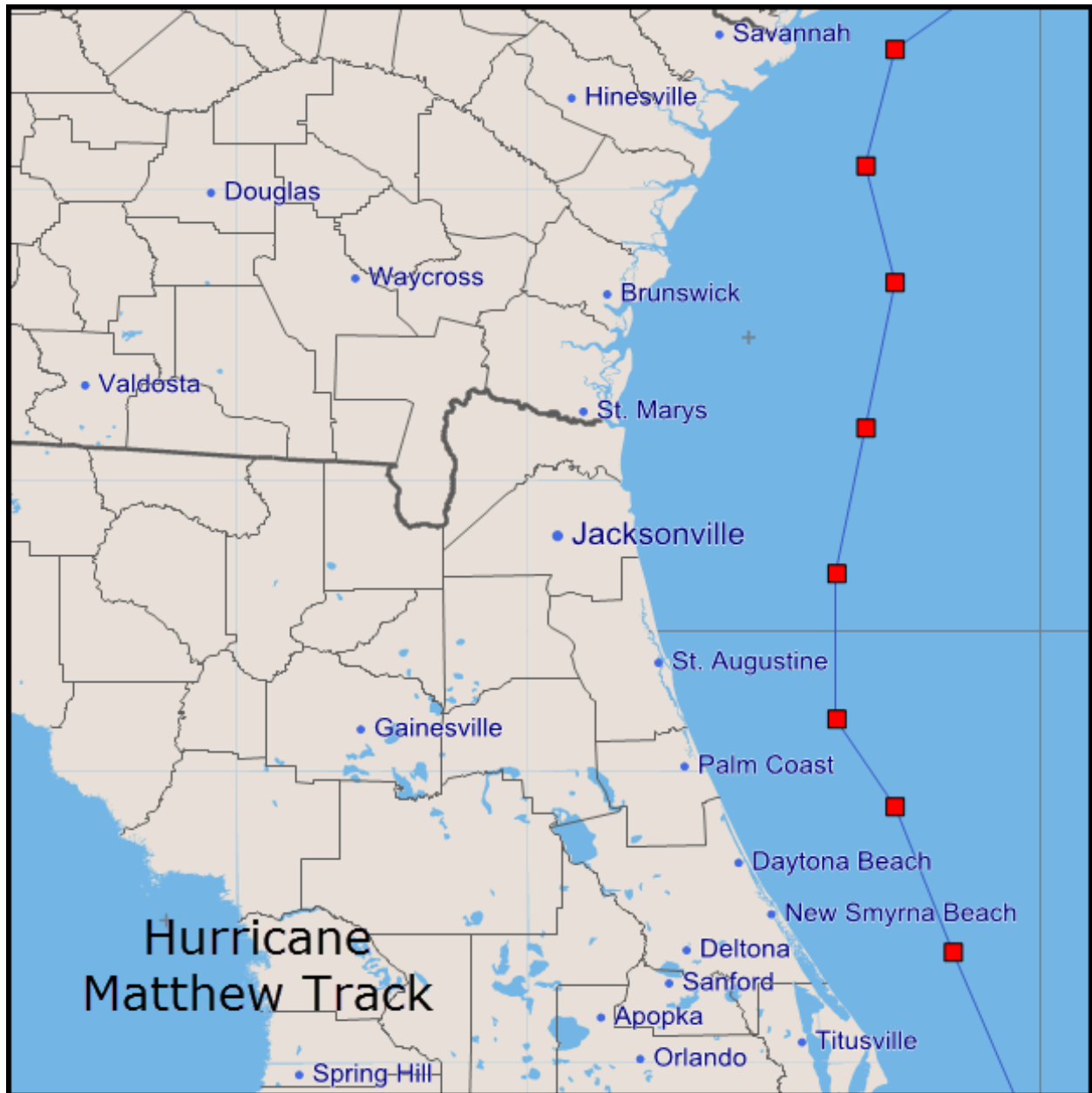


Quick Review of Major Hurricane Matthew



Hurricane Matthew, the fourteenth named tropical cyclone of the 2016 season and the fourth to impact the WFO Jacksonville area of responsibility, moved along the coast of northeast Florida and southeast Georgia during the day and night of October 7th and 8th, 2016. The following tables below are some of the most notable weather and water level values as a result of Matthew's passage.

Maximum Wind Values

Station Name	County	ST	maxwindtime24	maxwind24
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1 E Fort Caroline	Duval	FL	10/7/16 20:08	82
1 NNE Saint Augustine Beach	St. Johns	FL	10/7/16 17:00	76
2 N Mayport	Duval	FL	10/7/16 21:03	76
1 NNE Jacksonville Beach	Duval	FL	10/7/16 17:35	76
Crescent Beach	St. Johns	FL	10/7/16 16:45	75
Craig Municipal Airport	Duval	FL	10/7/16 19:37	69
Jacksonville Nas	Duval	FL	10/7/16 19:58	68
1 NW Saint Augustine	St. Johns	FL	10/7/16 17:09	67
Jacksonville Intl Airport	Duval	FL	10/7/16 19:19	64
Fernandina Beach Municipal Airport	Nassau	FL	10/8/16 2:35	60
Mayport Naval Station	Duval	FL	10/7/16 22:15	60
Jesup-wayne County Airport	Wayne	GA	10/8/16 0:15	58
2 WNW Silver Springs Shores	Marion	FL	10/7/16 17:37	57
1 SW Ortega	Duval	FL	10/7/16 18:33	55
Cecil Field	Duval	FL	10/8/16 2:15	55
Brunswick Golden Isles Airport	Glynn	GA	10/8/16 3:35	54
1 WNW Steven Foster State Park	Charlton	GA	10/8/16 3:01	50

Palm Coast	Flagler	FL	10/7/16 14:56	50
3 SE Welaka	Putnam	FL	10/7/16 19:05	49
5 WNW Jacksonville Heigh	Duval	FL	10/8/16 4:22	49
1 SW San Pablo	Duval	FL	10/7/16 16:01	48
Gainesville Regional Airport	Alachua	FL	10/7/16 19:17	48
1 NNE Orange Park	Duval	FL	10/7/16 22:36	47
Waycross-ware County Municipal Airport	Ware	GA	10/8/16 3:55	45
2 W Deenwood	Ware	GA	10/8/16 4:04	44
4 SW Baxley	Appling	GA	10/8/16 1:04	44
4 NW Interlachen	Putnam	FL	10/7/16 15:29	44
11 NNW Steven Foster State Park	Charlton	GA	10/8/16 3:10	43
Baxley Municipal Airport	Appling	GA	10/8/16 3:15	43
Keystone Heights Airport	Bradford	FL	10/8/16 3:15	41
Bacon County Airport	Bacon	GA	10/8/16 4:07	41
Lake City Municipal Airport	Columbia	FL	10/7/16 20:35	41
3 S Boys Estate	Glynn	GA	10/7/16 22:22	41
1 NW Fruit Cove	St. Johns	FL	10/7/16 18:55	40

5 WNW Newberry	Gilchrist	FL	10/7/16 19:30	39
1 SSE Ortega	Duval	FL	10/7/16 19:48	39
Ocala Airport – Jim Taylor Fld	Marion	FL	10/7/16 15:50	39
5 ESE Thalmann	Glynn	GA	10/8/16 7:04	38
2 E Durbin	St. Johns	FL	10/7/16 21:46	37
10 SW Folkston	Charlton	GA	10/7/16 21:56	37
8 N Florahome	Clay	FL	10/7/16 19:30	36
5 SE Alachua	Alachua	FL	10/7/16 19:23	36
Hazlehurst Airport	Jeff Davis	GA	10/8/16 7:35	36
3 SSE Spuds	St. Johns	FL	10/7/16 21:15	36
1 SSW Trenton	Gilchrist	FL	10/7/16 19:45	35
5 SSW High Springs	Alachua	FL	10/7/16 16:05	34
1 ESE Jacksonville	Duval	FL	10/7/16 20:00	34

Maximum Precipitation Values

stationname	county	st	pcpn48 (inches)
5 ESE Thalmann	Glynn	GA	9.57
1 S Jacksonville Heigh	Duval	FL	8.15

1 SSE Ortega	Duval	FL	8
1 N Lakeside	Clay	FL	7.54
Craig Municipal Airport	Duval	FL	7.19
Jacksonville Intl Airport	Duval	FL	6.75
Palm Coast	Flagler	FL	6.52
1 SE San Marco	Duval	FL	6.51
Satilla River At Us 17 At Woodbine	Camden	GA	6.34
5 NW Doctortown	Wayne	GA	6.14
Jacksonville Nas	Duval	FL	6.03
3 W Bellair	Clay	FL	5.97
1 SE Ortega	Duval	FL	5.95
4 NNE Mandarin	Duval	FL	5.81
1 SW Ortega	Duval	FL	5.7
3 ENE Mandarin	Duval	FL	5.66
6 NE Lake Geneva	Clay	FL	5.43
1 SW San Pablo	Duval	FL	5.36
Nahunta 6ne	Brantley	GA	5.1

1 NW Fruit Cove	St. Johns	FL	5.05
5 NW Salt Springs	Marion	FL	4.65
8 N Florahome	Clay	FL	4.34
2 W Palm Coast	Flagler	FL	4.28
3 SE Welaka	Putnam	FL	3.89
4 SW Baxley	Appling	GA	3.66
2 W Deenwood	Ware	GA	3.35
11 NNW Steven Foster State Park	Charlton	GA	3.13
10 SW Folkston	Charlton	GA	3.09

INLAND FLOODING...

ST JOHNS... SPUF1 – DEEP [CREEK](#) AT SPUDS REPORTED [MAJOR FLOODING STORM TIDE](#) OF 5.72 FEET NAVD88 AT 08/0400Z.

DCUF1 – DURBIN [CREEK](#) AT RACETRACK ROAD REPORTED PEAK [STORM TIDE](#) OF 3.62 FEET NAVD88 AT 08/0900Z.

DUVAL... JULF1 – JULINGTON [CREEK](#) AT OLD ST AUGUSTINE ROAD REPORTED [MAJOR FLOODING STORM TIDE](#) OF 4.61 FEET NAVD88 AT 08/0600Z.

DCDF1 – DUNN [CREEK](#) AT DUNN [CREEK](#) ROAD REPORTED [MODERATE FLOODING STORM TIDE](#) OF 4.09 FEET NAVD88 AT 07/2100Z. CCJF1 – CLAPBOARD [CREEK](#) NEAR

SHEFFIELD ROAD REPORTED [MODERATE FLOODING STORM TIDE](#) OF 4.36 FEET NAVD88 AT 07/1900Z.

CLAY... BCMF1 – BLACK [CREEK](#) AT MIDDLEBURG REPORTED [MINOR FLOODING STORM TIDE](#) OF 4.03 FEET NAVD88 AT 08/0300Z.

STORM IMPACTS BY COUNTY

FLAGLER

TROPICAL STORM CONDITIONS STARTED TO CAUSE DAMAGE TO THE FLAGLER BEACH PIER DURING THE LATE AFTERNOON OF THU OCT 6TH WHEN A COUPLE OF PYLONS WERE WASHED AWAY. AROUND 0227 EDT ON OCT 7TH THE FIRST **TS** FORCE **WIND GUST** OF 47 MPH WAS MEASURED. DURING THE PREDAWN HOURS OF THE 7TH, **TROPICAL STORM** FORCE WIND GUSTS OF 47-61 MPH WERE MEASURED ACROSS FLAGLER COUNTY, MAINLY EAST OF BUNNELL TOWARD PALM COAST AND FLAGLER BEACH. DURING THE MORNING BETWEEN 0700 AND 1200 EDT,

TROPICAL STORM FORCE WIND GUSTS INCREASED TO 57-65 MPH AT MARINELAND AND FLAGLER BEACH. THE BOARDWALK WAS BEING WASHED AWAY IN THE VILLAGES OF MANTAZAS SHORES AROUND 0900 EDT. **STORM SURGE** STARTED TO **FLOOD** COASTAL HOMES BY 0900 EDT. AT 1120 EDT, SUSTAINED 60 MPH WINDS WERE MEASURED AT FLAGLER BEACH. REPORTS OF TREES UPROOTED WERE REPORTED IN PALM COAST BY NOON, AND **HURRICANE** FORCE WIND GUSTS UP TO 76 MPH WERE MEASURED BY 1124 EDT AT FLAGLER BEACH. AROUND 1146 EDT, PORTIONS OF COASTAL HIGHWAY A1A NEAR THE BEACH WERE WASHED OUT IN FLAGLER BEACH. BETWEEN 1150 AND 1200, ESTIMATED GUSTS WERE 76-80 MPH NORTH OF PALM COAST, AND A MEASURED **WIND GUST** OF 83 MPH WAS RECORDED AT FLAGLER BEACH. BY 1400, MULTIPLE OCEAN **FRONT** STRUCTURES HAD ROOF DAMAGE. BETWEEN 1400-1500 EDT, THE END OF THE FLAGLER BEACH PIER WAS REPORTED MISSING AND A1A WAS WASHED OUT UP AND DOWN THE FLAGLER COUNTY COAST. AT 1800, THE PALM COAST SALTWATER CANAL MEASURED A **STORM SURGE** DEPTH OF 6 FEET, WHICH WAS ABOUT 44 INCHES OVER THE BULKHEAD.



PUTNAM

TROPICAL STORM CONDITIONS STARTED CAUSING TREE DAMAGE IN PALATKA AROUND 0713 EDT ON OCT 7TH WHEN A TREE FELL ON A HOME. AT 1500, ONE 55 YEAR OLD FEMALE WAS

KILLED DUE TO **HURRICANE** FORCE WIND GUSTS **BLOWING** DOWN A TREE ONTO THE TRAILER IN WHICH SHE SOUGHT STORM SHELTER IN A CAMPER AT A CAMPGROUND NEAR CRESCENT CITY. AT 2041 EDT, FLOODING WAS REPORTED ON TARPON BLVD IN BOSTWICK. CANALS ABOUT A QUARTER MILE AWAY FROM THE ST. JOHNS RIVER EXPERIENCED FLOODING ON BOTH SIDES OF THE ROADWAYS. PHOTOS FROM PUTNAM COUNTY EMERGENCY MANAGEMENT INDICATED EXTENSIVE FLOODING AND WIDESPREAD TREE DAMAGE IN EAST PALATKA AND BOSTWICK AFTER 1500 EDT, INCLUDING THE FAR END OF EAST RIVER ROAD. THE BOSTWICK AREA HAD UP TO 3 FEET OF RIVER FLOODING IN MANY LOCATIONS NEAR THE RIVER, INCLUDING IN STRUCTURES AND HOMES. CEDAR **CREEK** AND PALMETTO BLUFF OF BOSTWICK HAD WIDESPREAD FLOODING OVER ROADS AND WITHIN YARDS, WITH TREE DAMAGE. THE BOAT RAMP AT EGLIN GROVE IN EAST PALATKA WAS OVER-WASHED BY AT LEAST 3 TO 4 FEET OF WATER WITH A LOT OF FLOODING DEBRIS IN THE AREA. A LOT OF THE WATER ACCUMULATED UNDER STRONG ONSHORE **FLOW** FOR A COUPLE OF DAYS WITHIN THE RIVER **BASIN** AHEAD OF **HURRICANE** MATTHEW, AND WHEN THE **STORM SURGE** COMBINED WITH HIGH **TIDE** AND STRONG NORTHERLY **FLOW** COINCIDED OVER THE ST. JOHNS FRIDAY, **RIVER FLOODING** WAS EXTENSIVE. WIND DAMAGE OCCURRED TO STRUCTURES, INCLUDING AT CRILL DRIVE AND SR 19 IN PALATKA WHERE METAL ROOFING WAS ROLLED AND DAMAGED.

Images from Putnam County provided by the Emergency Management.



Surge flooding in Dunn's Creek area



Bostwick area



East Grove boat launch overwash

Surge flooding in Dunn's Creek area



Satsuma- San Mateo area surge flooding



East River Road flooding

Bostwick area



Eglin Grove Boat Ramp inundation



East Palatka fallen trees

NASSAU

AT 1530 ON OCTOBER 7TH THE FERDINDINA BEACH **TIDE** GAUGE REPORTED A PEAK WATER LEVEL OF 6.91 **FT** ABOVE NAVD88 DATUM. THIS WAS 4.32 **FT** ABOVE THE PREDICTED HIGH **TIDE** OF 2.59 **FT** NAVD88 DATUM. THIS VALUE RANKED AS THE THIRD HIGHEST WATER LEVEL RECORDED AT THIS GAUGE SITE BEHIND THE OCT 2ND 1898 AND OCT 19TH 1944 **HURRICANE**, AND WAS ABOVE BOTH HURRICANES DORA AND JEANNE. AT 1945 EDT A TREE FELL ON A STREET LIGHT AND TRANSFORMER AT 14TH AND ATLANTIC. AT 2100 EDT, TWO LARGE TREES WERE BLOWN DOWN ON OLD DIXIE HIGHWAY NEAR IRVIN AVENUE AND COMPLETELY BLOCKED THE ROAD. AT 2226 ON OCT 7TH A LARGE TREE AND **POWER** LINES WERE BLOWN DOWN ON ATLANTIC AVENUE ON AMELIA ISLAND.

THROUGH THE EVENT WIDESPREAD TREE, POWERLINE AND SOME STRUCTURAL DAMAGE WAS REPORTED DUE TO **TROPICAL STORM** FORCE WINDS AND GUSTS TO **HURRICANE** FORCE. MOST OF THE WIND DAMAGE WAS ACROSS COASTAL LOCATIONS INCLUDING FERNANDINA BEACH. THERE WERE REPORTS OF TREES DOWN ON STRUCTURES AS WELL. AT ASH AND **FRONT** STREET A MOTEL AWNING WAS BLOWN UP AGAINST A RAILROAD CROSSING. A **FLASH FLOOD** EMERGENCY WAS ISSUED FOR THE EGANS **CREEK** DRAINAGE AT 1540 EDT AS THE **SURGE** AND SEICHE IMPACTS MOVED DOWN THE DRAINAGE. EXTENSIVE FLOODING OF FLETCHER AVENUE OCCURRED, ESPECIALLY NEAR THE 600 BLOCK SECTION WHICH EXTENDED SOUTHWARD TO THE 1500 BLOCK OF FLETCHER AVENUE AND SOUTHWARD TO OCEAN DRIVE. THESE AREAS ARE JUST EAST OF EGANS **CREEK**. WATER LEVEL OBSERVATIONS INDICATED A SEICHE **FLOOD** TRAILING THE STORM **SURGE** THAT **LIKELY** FLOODED EGANS **CREEK** AS **HURRICANE** MATTHEW STARTED TO TRACK FARTHER NORTH OF THE LOCAL AREA WITH A SWITCH IN WINDS TO THE NNW PUSHING **SURGE** WATERS BACK ACROSS THE EGANS **CREEK** DRAINAGE.

DUVAL

TROPICAL STORM FORCE GUSTS STARTED EARLY MORNING ON OCT 7TH. REPORTS OF TREES DOWN BEGAN WITH THE FIRST REPORT AROUND 730 AM EDT OF A LARGE TREE AND POWER LINES DOWN IN ORTEGA. A TREE WAS REPORTED ON A HOME IN EAST ARLINGTON AROUND THE SAME TIME. BETWEEN 11 AM EDT AND NOON THE JACKSONVILLE AIRPORT REPORTED A 51 MPH GUST WHILE A TREE WAS REPORTED TO CRUSH A CAR ON WOOD AVE IN ARLINGTON. WINDS CONTINUED TO INCREASE DURING THE DAY AND IN THE AFTERNOON CRAIG AIRPORT STARTING TO REPORT SUSTAINED TROPICAL STORM FORCE WINDS. AT 415 PM CRAIG AIRPORT REPORTED SUSTAINED NORTH WINDS AT 41 MPH WITH GUSTS TO 62 MPH. AT 135 PM EDT THE JACKSONVILLE BEACH PIER REPORTED 61 MPH WINDS WITH GUSTS TO 76 MPH. TREES WERE REPORTED DOWN THROUGHOUT THE EVENING HOURS. BETWEEN 4 AND 6 PM TREES CAME DOWN ON 103RD STREET, DUNN AVE., PULASKI AND TERREL ROADS. AT 624 PM TREES WERE ON I-95 SOUTHBOUND NEAR MILE MARKER 339 BLOCKING 2 LANES. AT 954 PM SIGNIFICANT STRUCTURAL DAMAGE WAS DONE AT A SURF SHOP AT BEACH BLVD. AND 9TH ST. SOUTH. AT 1125 PM TREES WERE DOWN ON I-10 EAST BOUND NEAR CHAFFEE ROAD BLOCKING ONE LANE. FLOODING WAS ALSO REPORTED WITH COMMONWEALTH AVE CLOSED BETWEEN ELLIS AND LANE AVENUES. DUE TO WATER OVER THE ROAD. COASTAL FLOODING WAS REPORTED ALONG THE COAST AND THE ST. JOHNS RIVER. THE NOAA TIDAL GAUGE AT MAYPORT REPORTED 5.14

FEET ABOVE NAV88D DATUM WHICH IS THE 2ND HIGHEST LEVEL ON RECORD SINCE THE 1898 HURRICANE. AT 5 PM THE DAMES POINT BRIDGE NOAA TIDAL GAUGE REPORTED 4.19 FEET ABOVE NAV88D DATUM WHICH WAS 2.3 FEET ABOVE PREDICTED. AT 806 PM THE NOAA TIDAL GAUGE AT THE BUCKMAN BRIDGE WAS 3.42 FEET ABOVE NAV88D WHICH WAS 2.43 FEET ABOVE PREDICTED.

Below are some images from Duval County, provided by Emergency Management and NWS storm survey.



Surge flooding on 1st street and 8th Ave in Jacksonville Beach.



Beach erosion on Jacksonville Beach.



Scour and surge debris on Jacksonville and Neptune Beaches

ST JOHNS

STORM SURGE FLOODING WAS SEVERE AS A NWS STORM SURVEY REPORTED A NEW INLET HAD FORMED BETWEEN MARINELAND AND MANTANZAS INLET. SEVERE DAMAGE WAS REPORTED IN SUMMERHAVEN. STORM SURGE FLOODING WAS REPORTED IN THE EARLY MORNING HOURS AT THE SEA WALL IN ST AUGUSTINE BEACH AND AT THE CASTILLO DE SAN MARCOS SEA WALL. WATER WAS ALSO REPORTED FLOWING ACROSS ANASTASIA ISLAND AT ABOUT 2.5 FEET ABOVE GROUND. THE NOAA TIDAL GAUGE ON THE ST JOHNS RIVER AT RACY POINT REPORTED A PEAK

WATER LEVEL OF 5.05 FEET ABOVE NAVD88 DATUM WHICH WAS 3.85 FEET ABOVE PREDICTED. TROPICAL STORM FORCE GUSTS BEGAN IN ST JOHNS COUNTY THURSDAY NIGHT OCT 6TH. AT VILANO BEACH WINDS WERE REPORTED AT 39 MPH WITH GUSTS TO 46 MPH AT 11 PM. HURRICANE FORCE GUSTS WERE REPORTED NEAR THE COAST ON OCT 7TH. THE C-MAN (SAUF1) SITE ON THE ST AUGUSTINE PIER REPORTED A 79 MPH GUST AT 1150 AM EDT AND AN 85 MPH GUST AT 1250 PM EDT ON THE 7TH. THE GUANA RIVER STATE PARK REPORTED A 72 MPH GUST AT 145 PM WHILE THE VILANO BEACH BRIDGE HAD A 60 MPH GUST. WIND DAMAGE REPORTS INCLUDED A TREE UPROOTED ONTO A HOME IN ST AUGUSTINE SHORES AROUND 8 AM AND SIGNIFICANT ROOF DAMAGE TO FIRST COAST POWERSPORTS OFF U.S. 1 HIGHWAY IN THE MID AFTERNOON. A LARGE TREE FELL ON SAN MARCO AVE NEAR HOPE STREET IN ST AUGUSTINE AND ALSO ON I-95 NEAR INTERNATIONAL GOLF PARKWAY BLOCKING ONE LANE.

Below are some images taken from the Summer Haven area in St. Johns County from NWS storm surveys.





CLAY

STRONG WINDS REACHED TROPICAL STORM FORCE STRENGTH WHICH DOWNED NUMEROUS TREES. DURING THE MORNING ON OCT 7TH TREES WERE REPORTED DOWN IN EAGLE HARBOR ON FLEMING ISLAND AND ALSO ON A HOME AND VEHICLE IN ORANGE PARK. DURING THE EVENING A TREE FELL ON A HOUSE IN GREEN COVE SPRINGS. TREES WERE ALSO REPORTED DOWN ON ELDERBERRY COURT IN ORANGE PARK AND ON PINE AVE IN FLEMING ISLAND. DUE TO HEAVY RAINFALL THE SOUTH FORK OF BLACK CREEK NEAR PENNEY FARMS REACHED MINOR FLOOD STAGE AND CREST AT 16.5 FEET IN THE MORNING ON OCT 8TH.