

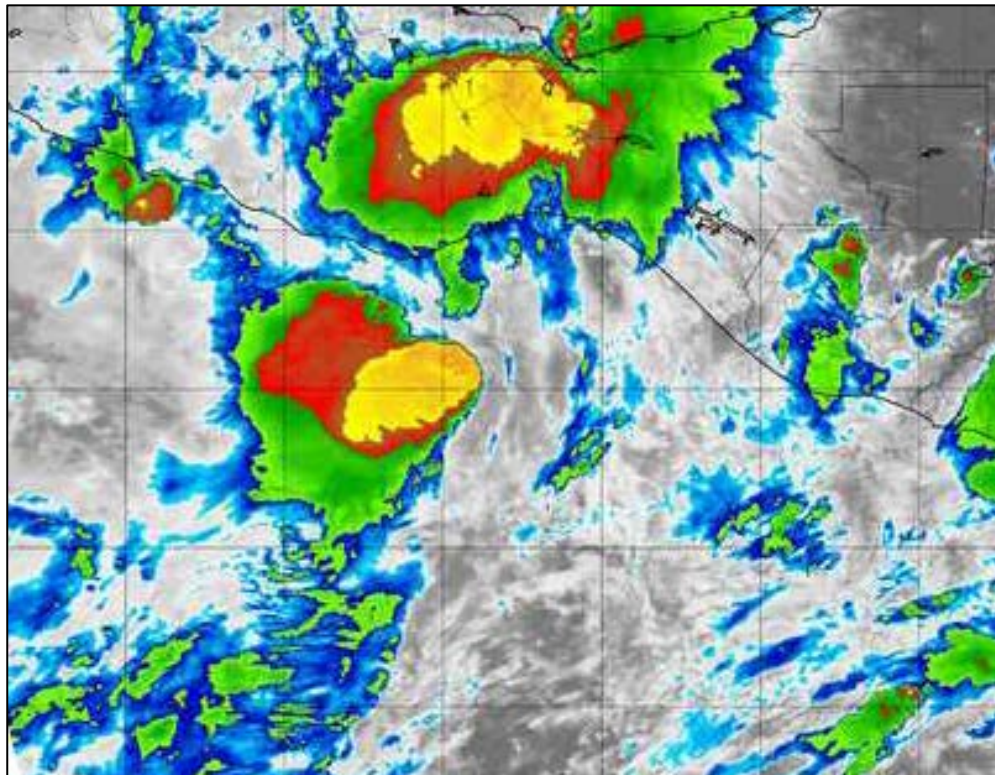


NATIONAL HURRICANE CENTER TROPICAL CYCLONE REPORT

TROPICAL STORM RAMON (EP192017)

3–4 October 2017

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11 December 2017



TERRA MODIS SATELLITE IMAGE OF RAMON AT 0430 UTC 4 OCTOBER 2017.
IMAGE COURTESY OF THE NAVAL RESEARCH LABORATORY.

Ramon was a short-lived tropical storm that formed south of the Gulf of Tehuantepec and dissipated the next day within an area of hostile upper-level winds.

Tropical Storm Ramon

3–4 OCTOBER 2017

SYNOPTIC HISTORY

The development of Ramon can be traced back to a tropical wave that moved off the west coast of Africa on 21 September. The wave moved westward across the tropical Atlantic and Caribbean with minimal shower activity through the end of September. On October 1, the wave entered the far eastern Pacific Ocean and moved westward to the south of the Pacific coast of Central America the next day. Shower and thunderstorm activity increased in association with the system, and a broad area of low pressure formed on 2 October. The next day, the low became better defined and the thunderstorm activity became better organized, resulting in the formation of a tropical depression by 1800 UTC 3 October about 140 n mi southeast of Huatulco, Mexico. The “best track” chart of the tropical cyclone’s path is given in Fig. 1, with the wind and pressure histories shown in Figs. 2 and 3, respectively. The best track positions and intensities are listed in Table 1¹.

The depression strengthened over the next 12 h while it moved west-northwestward to northwestward to the south of deep-layer ridge over northern Mexico. Satellite wind data indicate that the system became a 40-kt tropical storm by 0600 UTC 4 October, however, the small tropical storm was embedded within an area of strong north-northeasterly shear which caused the thunderstorm activity to be displaced to the west and southwest of the center. The 850–200-mb wind shear over Ramon increased above 30 kt by 1200 UTC 4 October and the tropical storm became less organized throughout that day. A continued increase in shear and the close proximity of Ramon to the coast of southern Mexico caused the cyclone to degenerate into a trough of low pressure south of Acapulco by 0000 UTC 5 October. The remnants of Ramon continued westward for another day or so before dissipating.

METEOROLOGICAL STATISTICS

Observations in Ramon (Figs. 2 and 3) include subjective satellite-based Dvorak technique intensity estimates from the Tropical Analysis and Forecast Branch (TAFB) and the Satellite Analysis Branch (SAB), and objective Advanced Dvorak Technique (ADT) estimates from the Cooperative Institute for Meteorological Satellite Studies/University of Wisconsin-Madison. Data and imagery from NOAA polar-orbiting satellites including the Advanced Microwave Sounding Unit (AMSU), the NASA Global Precipitation Mission (GPM), the European Space

¹ A digital record of the complete best track, including wind radii, can be found on line at <ftp://ftp.nhc.noaa.gov/atcf>. Data for the current year’s storms are located in the *bt* directory, while previous years’ data are located in the *archive* directory.

Agency's Advanced Scatterometer (ASCAT), and Defense Meteorological Satellite Program (DMSP) satellites, among others, were also useful in constructing the best track of the tropical storm.

The 40-kt estimated peak intensity of Ramon is based on ASCAT scatterometer data from 0410 UTC 4 October.

There was one ship report of winds of tropical storm strength with Ramon. The container ship *Sealand Balboa* (call sign CQCA) reported 42-kt winds at 1600 UTC 4 October while located to the northeast of Ramon. However, the validity of this observation is in question since ASCAT data around that time did not detect winds that strong in that general location.

CASUALTY AND DAMAGE STATISTICS

There were no damage or casualties in association with Ramon.

FORECAST AND WARNING CRITIQUE

The development of Ramon was somewhat anticipated (Table 2). The system from which Ramon formed was introduced into the 5-day Tropical Weather Outlook (TWO) at 0000 UTC 29 September with a low chance (<40%) of development a little less than 5 days before genesis occurred. The 5-day probability of formation was increased to the medium category (40-60%) 72 h before development and the high category 36 h before formation. However, the development probability was lowered to the medium category 12 h later, and remained in that category until genesis occurred on 4 October. The system was first mentioned in the 48-h TWO 42 h before it developed, but its 48-h formation chance never got higher than 40% before genesis took place. The poor short-range genesis forecasts and the lowering of the 5-day probabilities 24 h before formation resulted from the assumption that strong north-northeasterly shear would limit the development of the system.

Given the very short duration of Ramon, there is only one verifying 12-h forecast. The track error for this forecast was 48 n mi and the intensity error was 5 kt. The track error is much higher than the long-term mean (22.2 n mi), but the intensity error is close to the 5-year average (5.8 kt).

The government of Mexico issued a Tropical Storm Watch for a portion of the southern coast of Mexico from Puerto Angel to Acapulco at 1500 UTC 4 October. The watch was discontinued at 0300 UTC 5 October.



Table 1. Best track for Tropical Storm Ramon, 3–4 October 2017.

Date/Time (UTC)	Latitude (°N)	Longitude (°W)	Pressure (mb)	Wind Speed (kt)	Stage
03 / 1800	13.9	94.9	1005	25	tropical depression
04 / 0000	14.2	95.2	1004	30	"
04 / 0600	14.6	95.7	1002	40	tropical storm
04 / 1200	14.9	96.4	1002	40	"
04 / 1800	15.1	97.3	1004	35	"
05 / 0000					dissipated
04 / 0600	14.6	95.7	1002	40	minimum pressure



Table 2. Number of hours in advance of formation associated with the first NHC Tropical Weather Outlook forecast in the indicated likelihood category. Note that the timings for the “Low” category do not include forecasts of a 0% chance of genesis.

	Hours Before Genesis	
	48-Hour Outlook	120-Hour Outlook
Low (<40%)	42	114
Medium (40%-60%)	18	72
High (>60%)	-	36

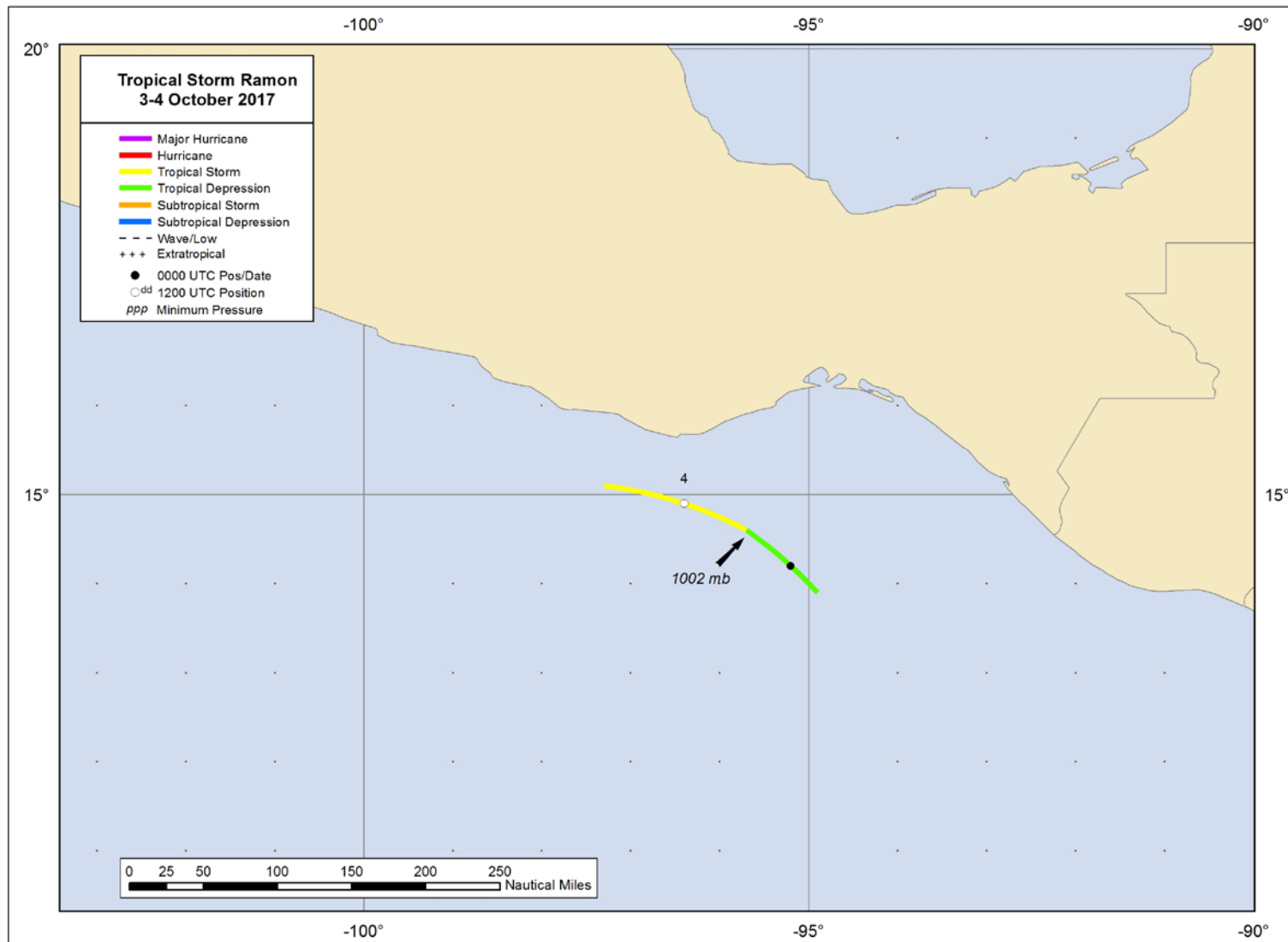


Figure 1. Best track positions for Tropical Storm Ramon, 3–4 October 2017.

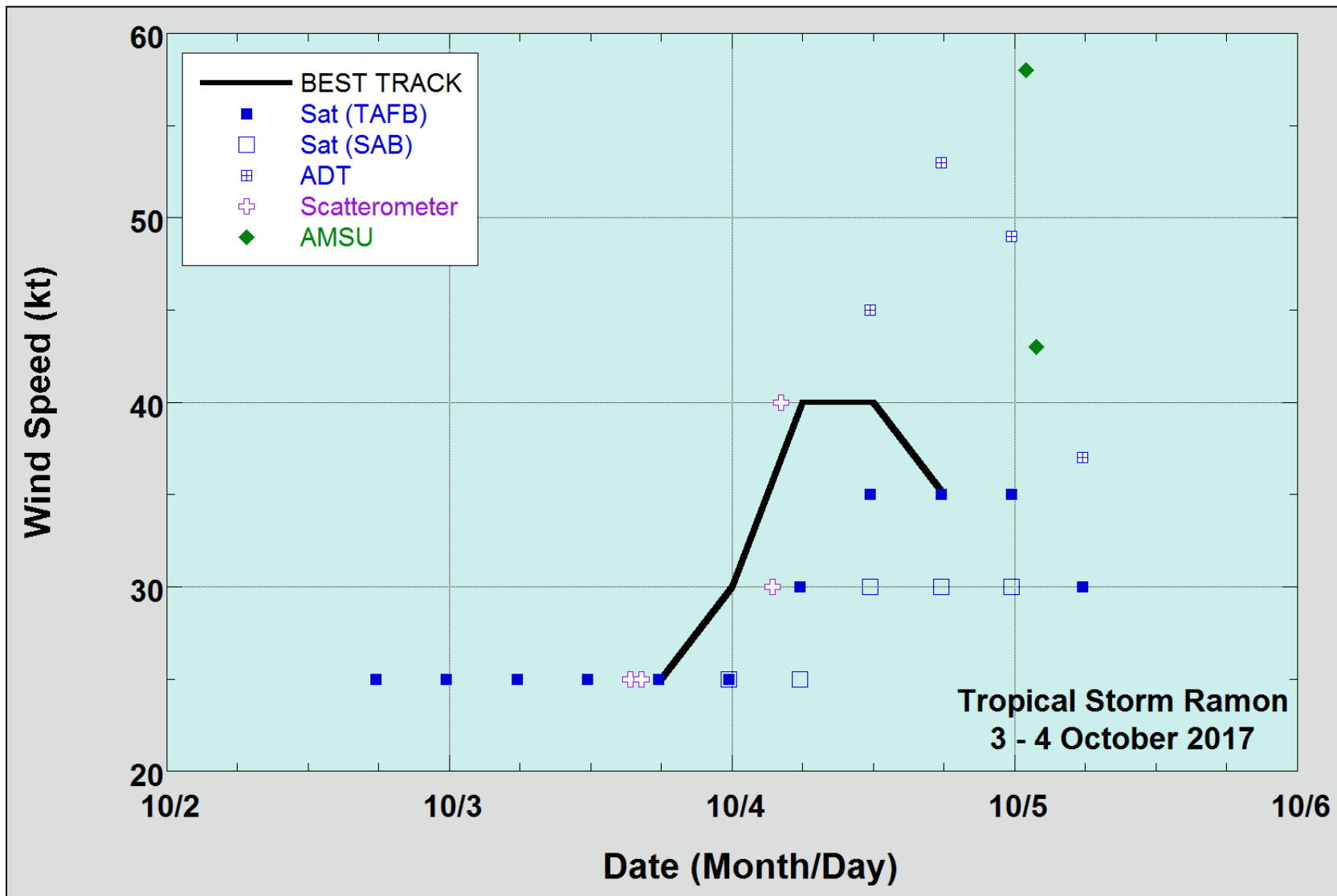


Figure 2. Selected wind observations and best track maximum sustained surface wind speed curve for Tropical Storm Ramon, 3–4 October 2017. Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. AMSU intensity estimates are from the Cooperative Institute for Meteorological Satellite Studies technique. Dashed vertical lines correspond to 0000 UTC.

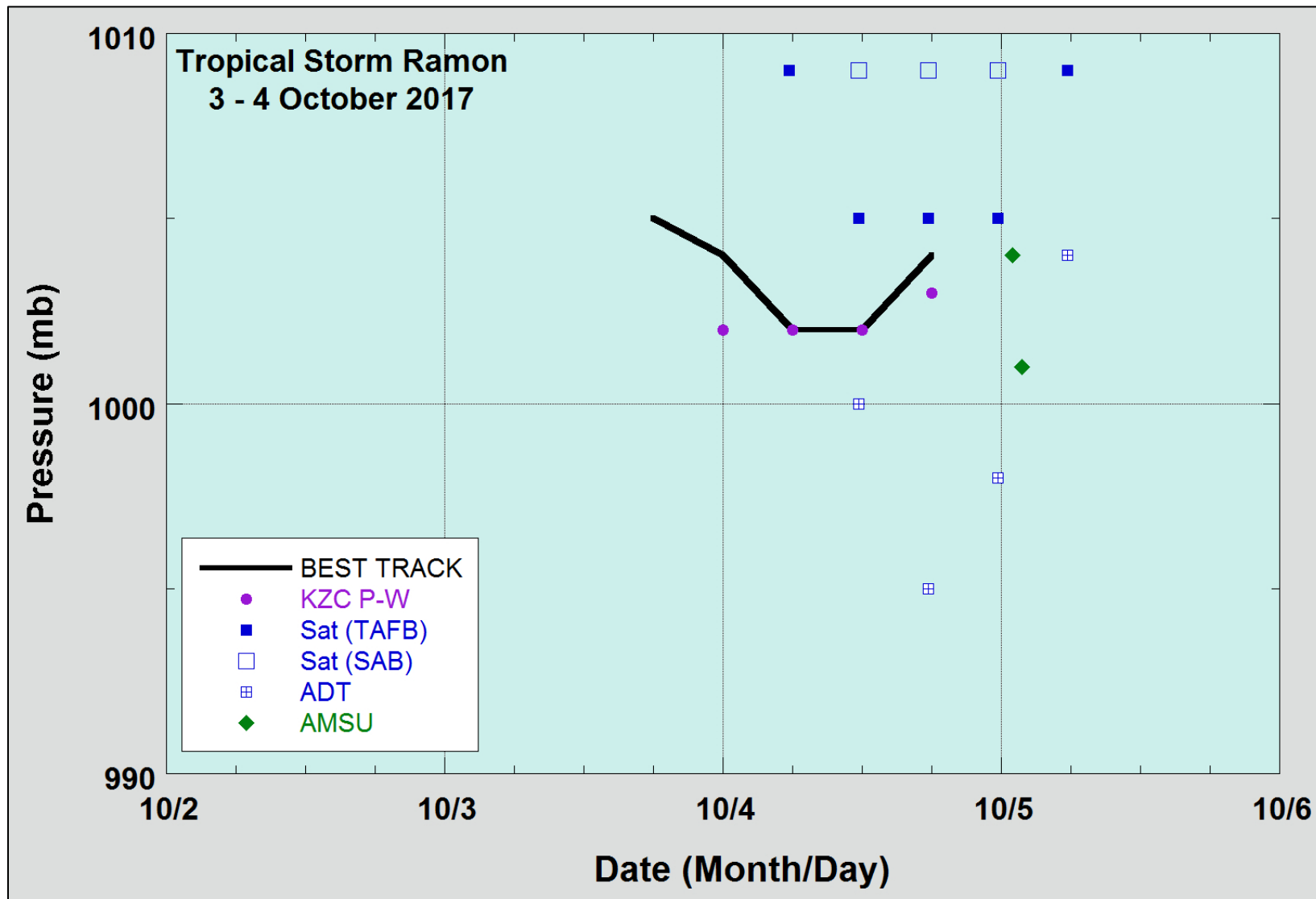


Figure 3. Selected pressure observations and best track minimum central pressure curve for Tropical Storm Ramon, 3–4 October 2017. Advanced Dvorak Technique estimates represent the Current Intensity at the nominal observation time. AMSU intensity estimates are from the Cooperative Institute for Meteorological Satellite Studies technique. KZC P-W refers to pressure estimates derived using the Knaff-Zehr-Courtney pressure-wind relationship. Dashed vertical lines correspond to 0000 UTC.