

# Weather Routing Scoring (WRS)

## WHAT IS IT?

ORC uses each boat's ORC polar curves from their rating certificate and runs it over the course with the predicted weather conditions, the optimum route for each boat is simulated (the same way that a navigator will do before and during a race using similar programs like Expedition, Adrena or Predict Wind).

From the track of the optimised route, a Predicted Elapsed Time (PET) is generated along with the distribution of True Wind Speed (TWS) and True Wind Angle (TWA). The Time Correction Factor (TCF) for each boat in the race will be calculated from the ratio of boats PET to the scratch boat. The scratch boat may be part of the fleet or an average of the PET's.

Just like any other race the TCFs for the fleet are published before the start of race based on the anticipated race conditions and the boats ORC polar table.

## WHY?

The ORC ran over 50 regattas throughout 2024, some with fleets over 300 boats, using WRS. When the forecast eventuates, there is no better way to set handicaps that account for the performance differences between the boats. If the weather during the race varies from the forecast the analysis of the races to date indicates the WSR TCF is ALWAYS better matched to the race conditions than the All Purpose Handicap. WRS will never let a badly sailed boat win a race.

## HOW?

The accuracy of modern forecasting is getting more and more reliable, the models accuracy out to 72hrs are now very good. Navigators using the same routing technology, boat polars and weather forecasts when planning their race and predicting the finishing time, can often tell from this planning which division or TCF range is likely to do well in the race. ORC is using the same technology to understand the potential performance of each boat over the course to improve the accuracy of the handicap and give everyone an #equalchancetowin

The system helps mitigate a building or dying breeze favouring smaller or larger boats and races where boats are optimised for reaching are not so favoured if these conditions occur for long periods of the race.

Race Management submit to ORC: Boat details, Course details, start times. ORC run the race for the ORC rated entries in Predict Wind - using multiple models in the build up to the race and then give the race committee the ToT correction factors to publish and put into YB Tracking approximately 3 hours before the race.

More information:

<https://orc.org/race-managment/scoring#orc-weather-routing-scoring>