

Appendix IV

Hurricane Keith

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Tropical depression No 15 of the year 2000 became tropical storm Keith on 29 September when it was about 270 miles from Belize. On the following day the system was upgraded to a Category-1 hurricane with a slow forward motion towards the west-north-west. The system strengthened rapidly to a Category-3 hurricane by 23:00 on 30 September and a Category-4 hurricane by 06:00 on 01 October when it was closest to Corozal in the north of Belize.

Benfield Greig's two-page summary of the overall history of Keith is included herein.

Keith affected Belize from 29 September to 03 October 2000. The intense period was from 30 September to 02 October. Significant wind damage was experienced only on the barrier islands (*Photos 01 & 02 in this Appendix*). The most-affected islands were Ambergris Caye and Caye Caulker. The effects in San Pedro (Ambergris Caye) are described in *Appendix V*. The wind speeds on the mainland of Belize never reached hurricane levels. Anemograph records provided by Carlos Fuller (of the National Meteorological Service in Belize) indicated a maximum gust at Philip S W Goldson International Airport in Belize City of 53 knots. That is equivalent to a sustained (1-minute) wind speed of about 50 miles per hour, well below the threshold for a hurricane¹⁵. The anemograph record of the most intense winds of Keith at the airport station are reproduced at the end of this Appendix (*Figure 7*).

No anemograph records are available for the barrier islands. This persistent shortage of instrumental records of wind speeds near ground level during major storm and hurricane events hampers the development of rational wind-loading standards. This shortage also reduces the confidence with which assessments of the causes of damage can be made following hurricanes (*see Section 4.3(iv) of the main Report*).

The major effect of Keith on the mainland of Belize was through torrential rainfall (*Photos 03 & 04 in this Appendix*). Information on the amounts of rain falling at several locations in Belize on the 5 days of Keith were provided in tabular form by Carlos Fuller of the National Meteorological Service. Also provided was a map of isohyets for the 5-day period. The table and the map are reproduced at the end of this Appendix.

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In the Saffir-Simpson Scale, a Category-1 hurricane has a minimum wind speed of 74 miles per hour (1-minute average). This is equivalent to 91 miles per hour (3-second gust) using the Durst conversion.