



EUROPEAN ATHLETICS YOUR SPORT FOR LIFE

Prof. Marco Cardinale, PhD

HIGH PERFORMANCE CONFERENCE Warsaw 2019





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Athletics Test Events 2019 -2020 (Marathon) Marathon Grand Championship 15 Sep. 2019
Meijijingu Gaien (Start / Finish) Japan Association of Athletics Federations

Athletics TOKYO Challenge Track Meet 2020 5-6 May 2020

Olympic Stadium Japan Association of Athletics Federations



24 July - 9 August 2020 31st July first event

25 August - 6 September



2019 Athletics Federations

2020 rations

#### Outline

- Preparing for Tokyo What you need to consider
  Qualifying Challenges
  Planning training/Competitions
  The 2020 Olympics
  Environmental Challenges
  Competition Challenges
  Preparing the team

Olympic Challer · Qualify [World Ranking P

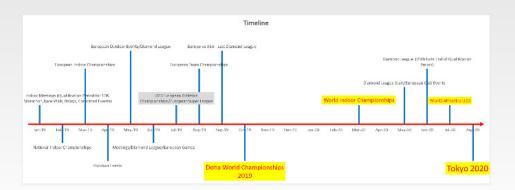
## **Outline**

- Preparing for Tokyo What you need to consider
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  - Environmental Challenges
  - Competition Challenges
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## Olympic Challenges

Qualify [World Ranking Position or Entry Standard]

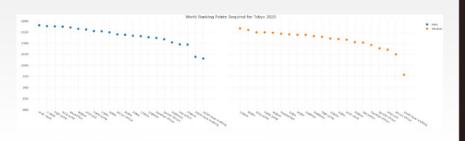
Entry Standards November 2019 1st July 2020 list of qualified athletes and relay teams IAAF World Rankings 2-5th July Reallocation of unused quota places 6th July port entries Deadline



Athletes' position in the IAAF world rankings will be based upon the points they score, the amount determined by their performance and place and the importance of the competition in the IAAF global calendar in which those results are achieved.



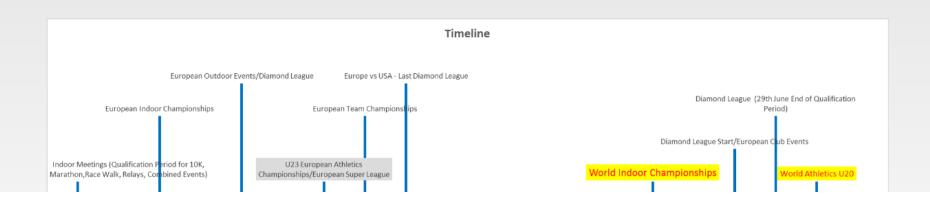




## Olympic Challenges

Qualify [World Ranking Position or Entry

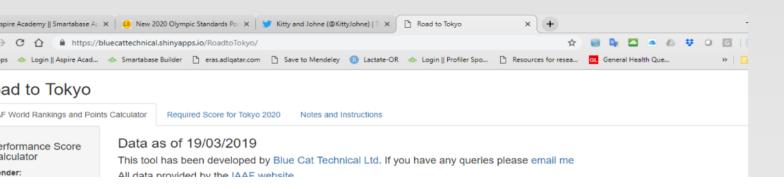
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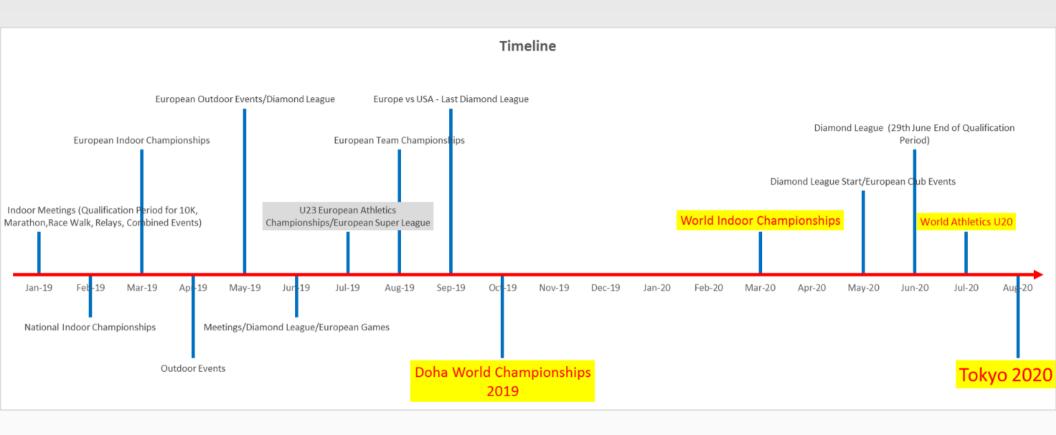


## [d]

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## 6th July port entries Deadline





### **Kitty and Johne**

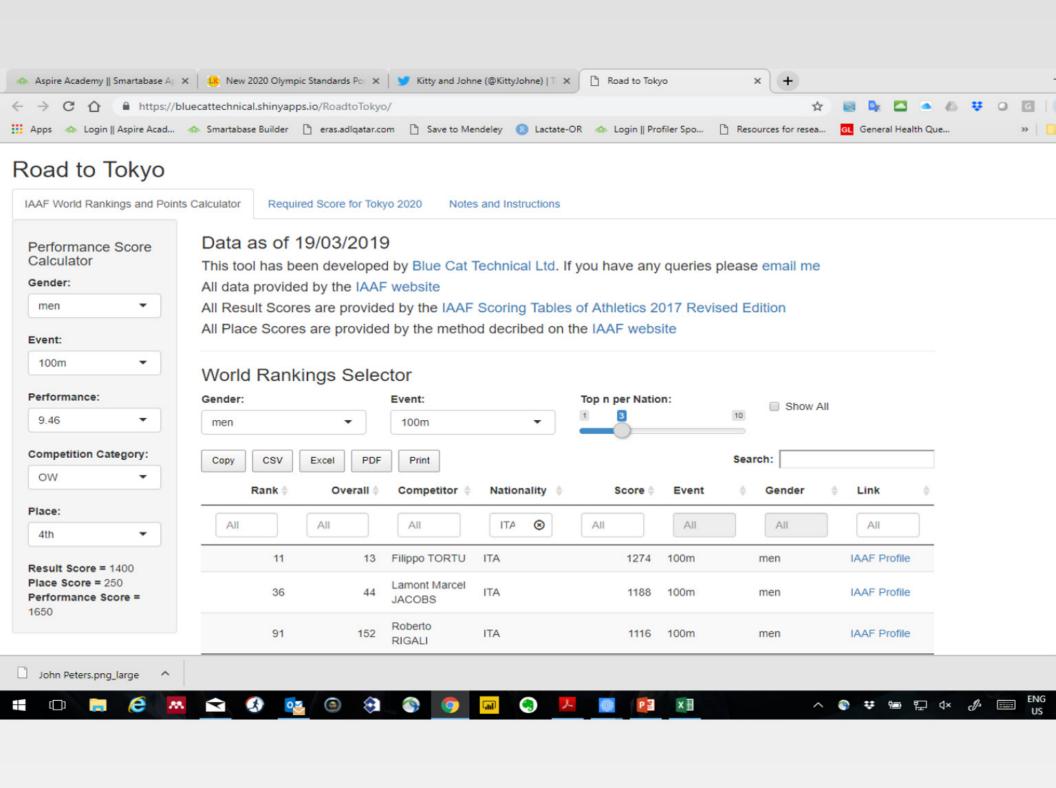
@KittyJohne Follows you

Data analyst and (now veteran!) athlete linkedin.com/in/john-peters... strava.com/athletes/53729...

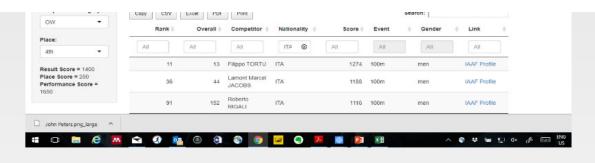
III Joined May 2011

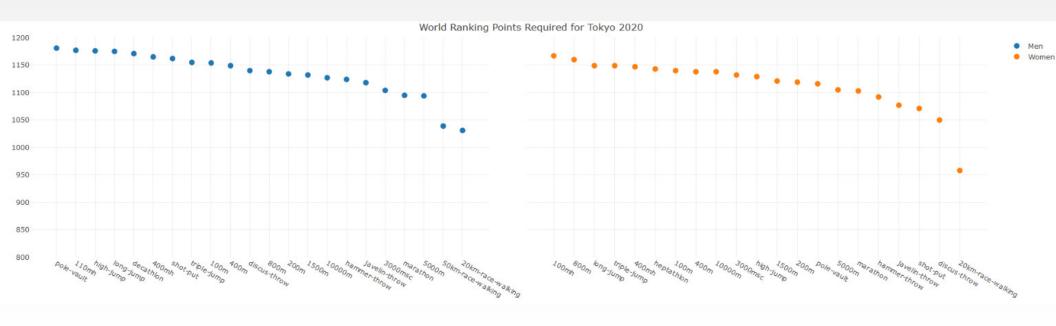
Tweet to

Message













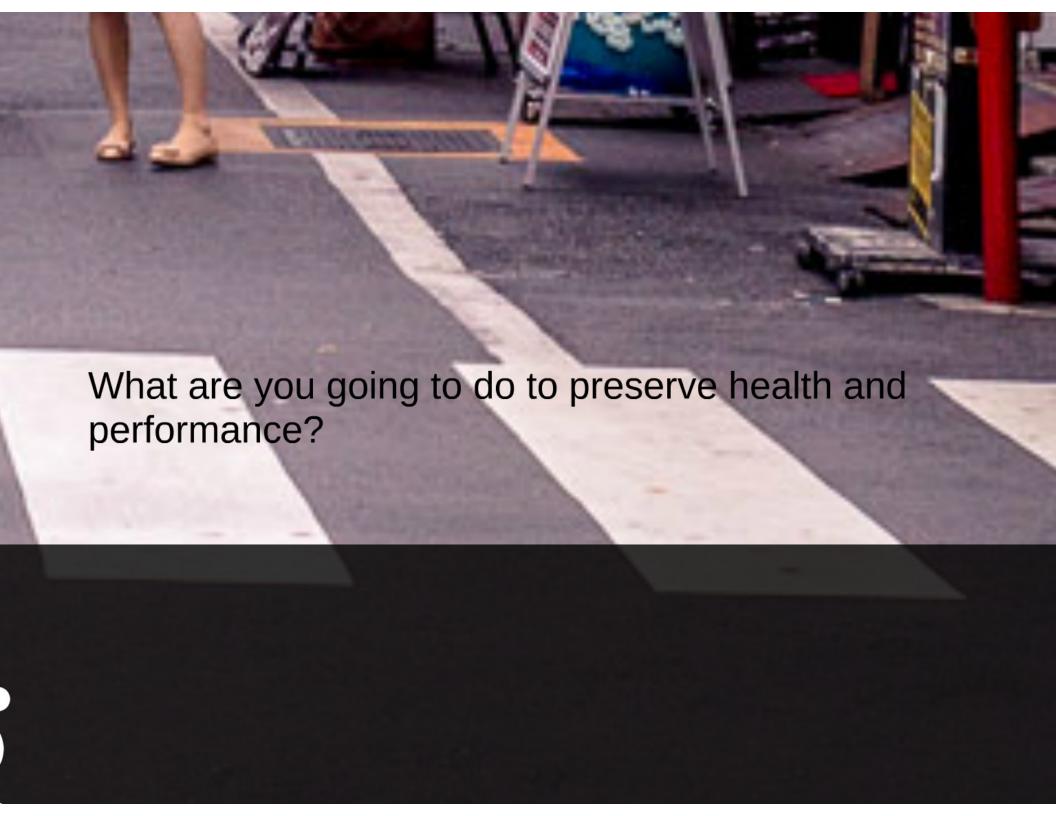
Where can you score points?

'bin" all periodisation strategies?

Where can you score points?

Do we need to "bin" all periodisation strategies?

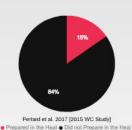


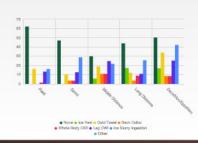


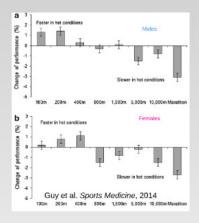
### Environmental Challenges in Tokyo 2020

#### Hottest and most humid time of the year

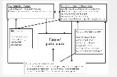




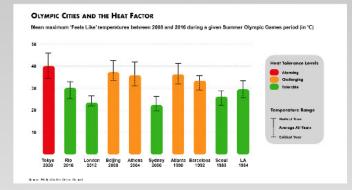


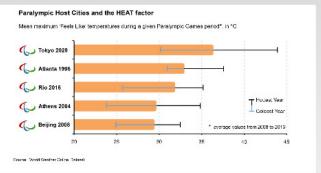






Heat Adaptation Cooling Strategies



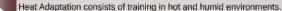






Athletic events undertaken in the heat increase the risk of exertional heat illness through the development of hyperthermia and severe dehydration.

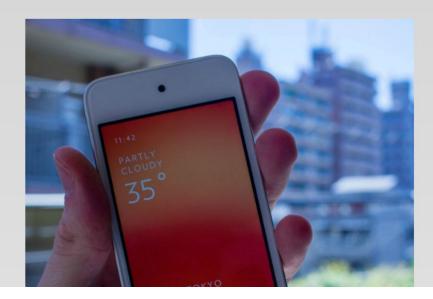


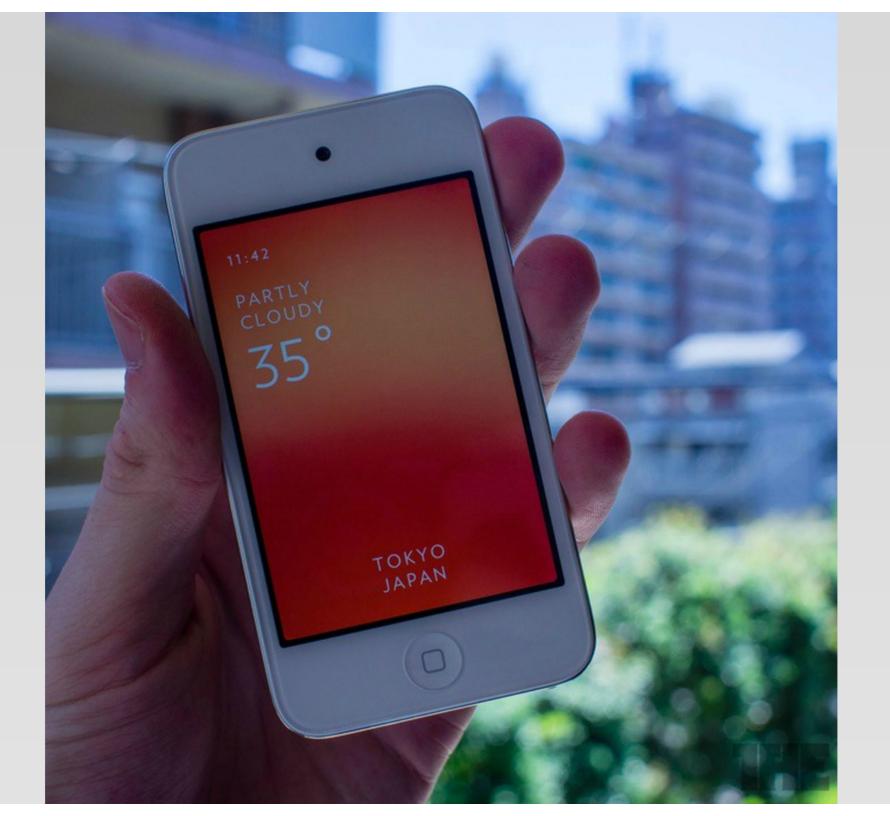


HA can reduce the risk of Heat Illness and can also improve performance

## Environmental Challeng

Hottest and most humid time of the year





Source: World Weather Online, Dataset



A person suspected of suffering from a heat-related illness is transported to an ambulance in Kurashiki, Okayama Prefecture, in July. | KYODO

NATIONAL / SCIENCE & HEALTH

### Record 70,000 people rushed to hospitals since April 30 amid scorching Japan heat wave

KYODO

Scorching summer heat has sent more than 70,000 people to hospitals across the country over the last three months, far exceeding the previous annual record set in 2013, government data showed Tuesday.

AUG 7, 2018 ARTICLE HISTORY

A PRINT M SHARE

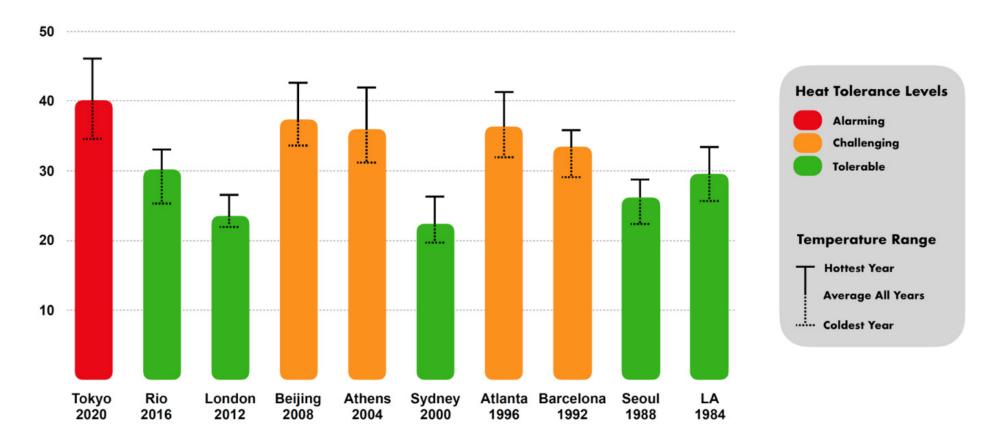
Japan's deadly heatwave should worry athletes competing in the 2022 Olympics

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### **OLYMPIC CITIES AND THE HEAT FACTOR**

Mean maximum 'Feels Like' temperatures between 2008 and 2016 during a given Summer Olympic Games period (in °C)



Source: World Weather Online, Dataset

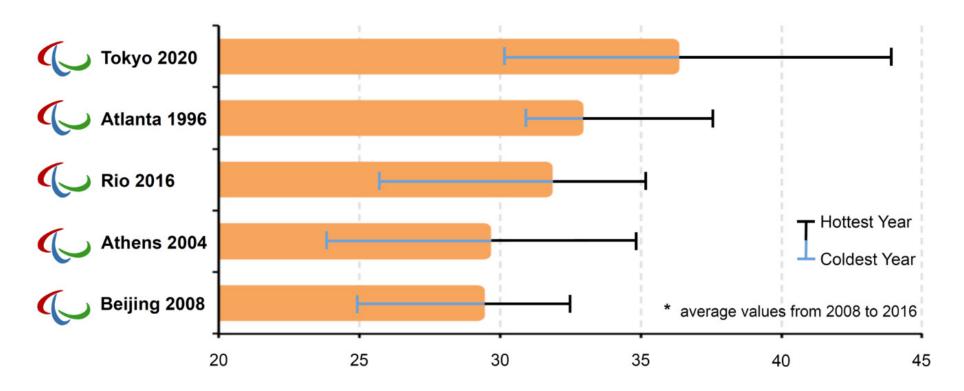
### Paralympic Host Cities and the HEAT factor

Mean maximum 'Feels Like' temperatures during a given Paralympic Games period\*, in °C

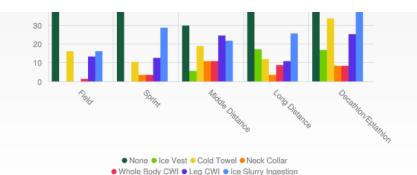
Source: World Weather Online, Dataset

### Paralympic Host Cities and the HEAT factor

Mean maximum 'Feels Like' temperatures during a given Paralympic Games period\*, in °C



Source: World Weather Online, Dataset



### **Heat Adaptation**

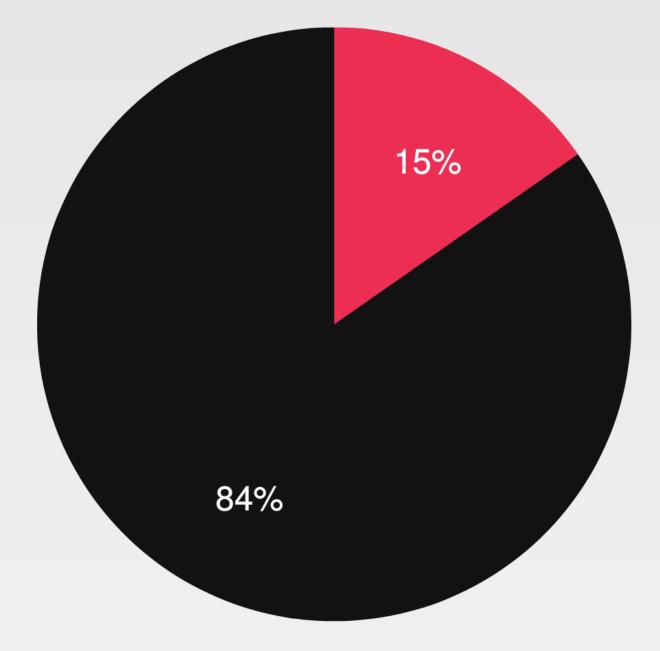
Cc

Athletic events undertaken in the heat increase the risk of exertional heat illness through the development of hyperthermia and severe dehydration.



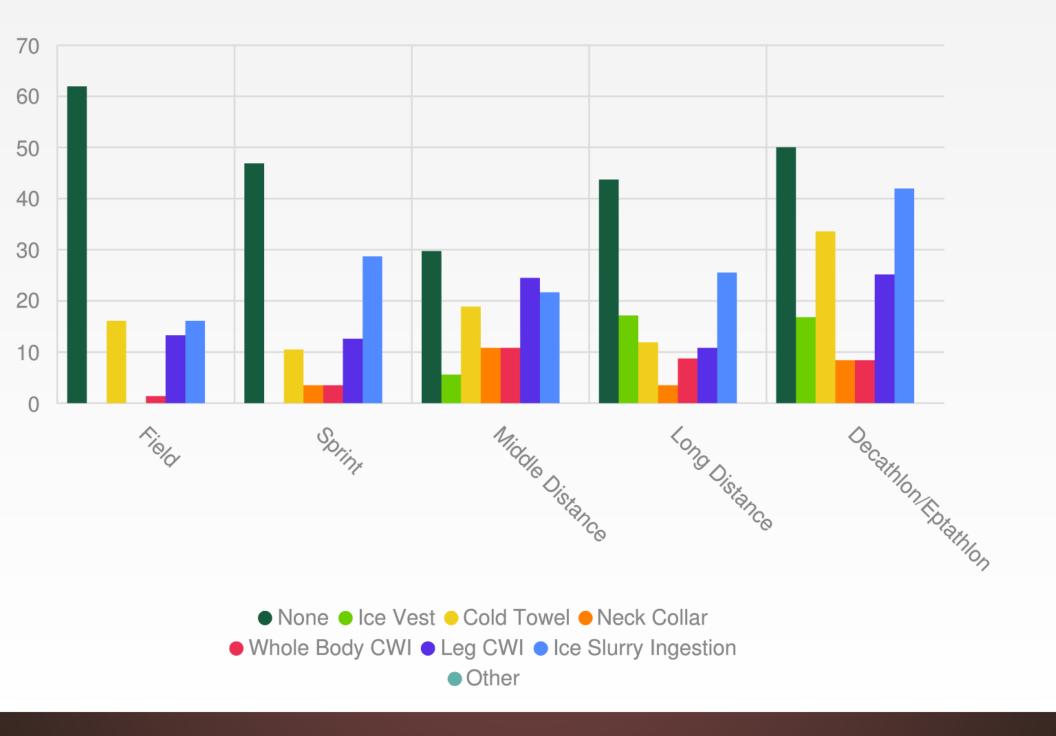
Specific interventions such as heat acclimatisation, precooling and adopting a hydration strategy can help optimise performance in such challenging conditions

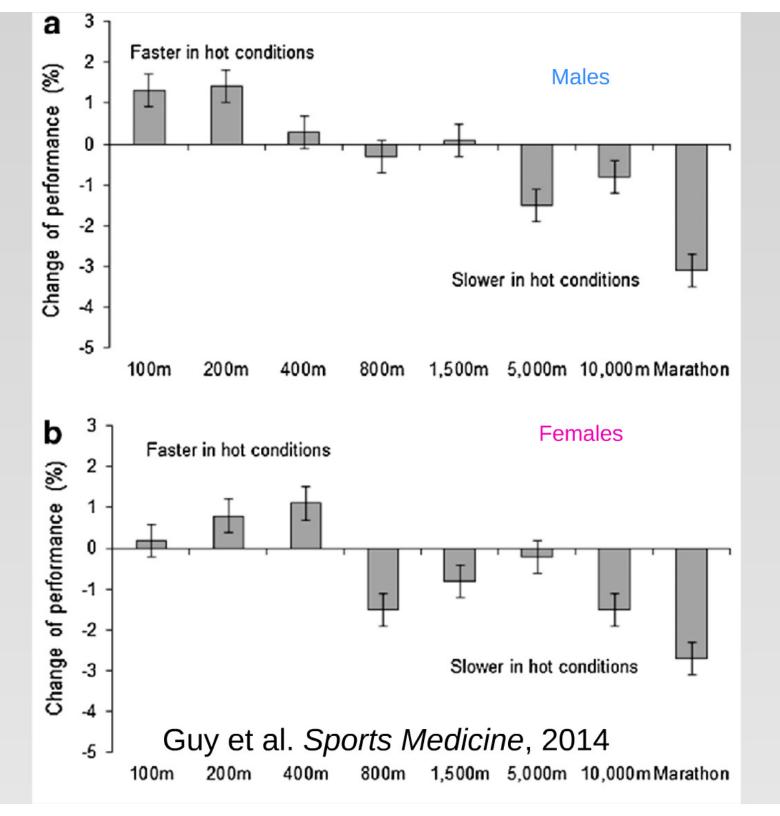




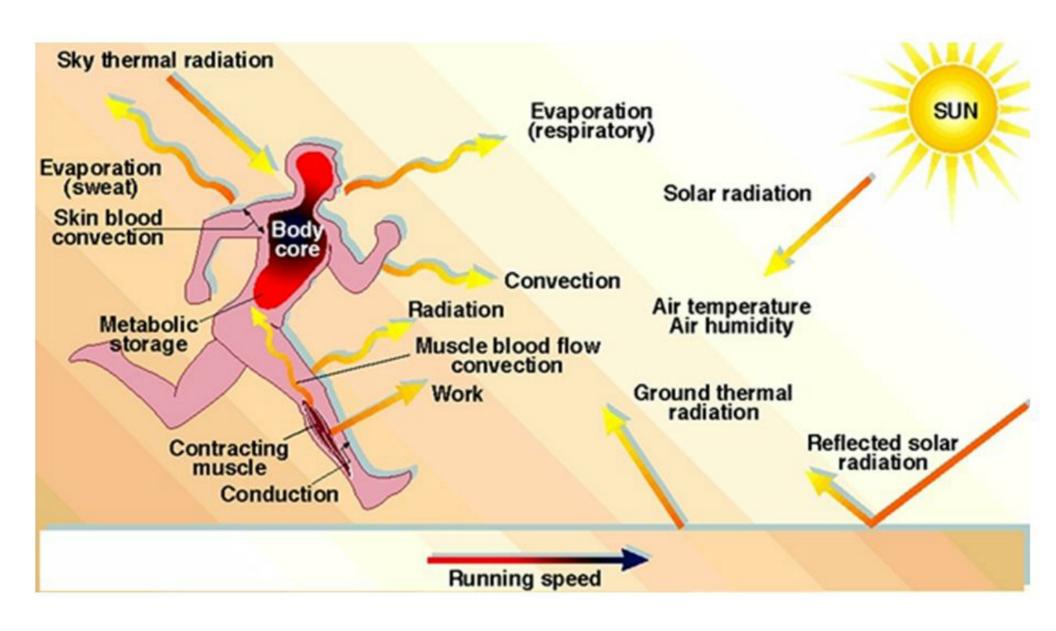
Periard et al. 2017 [2015 WC Study]

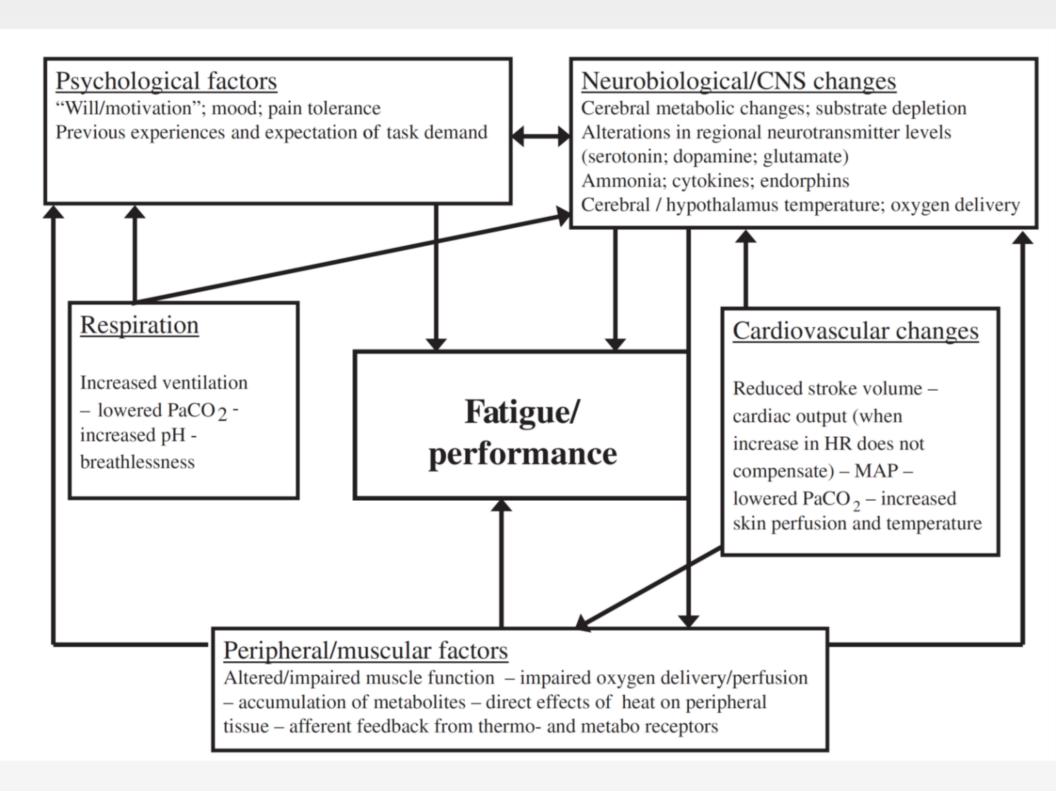
Prepared in the Heat
 Did not Prepare in the Heat

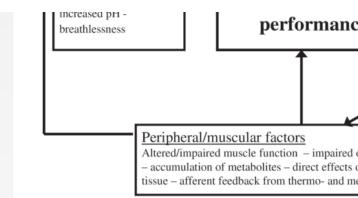




## Heat Exchange During Exercise







# Heat Adaptation



Heat Adaptation consists of training in hot and humid environments.

HA can reduce the risk of Heat Illness and can also improve performance

HA regimens lasting <14 days induce many beneficial physiological and perceptual adaptations to high ambient temperatures, and improve subsequent exercise performance and capacity in the heat

However, the extent of the adaptations is greatest when HA regimens lasting longer than 14 days are adopted.

Figure 2: Heat Adaptation Curves

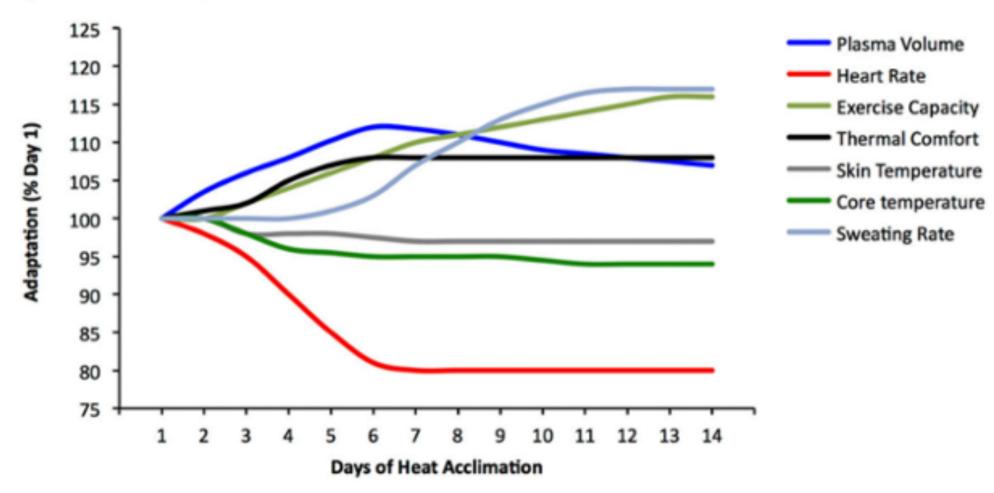
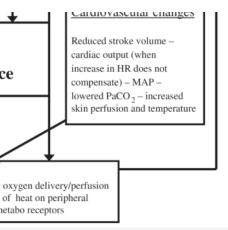
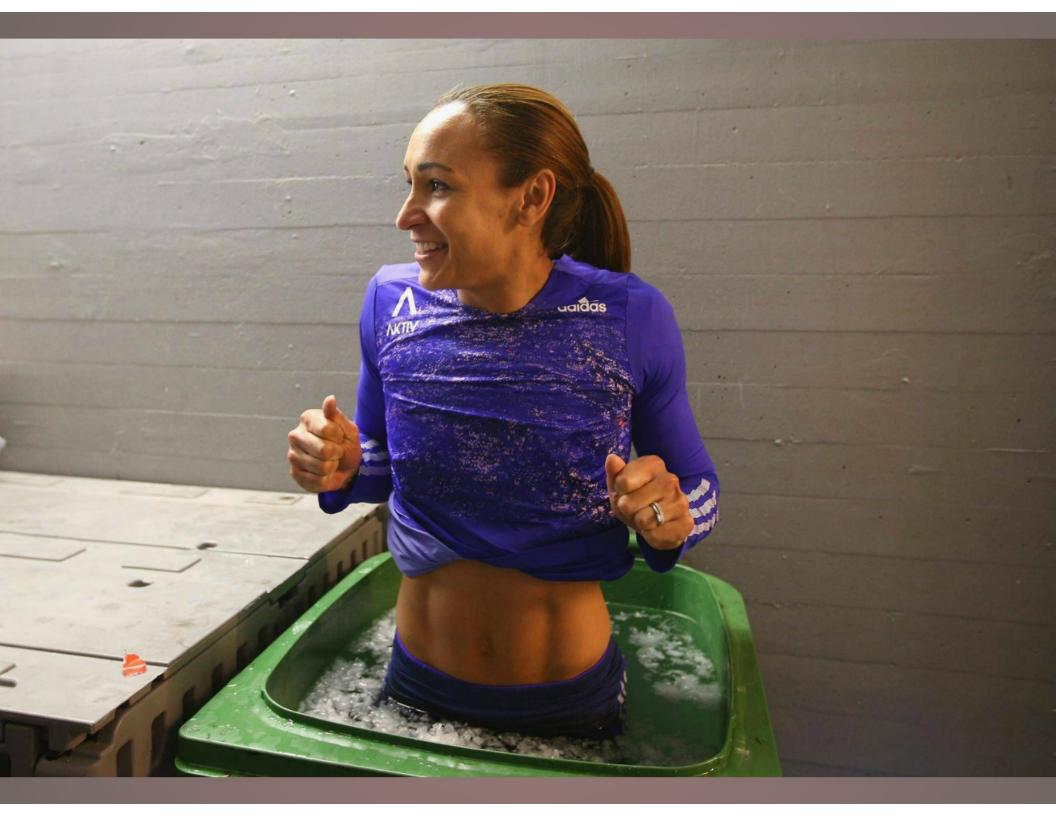
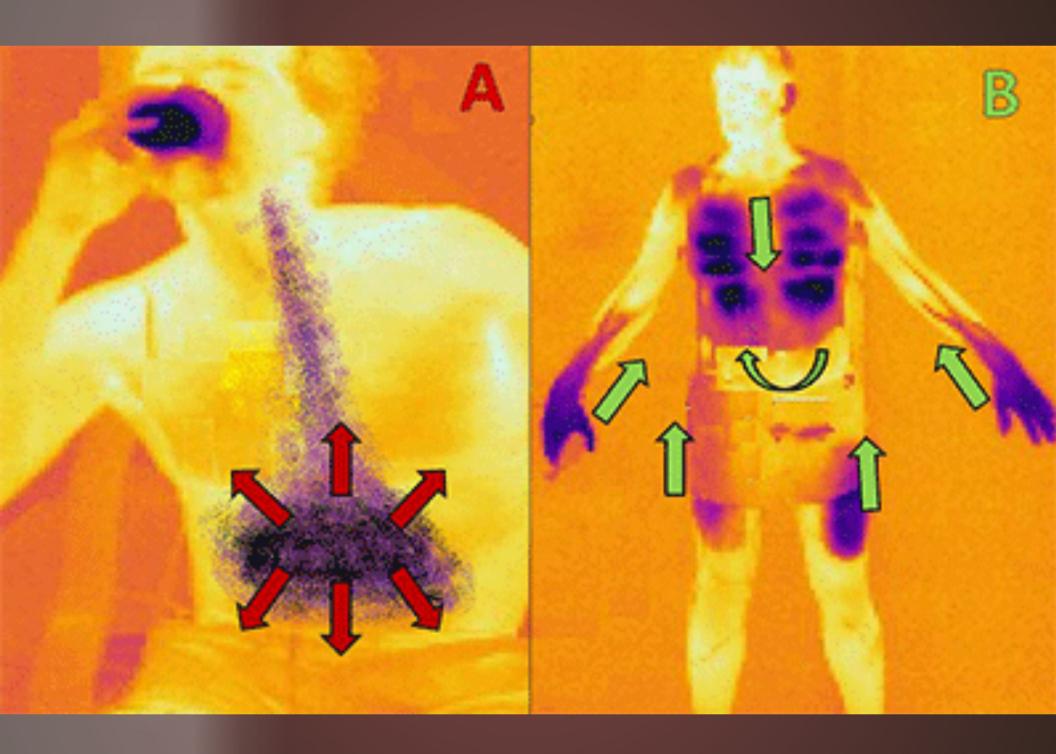


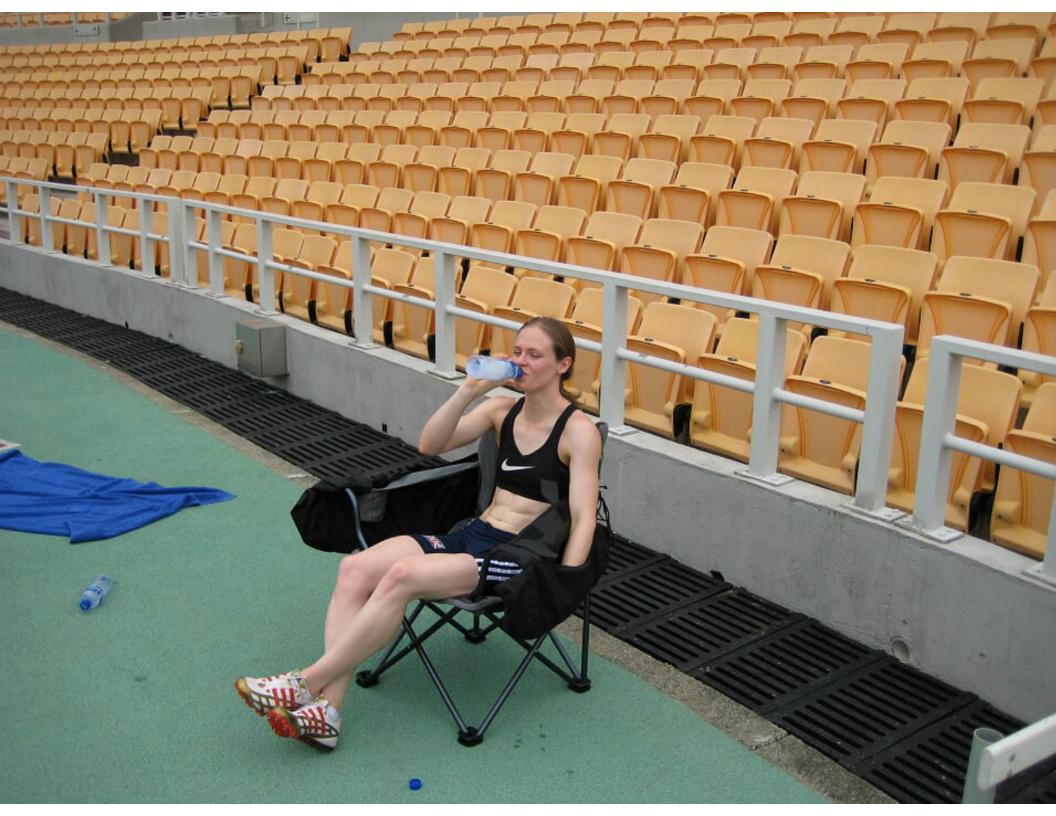
Figure from Periard et al (2015) 2



# Cooling Strategies









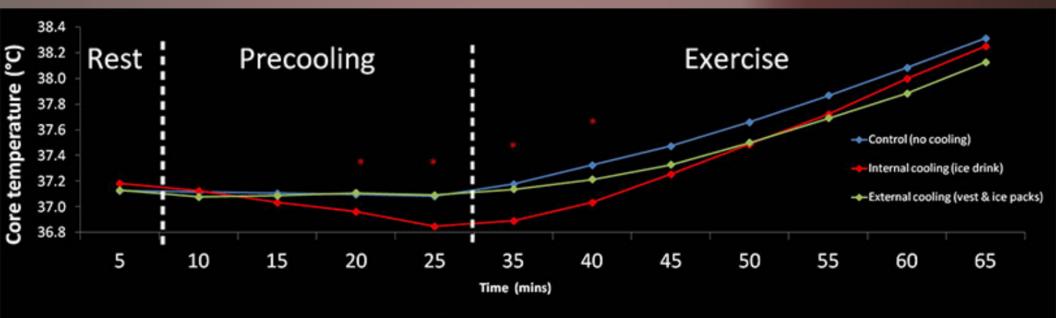


Figure 2: Response of  $T_{CORE}$  throughout protocol. Differences to CON displayed using \* with respective colours (p < 0.05).





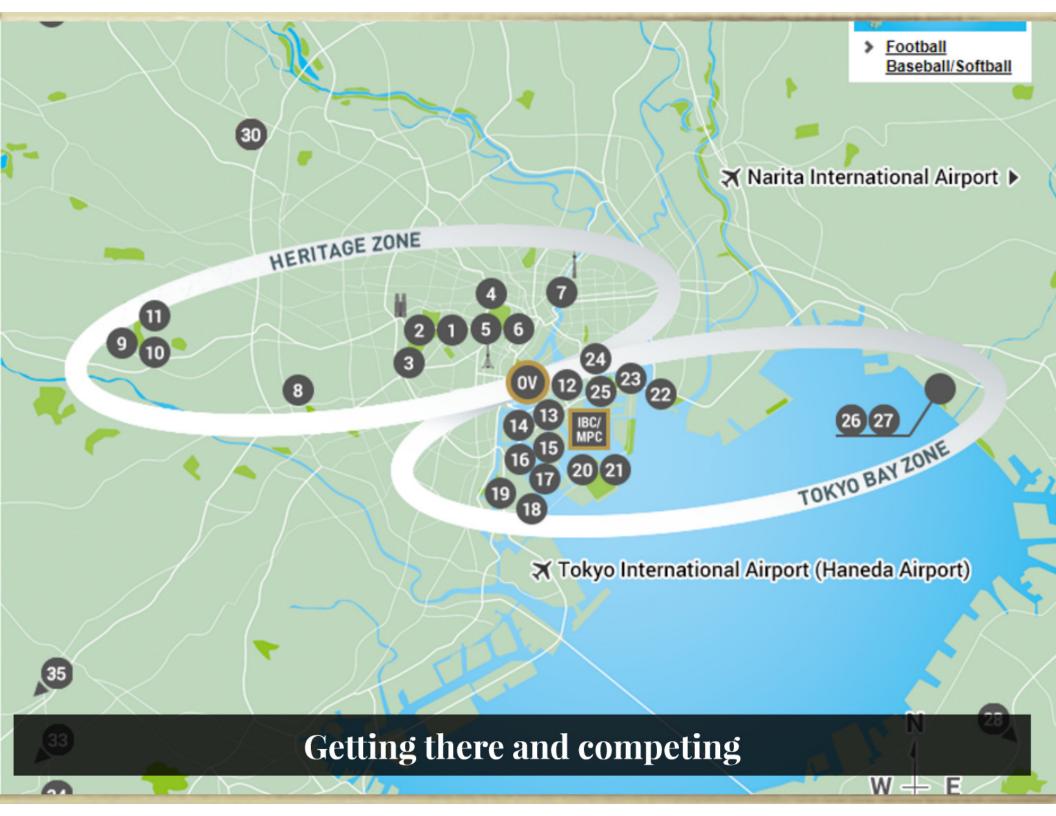


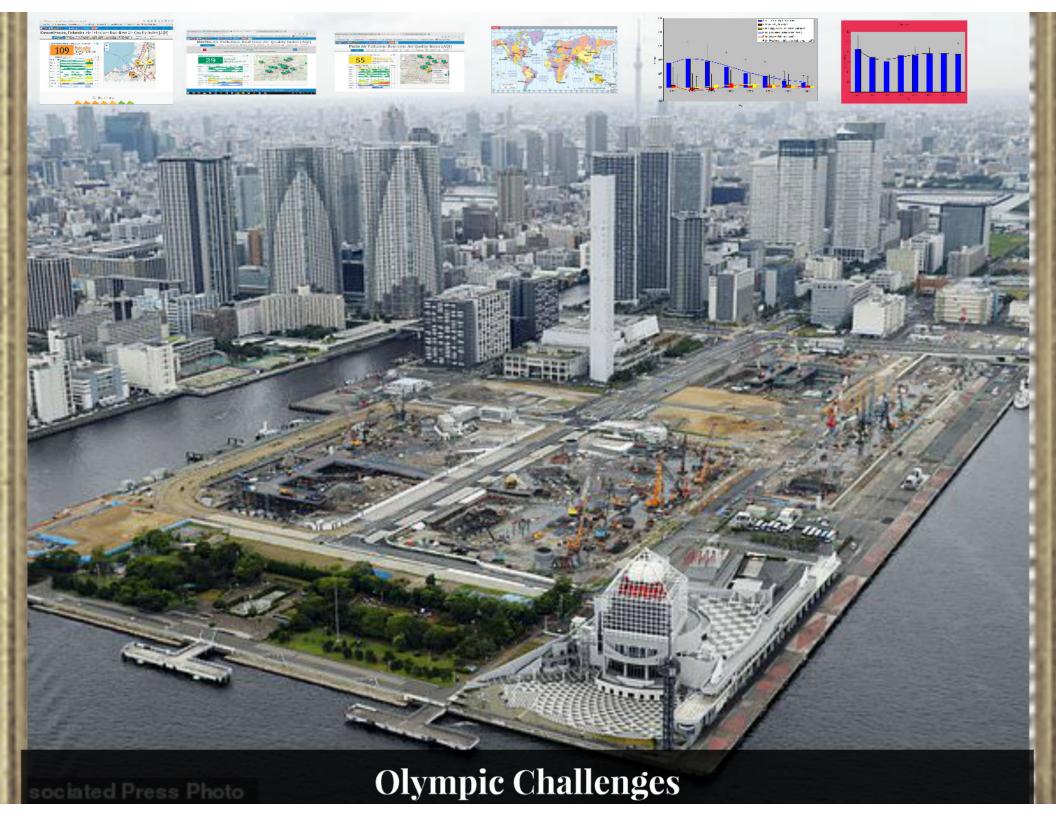
## **Beat the heat**

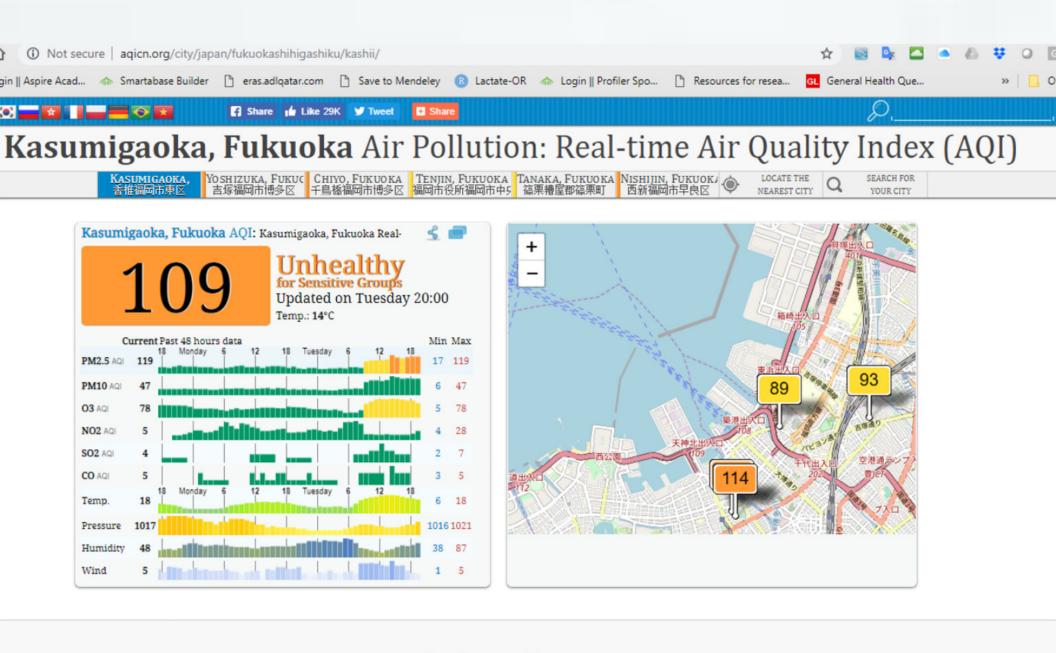
IAAF World Athletics Championships Doha 2019 and the Tokyo 2020 Olympics

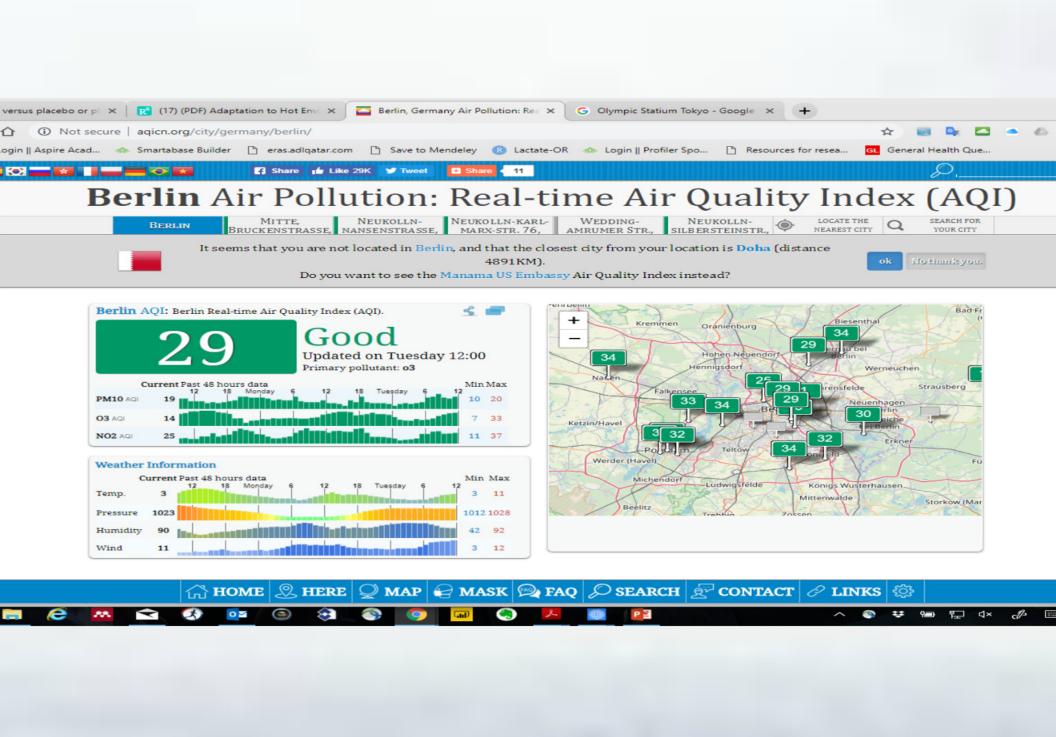


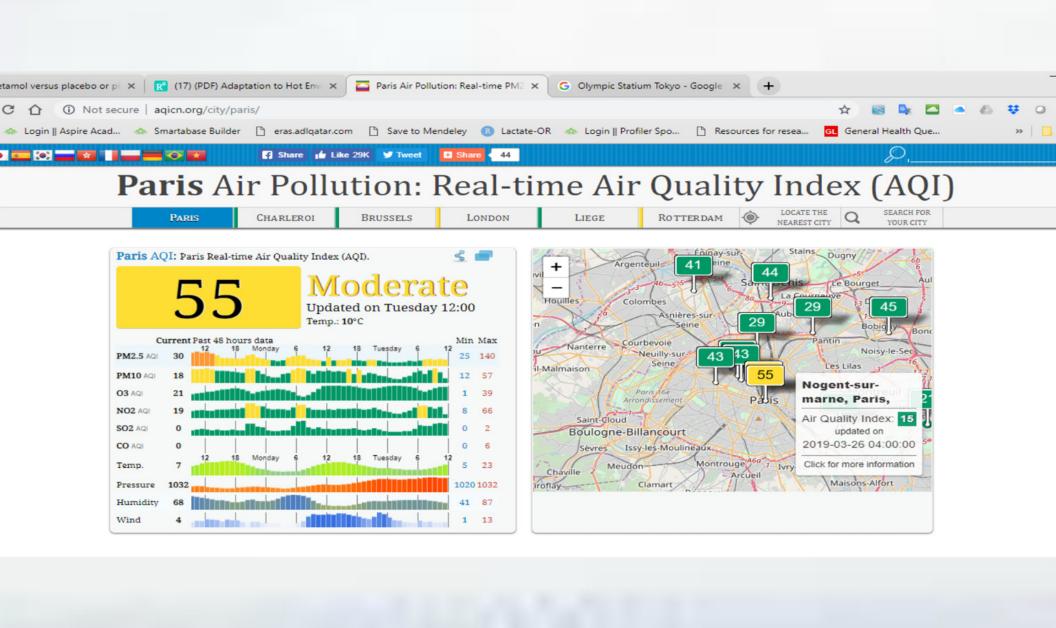


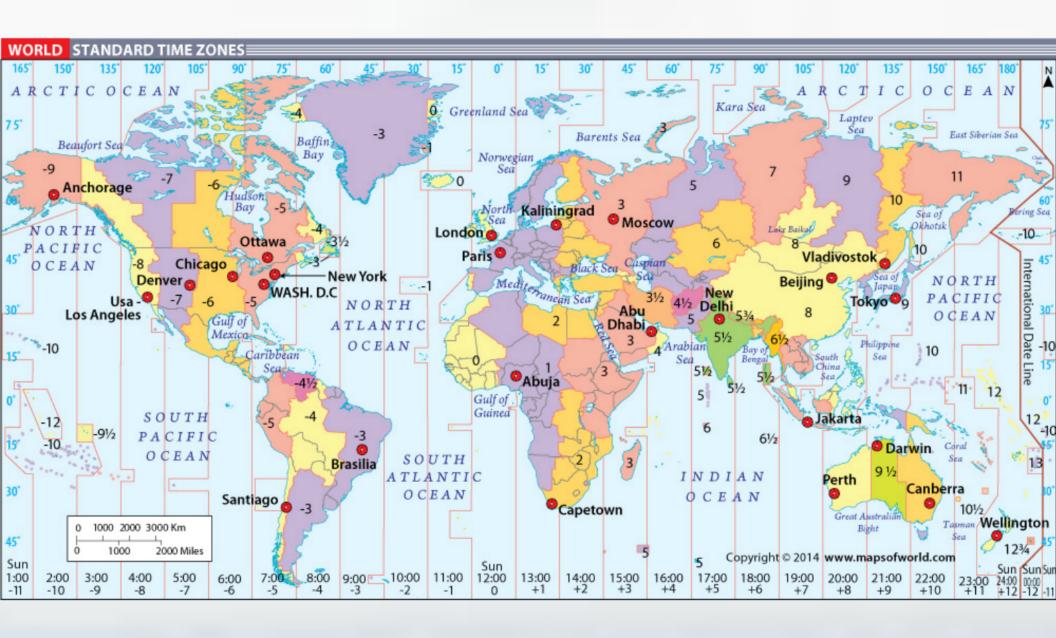


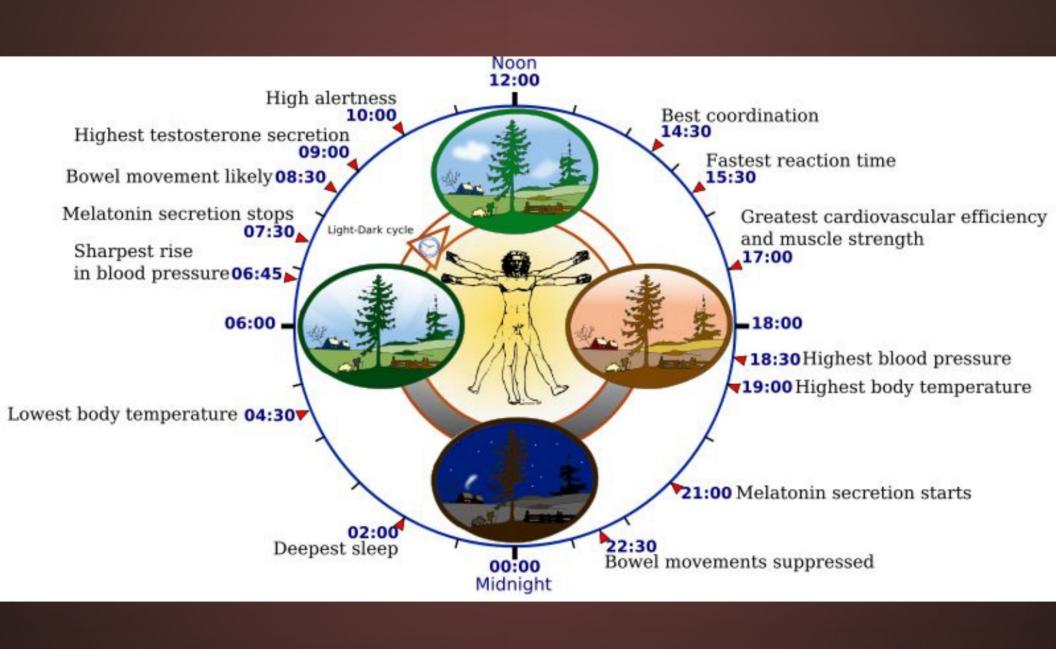


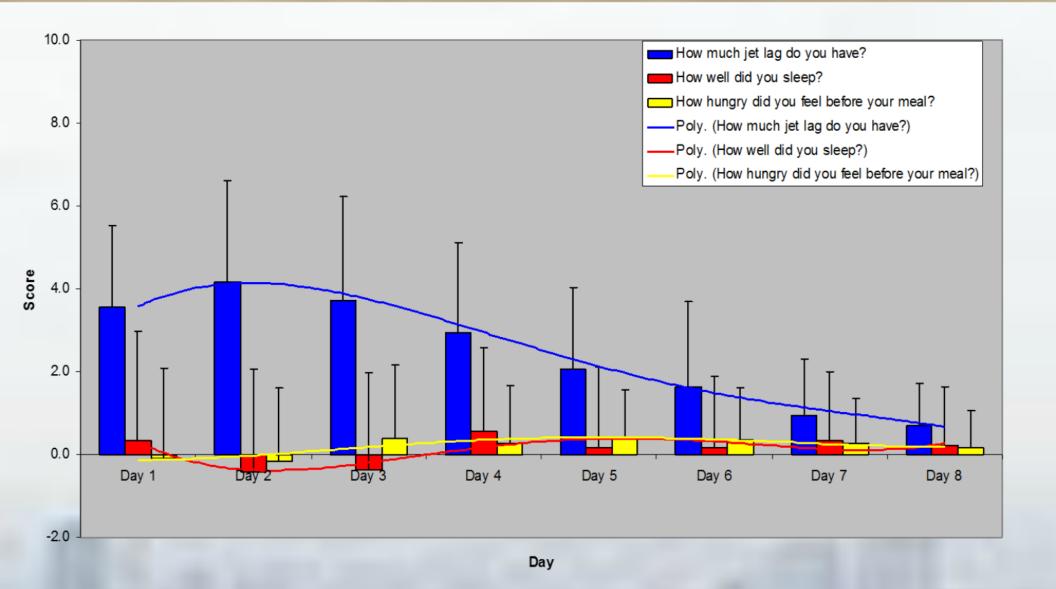


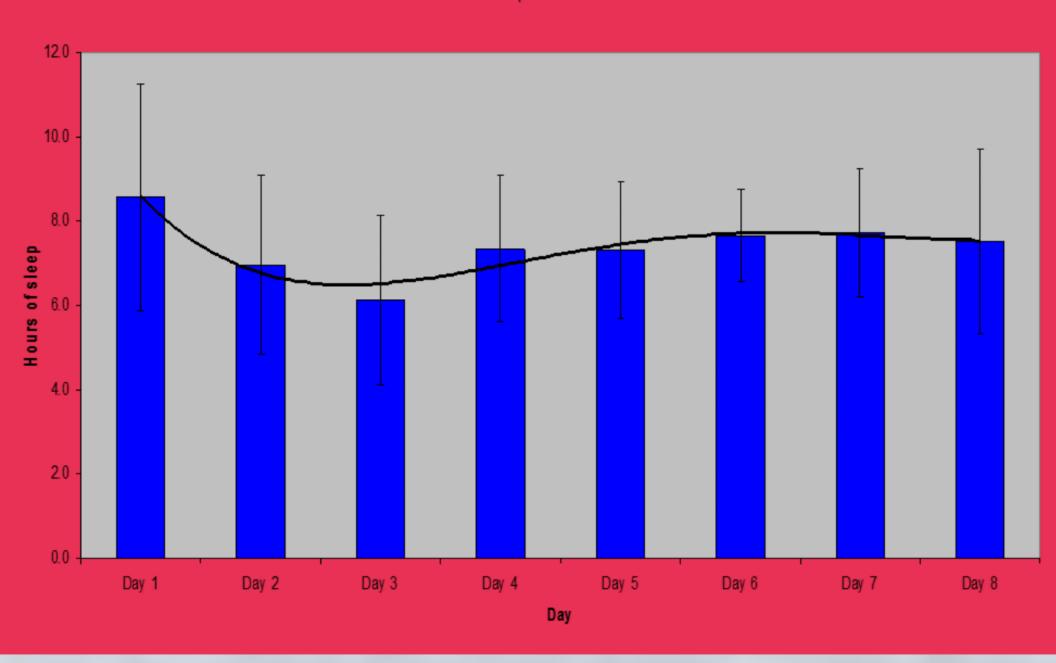




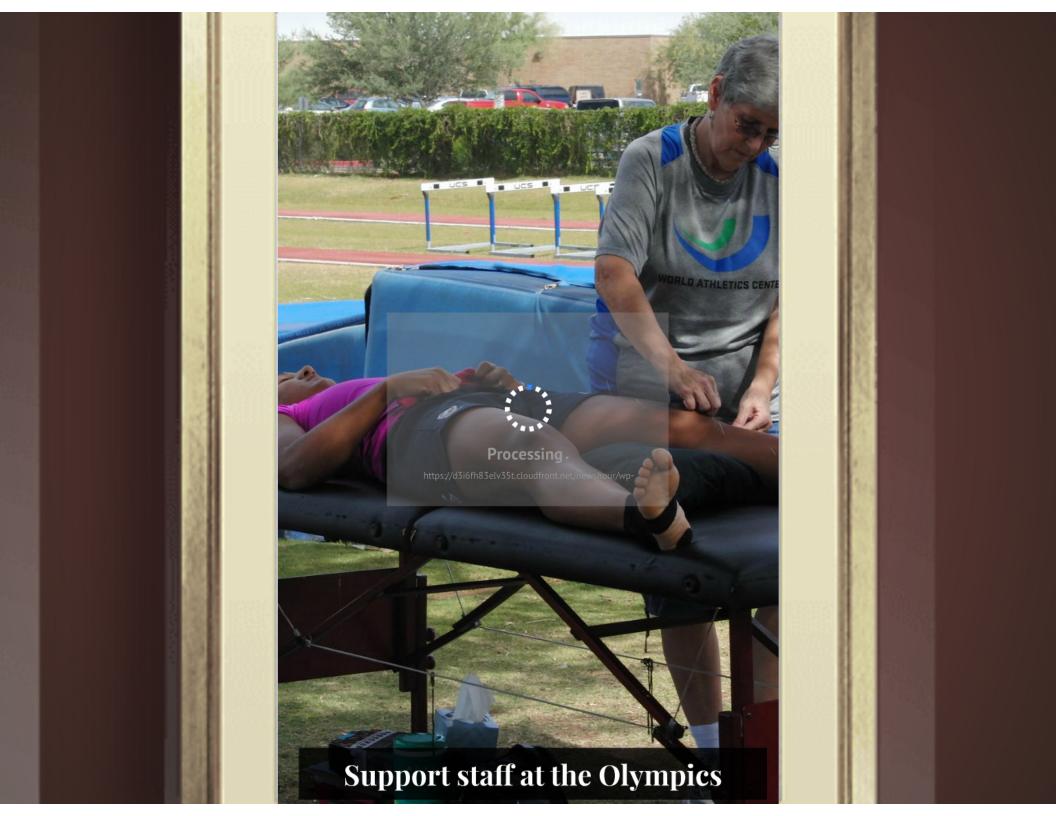












## CHECKLIST Plan the season in DETAILS - You may need to be elever with Identify where and how long you are going to stay to prepare performance? What do they do? Can you get them accredited

- Plan the season in DETAILS You may need to be clever with competitions
- Identify where and how long you are going to stay to prepare the Olympics
- Develop strategies to cope with the heat appropriate to your athlete and his/her event
- Take into account travel and jet lag issues when planning traning/travelling
- Who are the most important people for your athlete's performance? What do they do? Can you get them accredited in the Olympic Village and Competition venue?

