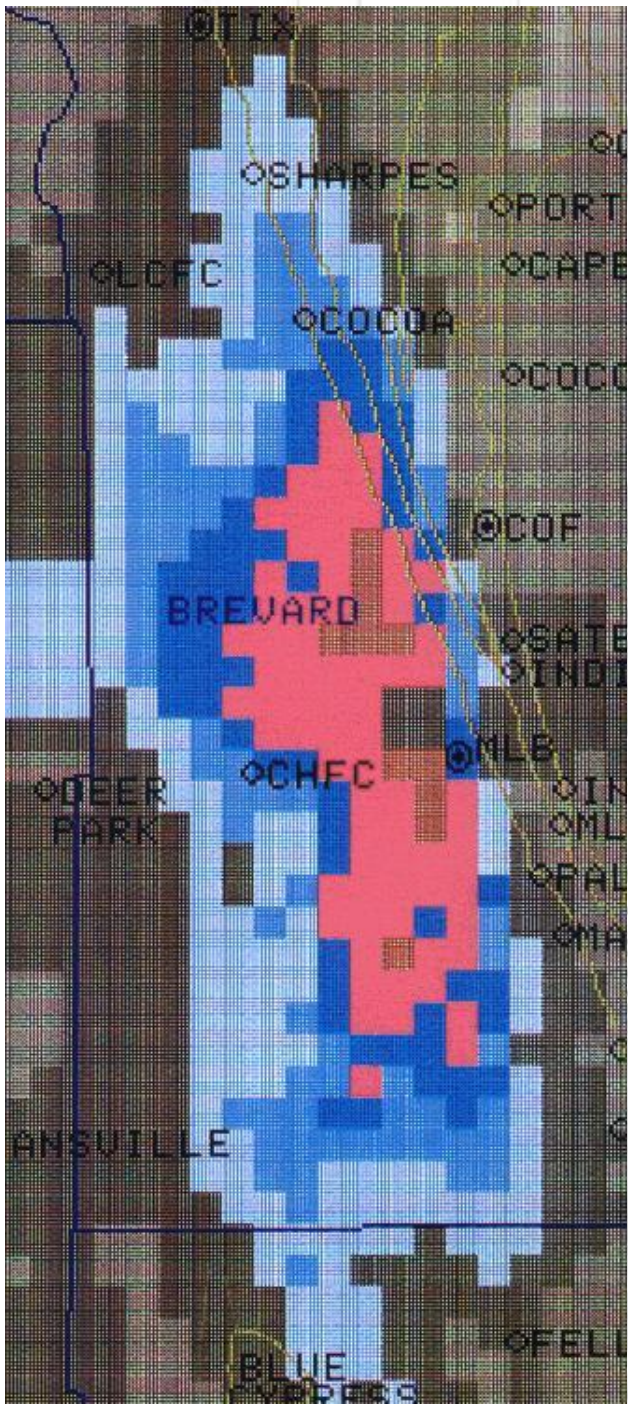
5.1



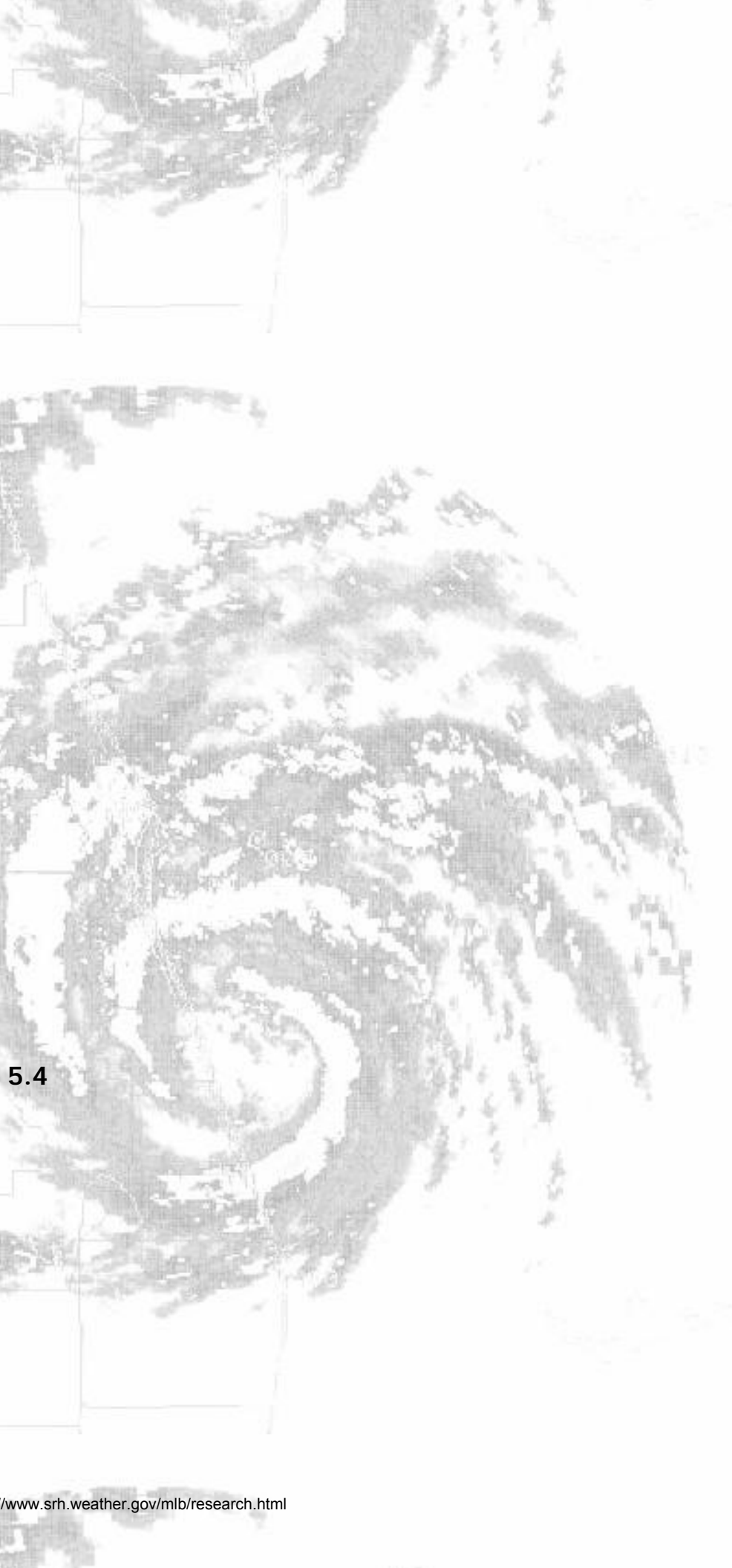
5.2



5.3



5.4





DATE/TIME EVENT

8/1/95 921 AM Hurricane Local Statement

8/1/95 930 AM coordination Martin County EOC

8/1/95 1015 AM radio interview WTKS Orlando

8/1/95 1019 AM Short Term Forecast

8/1/95 1120 AM Short Term Forecast

8/1/95 1140 AM interview WFTV TV-9 Orlando

8/1/95 1148 AM coordination with Cape Canaveral AFS

8/1/95 1200 PM Short Term Forecast


8/1/95 1225 PM Hurricane Local Statement

8/1/95 116 PM Short Term Forecast

8/1/95 147 PM Local Airport Advisory

8/1/95 218 PM Short Term Forecast

8/1/95 245 PM coordination call with Orange, Osceola, Seminole and Lake Counties discussing evacuation of mobile homes and low lying areas



8/1/95 250 PM newspaper interview Ocala News

8/1/95 256 PM Short Term Forecast

8/1/95 303 PM coordination call Martin County EM

8/1/95 315 PM coordination call Brevard County EM

8/1/95 323 PM interview WEST TV-2 Orlando

8/1/95 327 PM Hurricane Local Statement

8/1/95 341 PM Short Term Forecast

8/1/95 410 PM interview WFIT radio Melbourne

8/1/95 508 PM Short Term Forecast

8/1/95 430 PM coordination with Walt Disney World security, arrival of high winds

8/1/95 600 PM interview Florida Today newspaper

8/1/95 600 PM Short Term Forecast

8/1/95 612 PM coordination with Brevard, Indian River, Martin, St. Lucie Counties

8/1/95 650 PM Short Term Forecast

8/1/95 721 PM Hurricane Local Statement

8/1/95 725 PM coordination with Brevard Co. EM

8/1/95 742 PM Short Term Forecast

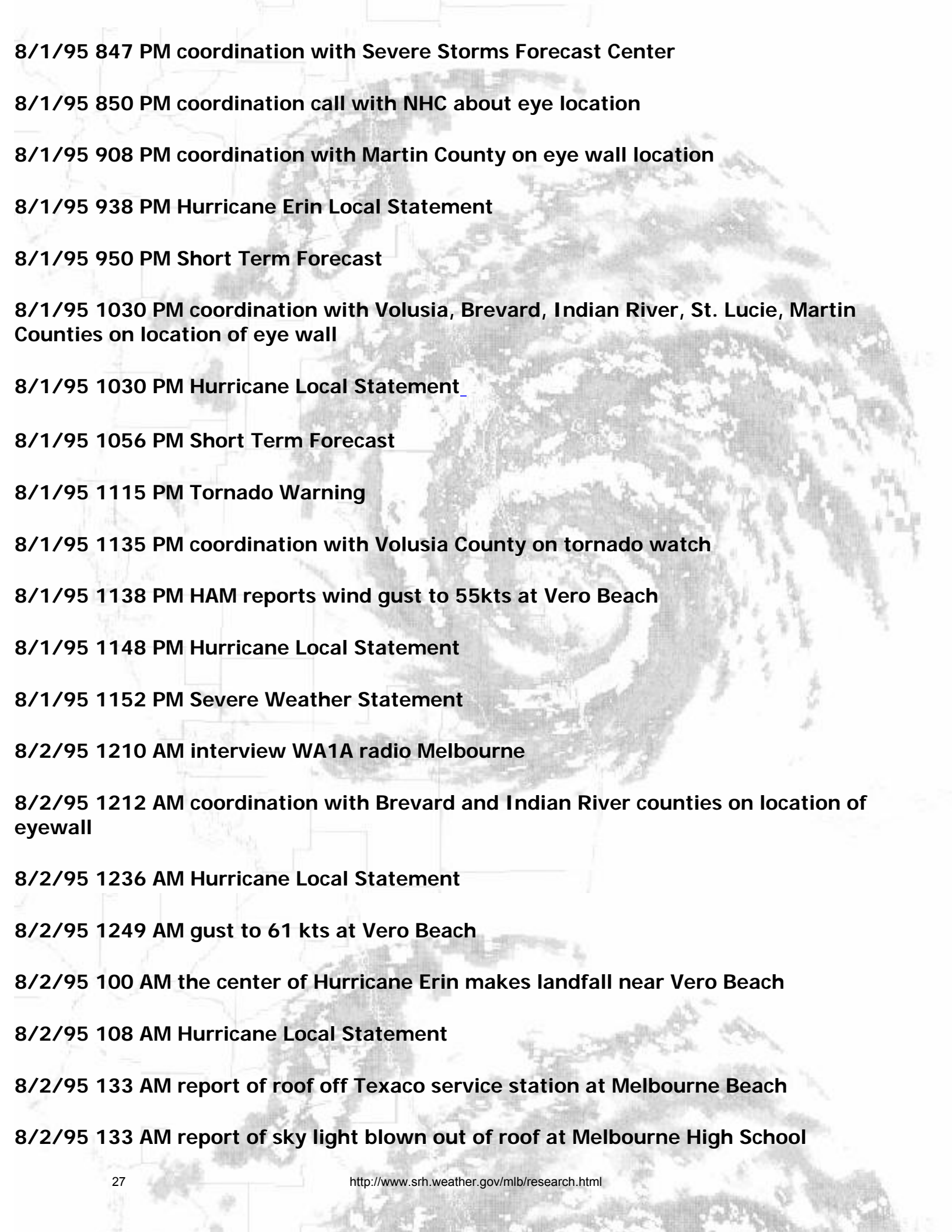
8/1/95 745 PM interview Florida Today newspaper

8/1/95 758 PM Short Term Forecast

8/1/95 810 PM state conference call on NAWAS

8/1/95 836 PM Hurricane Local Statement

8/1/95 840 PM Short Term Forecast



8/1/95 847 PM coordination with Severe Storms Forecast Center

8/1/95 850 PM coordination call with NHC about eye location

8/1/95 908 PM coordination with Martin County on eye wall location

8/1/95 938 PM Hurricane Erin Local Statement

8/1/95 950 PM Short Term Forecast

8/1/95 1030 PM coordination with Volusia, Brevard, Indian River, St. Lucie, Martin Counties on location of eye wall

8/1/95 1030 PM Hurricane Local Statement

8/1/95 1056 PM Short Term Forecast

8/1/95 1115 PM Tornado Warning

8/1/95 1135 PM coordination with Volusia County on tornado watch

8/1/95 1138 PM HAM reports wind gust to 55kts at Vero Beach

8/1/95 1148 PM Hurricane Local Statement

8/1/95 1152 PM Severe Weather Statement

8/2/95 1210 AM interview WA1A radio Melbourne

8/2/95 1212 AM coordination with Brevard and Indian River counties on location of eyewall

8/2/95 1236 AM Hurricane Local Statement

8/2/95 1249 AM gust to 61 kts at Vero Beach

8/2/95 100 AM the center of Hurricane Erin makes landfall near Vero Beach

8/2/95 108 AM Hurricane Local Statement

8/2/95 133 AM report of roof off Texaco service station at Melbourne Beach

8/2/95 133 AM report of sky light blown out of roof at Melbourne High School

8/2/95 150 AM Hurricane Local Statement

8/2/95 215 AM widespread power outages Melbourne and Palm Bay

8/2/95 253 AM Hurricane Local Statement

8/2/95 300 AM significant roof damage to high rise structures along beaches of Brevard County from Cape Canaveral south to Sebastian Inlet

8/2/95 330 AM trees down, windows blown out and power outages Palm Bay and Melbourne

8/2/95 358 AM Hurricane Local Statement

8/2/95 400 AM airplanes damaged at Melbourne International Airport

8/2/95 403 AM gust to 66 kts at Melbourne International Airport

8/2/95 415 AM Hurricane Local Statement

8/2/95 416 AM gust to 39 kts at Daytona Beach International Airport

8/2/95 458 AM gust to 51 kts at Orlando International Airport

8/2/95 502 AM an F1 tornado touched down 3 E St. Cloud in Osceola County

8/2/95 510 AM reports of widespread power outages and trees down, many trees on roof tops and vehicles in Orlando

8/2/95 540 AM East Central Florida Thunderstorm Outlook

Storm Data NWSO Melbourne, Florida August 1995

Location Date Time Ln Wd Kil Inj Prp Crp Character of Storm

FLZ045-047- 02 0000EST 3 0 0 130 M **Hurricane Erin**

053-054 02 0800EST

Brevard, Osceola, Orange, Indian River counties

The center of Hurricane Erin came ashore near Vero Beach around 1 AM EST and moved northwest across Indian River County into Osceola, Orange and Lake counties. The category one hurricane caused widespread wind damage mostly in Brevard County. On land there were no deaths or serious injuries in east central Florida directly related to the hurricane, although a St. Lucie County man was crushed to death by a stack of plywood while preparing his home for the storm in Ft. Pierce.

The 235-foot gambling ship Club Royale out of Palm Beach capsized and sank about 90 miles east of Cape Canaveral. Eight crew members were rescued by the US Coast Guard. Three crew members including the Captain were lost.

Spiral bands around Erin's center spawned strong east and then southeast winds in Brevard County. The greatest damage was along the coast from Cape Canaveral to Sebastian Inlet including the towns of Satellite Beach, Indian Harbor Beach and Melbourne Beach. Dozens of large high rise hotels and condominiums suffered major damage to roofs and some walls. Almost all had major water damage due to wind driven rain. Numerous smaller structures such as grocery stores, restaurants and homes also were severely damaged or destroyed by wind along the beaches. A tug boat sank in Port Canaveral as did a few other small boats in other marinas. In Brevard county 37 structures were destroyed, 81 sustained major damage with 443 reporting minor damage. Two houses were destroyed by fires that were started by downed power lines. Five airplanes were damaged at Melbourne International Airport. The WSR-88D Doppler Radar in Melbourne measured winds near 90 miles per hour along the coast of Brevard County. Wind gusts of 76 and 70 MPH were recorded at the Melbourne and Vero Beach airports respectively.

Inland, widespread minor structural damage to buildings and damage due to fallen trees extended from central Brevard County to the greater Orlando area. In Osceola County the roof was blown off a fire station in Kissimmee. About 24 buildings, mostly mobile homes, were severely damaged by fallen trees. Many streets were flooded. Numerous fallen trees and large limbs damaged houses and cars in Orlando.

PRELIMINARY REPORT...HURRICANE ERIN
NATIONAL WEATHER SERVICE MELBOURNE FLORIDA
230 PM EDT FRI AUG 04 1995

FOR BREVARD...INDIAN RIVER...VOLUSIA...MARTIN...ST LUCIE...OKEECHOBEE...LAKE...ORANGE...
SEMINOLE AND OSCEOLA COUNTIES.

...THE FOLLOWING IS BASED ON REAL-TIME DATA COLLECTION...STORM SURVEYS AND NEWS
REPORTS AND IS SUBJECT TO FURTHER REVISION...

A. HIGHEST WINDS...

MELBOURNE AIRPORT 8/2/95 AT 0803Z GUST 66 KTS FROM 120 (LAST OF SEVERAL

VERO BEACH 8/2/95 AT 0449Z GUST 61 KTS FROM 360

ORLANDO INTERNATIONAL 8/2/95 AT 0858Z GUST 51 KTS FROM 020

DAYTONA BEACH 8/2/95 AT 0816Z GUST 39 KTS FROM 080

THERE IS A LACK OF RECORDED MEASUREMENTS ALONG THE COAST BETWEEN VERO BEACH AND DAYTONA BEACH. OBSERVATION SITES AT KENNEDY SPACE CENTER AND PATRICK AFB WERE SHUT DOWN (POWERED OFF) DUE TO EVACUATION. THERE ARE NO GUST RECORDERS AT MELBOURNE AIRPORT OR VERO BEACH. AVERAGE WINDS AND PEAK GUSTS MUST BE MANUALLY OBSERVED AND CONSTANTLY WATCHED TO BE CAUGHT AT THESE LOCATIONS. STORM SURVEY BY WCM AND MIC REVEALED DAMAGE THAT IS GENERALLY CONSISTENT WITH WINDS FROM A MINIMAL CATEGORY ONE HURRICANE. IT IS ESTIMATED THAT SURFACE WIND GUSTS DID NOT EXCEED 90 MPH... EXCEPT IN A FEW ISOLATED AREAS OF GREATER DAMAGE THAT MAY HAVE BEEN DOWNBURSTS TO 100 MPH OR SO. AT HIGHER LEVELS OF HOTELS AND CONDOMINIUMS AROUND SATELLITE BEACH AND COCOA BEACH WHERE CONSIDERABLE ROOF DAMAGE OCCURRED 100 MPH GUSTS MAY HAVE OCCURRED. THE CHARACTER OF ERIN WAS QUITE GUSTY WITH THE HIGHER GUSTS CLOSELY ASSOCIATED WITH STRONGER CONVECTIVE ELEMENTS ON DOPPLER RADAR.

B. LOWEST PRESSURE...

MELBOURNE AIRPORT 8/2/95 0700Z 985.8 MB OR 29.08 INCHES

VERO BEACH AIRPORT 8/2/95 0554Z 986.1 MB OR 29.12 INCHES

ORLANDO INTERNATIONAL 8/2/95 0907Z 994.8 MB OR 29.37 INCHES

DAYTONA BEACH 8/2/95 0856Z 1004.7 MB OR 29.67 INCHES

BASED ON RADAR IT APPEARS THE CIRCULATION CENTER OF ERIN CROSSED THE COAST BETWEEN VERO BEACH AND SEBASTIAN INLET. MELBOURNE REMAINED JUST NORTH OF THE EYE AND CENTRAL BREVARD COUNTY CAUGHT THE BRUNT OF THE STRONGEST EYE WALL CONVECTION. THE LOWEST PRESSURE RECORDED WAS AT THE MELBOURNE AIRPORT BUT WAS LIKELY LOWER JUST TO THE SOUTH. VISUAL ALTIMETER OBSERVATIONS AT NWS MELBOURNE RESULTED IN A LOWEST PRESSURE OF 29.11 INCHES AT 0702Z. A TRACE CHART FROM A LOCAL AMATEUR RECORDED 29.00 INCHES 980.8 MB ABOUT 10 MILES SOUTH OF THE MELBOURNE AIRPORT.

C. RAINFALL...

STORM TOTALS (INCHES)

DAYTONA BEACH - 0.59 ON 8/2/95

MELBOURNE AP - 1.10 ON 8/1/95 AND 7.71 ON 8/2/95

MLB NWSO - 1.08 ON 8/1/95 AND 9.06 ON 8/2/95

VERO BEACH 4W - 3.14 (EVENT)

VERO BEACH - 0.56 ON 8/1/95 AND 1.90 ON 8/2/95

ORLANDO MCO - 0.14 ON 8/1/95 AND 2.82 ON 8/2/95

MAX RAINFALL - BY FAR...THE MELBOURNE/PALM BAY AREA RECEIVED THE MAXIMUM RAINFALL. DURING LANDFALL...RAINFALL ACCUMULATIONS WERE THE HIGHEST FROM VERO BEACH AND MELBOURNE INLAND TO YEEHAW JUNCTION IN OSCEOLA COUNTY. ACCUMULATIONS IN THIS AREA WERE 3 TO 5 INCHES. AFTER MOVING WELL INLAND...A CONVECTIVE BAND ON THE EAST SIDE OF ERIN INTERACTED WITH AN OUTFLOW BOUNDARY FROM A CLUSTER OF STORMS OVER THE COASTAL WATERS. THIS RESULTED IN ADDITIONAL RAINFALL OVER THE ALREADY SATURATED MELBOURNE/PALM BAY AREA. AN ADDITIONAL 4 TO 6 INCHES WERE REALIZED CAUSING WIDESPREAD FLOODING. MANY ROADS BECAME IMPASSABLE AS AREA LAKES...CREEKS...HOLDING PONDS AND SUCH OVERFLOWED. WATER ENTERED SOME HOMES AND BUSINESSES. STORM TOTAL RAINFALL PROBABLY EXCEEDED 10 INCHES IN AN AREA FROM SOUTHWEST TO WEST TO NORTHWEST OF THE MELBOURNE WEATHER OFFICE.

D. STORM TIDES...

A SURVEY OF THE COASTLINE FROM SEBASTIAN TO CAPE CANAVERAL REVEALED NO SIGNIFICANT DAMAGE FROM STORM TIDES. ERINS MAIN IMPACT WAS ON THE DUNES. AN ESTIMATE OF 2 TO 4 FOOT STORM TIDE SEEMS REASONABLE AT THIS POINT. IN MELBOURNE WHERE THE EAU GALLIE RIVER JOINS THE INDIAN RIVER THERE WAS EVIDENCE OF ABOUT A TWO FOOT TIDE. THERE IS A TIDE GAUGE AT CAPE CANAVERAL...WE HAVE NOT RECOVERED THE DATA AT THIS TIME. THIS MAY BE THE ONLY ACTUAL MEASUREMENT AVAILABLE.

E. BEACH EROSION...

BEACH EROSION WAS MINOR FROM ABOUT VERO BEACH TO MELBOURNE BEACH. THE JETTY AT SEBASTIAN INLET SUSTAINED HEAVY DAMAGE FROM WAVES. BEACH EROSION WAS MODERATE FROM ABOUT MELBOURNE BEACH TO PONCE INLET. DAMAGE WAS MAINLY TO BOARDWALKS AND BEACH ACCESSWAYS. SEVERAL FEET OF DUNE WAS LOST IN MANY PLACES. IT WAS EVIDENT WATER AND WAVES WERE OVER THE DUNES AT PATRICK AFB WHERE SAND WAS DEPOSITED ON HIGHWAY A1A. THE STORM RECLAIMED MUCH OF A SAND REPLENISHMENT EFFORT AT PONCE INLET IN SOUTH VOLUSIA COUNTY.

F. FLOODING/FLASH FLOODING...

WIDESPREAD FLOODING IN BREVARD COUNTY OCCURRED FROM THE AFTERNOON OF AUGUST 2ND AND CONTINUED INTO AUGUST 4TH. THIS FLOODING OCCURRED FROM STRONG CONVECTION THAT FLARED UP ON THE EXTREME EASTERN FRINGE OF ERIN AND SERIOUSLY HAMPERED CLEANUP EFFORTS INLAND. THIS SECOND ROUND OF HEAVY RAIN DID NOT EFFECT THE BARRIER ISLAND. IT WAS THIS FLOODING THAT BROUGHT THE GREATEST DISRUPTION AND POSSIBLY DAMAGE WITH ERIN IN BREVARD COUNTY.

G. TORNADOES...

THERE WERE NO TORNADOES REPORTED UNTIL WELL AFTER THE CENTER OF ERIN MOVED OUT

OF CENTRAL FLORIDA. OSCEOLA COUNTY REPORTED A SMALL TORNADO TOUCH DOWN ABOUT 2 MILES NORTH OF HIGHWAY 192 ALONG HIGHWAY 532 NEAR LAKE LIZZIE ABOUT 10 AM ON AUGUST 2ND. THE TORNADO PRODUCED A LONG SWATH OF DAMAGE THROUGH A WOODED AREA. A HOUSE WAS DESTROYED WHEN IT WAS HIT BY A FALLING TREE. TWO HORSES WERE KILLED.

A SMALL TORNADO TOUCHED DOWN BRIEFLY IN THE MIDDLE OF TITUSVILLE ABOUT 3PM. KNOCKING OUT POWER LINES, AND MOTEL SIGNS. IT BLEW LARGE WINDOWS OUT OF THREE BUILDINGS INJURING ONE PERSON WITH FLYING GLASS. IT DAMAGED A SEARS STORE AND BLEW WINDOWS OUT OF PARKED CARS.

BETWEEN 3 AND 4PM NUMEROUS FUNNEL CLOUDS AND 3 BRIEF TORNADOES WERE REPORTED IN MELBOURNE AND PALM BAY BUT DAMAGE HAS BEEN DIFFICULT TO IDENTIFY DUE TO WIDESPREAD DAMAGE ALREADY IN THE COUNTY.

H. STORM EFFECTS...

DAMAGE FROM THE DIRECT EFFECTS ENDED ON THE EVENING OF WEDNESDAY AUGUST 2ND.

- EARLY ESTIMATES OF 200 MILLION DAMAGE IN OUR COUNTY WARNING AREA OF EAST CENTRAL FLORIDA.

- NO STORM RELATED DEATHS OR SERIOUS INJURIES ON LAND.

- THREE CREW MEMBERS MISSING AND PRESUMED DEAD FROM THE 234 FOOT GAMBLING/CRUISE SHIP CLUB ROYALE THAT SUNK ABOUT 4AM ON 8/2.

- ROUGHLY MILLION PEOPLE WITHOUT POWER AFTER ERINS PASSAGE FROM BREVARD COUNTY THROUGH ORANGE COUNTY. SEVERAL THOUSAND PEOPLE MAY GO WITHOUT POWER FOR UP TO A WEEK.

- BREVARD COUNTY WAS MOST EFFECTED BY ERIN. WIDESPREAD PROPERTY DAMAGE FROM WINDS INCLUDED ROOF DAMAGE...SCREEN ENCLOSURE...CARPORT AND SIGN DAMAGE...LARGE TREES DOWN ON CARS AND ROOFS. FLOODING INUNDATED MANY HOUSES IN LOW-LYING AREAS AND IN A FEW CASES CAUSED ROOF FAILURE. WATER DAMAGE TO STRUCTURES IS EXPECTED TO ADD SIGNIFICANTLY TO STORM DAMAGE.

- PRELIMINARY BREVARD COUNTY TOTALS - 561 STRUCTURES DAMAGED - 443 MINOR DAMAGE...81 MAJOR DAMAGE - 37 HOUSING UNITS DESTROYED.

- ORANGE...SEMINOLE...NORTHERN OSCEOLA AND LAKE COUNTIES RECEIVED TROPICAL STORM FORCE WINDS THE MORNING OF AUGUST 2ND THAT KNOCKED DOWN TREES ON POWER LINES... HOUSES...AND CARS. SOME ROADS WERE BLOCKED. WIDESPREAD POWER OUTAGES WERE REPORTED...MAINLY IN THE ORLANDO METRO AREA.

- VOLUSIA COUNTY REPORTED SOME MINOR WIND DAMAGE AND BEACH EROSION.

- SOUTH OF WHERE ERIN MADE LANDFALL IN INDIAN RIVER...OKEECHOBEE MARTIN SOUTHERN OSCEOLA AND ST. LUCIE COUNTIES STORM EFFECTS WERE MINIMAL WITH MINOR TREE AND SIGN DAMAGE AND MINOR FLOODING OF A FEW LOW LYING AREAS.

- ERINS RAINFALL PROMPTED THE ISSUANCE OF FLOOD WARNINGS FOR THE HILLSBOROUGH RIVER..ALAFIA RIVER AND CYPRESS CREEK AND SOMEWHAT AGGRAVATED RIVERS ALREADY AT FLOOD LEVELS IN WEST CENTRAL FLORIDA.

BART HAGEMEYER
METEOROLOGIST IN CHARGE