At least two yachts, one that withdrew and one that continued racing and reached Hobart, reported that monitoring an on board barometer provided them with a means of recording the intensity of the low pressure system.

### 9.4 Waves

Yachts that experienced problems, or found themselves in difficulties, and even those that continued racing reported that "exceptional" waves were responsible for inflicting the damage or causing severe knockdowns. These waves were always a minimum of 20% and up to 100% bigger than the prevailing seas, and with one exception came from a direction other than the prevailing wave pattern.

These "exceptional" waves were responsible for a range of roll-overs and knockdowns, including the yachts involved in SAR activities:

- B52 (roll-over through 360°),
- Business Post Naiad (roll-over through 360° twice),
- Solo Globe Challenger (knockdown),
- Winston Churchill (knockdown),
- VC Offshore Stand Aside (roll-over through 360°),
- Sword of Orion (roll-over through 360°),
- Midnight Special (roll-over through 360° twice),
- Kingurra (knockdown),
- Team Jaguar (knockdown, partial pitchpole) and
- Veto (knockdown).

"Exceptional" wave actions struck boats that were actively sailing or racing, or were on course to shelter on the NSW coast.

Many yachts that retired to seek shelter, once the storm had hit, reported to be in "more peril" from the waves encountered in steering the course making for port, than the course they were sailing prior to retirement. This was the result of the

angle of waves being more on the beam or stern quarter rather than forward of the beam. Twenty-five percent of the yachts that retired changed the course originally set on retirement. The new course was chosen as the safest for each yacht to steer in the conditions.

The sea conditions experienced by the fleet, particularly with waves breaking and coming from inconsistent directions, make it difficult to prescribe the optimum course a yacht should sail to be safe in the conditions. The evidence clearly shows that being beam-on to the waves was exceptionally dangerous.

Nonetheless there is evidence from the interviews that yachts that continued to "actively sail" were better equipped to cope with big waves. Having the necessary sail power and sufficient boat speed enabled crews to manoeuvre yachts over the waves, and having power was, in particular, critical in enabling many yachts to recover, after being hit by a wave.

A number of yachts reported that they considered heaving to as their best option in the conditions, but did not have drogues or sea anchors on board, and chose not to use any makeshift substitute. The Committee's investigation into drogues, sea anchors and parachute anchors or a makeshift alternative, shows their use would have been a sound option in the conditions of the 1998 race. It is worth noting that Sword of Orion deployed their anchor, chain and warp after their 360° roll. This measure slowed the drift rate by 1/3 and kept the bow of the boat into the seas for another 12 hours.

### 9.5 Design, Construction and Stability

There is no evidence that any particular style or design of boat fared better or worse in the conditions. Age of yacht, age of design, construction method, construction material, high or low stability, heavy or light displacement or rig type were not determining factors. Whether or not a yacht was hit by an extreme wave was a matter of chance.