

Fig. 2
 A6 - Variations of Wind Speed and Barometric Pressure with distance from the eye of the hurricane
 upper chart shows:

Member
Ref.

CALCULATIONS

OUTPUT

Calculation of wind speed using barometric pressure information

Mean wind:

author	formula for V (km/hr)	V (km/hr)
Kraft	$26 \sqrt{(1013 - 918)}$	253
Takahashi	$25 \sqrt{(1010 - 918)}$	240
Myer	$20 \sqrt{(1010 - 918)}$	192

range is 192 to 253 km/hr
= 119 to 157 mph

Gusts (1 to 3 seconds):

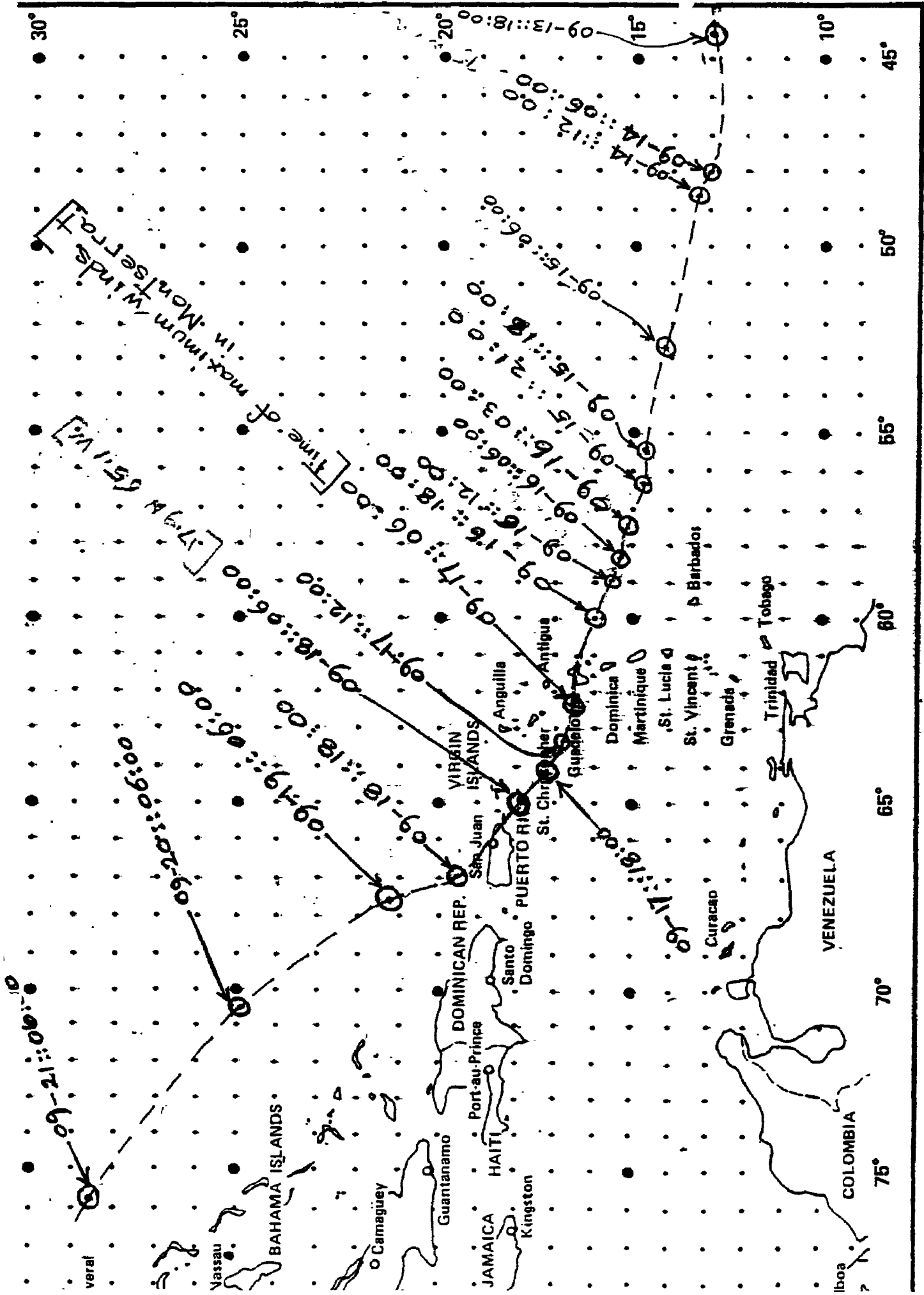
author	V (km/hr)	V (mph)
Kraft	380	236
Takahashi	360	224
Myer	288	179

Notes:

The central pressure in the storm reached as low as 918 millibars when it was close to Montserrat.

Short-duration gusts cannot envelope whole buildings. Therefore it is neither necessary nor appropriate to use gust speeds as design wind speeds for overall building structures. Gust speeds may be appropriate for components of buildings such as elements of cladding.

It would be appreciated that the above calculations are not as reliable as direct anemometer readings.



A8 - The Path of Hurricane Hugo

AS-II

Hurricane Logs.

Date/Time(GMT)	North	West	Maximum Winds (mph)	Central Pressure (mb)	Status
11-09/0600Z	13.0	24.8	35		Depression
11-09/1000Z	13.0	25.7	35		Depression
11-09/1600Z	12.8	28.0	35		Depression
11-09/2200Z	12.8	30.5	40		Storm
12-09/0230Z	12.5	31.5	45		Storm
12-09/1000Z	12.5	33.7	50		Storm
12-09/1600Z	12.6	36.0	50		Storm
12-09/2200Z	12.9	38.0	55		Storm
13-09/0230Z	12.9	39.0	65		Storm
13-09/1000Z	12.7	42.0	65		Storm
13-09/1600Z	12.8	42.8	70		Storm
13-09/2200Z	12.9	44.5	75		Hurricane
14-09/0230Z	12.9	46.3	75		Hurricane
14-09/1000Z	13.0	48.0	75		Hurricane
14-09/1600Z	13.3	48.7	85		Hurricane
14-09/2200Z	13.7	49.9	100		Hurricane
15-09/0230Z	13.9	51.1	115		Hurricane
15-09/1000Z	14.1	52.8	120		Hurricane
15-09/1600Z	14.4	54.1	125		Hurricane
15-09/1900Z	14.7	54.8	130	924	Hurricane
15-09/2200Z	14.8	55.5	150	918	Hurricane
16-09/0100Z	14.8	56.3	150	923	Hurricane
16-09/0230Z	14.9	56.6	150	923	Hurricane
16-09/0700Z	15.1	57.5	150	927	Hurricane
16-09/1000Z	15.3	58.3	150	933	Hurricane
16-09/1300Z	15.4	58.7	140	940	Hurricane
16-09/1600Z	15.6	59.0	140		Hurricane
16-09/1900Z	15.8	59.5	140	945	Hurricane
16-09/2200Z	16.0	60.0	140	942	Hurricane
17-09/0100Z	16.1	60.4	140	941	Hurricane
17-09/0230Z	16.2	60.8	140	943	Hurricane
17-09/1600Z	16.8	63.3	120		Hurricane
18-09/2200Z	19.5	67.0	100		Hurricane
19-09/0400Z	20.2	67.3	95		Hurricane
19-09/1000Z	21.2	67.7	90		Hurricane
21-09/1600Z	29.5	77.0	115	947	Hurricane
21-09/1900Z	30.6	77.8	125	945	Hurricane
21-09/2200Z	31.2	78.2	135	941	Hurricane
22-09/0400Z	32.7	79.9	135	934	Hurricane
22-09/0600Z	33.3	80.1	100	948	Hurricane
22-09/1000Z	35.0	80.8	70		Storm
22-09/1600Z	37.5	82.0	50		Storm
22-09/1900Z	39.0	82.0	50		Storm
22-09/1600Z	40.5	81.0	40		Last advis