



# LAKE MACQUARIE YACHT CLUB

## GUIDELINES FOR RACING SAFETY

### HOT WEATHER GUIDELINES

#### For Sailing events

Adapted from Sports Medicine Australia hot weather guidelines by Australian Sailing (AS).

Policy credit: Sports Medicine Australia (SMA) has produced this set of guidelines. These guidelines are based on the latest research as well as the expertise of SMA's medical and scientific members.

#### **Why use guidelines?**

Most people understand the importance of physical activity for good health but it is just as important that, when levels of activity rise, the risk of harm is minimised. And it is even more important for those who have not recently or regularly taken part in sport or physical activity. These guidelines are not binding, but SMA and AS reminds all parties that they must act responsibly. We encourage a common sense approach and consideration of the comfort and well-being of all individuals including participants and officials.

Modification or cancellation of events, training or withdrawal from participation may be appropriate even in circumstances falling outside these recommendations.

There are many factors to be considered when clubs and associations are contemplating modifying, postponing or cancelling sporting events or training.

High intensity exercise in a hot environment, with the associated elevation of body temperature, can lead to heat illness. Heat illness in sport presents as **heat exhaustion** or the more severe **heat stroke**.

#### **Heat exhaustion**

- Characterised by a high heart rate, dizziness, headache, loss of endurance/skill/confusion and nausea.
- The skin may still be cool/sweating, but there will be signs of developing vasoconstriction (eg, pale colour).
- The rectal temperature may be up to 40°C and the athlete may collapse on stopping activity. Rectal temperature should only be measured by a doctor or nurse.

To avoid heat exhaustion, if people feel unwell during exercise, they should immediately cease activity and rest. Further benefit comes if the rest is in a shaded area with some passing breeze (from a fan if necessary) and the person takes extra hydration. Misting or spraying with water can also help.

## 1. Temperature

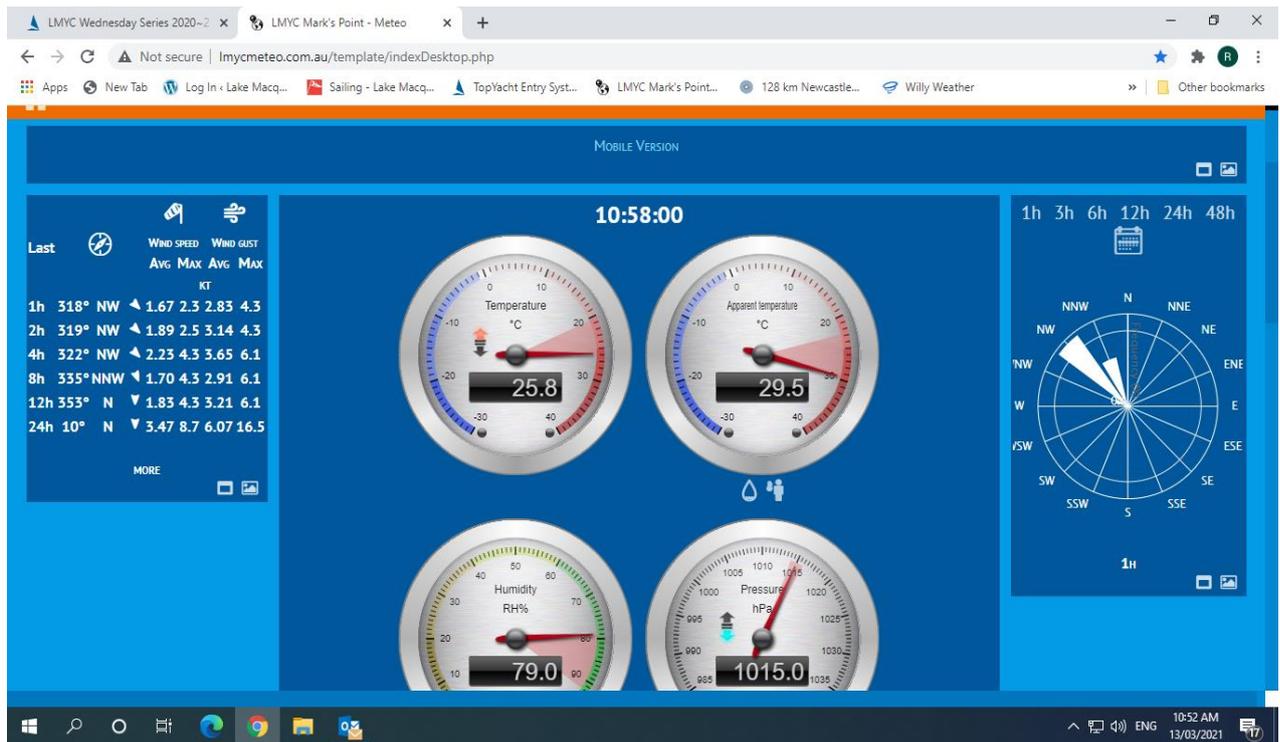
Ambient temperature is the most easily understood guide available, and is most useful on hot, dry days <b>Ambient temperature</b>	<b>Relative humidity</b>	<b>Risk of Heat Illness</b>	<b>Possible management for sustained physical activity</b>
15 - 20		Low	Heat illness can occur in distance running. Caution over-motivation.
21 - 25	Exceeds 70%	Low - moderate	Caution over-motivation. Increase vigilance.
26 – 30	Exceeds 60%	Moderate	Moderate early pre-season training. Reduce intensity and duration of play/training. Take more breaks.
31 – 35	Exceeds 50%	High – very high	Uncomfortable for most people. Limit intensity, take more breaks. Limit duration to less than 60 minutes per session.
36 and above	Exceeds 30%	Extreme	Very stressful for most people. Postpone to cooler conditions (or cooler part of the day) or cancellation.

Lake Macquarie Yacht Club has installed a weather station at Marks Point which can be accessed on the following link

<http://www.lmycmeteo.com.au/template/indexDesktop.php>

Marks Point weather station has a number of gauges indicating weather conditions on Lake Macquarie. One of the gauges indicates “AMBIENT TEMPERATURE” (second gauge on top row) which is an indication of body comfort and which is a combination of air temperature and relative humidity as described above.

LMYC Race Committee propose to use 38°C on this scale as the upper limit of racing conditions.



## SMOKE POLLUTION

Bushfire smoke can pose a health risk to recreational and high performance athletes. The health impact of bushfire smoke can vary based on an individual's current health status and previous medical conditions. Current public health advice is aimed at high-risk groups, including people over 65, children 14 years and younger, pregnant women and those with existing heart or lung conditions. However, athletes involved in high performance sport can also be at increased risk while performing high intensity prolonged exercise outdoors and additional caution should be taken. When pollution exposure is at low levels, the respiratory tract's usual defence mechanisms trap, transport and clear pollutants effectively. With elevated exposure, short-term accumulation can occur resulting in inflammation and this can exacerbate a number of health conditions with asthma being the most common in athletes.

During exercise, respiratory rate and volume increases, this in turn increases the total airway exposure to pollutants. In high performance athletes, moderate exercise can increase the total amount of air passing through the airway by more than 10 times and vigorous exercise by more the 20 times, compared to resting values. Even at moderately reduced air quality, this can represent a significant increase in pollutant exposure during a one-hour, high intensity training session.

### **Air Quality Index (AQI) or PM2.5 in $\mu\text{g}/\text{m}^3$ ?**

Most State and Territory government websites (except for Tasmania and Victoria) present air quality information as the 'Air Quality Index' or AQI calculated from a 24-hour average. The AQI is calculated for a number of pollutants (including fine and coarse particulate matter, carbon monoxide and ozone). It was designed as a way to standardise information across these different types of air pollution. This means that the AQI number is not a raw measurement (e.g. micrograms of pollutant per metre cubed of air), but a scale based on how much the reading is above (or below) the air quality standard. Some States and Territories provide the AQI separately for different pollutants,

others provide only a composite AQI that is based on the pollutant that is the worst. For more details on how the AQI is calculated in your area, please see your local air quality agency's website. PM2.5 are very small particles usually found in smoke. They have a diameter of 2.5 micrometres (0.0025 mm) or smaller. PM2.5 particles are a common air pollutant. Breathing in PM2.5 particles can have negative effects on your health. PM2.5 particles are small enough for you to breathe in deeply into your lungs. Sometimes particles can enter your bloodstream.

PM2.5 is measured at all air quality measuring sites in Australia. The other pollutants that make up the AQI are not measured everywhere in Australia. This means that PM2.5 has the relevance for providing a standardised guideline for all of Australia. PM2.5 is also by far the most important air pollutant in smoky conditions.

Smoke concentrations in the atmosphere can vary markedly within a short distance (e.g. 2 km) and can change rapidly over time. 24 hour rolling average of PM2.5 is useful for knowing the average PM2.5 levels in the air over the past 24 hours, at a point in time. The 24 hour rolling average does not however necessarily give an accurate understanding of real-time PM2.5 concentrations. For individuals wishing to make decisions about whether it is safe to exercise now, or over the next couple of hours, having real-time or hourly averages of PM2.5 is important.

For these reasons, the AIS guidelines are based on real time or hourly PM2.5 readings.

### The AirRater App

The AirRater App was originally funded by the Australian Government and is currently funded by Menzies Institute for Medical Research. AirRater draws its air pollution information from State and Territory air quality monitoring networks. It presents information on PM2.5 concentrations in mcg/m<sup>3</sup> and applies the same system of measurement for all locations in Australian. To find out more about how AirRater sources and presents its data, go to the following site: <https://airrater.org/air-quality-explainer/>.

Table 2. Activity levels based on visibility Visible landmark	Air health category	Activity levels – people sensitive to smoke	Activity levels – everyone else
About 20 km	Good	It's a good day to be outside.	It's a good day to be outside.
About 10 km	Moderate	It's okay to be outside but watch for changes in air quality around you.	It's okay to be outside but watch for changes in air quality around you.
About 5 km	Poor	Reduce prolonged or heavy physical activity.	Normal activity, but be alert to changes in air quality
About 1.5 km	Very poor	Avoid physical activity outdoors.	Reduce prolonged or heavy physical activity.
Less than 1.5 km	Hazardous	If you can, stay indoors and keep physical activity levels as low as possible.	Avoid all physical activity outdoors.

The LMYC Race Officer's phone has the 'AIRRATER' App installed and Race Officers will use >150µg/m<sup>3</sup> and less than 1.5km as guidelines in determining whether to abandon a race that is in progress or postpone a race that has not yet started.

## EXCESSIVE WINDS

LMYC proposes a safety level of consistent 30 knots maximum winds prior to a race being started.

The Race Committee may cancel/postpone racing if this maximum is exceeded up to one hour before a race, and the Race Officers thereafter.

The LMYC Race committee may cancel a race with winds less than this, if the sea state created by winds from the western sector presents a danger to skippers and crew boarding their boats in the marina or moorings.