AIR AWARE – AIR QUALITY MONITORING GUIDELINES

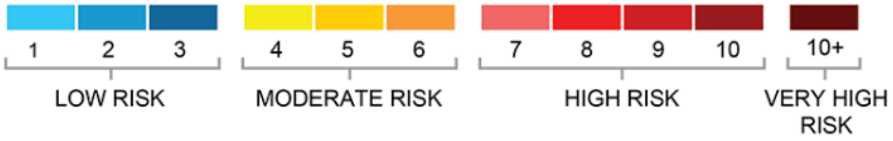
This document is meant to serve as a guideline for Affiliated Members, Team Officials, Players and Match Officials affiliated with Alberta Soccer. As a guideline, it suggests what Affiliated Members, match officials and team officials should consider in assessing air quality at local fields and awareness of potential health impacts.

BASIS

This guideline document includes background information about the Air Quality Health Index (AQHI), asthma management, and exercise-induced bronchoconstriction (EIB).

POLICY

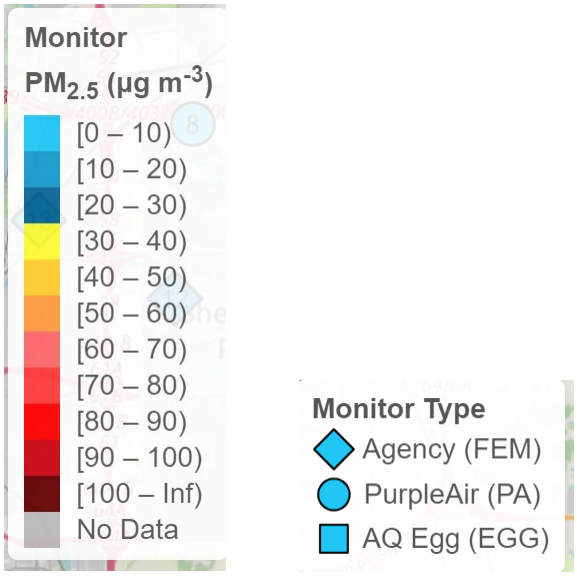
1. Go to https://weather.gc.ca/airquality/pages/provincial_summary/ab_e.html to access the AQHI.
    a. Mobile Phone App also available, see resources
    b. The website listed above and mobile app provides readings for most urban centres. Additional rural locations are available from Government of Alberta website (see resources)
2. Click on the AQHI station name
    a. This brings up the AQHI for that station.
        i. For some cities (Edmonton, Strathcona County, Calgary, Red Deer, Grande Prairie, etc) there are multiple stations where you can click on "AQHI by station nearest to you.
3. Note the station, time, and date, and Index calculation.
    a. Updates usually occur hourly (15-30 minutes after the hour).
    b. Use the index calculation that is within one hour of scheduled kick-off or practice time.
    c. If the AQHI is "7" or higher then go to steps5or 6as appropriate



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4. Purple Air Sensor Map: https://cyclone.unbc.ca/aqmap/#6/55.623/-115.708/B31/L38/L40/L41
    a. This map provides from the sensors for more locations, some of which may be closer to the location of the soccer event.
    b. The scale is representative of the AQHI by the corresponding colors. For a reading of "60-70" (pink) or higher, go to step 5 or 6 as appropriate.



5. **Games**
    a. If the Affiliated Member has not cancelled games in advance all teams and match officials should arrive ready to play.
    b. If the AQHI is still above "7" (or 60-70 Purple Air map) at the next calculation the teams involved and the match official should consider delaying kick-off or cancelling the game.
        i. The match official reserves the final right to cancel the game if the conditions are considered dangerous, in the match official's opinion.
        ii. Referee to write on game sheet reason for abandonment with the Index calculation, time & date number calculated and AQHI station used.
    c. If air quality changes dramatically during a game (e.g. sudden smoke event caused by wind direction change) referees and team officials are advised to use their discretion. Record all decisions and relevant information on the game sheet.

6. **For Practices**

    a. Team officials should consider a rescheduled practice or postponing practice until a later time.

INCORPORATING

1. Incorporating AQHI and Purple Air Sensor Map readings into your training practices
   a) Access the latest AQHI calculations and/or readings
      i) IfAQHI is "1-3" (0-30 or blue Purple aAir) continue with training as normal.
      ii) If AQHI is between 4 – 6 (30-60 Purple Air yellow to orange) then be prepared to adjust the practice by:
         - Reducing the intensity.
         - Reducing the duration of the practice.
         - Providing resting periods.
      iii) If air quality is "7" or above (60+ Purple Air map pink to red) reschedule.
2. Be aware of weather and other conditions:
   a) Current forest fires and their locations in the province.
   b) Local burning of stubble on fields or agricultural fields – these can increase particulate matter in the air without impacting the AQHI for a city.
   c) Sudden and dramatic changes in wind strength and direction.
   d) Proximity of any major road or highway.
   e) Near or downwind of any industrial areas or other significant emission sources.
3. Environment and Climate Change Canada issues AQHI forecasts, Special Air Quality Statements and Air Quality Advisories. This information is helpful for planning your outdoor event. (see resources)
4. Blue Sky Smoke Forecast is a resource for planning your outdoor event. (see resources)

BACKGROUND INFORMATION

1. The AQHI is a web-based, risk management tool which describes a local reading of air quality as it relates to human health. A Value over "7" or (60 Purple Air sensors) is of primary concern.
2. The AQHI is reported across Canada by provinces and territories and the federal government (Environment and Climate Change Canada). AQHI values are forecasted for later in the day and the following day to help with planning outdoor activities.c
3. Health Canada recommends through the AQHI that for strenuous activities like soccer anything above an AQHI of 7 (70 purple air) then one should reschedule the event.
4. An AQHI treats anything above 10+ (100 purple air) as "Very High" health risk with health messages for the "general" and "at risk" populations to reschedule all outdoor activities – strenuous or not. Environment and Climate Change Canada will issue an Air Quality Advisory when the AQHI is 10+.
5. Elite athletes are in the "at-risk population because of the intensity and duration of exposure to outdoor air quality." Children are at higher risk due to smaller airways and developing lungs. Women appear to be more affected than men due to smaller airways,

lungs, and respiratory systems. Those with underlying health conditions (for example asthma) are also at higher risk to impacts from air pollution.

6. Regarding air quality, soccer is considered a high exposure sport.
7. Individuals tend to rely on sensory perception to evaluate air quality when, in fact, the pollutants that present the greatest harm to human health can be difficult to see or smell (e.g. ground level ozone).
8. It is neither possible nor desirable to acclimatize athletes to air pollution.
9. Exercise-Induced Bronchospasm (EIB) is a sudden narrowing of the airways in response to vigorous exercise. It may occur in some individuals who have no pre-existing diagnosis of asthma. Most obvious symptoms of EIB include wheezing, prolonged shortness of breath, tightness in chest, coughing, extreme fatigue, and chest pain.
10. Asthma sufferers should have it under control before exercise (no coughing, shortness of breath, wheezing, etc.) and no other respiratory concerns (common cold, etc.). According to studies, asthma is now twice as prevalent in elite athletes as the general population. Symptoms of severe asthma emergency include: struggling to breathe, rescue inhaler does not help, cannot speak/finish sentences, nostrils flaring out, fainting, severe fatigue, blue lips and nails, and unconsciousness.

REFERENCES AND LINKS

Weather Can mobile app for AQHI access: https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/weathercan.html

Air quality APP - https://www.canada.ca/en/environment-climate-change/services/weather-general-tools-resources/weathercan.html

Environment and Climate Change Canada AQHI reporting site: https://weather.gc.ca/airquality/pages/provincial_summary/ab_e.html

Alberta Environment and Protected Areas AQHI reporting site: https://airquality.alberta.ca/map/

Purple Air Sensor Map – https://map.purpleair.com/1/m/i/mAQI/a10/p604800/cC4#7.25/53.561/-113.279

ECCC Alerts - https://weather.gc.ca/mainmenu/alert_menu_e.html

Environment Canada, Air Quality Health Index (AQHI) Printed Publications. Retrieved from https://weather.gc.ca/airquality/pages/provincial_summary/ab_e.html

Alberta Environment and Protected Areas AQHI information: https://www.alberta.ca/about-the-air-quality-health-index

Sports Information Resource Centre (SIRC) – Air pollution and sport safety resources: https://sirc.ca/air-quality-and-sport/

Sport Medicine and Science Council of Manitoba (2013). *AQHI – Use in Sports*. Ironstone Digital. Retrieved from https://itunes.apple.com/ca/book/aqhi-use-in-sports/id603363086?mt=11

Alberta Health Services - http://www.albertahealthservices.ca/news/air.aspx