

REPORT OF THE INDEPENDENT INVESTIGATION PANEL INTO THE ORGANISATION OF
THE IOF MIDDLE DISTANCE EVENT HELD ON SATURDAY 8 AUGUST 2025 AT THE
WORLD GAMES 2025 IN CHENGDU, PEOPLE'S REPUBLIC OF CHINA

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1. Summary of Key Findings and Recommendations

1.1 The Investigation Panel unanimously found that:

- The collaboration between the different entities involved in the multi-sport event on the issue of heat stress at the orienteering competition was not strong.
- There was an absence of awareness amongst the Event Team of the necessity for medical knowledge to inform decision-making on heat stress.
- The International Orienteering Federation (“IOF”) did not have its own heat policy or medical expert appointed to the Event Team to guide the decision-making on heat stress.
- The Event course lengths exceeded that prescribed in the Orienteering Competition Rules.
- There was no written risk assessment for the Event.
- The use of GPS tracker units for safety purposes is not standard practice in orienteering, and with the exception of local events in China, is not a requirement for orienteering competitions.

1.2 Further to the findings above, the Investigation Panel makes the following key recommendations:

- In the context of a multi-sport event, the IOF must clearly establish the division of responsibility on health and safety matters, direct any relevant other organising entity as to its health and safety requirements, and

establish an effective collaboration on health and safety matters for the orienteering competition.

- The IOF must appoint an independent medical expert to every IOF competition.
- The IOF must implement a heat policy that is specific to orienteering conditions.
- The IOF must provide training and education to IOF event teams on health and safety decision-making, the application of a heat policy, and the role of the medical expert.
- The IOF must ensure that IOF event course lengths comply with IOF rules and regulations.
- The IOF must have a comprehensive written risk assessment for each IOF event.
- The IOF should investigate, and implement, where practicable, the use of GPS tracker units as a safety tool.

1.3 The Panel considers that there are significant improvements that the IOF can make to its health and safety decision-making for an event that is scheduled to take place in a hot and humid environment. The Panel urges the IOF to take all reasonable steps to implement the Recommendations and communicate to the international orienteering community any changes to event organisation that are made in consequence of this Report in order to restore trust in the safety of international orienteering events that are held in extreme weather conditions.

2. Introduction and Terms of Reference

- 2.1 The World Games is a multi-sport event, organised every four years by the International World Games Association (“IWGA”) and featuring sports that are not included in the Olympic programme. In 2025, the World Games was hosted in the city of Chengdu, in the People’s Republic of China (“China”), between 7 August 2025 and 17 August 2025. The IOF was included in the Games programme, and the orienteering competition consisted of three orienteering events: the Sprint Distance Event, the Sprint Relay, and the Middle-Distance Event. Also involved in the hosting of the orienteering competition was the Local Organising Committee (“LOC”).
- 2.2 The IOF Middle Distance Competition (the “Event”) was held on the morning of 8 August 2025 in hot and humid weather conditions, commencing at 9:40am local time. While competing in the Event, Italian athlete, Mattia Debertolis collapsed on the course and tragically passed away in hospital several days later.
- 2.3 The Independent Investigation Panel (the “Panel”) extends its deepest sympathies to the Debertolis family, especially his partner, his mother, and siblings, with whom the Panel had the privilege of meeting online during the early stages of the investigation.
- 2.4 Following the tragedy, the IOF commissioned the Panel to review the organisation of the Event and identify any lessons that could be learned to support the health and safety of orienteering athletes at future events. The Panel was composed of three members, each with professional or personal experience in high performance or elite sport at an international and national level, including in sports governance, sports medicine, elite level competition experience in orienteering, adjudication and sports law, or the organisation and risk management of sports events (in alphabetical order following the Chair of the Panel):

- Dr Leanne O’Leary PhD, FCI Arb (Chair) - Lecturer at Maynooth University, Ireland and Solicitor in England/Wales, specialising in sports law, sports arbitration and employment law; Member of the Premier League Judicial Panel; Member of the Fédération Internationale du Ski & Snowboard Ethics Commission; Director of Sport Dispute Solutions Ireland; Director of Table Tennis England; independent investigator for the IOF Ethics Panel.
- Professor Dr Mats Börjesson - Professor of Sports Physiology, Sahlgrenska Academy, University of Gothenburg and Cardiologist at Sahlgrenska University Hospital, Researcher in Sports Cardiology and Physical Activity for Health; team doctor and/or venue medical officer at national and international level (football) at 13 major tournaments (including the FIFA World Cup, FIFA Olympic Football Tournament, UEFA European Cup, and the Arab Cup); Chairman Medical Committee Swedish Football Association; former Chairman of the Swedish Society of Cardiology; former Chairman of the Sports Cardiology Section of the European Society of Cardiology.
- Mr Graham Gristwood - Performance Programme Coordinator for British Orienteering; former national team orienteer from 2000-2022 (including representing Great Britain in orienteering at 22 senior World and European Championships); former IOF Foot-o Commission member; IOF Foot-o Commission consultant (focus on sprint disciplines); various paid and voluntary roles within British / Scottish Orienteering including planning and organising many orienteering events and activities; former Events & Courses Manager for Ourea Events; MSc in Sport and Exercise Science; University Diploma in Events Safety Management.

2.5 The scope of the Panel’s remit was to:

- i) Examine the Event conditions and organisation and ascertain what happened on 8 August 2025;
- ii) Consider whether the IOF complied with all relevant IOF regulations and World Games regulations in effect at the time;
- iii) Consider what lessons, if any, could be learned to ensure the health and safety of orienteering athletes at future competitions; and
- iv) Make recommendations as appropriate.

A full copy of the Panel's Terms of Reference can be found in Appendix 1.

2.6 The Panel wishes to emphasise that it was not tasked with ascertaining Mattia's cause of death or drawing any conclusion as to whether the conditions in which the Event was held, contributed to Mattia's death. The Panel has not had access to any of Mattia's medical records, or the official records of attending physicians at the hospital in Chengdu where he was treated following his collapse. The Panel is also unable to draw any conclusions from the documents that it has seen, or the information obtained from those interviewed, regarding Mattia's training, preparation, or health, either before or during the Event.

2.7 Furthermore, the Panel did not obtain any information during the investigation from which it could evaluate the emergency medical response after Mattia was located. Although the LOC provided a comprehensive reply to the Panel's questions regarding the provision of medical services at the Event, the Panel did not have before it any information from those directly involved in the emergency medical response e.g. local volunteers, the ambulance crew who attended the scene, or physicians at the hospital to which Mattia was taken. It was not possible, therefore, for the Panel to comprehensively review the medical response to Mattia's collapse on 8 August 2025. Accordingly, the Panel has confined the period of its investigation and its findings in relation to the Event organisation, to the

Event Team's preparation for the World Games 2025 orienteering competition from November 2024 up to the time of the Event officials locating Mattia on the course on 8 August 2025.

2.8. As outlined in its terms of reference, the Panel's role was fact-finding in nature. Contributions to the fact-finding were made voluntarily and the manner of the investigation was inquisitorial; not adversarial. Where relevant, the Panel has noted the differing recollections of contributors. The Panel's remit was to assess compliance with IOF regulations and IWGA rules and regulations; it does not draw any conclusions regarding liability.

2.9 Finally, the Panel wishes to acknowledge the Debertolis Family, and the assistance of the IOF, the Event Team, the IWGA, the IWGA Medical Committee, and the LOC, who responded to the Panel's requests for information and, when requested, provided their time voluntarily for interview. The Panel also warmly acknowledges every athlete, coach, and team who responded to the Panel's call for statements that was published on the IOF website. Many in the elite orienteering community knew Mattia personally and the painful circumstances would still have been very fresh in their minds when the Panel conducted its investigation.

3. Investigation Methodology

3.1 The Panel decided upon the investigation method at its absolute discretion. It established a dedicated email address to which only Panel members had access and managed, and from which all correspondence regarding the investigation was conducted. All documents were stored confidentially in a central location.

3.2 The Panel carried out its investigation between November 2025 and June 2026. The IOF provided an initial list of contact details for relevant personnel involved in the Event organisation, who the Panel contacted and invited for interview. It wrote directly to the IWGA and with the IWGA's assistance was able to obtain a written reply to questions that it posed of the LOC in April 2026.

3.3 All interviews were voluntary, conducted online, and attended by all three Panel members. Contributors were provided with a copy of the Panel's terms of reference in advance of the interview and informed of the fact-finding nature of the investigation. With the contributor's consent, an interview transcript was produced, and the contributor was provided with the opportunity to review it. Additionally, where mentioned during an interview, the Panel followed up with other Event attendees and requested an interview or a statement in writing. On behalf of the Panel, the IOF published a request to all athletes, coaches and teams that competed at the Event, inviting them to submit information for the Panel's consideration as part of the investigation.

3.4 In summary, the Panel:

- Conducted 10 online interviews, each ranging between 30 and 90 minutes;
- Received an additional 13 written statements and responses to written questions;
- Reviewed 11 athlete and coach submissions;
- Reviewed the IOF Official Report on 8 August Orienteering Incident dated 13 August 2025; the IOF Event Adviser Final Report dated 14 August 2025; and the

Report on the Safety of Orienteering dated 4 November 2025 written by the Italian Orienteering Federation Working Group; and

- Made 5 document requests of the IOF, receiving all documents requested that were in the IOF's possession.

3.5 Those interviewed and those who provided written statements are listed in Appendix 2.

3.6 Following the conclusion of the World Games 2025, the LOC responsible for the orienteering competition was disbanded. With the assistance of the IWGA, the Panel was able to contact a former member of the LOC who provided a brief response to the Panel's information request. The Panel sought a more detailed response from the former LOC Director, which was provided in mid-April 2026, at which time the Panel concluded the information gathering stage and commenced its deliberations and drafting of this Report. As the terms of reference indicated that the Report would be published, on 8 June 2026, in the interests of procedural fairness, the Panel provided a draft copy of the Report to the IOF and the Competition Manager in order for them to respond to any criticism.

3.7 During the investigation, the Panel became aware that in autumn 2025 the IOF had put in place Interim Heat Guidelines to apply in circumstances of an event being organised in extreme weather conditions. The Panel has not been requested to review the Guidelines. These Guidelines also post-date the matters that are the subject of the investigation and have not been taken into consideration in terms of the Panel's findings or recommendations.

3.8 Finally, in reaching its findings and recommendations, the Panel has very carefully considered all information provided to it and deliberated to collectively arrive at its findings and recommendations, which are unanimous.

4. The Week of the Event and Race Day

4.1 Outlined in this section are some of the key points from the week leading up to the Event and from Saturday 8 August 2025, which was the day on which the Event race was held.

A. Week of the Event

4.2 Based on the information provided by contributors, the Panel observes that members of the Event Team appointed by the IOF to organise the orienteering competition (the “Event Team”), started arriving in Chengdu from 1 August 2025. The official team programme and accommodation opened three days before the Event.

4.3 The Panel did not receive any actual weather data for the week leading up to the Event or for the Event race itself. However, the Panel observes that from as early as November 2024, the weather conditions, specifically heat and humidity, were identified as a risk factor for The World Games in Chengdu. Based on contributors’ recollections, it appears that at the beginning of August 2025 the weather was hot with temperatures between 38 to 40 degrees Celsius, up to the afternoon of 6 August 2025.¹ Thereafter, a cooler front passed over, with temperatures dropping to between 30 to 32 degrees Celsius towards the end of the week. (Further discussion about the weather conditions appears elsewhere in this Report).

4.4 A Middle-Distance Model Event (“Model Event”) or test event was held on 7 August 2025, the day before the Event itself. The Model Event provided a training opportunity for athletes to familiarise themselves with the terrain and for officials to test their preparation for the Event the following day. There were no incidents reported from the Model Event.

¹ Statement Contributor B.

4.5 Also on 7 August 2025, following the Model Event, was the Team Officials' Meeting. The weather conditions do not appear to have been a topic of discussion at the Team Officials' Meeting. There was no weather information presented on the slide presentation that the Event Team delivered to team officials, and apparently only one question was raised regarding the supply of ice at the prestart.²

4.6 The World Games Opening Ceremony took place in the evening of Friday 7 August 2025, with orienteering athletes returning to the Athletes Village at approximately 11:30pm.³

B. Saturday 8 August 2025

4.7 The following paragraphs outline the Panel's chronology of the circumstances that unfolded on Saturday 8 August 2025, up to and including when Mattia was located on the course. The chronology is taken from information contained in a report produced by Mr Alessio Tenani, who was Mattia's clubmate and working for the Event Team in the finish area, and from the Panel viewing the Global Position System ("GPS") tracking information for the race. The chronology times are recorded in hours, minutes, and seconds, where available.

4.8 The Event commenced at 9:40am local time on Saturday 8 August 2025.

4.9 Seventy-eight athletes started the race: 40 male athletes and 38 female athletes. The first male athlete started at 9:41am (local time) and the first female athlete started at 10:20am (local time).

4.10 The men's race (5970m with 180m climb) was won by Riccardo Rancan (SWI) in a time of 45:22; in second place was Francesco Mariani (ITA) 47.43; and in third place was Vegard Jarvis Westergard (CAN) at 47:48. Forty male athletes started

² Statement Contributor N.

³ Statement Contributor B.

the race and 28 athletes finished the men's race; one athlete mis-punched at a checkpoint; 11 athletes did not finish ("DNF") the race. The winning time was longer than estimated and outside the recommended guidelines and the percentage of DNF (27.5%) was ostensibly high.⁴

- 4.11 The women's race (5,070m with 130m climb) was won by Simona Aebersold (SUI) in a time of 40:08; second place went to Tereza Smelikova (SVK) in 43:52; and in third place was Alva Sonesson (SWE) in 46:26. Thirty-eight competitors started the race, and 35 athletes completed the event, with one athlete mis-punching at a checkpoint and two athletes recorded as DNF. The winning time was longer than estimated and outside the recommended guidelines, although the percentage DNF (approx. 7%) was ostensibly normal.
- 4.12 Based on some contributors' recollections, the Panel understands that the men's race was largely run in direct sunlight, with no cloud cover, whereas by the time the women's race finished, weather conditions had clouded over. The Panel understands that a significant proportion of the men's and the women's courses was run in open terrain, which provided no shade from the sun.
- 4.13 Mattia started his race at 10:37:00am (local time) and he passed the first drinks control at 10:52:57.
- 4.14 At 11:00:30, between controls 9 and 10, Mattia deviated from a 'normal' route choice. At 11:04:15, he rejoined a 'normal' route choice and at 11:06:03 deviated again between controls 9 and 10, before apparently correcting at 11:08:51. At 11:10:33, Mattia again deviated from a 'normal' route choice, and then Mattia's GPS signal appears to stop at 11:10:45.
- 4.15 Mr Tenani was watching his clubmate's progress online from the finishing area and noticed that Mattia's GPS stopped between controls 9 and 10 of the race. There

⁴ See discussion regarding the Event course length in section 5.B(a) of this Report.

were 20 controls in the race. The Panel emphasises that Mr Tenani was not appointed by the IOF to monitor the GPS and that it is not common practice for an IOF official to monitor athletes' GPS trackers.⁵

- 4.16 Mattia was expected to finish the race at 11:22am. When Mattia failed to arrive at the finish line and several runners who had started after him, crossed over the line, at 11:40am, Mr Tenani informed the Competition Manager that Mattia's signal had stopped and that he had not finished the race. Two marshals were sent to the area where Mattia's GPS tracker had stopped and they subsequently informed that they could not see him.
- 4.17 At this point, Mr Tenani decided to find Mattia. He also asked another race marshal who was in the area where Mattia's GPS had stopped, to go to the area as well.
- 4.18 At 12:00, Mr Tenani reached the site where Mattia's GPS signal had stopped and could not immediately see Mattia. There was also no response to calling Mattia's name. Three athletes who started after Mattia and who, according to the GPS tracking data, passed close by Mattia on the Event course, informed the Panel that they did not see Mattia either.⁶ Two of the athletes referred to the area in which Mattia was discovered, as being covered in "*dense vegetation*"⁷ or "*bushes*".⁸
- 4.19 At 12:04, Mattia was found among the vegetation, down a gentle slope. Mr Tenani immediately alerted emergency services, and while a race marshal ran to get help, Mr Tenani remained with Mattia.
- 4.20 At 12:18, ambulance staff arrived and, at 12:21, Mattia was taken by ambulance to the hospital.

⁵ See discussion on the purpose and use of GPS tracker units in international orienteering in section 5.B(c) of this Report.

⁶ Statement Contributor R; Statement Contributor S; and Statement Contributor P.

⁷ Statement of Contributor R.

⁸ Statement of Contributor S.

5. Organisation of the Event

5.1 Throughout the investigation, it was evident to the Panel that the IOF Event Team in charge of the Event's organisation (the "Event Team") were extremely experienced, individually and collectively, at organising and managing orienteering events, and were committed to providing a first-class orienteering competition as part of the World Games 2025. Such a serious incident had never occurred in an international orienteering competition and the Panel observed that the Event Team members interviewed were clearly affected by the tragedy.

5.2 The Panel was tasked with investigating the Event organisation and, specifically, to consider:⁹

- The Event conditions and organisation, and what happened on 8 August 2025;
- Whether the IOF complied with its own relevant regulations and those of the IWGA;
- What lessons, if any, could be learned to ensure the health and safety of orienteering athletes at future competitions?

5.3 The Panel also identified several themes that emerged consistently across all contributors during its investigation. In no particular order, these were:

- the concerns over the length of the Event courses;
- the purpose and use of GPS trackers carried by athletes and the absence of GPS tracker monitoring;
- the 2019 cheating scandal at the World Military Games and its impact on Event organisation decision-making, including decisions to use or not use local resources;
- the weather data available to the IOF;

⁹ See Terms of Reference in Appendix 1.

- the adequacy of measures taken to mitigate against heat, including the decision not to move the Event start time to earlier in the day; and
- the cultural and language challenges of organising an event in China and the rules regarding foreign mapmakers.

5.4 Organising an elite orienteering event involves making numerous decisions regarding, e.g. location, course, facilities etc. The Panel considers that central to its investigation was the Event Team's decision-making regarding the health and safety of athletes in the hot and humid weather conditions in Chengdu, and in the context of a multi-sport event, the actors involved in that decision-making.

5.5 Before addressing the questions regarding the Event organisation and also the themes, the Panel outlines its understanding of the role and responsibilities of each of the IWGA, the LOC, and the IOF in relation to the Event organisation. Establishing who was responsible for certain decisions, assists to evaluate the health and safety decision-making process, which is central to this investigation.

A. Role and Responsibilities of the IWGA, the LOC and the IOF

5.6 There were three organisations involved in the IOF orienteering competition at the World Games: the IWGA, the LOC and the IOF. The Host City Organiser Agreement and The World Games Rules prescribed responsibilities and designated authority for certain decisions. The Panel was provided with a copy of the World Games Rules; it has not viewed the Host City Organiser Agreement. The Panel's understanding of the role of each of the three entities, and who had authority to make certain decisions, arises from interviews with the IWGA Sports Director, the IWGA's written reply to questions, interviews with Event Team members, and the LOC's written reply to questions, and is set out below.

a) The International World Games Association

5.7 The IWGA is an association of international sports federations. It is a small organisation of approximately 6 people, situated in Switzerland. The IWGA is governed by a Constitution and Bylaws, and it implements the Rules of the World Games that apply to the international federations and their participants who compete in each edition of the World Games.¹⁰ A purpose of the IWGA is to promote the development of its member federations' sports which it does primarily through organising the World Games every four years.¹¹ IWGA members have the right to apply for inclusion on the World Games programme,¹² which application process usually occurs after each edition of the World Games. Only IWGA members can apply and events that are on the Summer, Winter or Paralympic Games programme are not included in the World Games.¹³ The 12th edition of the World Games was held in Chengdu, People's Republic of China. Prior to that, in 2022, the World Games were held in Birmingham, USA.

5.8 For each edition of the World Games, the IWGA selects a host city, and delegates organisation of the World Games to the host city under the terms of the Host City Organiser Agreement, which defines the relationship, role and responsibilities of the IWGA, the Host City and other relevant stakeholders e.g. national and local authorities. The Host City establishes a local organising committee that is tasked with planning, preparing and delivering a World Games.

5.9 The IWGA sets the sports programme, establishes the competition schedule in conjunction with the international federation ("IF"), determines the number of athletes and technical officials who can attend, and the number of competition days, and then oversees the LOC's delivery of each sport's requirements, stepping

¹⁰ Rules of the World Games (5 April 2024), art 1.1.

¹¹ Constitution of the International World Games Association (2024), art 1.1.

¹² Constitution of the International World Games Association (2024), art 4.3E.

¹³ Constitution of the International World Games Association (2024), art 5.1.

in when needed to resolve disagreements between the LOC and the relevant international federation.¹⁴

- 5.10 The IWGA requires each IF participating in the World Games to appoint a Competition Manager to evaluate, discuss, and make decisions on all event-related matters that may affect delivery.¹⁵
- 5.11 The Panel was provided with a comprehensive IWGA job description for the role of Competition Manager (or “CM”). The CM “*acts as the main point of contact for the IWGA and the LOC*” and must be “*authorised by his/her Federation to evaluate, discuss and make decisions on all event-related issues that risk event delivery*”. During the preparation phase of an event, the CM is tasked with: liaising with the LOC especially the Venue Manager, in the operational planning such as venue preparation and venue plan; conducting technical inspection visits, including Competition Managers’ Meetings; checking the technical installations at the training and competition venues; reviewing medical arrangements according to IF protocols; and, during the event, is required to “*participate in the decision-making on delay and postponements of competitions*”, amongst others.¹⁶ The IWGA also recommends the appointment of an Information Technical Manager, Communication Manager and TV Manager to liaise with the Competition Manager, the LOC and the IWGA’s service partners.¹⁷
- 5.12 Insofar as health and safety decision-making is concerned, the IWGA is not directly involved in a health and safety decision relating to an individual sports event, with the exception of a decision that falls within the parameters of Rules 2.6 and 2.7 of the World Games Rules.¹⁸ The IWGA described to the Panel the

¹⁴ IWGA Statement.

¹⁵ Rules of the World Games (5 April 2024), r 2.5.1.

¹⁶ Job description for the IWGA Competition Manager: The World Games 2025 (September 2023).

¹⁷ IWGA General Information for IFs and NOCs/NSOs (25 April 2024), 7.

¹⁸ Rules 2.6 and 2.7 are provided in Appendix 3.

allocation of responsibilities, and, in particular, the application of Rule 2.7 of the World Games Rules, as follows:¹⁹

‘Under the Rules, the technical conduct and delivery of each sport competition is the responsibility of the relevant International Federation. The IF appoints a Competition Manager who is fully authorised by the Federation to evaluate, discuss and make decisions on all event-related matters that may affect delivery. The CM controls and directs the sport in the planning and implementation ... and is notably in charge of making decisions concerning delays or postponements (subject, in case a change is decided, to Rule 2.3.7 as explained below).

With regards specifically to weather-related decisions, Rule 2.3.7 provides that if competition timings need to be delayed due to weather or force majeure, the IF works together with the LOC and service providers, and the IF takes the final decision. Where an IF intends to advance, postpone or cancel a competition, consultation with IWGA executive staff is required prior to the decision, with IWGA retaining a reserved right to overrule in case of a proposed move of schedule by the international federation.

In relation to the Orienteering Middle-Distance event, no proposal to cancel, advance or postpone the competition, within the meaning of Rule 2.3.7, was submitted by the IOF to the IWGA Executive Staff for consultation. Accordingly, there was no decision to be made under the mechanism foreseen under Rule 2.3.7.

In accordance with the Rules, operational and technical responsibility for the competition rests with the International Federation, acting through its appointed competition manager.’

¹⁹ IWGA Written Response to Additional Panel Questions.

5.13 Also of relevance for the Panel’s investigation, is the role of the World Games Medical Committee (“IWGA Medical Committee”). The IWGA Medical Committee is a small committee composed of experienced doctors that has an advisory or support role to the IWGA on medical matters. In April 2025, the IWGA Medical Committee, through the IWGA Sports Director, communicated the heat risk to IFs in order to prompt IFs to engage with their medical personnel and come up with a plan. It drafted the IWGA Heat Policy and offered support to the Event Team during the week of the Event.²⁰

b) The Local Organising Committee

5.14 According to the information outlined in IOF Bulletin #4, for the orienteering competition, the LOC was composed of:²¹

Orienteering Competition Director:	Bo Ding
Orienteering Competition Assistant:	Yafei (Phil) Shu
Orienteering Competition Assistant:	Linglu Zhu
International Competition Manager:	Áron Less ²²
Domestic Competition Manager:	Guangshuo Zhang ²³

5.15 The LOC for the orienteering competition was responsible for logistics and for ensuring that the Event Team had all equipment, transport, facilities, a suitable venue, etc., that it needed to deliver the orienteering competition e.g. the LOC recruited local volunteers to assist the Event Team, provided security for the Event, contracted with suppliers for equipment that the Event Team needed, provided medical personnel and facilities, and arranged the emergency medical response. There was also a meteorological team - which was part of the wider LOC

²⁰ A copy of the IWGA Heat Policy is provided in Appendix 8.

²¹ Orienteering Event Bulletin #4, p 3.

²² Mr Less was the IOF Event Director appointed to lead the Event Team and also appointed as the IOF Competition Manager (or “CM”) to liaise with the IWGA and the LOC, and to carry out the tasks identified in the CM job description.

²³ Mr Zhang was also attached to the Chinese Orienteering Federation and the national team.

- that provided weather information through the World Games Chengdu App. The LOC for the orienteering competition held monthly meetings with members of the Event Team to discuss and agree the logistical arrangements, to respond to Event Team requests for facilities/equipment etc, and to update the Event Team on planning for the orienteering competition. It also hosted venue inspection visits.

5.16 In relation to medical matters, the LOC was responsible for arranging the medical support on the course and the emergency medical services at the venue should anything happen during the orienteering competition. It was also responsible for providing the equipment, services and information to mitigate against the heat risk e.g. providing ice and water supplies for the quarantine, start, refreshment stands on the course, and at the finish line, and providing weather information.

c) The International Orienteering Federation

5.17 The IOF is a member of the IWGA and successfully applied, as it had done in the past, to be on the World Games programme in Chengdu. The IOF was responsible for delivering the orienteering competition in accordance with IOF rules and regulations, and in particular those IOF rules and regulations regarding health and safety, and course length etc. It was also obliged to deliver the orienteering competition in accordance with The Rules of the World Games, with the consequence that it was required to coordinate through the Competition Manager with the LOC on all logistical matters, and in certain other matters, such as a proposal to cancel the competition, to liaise with the IWGA.

5.18 The IOF approved the Event venue that was selected by the LOC, and the IOF notified the LOC/IWGA of its facilities and equipment requirements e.g. GPS trackers, Event medical requirements, amongst other things.

5.19 The IOF appointed an Event Team led by the IOF Event Director, who was also the Competition Manager, and made the final decisions with regards to the hot and

humid weather conditions in which the Event was delivered. The Event Team was composed of the following positions:

Event Director/Competition Manager

Assistant Competition Manager

Assistant Competition Manager

Course Planner/Deputy Competition Manager

Arena Manager

Arena Team

Virtual Orienteering Event Office

IT: Swiss Timing

Quarantine and Start

Quarantine Team

Start Team

Terrain Works

Terrain Team

Communications

Assistant Communication Manager

IOF Senior Event Adviser

- 5.20 The IOF did not appoint anyone to the Event Team who had medical knowledge e.g. a medical practitioner. The Panel understands it is not a common practice of the IOF to appoint a doctor or a medical expert to an IOF event organisation team.
- 5.21 The IOF informed the Panel that the usual support model for a World Games was not used in Chengdu. The support model at the World Games 2022 in Alabama, involved orienteers with organising experience from the host nation filling different LOC sub-functions for the orienteering competition (after consultation between the national orienteering federation and the IOF).²⁴ During the World Games 2022,

²⁴ IOF Statement regarding the background to the organisation of the World Games 2025 (“IOF Statement”).

the IOF staffed the roles related to Media, IT and TV with IOF office staff, and orienteers from the USA supported the LOC with the competition delivery.²⁵

5.22 For the World Games in Chengdu, the IOF chose a different support model because of concerns regarding sufficient experienced orienteering officials in the host nation and also a desire to protect the integrity of the course information.²⁶ At the Military World Games in Wuhan China, in October 2019, allegations of cheating were made against Chinese orienteering athletes and officials, with the consequence that bans of between two and four years were imposed.²⁷ Therefore, the IOF appointed a group of experienced orienteering volunteers from Europe and Japan to deliver all the sub-functions relating to the orienteering competition, rather than appointing volunteers from the national orienteering federation. It appointed IOF office staff to the roles relating to Media, IT and TV. The CM supported in administration and was the point of contact between the IOF/Event Team and the IWGA and the LOC.

5.23 There were 23 IOF officials and about 589 local volunteers - most of whom were unfamiliar with orienteering and did not speak English - involved in the organisation of the orienteering competition at the World Games 2025, a number which does not include staff involved in security, basic venue construction, transport and other services.²⁸ The IOF visited Chengdu, including the competition terrains, three times during the preparation phase of the orienteering competition. In the eight months prior to the orienteering competition commencing, there were monthly online meetings where the LOC reported on progress and asked questions of the Event Team, usually the Competition Manager.²⁹

²⁵ IOF Statement.

²⁶ Ibid.

²⁷ IOF Ethics Panel Decision dated 2 March 2020.

²⁸ IOF Statement.

²⁹ Ibid.

5.24 Based on the available information, the Panel finds that the interaction between the Event Team and the LOC regarding the Event delivery was affected by the following factors, namely:

- i) a desire to protect the integrity of the course information;
- ii) the absence of orienteering knowledge amongst the LOC members and local volunteers; and
- iii) language and cultural differences.

5.25 Regarding i), the Panel was informed that the desire to protect the integrity of the course information affected the practical matter of sharing information about the Event courses. Details of the Event courses were only shared with IOF personnel and, even then, only a core group of Event Team personnel knew the maps, course, start location etc. No one on the LOC, including the national competition manager, Mr Zhang Guangzou - who was connected to the Chinese Orienteering Federation and the Chinese national team - knew the technical details of the courses. The technical details for the Event courses were only shared with the GPS company after the last athlete for China had started.³⁰

5.26 The desire to protect the integrity of the course information also appears to have influenced whether to use local resources. The Panel was informed that during the Event planning, the Event Team was encouraged to use local products and services but that the Event Team did not initially use a local company to supply GPS tracker units for a number of reasons, including to protect the integrity of the course information (although the Panel observes that exceptional circumstances later led to a Chinese company providing a second GPS tracker unit the day before the Event³¹).³² It appears that the Event Team would also have preferred to use an international team to produce the map for the Event, however, the Panel was

³⁰ Statement Contributor C.

³¹ See section 5.B(c) of this Report.

³² Statement Contributor C.

informed that there were rules in China that foreigners are not permitted to do mapping and so local mappers were used in the first instance.³³

- 5.27 In response to a Panel question as to whether the desire to protect the integrity of the course information affected collaboration with the LOC on medical matters, one contributor stated that it did not because the IOF was able to provide the answer the LOC needed, e.g. in reply to a question about the position of ambulances, the IOF was able to identify on a map the area where the ambulances should be positioned without disclosing the precise course routes.³⁴
- 5.28 Regarding ii), the Panel was informed that none of the top leaders in the LOC had been to an orienteering competition, despite requests from the IOF for them to attend a local event in China.³⁵ The absence of knowledge of the LOC regarding orienteering specifically showed in discussions between Event Team members and the LOC on course requirements and set-up e.g. the Event Team was required to explain the nature of “a quarantine”, to explain that there was no need to remove residents from the competition area, and to provide explanations regarding the basic equipment required.³⁶ Regarding iii), the Panel was also informed that there were challenges with language and cultural differences, such as the way in which decision-making is undertaken in China.³⁷
- 5.29 In the Panel’s view, these three factors likely consumed time and resources in the delivery phase very close to the Event,³⁸ and the language and cultural challenges may have contributed to the Event Team’s perception that a decision to postpone or delay an orienteering race would have been complicated, time consuming and challenging to implement, particularly since the Event Team did not have a plan to follow in the Event of any late changes brought about by the weather conditions.³⁹

³³ Ibid.

³⁴ Statement Contributor B.

³⁵ IOF Statement.

³⁶ Statement Contributor C.

³⁷ Statement Contributor B; Statement Contributor C.

³⁸ Statement Contributor B; Statement Contributor C.

³⁹ See discussion in section 5.B(b) of this Report.

5.30 On the issue of who was responsible overall for the health and safety of participants, the Panel observes that the IOF was responsible for the technical conduct and delivery of the sports competition,⁴⁰ and for ensuring the competition was held in accordance with its own health and safety regulations. The IOF informed the Panel that when considering the organisational roles of the IWGA and the LOC in the context of The World Games, “*Our assumption is that responsibility for health and safety was delegated from IWGA to the LOC, given that LOC planned the operations, and the fact that IWGA has very few staff members*”.⁴¹ A member of the Event Team also informed the Panel that responsibility for the overall safety of the Event rested with the Director of the LOC,⁴² although the Panel notes that LOC did not know all the information about the Event courses, was unfamiliar with orienteering, and required direction from the IOF on health and safety matters.

5.31 Based on the available information, the Panel makes the following findings regarding the role and responsibilities of the IOF, IWGA and LOC in the Event organisation:

- a) The LOC was responsible for providing the Event logistics, including weather data, equipment and all emergency medical support for the Event.
- b) The IWGA monitored the competition organisation, set the competition schedule, and its approval was required to change the Event start time or format.
- c) The IOF was responsible for delivering an orienteering competition in accordance with its rules and regulations, the Rules of the World Games and generally recognised and accepted health and safety standards.

⁴⁰ The World Games: General Information for IFs and NOCs/NSOs (25 April 2024), 5.

⁴¹ IOF Statement.

⁴² Statement Contributor C.

- d) Decision-making on health and safety matters fell to the IOF - or in the present circumstances the Event Team - in accordance with its procedures. The Event Team was responsible for directing the LOC on the medical support and equipment to provide, including in relation to heat mitigation measures. The Event Team was required to consult with the IWGA, if, for example, the Event was to be advanced, postponed or cancelled due to weather conditions (or force majeure), but otherwise the Event Team had the final say on whether the Event took place.

B. Event Team Health and Safety Decision-Making

5.32 Based on the available information, the Panel observes that the majority of contributors considered the Event conditions to be challenging. Some contributors were critical of the IOF decision to hold the Event in the weather conditions as they were on Saturday 8 August 2025. Some athletes who completed the race or withdrew, and coaches and officials who were at the finish line, described the Event conditions as follows:

- *“After finish line, it was obvious that it was a really tough, tough situation.”⁴³*
- *“[On] the day of the middle-distance race, when I arrived at the waiting area, I didn't feel much heat yet. However, from the moment the race started, the temperature suddenly began to rise, and by the time [athlete] started, ... it had become extremely hot. The sun shone directly on the athletes without being obscured by clouds. When [our athlete] finished, she entered the medical station, saying it was unbearably hot. By the time she came out..., it had started to get cloudy, meaning the period..., when [our athlete] and Mattia Debertolis were competing, was the most gruelling.”⁴⁴*

⁴³ Statement Contributor C.

⁴⁴ Statement Contributor O.

- *“Upon arriving at the arena, it was shocking to see how utterly exhausted the athletes were...We knew beforehand that we would have to manage hot and humid conditions; however, it was still exceptionally tough and mentally demanding. We did our best to adapt, but the conditions were extreme”.*⁴⁵

- *“[It] was clearly hot, but it felt ok walking. I was glad I wasn’t running, as I had done in the model and warm-up events (which were perhaps equally as unpleasant). I was impressed with the availability of water and ice at both the quarantine and pre-start. More shade would have been nice at the pre-start. On arriving at the arena it became apparent immediately that the courses were running long (it’s clear that the courses were too long, it’s hard to know whether the conditions – it was pretty predictable – were considered appropriately in the course design). And then followed chaos. Athletes collapsing over the finish line. Athletes struggling everywhere. I was impressed with the organisers. They limited public viewing of the carnage, they had ice baths on offer and medical staff around. But I was less impressed with teams, as I shelved out my own supply of electrolyte tablets which few seemed to have. But the carnage lasted a while. Some struggled more than others.”*⁴⁶

- *“[The] heat was completely unrelenting, it felt like a weight upon your whole body. The only reprieve of it was when you got water and ice. It was so exposed and there was very limited shade. Even getting ready before the race running from the quarantine to the start it got so hot that I had to stop for a good few minutes and cover myself in ice and water. Previous to this event I had never considered the risk of death, but I will absolutely take this into consideration in the future and be more careful in conditions like this.”*⁴⁷

5.33 Two contributors described the Event conditions as “not extreme”.⁴⁸

⁴⁵ Statement Contributor T.

⁴⁶ Statement Contributor K.

⁴⁷ Statement Contributor Q.

⁴⁸ Statement Contributor A; Statement Contributor B.

5.34 The Panel reviewed a letter that the Austrian Orienteering Federation (“AOF”) sent to the IOF in September 2025. An athlete in the AOF team was hospitalised after the Event, and the AOF team later withdrew from the Sprint Relay. The letter described the profound effect that the Event had on the AOF, its coaches and team members. It stated that “[under] conditions such as those experienced during the middle distance event at the 2025 World Games, a competition during any international championships/world cup should never be held/started again”. The AOF expressed the desire for orienteering to learn from what had happened in Chengdu and offered ideas for improvement in order to “protect our most valuable asset: the health of our athletes”.⁴⁹

5.35 On the basis that all health and safety decisions lay firmly with the IOF, even if a decision on delaying the start time, postponing or cancelling the Event required consultation with the IWGA, the Panel now considers the decision-making of the Event Team on a health and safety risk factor for the Event, namely: heat stress arising from the humidity and hot weather conditions in Chengdu in August 2025.

a) Heat stress

5.36 Heat stress is a risk for a sports event organised in hot and humid weather conditions. Heat stress occurs when the body cannot properly cool itself, leading to a build-up of heat and consequent detrimental effects for a person’s health. It is good practice for a sport to have a strategy in place to mitigate the risk of heat stress. Various indices have been constructed to assess the risk of heat stress during sports events that are held in hot and humid weather conditions (e.g. football matches, the Tokyo Olympic marathon etc.). To assess the risk of heat stress, knowledge of variables, such as the temperature, humidity, wind speed and solar radiation, is important; in fact, the more parameters included in a heat index, the better it predicts medical events that relate to heat. The tool most commonly used in sports to assess the risk of heat stress is the Wet Bulb Globe

⁴⁹ Austrian Orienteering Federation letter to IOF dated 4 September 2025.

Temperature (“WBGT”). The WBGT is easily measured by a hand-held instrument and is a useful aide for sports events organisers to manage the risk to participants when an event is held in hot and humid weather conditions (although recent studies have highlighted its limitations, especially in humid environments⁵⁰). Nevertheless, many heat policies applied by sports are constructed around the WBGT.

- 5.37 Depending on the risk level indicated by the heat index, and the circumstances of the sport, actions that a sports event organiser may take include postponing or delaying the event, cancelling the event, shortening a course, increasing rest breaks, or increasing the number of refreshment stations, amongst others. It is important that a routine is established for determining the WBGT that, ideally, involves checking the WBGT every day in the lead up to and on the competition day, and actions considered based on its answer, which, depending on the calculation, could also be ‘no action’.
- 5.38 It is good practice for the decision-making regarding the measures to mitigate the risk of heat stress to be informed by the guidance of a medical expert. The WBGT is not a perfect indicator of heat stress and even less so in high humidity environments; accordingly, the risk of heat stress may be underestimated in humid climates. The WBGT also does not take into full consideration factors such as solar radiation, which may be present in a sports event that is exposed to the sun, with very little shade. Medical expertise to inform of factors such as the effect of solar radiation is required.

b) Humidity and hot weather conditions

- 5.39 From an early stage of Event preparations, humidity and hot weather conditions were identified as a risk at the World Games in Chengdu. The IWGA Medical

⁵⁰ See e.g., Thorsson S, Rayner D, Palm G, et al. *Br J Sports Med* 2021; 55: 825-830; Bandiera D, Garrandes F, Kowalski J, et al. *Br J Sports Med* 2026;60: 534-542.

Committee informed the Panel that in April 2025 it communicated to IFs that heat was a risk, with the intention of prompting IFs to consider the issue with their own medical committees and to come up with a plan which they were to forward to the IWGA Medical Committee.

5.40 On 2 April 2025, the IWGA sent an email to IFs informing them, amongst other things, that i) the IWGA had decided to allocate one additional attendee at the World Games for each IF, being the IF's chief medical officer, and ii) of the contact details for the IWGA Medical Committee. The email also attached an Excel spreadsheet with historic heat and humidity data day-by-day and hour-by-hour for August 2024 and requested that the IF pass the information to a chief medical officer and ensure that the medical contact information for the IF was updated on the IWGA's platform.⁵¹ Based on the available information, the Panel finds that the offer to take a medical expert to the World Games in Chengdu was not taken up by the IOF or the Event Team.

i. Medical Expertise

5.41 The IOF did not appoint a doctor or medical expert as part of the Event Team. It is not the IOF's practice to appoint a doctor or medical expert, which contrasts with the practice of some other sports for which the weather can also affect athletes, e.g. football and field hockey.

5.42 The Panel was informed that there was medical expertise available to the IOF. The IOF has two Medical Experts who make up the 'Members Medical Commission', and were appointed by the IOF in March 2025 with the following remit:⁵²

"Remit IOF Medical Experts

When called upon, the IOF Medical Experts support the IOF Organisation and organisers of IOF main events with advice based on their professional medical

⁵¹ IWGA email dated 2 April 2025.

⁵² Email Reply to Panel Document Request 4 dated 9 February 2026.

expertise.”

- 5.43 The Medical Experts are professors in the fields of sports science and sport and exercise medicine, with strong scientific backgrounds and many international peer reviewed publications.⁵³ The Medical Experts maintain active clinical roles, and both have considerable expertise in endurance sports, particularly orienteering, which they have practised themselves.⁵⁴
- 5.44 However, there were differing views presented as to the role of the Medical Experts - or ‘Members Medical Commission’ as it is described on the IOF website – in the organisation of events. One contributor explained that the Medical Commission *“stands ready to support [an] organiser of IOF main events and partner events and also event advisors appointed by the IOF”*.⁵⁵ Another contributor stated that the *“commissions [including the medical commission] are basically helping the IOF Council to make some kind of decisions and apart from the discipline commissions, the IOF Footo Commission, MTBO Commission, Trailo Commission and Ski-o Commission, these commissions are rarely in contact directly with organisers”*.⁵⁶
- 5.45 In response to a Panel question about the role of the Medical Commission in the organisation of IOF events generally, the Medical Experts informed the Panel that there was no role for them in relation to events.⁵⁷ The Medical Experts informed the Panel that their contributions *“have been primarily ad hoc, responding when the IOF requests medical advice. There is no dedicated budget or formal terms of reference for their work. However, when necessary, the IOF has created task forces to support them – so far on two occasions: 1) SARS-CoV-2 (COVID-19); 2) Exercise in the heat.”*⁵⁸ The Medical Experts confirmed that they were not

⁵³ Written Response of IOF Medical Experts to Panel Questions.

⁵⁴ Ibid.

⁵⁵ Statement Contributor G.

⁵⁶ Statement Contributor B.

⁵⁷ Written Response of IOF Medical Experts to Panel Questions.

⁵⁸ Ibid.

consulted by the IOF or the Event Team regarding the orienteering competition at the Chengdu World Games.

5.46 Based on the available information, the Panel finds that although there was world-leading medical expertise available to the IOF, it is evident that the role of the Medical Experts was not widely known. The Medical Experts were not formally appointed to the Event Team and were not consulted on any aspect of the World Games orienteering competition. The Panel is surprised that the availability of medical expertise was not promoted to the Event Team particularly since decision-making around the measures to mitigate the effects of heat should ordinarily be informed by the guidance of a medical expert (a point discussed elsewhere in this Report). The Panel considers that it is a necessity for any decision regarding heat to be informed by the guidance of a medical expert and considers that the Event Team would have benefited from such guidance at an early stage of the Event planning.

ii. *Weather information communicated to athletes, team officials and coaches in advance of the Event*

5.47 The IOF communicates with athletes, team officials and coaches for IOF orienteering events through bulletins and other relevant documents that are placed on the IOF Eventor platform. The potential weather conditions and risk of high temperatures and humidity were highlighted in IOF Bulletins 2, 3 and 4 dated 11 March 2025, 15 June 2025 and 24 July 2025 respectively. The presentation delivered to the Pre-Team Officials Meeting during the last week of July 2025, also communicated information about the weather and climate, and included a reply to the following question:

“Is there a heat/weather policy or amendments that are being considered? As far as I know, there is one, but it has not been communicated to us. In case of heat, the easiest solution would be to have our competitions 2 hours earlier. We’ll keep

in touch and inform you during the Team Officials' Meeting on 7th August at the latest."

- 5.48 Some examples of the weather information communicated to Event participants are set out in Appendix 5.
- 5.49 The Panel finds that the information notified of a risk of humidity and hot weather conditions for the Event but that there appears to have been no information provided regarding the dangers of heat stress, how to recognise heat stress, or the preparation measures that athletes should take to prevent heat stress, and few changes were made to the information between the Bulletin published in March 2025 and the Team Officials' Meeting on 7 August 2025.
- 5.50 From the statements of athlete and coach contributors, it is evident that some athletes incorporated hot weather training, heat acclimatisation, and hydration strategies into their training and preparation before the Event; there are also observations made that some teams were not well-prepared at all. The Panel was encouraged by the statement of one contributor who said that as a consequence of things learnt at the Event, their federation was now developing its own strategy for competing in the heat and also educating their athletes.⁵⁹
- 5.51 The Panel acknowledges that athletes, coaches and teams have a responsibility to ensure that they are well prepared for an elite orienteering event, to be aware of risks, and to limit the potential for accidents, injury and long-term damage. However, the Panel also considers that the IOF, as the international federation, is best placed to take the lead on educating national associations, coaches and orienteering athletes about heat stress and the early signs and symptoms of heat related illness, particularly since athletes are increasingly exposed to higher temperatures and humidity when competing in events globally, and considers that

⁵⁹ Statement Contributor N.

more informative guidance could have been provided to Event participants regarding the dangers of heat stress and preparation measures for athletes.

iii. Discussions regarding moving the start time and shortening the course

5.52 The LOC informed the Panel that, in January 2025, the IOF released the competition schedule for the Event, with a start time of 9:40am on 8 August 2025. The LOC explained that it gave historical weather data to the Event Team and repeatedly suggested to the Event Team that the start time for the Event be moved as early as possible to avoid the extreme heat expected around midday.

5.53 Based on the available information, the Panel finds that the LOC appears to have recommended moving the start time on 20 May 2025 during an inspection visit. It also recommended moving the start time in an online meeting on 12 June 2025, and in email messages dated 13 June 2025 and 16 June 2025, respectively. The email message dated 13 June 2025 advised that meteorological experts predicted record-breaking high temperatures in Chengdu and “*strongly advised*” bringing the start times of all orienteering events, including the model events to earlier in the day.⁶⁰ The Competition Manager replied on 13 June 2025, stating that:

“We had a meeting with the LOC yesterday and we discussed this topic also. We decided not to change the programme (since it’s very difficult to change everything at this late stage), but the LOC will provide more water and ice for the competitors.”⁶¹

5.54 Three days later, the LOC Competition Director for Orienteering also repeated the recommendation in an email titled “Concerns on the Extreme Weather” that was sent to the Competition Manager, the IWGA, and the IOF:⁶²

⁶⁰ Email LOC to Competition Manager dated 13 June 2025.

⁶¹ Email Competition Manager to LOC dated 13 June 2025.

⁶² Email LOC to Competition Manager dated 16 June 2025.

“Following the weather concerns we discussed last week, given the extreme heat and humidity expected in Chengdu during August - which may lead to widespread heat related illnesses- we ... still recommend considering an earlier competition schedule. Also, we fully understand, as you mentioned during the meeting, that adjusting the schedule at this stage would be an exceptionally challenging decision, involving multiple stakeholders. Therefore, we will certainly respect your perspective and final decision.

If the schedule remains unchanged, would it be feasible to add an additional refreshment point in the middle-distance venue to better ensure athletes’ water supply and physical cooling needs?

Meanwhile, as suggested, we will provide ample ice and water for athletes and prepare corresponding emergency plans”.

5.55 In reply, on 17 June 2025, the Competition Manager stated:⁶³

“Regarding your query about changing the competition schedule, we carefully considered your reasoning and opinions, but decided not to change the schedule.

The schedule was built up in the last six months, considering all types of inputs. We believe that changing these can have such unforeseen effects, that we are not ready to risk.”

5.56 The Panel was informed that the reasons for not moving the competition start time earlier, when these discussions arose in June 2025, included the following:⁶⁴

i) The Competition Schedule was required to be confirmed for all competitions by the end of April/middle of May;

⁶³ Email Competition Manager to LOC dated 17 June 2025.

⁶⁴ Statement Competition Manager.

- ii) Bringing forward the competition start time would have “*taken a lot of effort*” and obtaining changes through the LOC was challenging for the Event Team (e.g. the transport schedule would have required changing, breakfast in the athletes’ village was not served before 6am and breakfast needed to be provided at least three hours before the start);
- iii) Everything along the course would have had to be prepared a lot earlier;
- iv) Eighty percent of the participants came from different time zones, and they did not arrive until three days before the competition. Starting the competition earlier would have resulted in too big a change in time difference for the majority of athletes;
- v) The hosts wanted as many people as possible to go to the Opening Ceremony which would not have been possible for the orienteering athletes, they would have returned to the athletes’ village too late (as it was the athletes returned to the village at around 11:45pm);
- vi) The bus transport would have had to start earlier, around 6am, if the Event was brought forward by 2 hours; and
- vii) To organise a technically safe race, an orienteering event organiser needs to do around two and a half to three hours of course checking and shifting the start time would have required an earlier start for the organisers which was logistically challenging.

5.57 The Panel finds that the Event Team chose not to follow the LOC’s recommendation to move the Event start time. The Panel also finds that the decision in June 2025 not to move the Event start time was not informed by the advice of a medical expert. The Panel considers that a decision about whether to continue with an Event or move the competition to another time because of

weather conditions, is a decision that should be informed by advice from a medical expert and observes that the Competition Manager, who had no medical expertise himself, did not have the support of a medical expert appointed to the Event Team, nor was the advice of the IOF Medical Experts or the IWGA Medical Committee sought to assist with making a decision when the discussions were held in June 2025.

5.58 The Panel acknowledges that it may not have been easy to implement the LOC recommendation, although there was likely less time pressure, and more flexibility to do so in June 2025 than during the week of the Event. However, the Panel considers that if hot and humid weather conditions present a danger, organisational pressures do not excuse a decision to continue without appropriate mitigation measures, of which moving an event start time may be one.

5.59 The Panel notes that the email correspondence between the LOC and the Event Team arose in June 2025. It observes also that there is no information available that shows formal consideration was given to moving the start time or postponing/cancelling the Event, as the weather conditions materialised closer to the race day. Certainly, the IWGA confirmed that it was not approached with a request under the Rules of the World Games 2025 to delay the Event. That does not mean that there were no discussions regarding moving the Event start time during the days immediately preceding the Event; only that the Panel has no information available to it that shows what discussions occurred, if at all.

iv. Heat Policy

5.60 The IOF did not have a heat policy in place at the time of the World Games 2025. However, the IWGA Medical Committee drafted a Heat Policy or set of guidelines, which the IWGA sent to Competition Managers on 3 August 2025, five days before the Event.⁶⁵ The email attached the IWGA Heat Policy and reminded IFs of the

⁶⁵ Email IWGA to Competition Managers dated 3 August 2025.

requirement to have formal IWGA approval to cancel competitions, and of the process for notifying of other changes to the competition schedule. The relevant part of the email in relation to the IWGA Heat Policy stated:

“On behalf of the IWGA Medical Committee, please find attached the IWGA Heat Policy in place for the World Games 2025. Indoor sports will not be concerned with the heat guidelines because air conditioning will be available in all indoor venues. For outdoor sports, the Local Organising Committee venue meteorological team will provide you with estimations up to 36h in advance to estimate per hour:

- *Temperature*
- *Humidity*
- *Wind Speed*
- *Rainfall probability*
- *Rainfall amount*
- *Thunderstorm probability*
- *Sunshine hours (including sunrise and sunset times)*

Please discuss with the venue meteorological team the most convenient method (email, WeChat, print-out) and required frequency to receive the data. For any further medical questions on IWGA side, please contact...”

5.61 The IWGA Heat Policy is outlined in Appendix 8. Amongst other information, it invited the IFs to:

“1. Let us know, yes or no, whether your International Federation will have a Chief Medical Officer who will direct implementation of your or our heat policy during The World Games 2025.

- a. *If yes, we will provide information and medical guidance only as requested or if there are concerning heat illness trends in your discipline.*
- b. *If your International Federation does not have a clear heat policy and/or does not have a Chief Medical Officer to provide direct implementation of your heat policy, please let us know before the start of The World Games.*

2. *The IWGA Medical Committee will more closely monitor the health of your athletes and provide guidance when competition changes should be considered based on Wet Bulb Globe Temperature (WBGT) and health trends. Please reach out to...with any questions or concerns.*
3. *Regardless, please send us a copy of your International Federation heat policy and the contact information of your Chief Medical Officer for our records and so we can provide support.”*

5.62 The Competition Manager emailed the IWGA Medical Commission on 3 August 2025, confirming that the IOF did not have a heat policy and that it would “*fall under*” the IWGA Heat Policy.⁶⁶

5.63 On 6 August 2025, the IWGA Medical Committee replied to the Competition Manager with the following:⁶⁷

“Unfortunately, current and forecasted temperatures in Chengdu exceed what we would usually consider the upper limit typically considered safe for competition. I recommend the following actions:

Strongly consider rule or competition modifications to allow for effective cooling and reduce heat exposure [...]

Educate athletes on recognizing early signs and symptoms of heat-related illness, as outlined in our recent advisory.

Promote the use of cooling strategies such as cooling vests or temperature-regulated clothing during competition.

⁶⁶ Email of IOF Competition Manager to IWGA Medical Committee dated 4 August 2025.

⁶⁷ Email of IWGA Medical Committee dated 6 August 2025.

Engage with the local medical team on-site to ensure they are prepared for rapid recognition and treatment of heat illness. In sports the single field of play, immediate cold-water immersion is the standard of care until an athlete's core body temperature - measured via a validated internal method- returns to safe levels. For orienteering, a practical approach may include deploying a mobile cart equipped with ice packs, cold water, and a tarp, large plastic tub, or inflatable pool for on-site rapid cooling.

Another option may be a cooling station somewhere along the course.

Please let us know if we can provide any help or guidance.”

5.64 The Competition Manager informed the Panel that he considered the advice provided by the IWGA Medical Committee. Shortening the courses was a challenge within the timeframe available before the Event (as the maps for the Event had already been printed in Europe by that time), and in any event was not something that the IOF would ordinarily have considered in the circumstances. The Competition Manager also considered that the temperature was cooling, and conditions were becoming much more bearable than they had been earlier in the race week. The Competition Manager explained that the Event Team requested a constant supply of ice at the start and also at the two drinks stations along the Event courses. The Competition Manager acknowledged that the Event Team could have communicated more around the weather conditions to athletes, although he pointed to the weather information communicated in all IOF Bulletins in the lead up to the Event, and informed the Panel that orienteering athletes and teams would have been aware of the expected high temperatures.

5.65 The Panel was informed that when the IWGA Policy was delivered, it was “too late” to change things because everything was set for the orienteering competition.⁶⁸ It was informed that seeking amendment to plans or a change in something was

⁶⁸ Statement Contributor C.

“*complicated*”, and the general expectation was “*don’t make late and sudden changes because*” that will only cause bigger risks and effects.⁶⁹ The Panel finds that because of the organisational conditions under which they were delivering the Event, making any late changes to the Event, while not impossible, was very challenging for the Event Team. The Panel observes that the IWGA Medical Committee notified IFs of the heat risk in April 2025, the LOC made heat mitigation recommendations in June 2025, and the Panel considers that receipt of the IWGA Policy was simply a final ‘red flag’ in relation to the heat risk. The Panel also finds that despite the Competition Manager’s observation that conditions were becoming more bearable, the IWGA email of 6 August 2025, the participant comments and DNF statistics from the men’s Event show that the weather conditions were still challenging.

- 5.66 The Event Team did not meet with anyone from the IWGA Medical Committee in the few days immediately prior to the Event. The IWGA Medical Committee attended the World Games and when in Chengdu, they reached out to the LOC venue medical contact for each sport to visit the venue and undertake a needs assessment to ascertain any educational, material or training gaps, and address these to minimise risk. The orienteering competition started the day after the Opening Ceremony and was one of the first sports competitions to run. IWGA Medical Committee members in attendance for the World Games did not visit the Event race venue to ascertain needs because the venue apparently did not appear on the list with which the IWGA Medical Committee was provided.⁷⁰ The IWGA Medical Committee informed the Panel that it emailed the LOC Director responsible for orienteering in order to arrange a meeting but did not receive a reply.⁷¹ While an on-site inspection may not have occurred during the World Games period, the LOC informed the Panel that a member of the IWGA Medical

⁶⁹ Ibid.

⁷⁰ Note the LOC states that all venues appeared on the SWORD Venue System, with viewing access granted to the IWGA Medical Committee. The LOC also informed the Panel that it copied the IWGA Medical Commission into a communication on the location details for all venues: LOC Written Reply to Questions.

⁷¹ Statement IWGA Medical Committee.

Committee conducted an on-site inspection of the orienteering venue prior to the Games.⁷²

- 5.67 A separate meeting for team doctors to discuss specific medical information was not held in the days leading up to the Event. While some national teams may have brought a team doctor for the entire World Games national team, it is quite rare in orienteering for teams to travel with a team doctor.⁷³ Some teams do not even have a coach present. The Event Team had a list of contact email addresses for at least one member of each team delegation and the Event Team set up a WhatsApp group to communicate with them. There was no communication with teams directly through these channels on health matters in the 24 or 48 hours before the Event.⁷⁴ Additionally, the Panel was informed that there were no complaints to the IOF about the humid and hot weather conditions in the days leading up to the race.
- 5.68 The IWGA Heat Policy included a table by which to calculate “a rough estimate” or simplified version of the WBGT, not the actual WBGT, and set out thresholds, with advice for prevention measures.⁷⁵ The table required the Event Team to know the variables of temperature and humidity in order to use the table to ascertain the risk of proceeding with the Event or to know the WBGT through weather data provided by the LOC or through calculating the WBGT using their own instruments.
- 5.69 The LOC had a meteorological team that was tasked with providing up-to-date weather information on the World Games Chengdu App. The Panel was informed that the weather data provided by the LOC in the World Games Chengdu App was “*not always the best*”.⁷⁶ There also appears to have been challenges for some people accessing the weather information because of telecommunication issues.⁷⁷ The Event was held on the first day of competition at The World Games

⁷² LOC Written Reply to Questions.

⁷³ Statement Contributor B.

⁷⁴ Ibid.

⁷⁵ See Appendix 8.

⁷⁶ Statement Competition Manager.

⁷⁷ Statement IWGA Medical Committee.

and the Panel was informed that the weather information displayed on the World Games Chengdu App did not work as well in the early days of The World Games as it did later in the competition.⁷⁸ It apparently did not show the WBGT for each venue or show the predicted weather hour by hour.⁷⁹ The Panel was unable to access any historical weather information using the World Games Chengdu App.

5.70 The Panel was informed that it was at the request of the IWGA Medical Committee that the World Games Chengdu App weather display was changed and that, eventually, the WBGT for each venue was published in the form requested by the IWGA Medical Committee, although it was possibly not displayed in the way the IWGA Medical Committee wanted it to be displayed until after the orienteering competition.⁸⁰ From the available information, it is also not evident to the Panel where at the Event venue the predicted temperature data was collected.

5.71 The Panel was informed that the weather conditions on 8 August 2025 were assessed by monitoring the temperature in different weather applications, including a Norwegian website and the World Games Chengdu App, prior to the Event. The Competition Manager informed the Panel that with the temperature data available, he concluded that the Event fell within the “okay” range, and the Event went ahead with the health and safety measures that the Event Team and the LOC had prepared in advance.⁸¹ It appears, however, that the WBGT was not calculated using the heat index set out in the IWGA Heat Policy and nor was advice taken from a medical expert before making the decision to continue with the Event. The Panel was informed that WBGT was first mentioned to the Event Team just a few days before the Event started and was not something with which they were familiar.⁸² The Panel also observes that the IWGA Medical Committee did not provide any information about the WBGT in its email of 6 August 2025, nor was there any discussion on 7 or 8 August 2025 about the WBGT for the Event.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ Ibid.

⁸¹ Statement Competition Manager.

⁸² Statement Competition Manager.

5.72 The Panel was not provided with actual weather data for 8 August 2025 at the Event venue; it is not standard practice for the IOF to keep a formal record of the weather conditions at an Event. The Panel was provided with predicted weather data, which apparently was given to the Competition Manager the day before the Event on 7 August 2025,⁸³ although the Competition Manager informed the Panel that he did not receive the written predicted weather data.⁸⁴

5.73 The predicted weather data dated 7 August 2025 showed:

Predicted start time	Predicted temperature (Celsius)	Predicted humidity %
9am - 10am	28 - 29	75 - 80
10am – 11am	29 - 30	70 - 75
11am – 12pm	30 - 31	60 - 70

5.74 Using the predicted weather data in the IWGA Heat Policy, the Panel observes that the risk is assessed at “Moderate Risk” across the three hours, with the advice being: “normal activity with moderate risk; consider increasing hydration breaks”. However, the Panel acknowledges that there are limitations to its assessment because the table in the IWGA Heat Policy provides only a rough estimate of the WBGT. It is an example of a heat chart, which is better suited to assessing the WBGT for indoor events, rather than outdoor events. The Panel also notes that the Event took place over a relatively large area, with different parts of the Event courses apparently displaying different characteristics with regards to exposure to the sun, altitude, wind etc, and the WBGT may have varied along the Event courses. As previously mentioned, the WBGT is not a perfect indicator of heat stress and even less so in high humidity environments. The Panel’s calculation of the WBGT also does not take into full consideration solar radiation, which appears to have been a characteristic of the Event courses.

⁸³ LOC Written Reply to Questions.

⁸⁴ Statement Competition Manager. The Competition Manager could not recall whether he received the information verbally: *ibid*.

- 5.75 Based on the available information, the Panel finds that on the day of the Event, the Event Team appears not to have used the heat index in the IWGA Heat Policy to guide decision-making regarding the risk of heat stress. No one in the Event Team calculated the WBGT on 8 August 2025 or obtained the WBGT directly from the LOC meteorological team. The Panel finds that this likely occurred because the Event Team was inexperienced at applying a heat policy and did not understand the importance of calculating the WBGT. It appears also that the LOC's weather information on the World Games Chengdu App may not have been as accessible or as accurate at the beginning of the World Games, as it may have been for later sports events. The Panel observes that the IWGA Medical Committee knew that the IOF did not have a chief medical officer and that the Event Team had elected to follow the IWGA Heat Policy, and the Panel considers that the IWGA Medical Committee should have followed up on how their advice of 6 August 2025 was being implemented and on the WBGT calculation for 8 August 2025. However, the Panel did not put this to the IWGA Medical Committee and points out that there may be a reasonable explanation as to why that did not occur.
- 5.76 Overall, the Panel observes that the collaboration and interaction on medical matters between the Event Team, the IWGA Medical Committee and the LOC was not strong. It considers that there ought to have been a clearer identification of responsibilities, and on the part of the Event Team, proactive interaction with the LOC medical officers and the IWGA Medical Committee, in the preparation for, and during, the orienteering competition.
- 5.77 The Panel finds that the Event Team was not well-equipped to accurately assess the actual weather conditions for the Event on 8 August 2025. The Event Team did not have any instruments by which to gauge the conditions on the courses, nor was it impressed upon them by existing IOF event organisation procedures that weather instruments were required, and within the time constraints of the actual event, it more than likely did not occur to any team member to purchase them locally. Local weather data may not always be accessible, and it is advisable for

an event team to carry its own instruments to measure, at a minimum, the variables of temperature, humidity and wind at a competition location. Small hand-held instruments are also available that measure the WBGT.

5.78 The Panel also observes that assessing heat stress using various heat indices requires medical knowledge, especially as the indices can vary slightly and are not directly comparable because they use different variables. The WBGT has well-known limitations and has to be complemented by clinical experience and knowledge that solar radiation, and humidity will add to the heat stress which in turn will lower the thresholds for action. For this reason alone, medical knowledge must be available to a sports event organiser during a competition that takes place in hot and humid weather conditions to help event organisers interpret any data that they collect themselves and to apply and use the data correctly in a heat policy. This expertise was available to the IOF through the IWGA Medical Committee and may have been available through the LOC, but the Panel finds it was not accessed by the Event Team. In the Panel's view, this may have occurred because of a general lack of understanding amongst the Event Team as to when a health and safety decision requires the involvement of a medical expert.

5.79 Insofar as other preventative measures and treatment measures were concerned e.g. ice, cold drinks, medical tent at the finish line, etc., these appear to have been adequate and well-received by those contributors who commented on these points. In reply to a question from the Panel, the LOC confirmed that it supplied the following:⁸⁵

“Question: Can you please describe the medical facilities and the measures put in place by the LOC to mitigate the effects of heat for athletes in the Middle Distance Event on 8 August 2025?”

⁸⁵ LOC Written Reply to Panel Questions.

After the Executive Committee's Logistics Support Department organised an on-site inspection and held discussions to work out the medical support plan, the following arrangements were made: one medical room at the event venue, one medical station for spectators, and six ambulances served as rescue points along the route. In addition to basic first aid supplies and equipment, the medical stations and ambulances were stocked with heat stroke prevention medicines, supplies and cooling equipment, considering the type of events and the weather. Specifically, both the venue medical room and the spectator medical station were approved by International Competition Manager Áron [Less] and included in the venue operations plan. The locations of the ambulances were chosen carefully after considering factors such as road conditions, the location of the restricted area, and the finish line, so that the response time could be as short as possible. After International Competition Manager Áron [Less] approved these medical locations, they were marked on the venue operations design drawings and on SWORD VENUE.

[...]

To deal with the recent high temperatures, the World Games Orienteering VOC set up 56 shade tent (36 of which are air-conditioned tents), installed 39 air coolers, 2 ice machines, and stored 3 tons of ice for cooling (2.25 tons were used on August 8), 80 ice buckets (42 were used on August 8), and four medical-grade ice buckets (all of which were used). In addition, one freezer and one refrigerator were installed in the athletes' isolation area, stocked with 600 bottles of drinking water (550 ml per bottle) and ice cubes for cooling during the pre-competition preparation phase. In line with the requirements of International Competition Manager Áron, two hydration stations were set up halfway through the race, each equipped with 300 bottles of drinking water (550 ml per bottle) and two ice buckets (100 L each). The ice buckets contained ice and bottled water to make it easy for athletes to get them during the race. In the post-race rest area for athletes, one freezer and one refrigerator were provided, along with ice for post- race cooling and 1000 towels.”

5.80 The Panel observes that ambulances were located in the Event area. There were heat mitigation measures in the quarantine and start area, an extra drinks station during the Event, and a well-equipped medical tent at the finish line. The Panel also notes the level of ice consumption on 8 August 2025, which supports the view that the weather conditions were hot.

v. *The Event course lengths*

5.81 Some contributors to the investigation criticised the Event course lengths as being too long for the weather conditions.

5.82 The fastest male runners completed the course of 5970m in 45:22 minutes, 47:43 minutes and 47:48 minutes respectively. The fastest female runners completed the course of 5,070m in 40:08, 43:52 and 46:26 minutes respectively.

5.83 The IOF Foot Orienteering Competition Rules 2025 (“Orienteering Competition Rules”) applied to the World Games orienteering competition.⁸⁶ The relevant Rules 16.09 and 16.10 provide that:

“16.09 *Where the winning time is expressed as an interval, the course must be planned with the aim of achieving a winning time at the middle point of the interval.*

16.10 *The courses must be set to give the following winning times in minutes:*

<i>women</i>	<i>men</i>	
...		
30–35	30-35	<i>Middle distance final</i> ”

5.84 For courses estimated to be over 30 minutes long, the Orienteering Competition Rules provide that “*refreshments must be available at least every 25 minutes at*

⁸⁶ Orienteering Rules 2025, r 2.13 provides that: “*The World Games races must follow the rules for the World Orienteering Championships as far as this is possible with respect to IWGA rules and feasible with respect to the different format of the World Games races*”.

the estimated speed of the winner”;⁸⁷ and that “*at least pure water of suitable temperature must be offered*”.⁸⁸ The Panel was informed that the Event courses had two refreshment controls as a heat mitigation measure, each containing water and ice.

5.85 The Panel was informed that the course setting was undertaken by three people: the Competition Manager, the Course Setter and the Senior Event Adviser. The Course Setter was chosen for his knowledge and experience of setting courses in China. The course terrain was described by contributors as “unique”, with the courses set through orange gardens, rice gardens, small tracks, open fields and houses. It was an open terrain, with few trees and little shade from the sun. The Panel was informed that the courses were planned with the open terrain and weather conditions in mind,⁸⁹ and were expected to be the correct length.⁹⁰

5.86 The Event venue was selected a year before the race and planned remotely, with a Chinese company producing the competition map in the first instance and a revision subsequently carried out by mappers from Czechia.⁹¹ The Panel was informed that there were limited opportunities to visit the venue in Chengdu.⁹² Across several days in May 2025, members of the Event Team checked the terrain. They met again in Chengdu on 1 August 2025, the week of the race, to make adjustments to the map, which was sent to Europe for final printing on 4 August 2025.⁹³ Members of the Event Team brought the final maps when they travelled to Chengdu for the World Games.⁹⁴ The Panel was informed that normally the map is checked up to three times before an Event, with the last visit one or two months before the competition.⁹⁵ No test running of the courses took place, which the Panel understands is normally a common practice at other IOF events.

⁸⁷ Orienteering Rules 2025, r 19.8.

⁸⁸ Orienteering Rules 2025, r 19.9.

⁸⁹ Statement Contributor D; Statement of Contributor E.

⁹⁰ Statement of Contributor D.

⁹¹ Statement of Contributor D.

⁹² Statement of Contributor E.

⁹³ Statement of Contributor B.

⁹⁴ Statement Contributor B.

⁹⁵ Statement Contributor E.

5.87 The Panel was informed that when the Event Team walked the courses on 1 August 2025, they understood that the forecast temperature was to decrease. There was no discussion regarding shortening the course because of the weather, which was not a standard practice of the IOF in any event, and based on the Model Event held the day before the Event, it was also not evident that the course would be too long.⁹⁶ The Panel reiterates that open terrain in the heat would constitute an additional heat stressor for competitors and one that is not normally included in heat indices (although it may be included in newer indices such as the Physiological Equivalent Temperature (PET) index). The PET index is a more complex heat index that takes into consideration solar radiation. The guidance of a medical expert is required to assist with factoring in open terrain in a normal heat index such as the WBGT. Shortening the course is one way of mitigating against the additional heat stressor of open terrain.

5.88 The winning times for both the men's and the women's races significantly exceeded the time required under the Orienteering Competition Rules. (The sprint distance winning time was apparently within the limits set down in the Orienteering Competition Rules.⁹⁷) Based on the available information, the Panel considers that a combination of factors contributed to the lengthy Event course finish times. First, the weather. The hot and humid conditions slowed the orienteering athletes down, particularly in the men's race. Secondly, the courses were challenging and the terrain unusual, and out of the comfort zone for most athletes, with even the fastest runners making technical mistakes.⁹⁸ Thirdly, the Event courses were not tested by test runners,⁹⁹ because of the desire to protect the course integrity and the absence of suitably qualified runners locally or within the Event team.¹⁰⁰ In May 2025, the course winning times were estimated to be

⁹⁶ Statement Contributor B.

⁹⁷ Statement Contributor E.

⁹⁸ Statement Contributor A.

⁹⁹ Statement Contributor D.

¹⁰⁰ Statement Contributor E.

between 35 to 37 minutes.¹⁰¹ Course adjustments were made when some Event Team members arrived in Chengdu, with the final estimate for the courses being 35 minutes,¹⁰² rather than the requisite 32:30 minutes. The Panel was informed that there is no requirement to test run the courses in the Orienteering Competition Rules.¹⁰³

5.89 The Panel finds that the course setting team planned courses that were longer than the time set down in the Orienteering Competition Rules. Additionally, based on the information available to the Panel, it finds that there was insufficient consideration given to the consequences of the Event course lengths in the predicted weather conditions, nor to the impact of the open terrain on the health and safety of athletes. Guidance from a medical expert would have provided this information but there was an absence of awareness of the need for guidance from a medical expert during the course planning. The Panel also finds that there was no practice of shortening the courses and no plan in place to deal with the eventuality, if needed.

c) Risk assessment

5.90 Based on the information available to the Panel, the Panel observes that the IOF did not have a formal risk assessment for the Event, or at least not one recorded in a single document.¹⁰⁴ There was no obligation on the IOF to produce a risk assessment for the LOC or the IWGA. While a formal document may not have been produced, it was evident from the interviews that the Event Team were extremely experienced at organising orienteering competitions and that risks attached to the Event were assessed dynamically throughout the Event preparation as evidenced by e.g. the IOF Bulletins published to the athletes and team officials before the

¹⁰¹ Ibid.

¹⁰² Ibid.

¹⁰³ Statement Contributor C.

¹⁰⁴ Ibid.

Event which informed of some risks, and measures put in place to mitigate against the risk of heat stress, amongst others.

- 5.91 When questioned by the Panel about the absence of a risk assessment, the Competition Manager responded that the Event Team did not know the local conditions sufficiently well to produce a full risk assessment e.g. it did not have control over all aspects of the competition such as the provision of medical facilities.¹⁰⁵ However, the Panel considers that it is sufficient to note down on a risk assessment in relation to e.g. the provision of medical facilities, that these were ‘to be provided by the LOC’, so as to demonstrate that it had been discussed, and actions delegated appropriately.
- 5.92 A risk assessment can be used retrospectively to show that risks were discussed and mitigated as required, and to show that risks were considered and not mitigated for a particular reason. A risk assessment can highlight gaps and a review of a risk assessment after an event can improve the quality and safety of future events. A risk assessment should include consideration of the weather conditions, as well as terrain hazards, and non-orienteing aspects such as arena construction, emergency access to terrain, etc. Medical knowledge should be used to inform relevant parts of a risk assessment.
- 5.93 The Panel acknowledges that the culture of producing a risk assessment differs between countries. Nevertheless, recording hazards or risks in a single document, considering the likelihood and severity of potential harm, and implementing control or mitigation measures to manage the risk, where necessary, is an accepted practice for managing risk of harm to others, and the Panel was surprised at the absence of a risk assessment to guide health and safety decision-making for an elite orienteing competition. The Panel considers that the Event Team was better placed than the LOC to produce a risk assessment in the

¹⁰⁵ Statement Competition Manager.

circumstances, because the Event courses were not known to the LOC, and the majority of the LOC were unfamiliar with the sport of orienteering.

5.94 The Panel finds that although the Event Team were aware of the risks based on their extensive collective experience of organising orienteering events, there was no formal risk assessment compiled, no plan in place for dealing with weather events or other factors that may delay the start, no medical knowledge used to inform the dynamic risk assessment, and no process for continuous risk assessment throughout the planning and during the Event itself.

d) The purpose and use of Global Positioning System (GPS) tracker units

5.95 Another consistent theme throughout the investigation was the absence of monitoring of athletes through their GPS trackers during the Event.

5.96 While it is standard practice for athletes to carry a GPS tracker in international orienteering events, the Panel was informed that it is not standard practice for the IOF to appoint an official to monitor the GPS position of athletes on the course,¹⁰⁶ and there is no protocol in place for when an athlete ‘goes missing’ or their GPS tracker appears to stop moving.¹⁰⁷

5.97 The Panel was informed by several Event Team contributors that the purpose of wearing a GPS tracker in an orienteering event is to improve the visibility of competitions, so that members of the public, including coaches and supporters, and broadcasters for TV and the Internet, can track where an orienteering athlete is on the course. With the exception of local events in China, GPS trackers are not widely used as a safety tool in orienteering because of their unreliability.¹⁰⁸ A GPS tracker may be unable to maintain a consistent signal due to interference from buildings and other structures, loss of the device, loss of signal in remote areas,

¹⁰⁶ Ibid.

¹⁰⁷ Statement Contributor C.

¹⁰⁸ Statement Contributor B; Statement Contributor C.

or delays with the signal transmission, amongst others. It is also difficult to ascertain when a GPS tracking signal stops whether it is because the athlete has suffered a medical episode or has got lost, run off the map, or turned their GPS tracker off because they have quit the race and do not want to be tracked.

5.98 GPS trackers with a specific safety function (i.e. a button that sends an alert message that an athlete can press when in distress) are available but are also costly and for that reason alone are not commonly used in orienteering, with the exception of locally organised events in China. In China, following an ultramarathon incident in 2019 in which several people died in extreme cold weather conditions, safety standards apparently require GPS trackers with a safety function to be used in locally organised orienteering events. Satellite trackers can be a more reliable system, but at present are very expensive and much larger and heavier devices for an athlete to carry.

5.99 In any event, as it transpired athletes were equipped with a GPS tracker with a safety function, but only because of exceptional circumstances that unfolded in the days before the Event. The Panel was informed that the athletes carried two GPS tracker units, which was very unusual; usually, orienteering athletes carry one GPS tracker unit. The reason for the athletes carrying two units was because the GPS unit supplied by Trac Trac, in accordance with supply arrangements for the Games that were made by the IWGA/LOC, were tested in the sprint race area and found to work well but testing, which took place before and during the Games in the Event area showed that the Trac Trac GPS units did not work well in the Event area. Although the mobile phone coverage was normal and the Trac Trac units worked, a test two days before the Event showed there was a delay with the GPS data reaching the servers of between 30 minutes to 3 hours. The reason for the delay was not known, and the Event team endeavoured to resolve the issue, without success.

5.100 The Panel was informed that Trac Trac's Chinese representative, who was on site knew the director of another Chinese manufacturer, JND Tracking, who happened

to be in Chengdu on a business trip, and arranged, at the Event Team's request, for the urgent supply of secondary GPS units. JND Tracking was not an official supplier to the World Games, and the request was made in urgency, without the involvement of the IWGA or the LOC, owing to the imminent start of the Event. The GPS unit supplied by JND Tracking included a safety function. The JND Tracking GPS units arrived in Chengdu at 4am on the day of the Event and were used together with the Trac Trac GPS units when the race started at 9:40am. Athletes carried both GPS units in a GPS vest under their team shirt on their back. The GPS units were placed in their backpack by officials at the start and it is standard practice for officials not to speak to athletes during this time.

5.101 The Panel finds that the standard practice in international orienteering events is for an athlete to carry a GPS tracker unit primarily for the purpose of enabling the public and broadcasters to follow the athletes when an orienteering event is broadcast on television or the Internet, and not as a safety tool. Consequently, the IOF does not monitor athletes' GPS trackers as a standard practice at international orienteering events.

5.102 The Panel was not informed of any requirement for GPS tracker units to be provided for safety purposes in international orienteering events.

6. Conclusion

6.1 Under its terms of reference, the Panel was tasked with considering whether the IOF complied with relevant IOF and IWGA regulations.

6.2 Article 26.12 of the Orienteering Competition Rules provides that:

“The organiser must stop, and postpone or cancel a race if at any point it becomes clear that circumstances have arisen which make the race dangerous for the competitor, officials or spectators”.

6.3 Hot and humid weather conditions would in the Panel’s view require an IOF competition organiser to stop, postpone or cancel a race if it was clear that the weather conditions ‘make the race dangerous’. Based on its findings in section 5 of the Report and the available information, while there are indications that the weather conditions were hot, the Panel is unable to conclude that the weather conditions on Saturday 8 August 2025 were, more likely than not, ‘dangerous’ and triggered Article 26.12 of the Orienteering Competition Rules. The Panel does not have any actual weather data and the predicted weather data which it does have, when used in the IWGA Heat Policy indicates a “moderate risk” and did not advise that the Event be delayed, postponed or cancelled. Nevertheless, the Panel considers that it may have been prudent to adopt a more cautious approach in light of the weather predictions, the LOC’s communications in June 2025, and the IWGA Medical Committee’s email of 6 August 2025.

6.4 The Panel has found that the course lengths exceeded that set down in the Orienteering Competition Rules.

6.5 The IOF did not have a heat policy and to the best of the Panel’s knowledge, there is no regulatory requirement for a sports federation to have a heat policy. The Panel observes that heat mitigation measures were in place, e.g. an extra drinks station, ice and water, that the Event Team elected to follow the IWGA Heat Policy, but

were inexperienced at applying a heat policy, and appears not to have used it to assess the heat stress risk on the day of the Event.

- 6.6 There were no relevant IWGA regulations or Rules of the World Games pertaining specifically to health and safety that applied to the Event.
- 6.7 Based on its findings in section 5 of this Report, the Panel's conclusion is that while the IOF health and safety procedures and the Event Team's decision-making for assessing heat stress at the Event did not breach any relevant IOF or IWGA sports regulations, it did not follow current best practice as recommended by medical experts for holding events in hot and humid environments.
- 6.8 The Panel considers that there are significant improvements that the IOF can make to its health and safety decision-making for an event that is scheduled to take place in a hot and humid environment, and these are outlined in the Panel's Recommendations in the next section.

7. Recommendations

- 7.1 Based on its findings in section 5, and in accordance with point iv) of its terms of reference, the Panel makes the recommendations set out below. Although the recommendations relate specifically to IOF events held in hot and humid weather conditions, the Panel encourages the IOF to integrate sports medicine, where relevant, into event health and safety decision-making generally.
- 7.2 The Panel also recommends that the IOF consult with those sports involved in the World Games in Chengdu that had their own heat policy and medical decision-making protocols, and which the IWGA Medical Committee informed the Panel were examples of good practice.¹⁰⁹ These were ultimate frisbee, lacrosse, and duathlon; there may be others.
- 7.3 The Panel's recommendations are:
- a) The IOF must develop and implement a heat policy that is specific to orienteering and applied at events under the direction of an IOF-appointed medical expert. The heat policy should include risk stratification measures e.g. an increased number of refreshment stands, delaying/bringing forward start times, shortening courses, postponing or cancelling an event, etc.
 - b) The IOF must appoint an independent medical expert to every IOF competition, including those delivered in the context of a multi-sport event. The medical expert is to be involved at all stages of the event, including during the event itself, and is to be consulted on any decision regarding health and safety at an event that is held in hot weather (or other unusual) conditions. The role of the medical expert is to be communicated to all members of the event team, and the responsibilities of the medical expert and the points in the event

¹⁰⁹ Statement IWGA Medical Committee.

planning and event delivery at which their advice is required, clearly written down. The medical expert should be empowered to change the format of, delay or cancel a competition, if an orienteering competition is considered unsafe, and following consultation with other relevant parties (e.g. event director, participants, teams' officials, and other organisers if the orienteering competition is part of a multi-sports event, etc.).

- c) The IOF must require a written plan (also known as a medical action plan) to be drawn up for every IOF competition. The plan should have on the front page the name, and contact information at all times, for the independent medical expert (or chief medical officer). The medical action plan should include: a medical risk assessment; heat policy (if applicable); a list of weather instruments that may be required to record weather information; a map of the event (not the course map) with safety stations, placement of ice/refreshments (as required) and ambulances marked; the equipment needed for acute assistance, personnel, training, communication, transportation, how to cooperate with local emergency services etc.
- d) The IOF must require weather information for any IOF event to be recorded (the duration and extent of weather data recorded to be determined by the independent medical expert). IOF event team organisers must supplement local weather forecast information with their own records of weather data compiled in real time. IOF competition event teams must have instrument/s to record weather measurements and be educated as to their use. Weather data is to be collected at locations around an event course (e.g. start, arena, vulnerable parts of the course), including before an event starts.
- e) The IOF must provide specific weather information and guidance to participants for any IOF orienteering event in which heat is highlighted as a health and safety risk factor and to update the information as the competition approaches. During the days immediately preceding the event and on the day

itself, weather updates should be communicated to event participants, including, where necessary, an indication of any potential impact for the event.

- f) During the event awarding phase, the IOF must consult with the IOF independent medical expert regarding the health and safety of athletes, volunteers and other personnel at a potential event location. Consideration should be given to the time of the year in which the event is held and the weather conditions.
- g) The IOF must provide training to IOF event organisers on health and safety decision-making in relation to heat and the role of the independent medical expert.
- h) The IOF must educate member associations, team officials, coaches and orienteering athletes on the dangers of heat, the signs of heat stress, the preparation required for hot and humid weather conditions (e.g. hydration, acclimatisation, cooling, etc.), recognition of and treatment for heat stress (e.g. cooling baths, emergency services, etc), and the organisational steps that could be taken in hot and humid weather conditions (e.g. postponement of the event, shorten course etc).

Additional recommendations in relation to IOF competitions that are organised as part of a multi-sport event:

- i) The IOF event team must clearly understand the division of responsibility on health and safety matters, direct any relevant organising entity as to its health and safety requirements for the orienteering competition, and establish an effective collaboration on health and safety matters.
- j) The IOF must ensure that the medical action plan includes the contact details of the medical officer of the local organising committee and the medical officer of the multi-event organiser (if any).

- k) The IOF-appointed independent medical expert must proactively establish contact and a line of communication as soon as possible with any medical counterpart (e.g. in a World Games, the local organising committee medical officer, IWGA Medical Committee) and maintain regular contact in the lead up to, and during, the competition. Where provision of medical equipment, local medical services, heat mitigation measures etc is to be provided by another entity, the IOF must clearly establish the division of responsibility, must direct that other entity as to the IOF's requirements, and must ensure that those requirements are met.
- l) The IOF must ensure that the medical action plan for the IOF competition in a multi-sport event clearly identifies everyone's responsibilities and how interaction and decisions with a local organising committee and the overarching event organiser should take place. After each multi-sport event, the medical action plan is to be reviewed. The review should also evaluate the coordination and cooperation with a local organising committee and the overarching event organiser. Multisport events typically occur every four years, so it is important that the IOF retains a written record of the review and that it is available to each successive event team.

Additional recommendations relating to the organisation of all IOF competitions:

- m) The IOF must ensure that orienteering course lengths in IOF competitions comply with IOF regulation, that orienteering courses are tested in advance, and provide education to course setters to reinforce the importance of compliance with course length regulations.
- n) The IOF should consider the use of back-up 'short courses' in case of poor or unusual weather conditions.
- o) The IOF should investigate, and where practicable, implement the use of GPS tracker units as a safety tool in all IOF events. It should work with suppliers to find the most reliable way of monitoring the safety of athletes during an IOF

event using GPS tracker units, and must implement a protocol to follow for when a GPS tracker stops, which includes the coordination of race marshals, radio communication etc. It must educate athletes about the proper use of GPS trackers e.g. not turning off GPS tracker units, and how to activate a safety function on a GPS tracker unit, if the GPS tracker unit has one.

- p) The IOF must require all IOF competition organisers to carry out a thorough written risk assessment for each competition that considers all possible hazards (and records that these have been considered). This should include consideration of weather conditions, as well as terrain hazards, and non-orienteeing aspects such as arena construction, emergency access to terrain etc. It must also consider back-up plans for scenarios such as needing to delay a competition start time etc. The risk assessment must be cross-referenced with the medical action plan.

- q) Before an event is permitted to start, the IOF should require all IOF competition organisers to complete a pre-event check list on the morning of the event that includes conducting a weather check, ensuring controls are in the correct place, that volunteers are in position and fully briefed, and which includes an emergency plan, if necessary.

Date: 21 June 2026

Appendix 1 Terms of Reference

TERMS OF REFERENCE

For the independent investigation into the organisation of the IOF Middle Distance Competition held as part of The World Games 2025 in Chengdu, China

Background

1. On 8 August 2025, the Orienteering Middle Distance Competition (the “Event”) was held in Chengdu, China as part of The World Games 2025. Italian athlete, Mattia Debertolis collapsed on the course while competing in the Event and tragically passed away in hospital several days later.
2. The IOF has commissioned an Independent Investigation Panel to review the organisation of the Event and identify any lessons that can be learned to support the health and safety of orienteering athletes at future events.

Purpose

3. The purpose of the review is to:
 - i) Examine the Event conditions and organisation and ascertain what happened;
 - ii) Consider whether the IOF complied with all relevant IOF regulations and World Games regulations;
 - iii) Consider what lessons, if any, can be learned to ensure the health and safety of orienteering athletes at future competitions; and
 - iv) Make recommendations as appropriate.

Agreed Principles

4. The Panel shall decide how to conduct the review. It shall be conducted independently of the IOF and in a transparent manner, whilst also having regard to any legal requirements e.g. data protection.
5. The Panel shall have access to all documents and other information that it requires, and which are in the IOF’s possession; where documents and information are not in the IOF’s possession, the IOF will take all reasonable steps to obtain these. The Panel does not have the power to compel people to participate, and it encourages the cooperation of those requested to provide information to enable a comprehensive review of the Event.
6. The Panel shall produce a final written report which the IOF shall publish, subject only to redactions for reasons required by law.
7. The IOF shall carefully consider any Panel recommendations and decide how these will be implemented.

8. It is not the Panel's function to determine the criminal, civil or regulatory liability of any individual or organisation involved in the Event. If any regulatory shortcomings are identified, these will be referred to the IOF which will take any action it considers necessary.

Timetable

9. The Panel will commence the review immediately. The Event took place in the context of a multi-sport competition in China. It will take time to gather all information, including interviewing people, many of whom are volunteers, are situated globally, and are attached to other organisations. No date has been agreed for the Panel to submit its final report, although it is anticipated that the Panel will report to the IOF in early 2026.

Appendix 2 Contributor list

1. Interviews

World Games Association

Sports Director

World Games Medical Commission

IOF Event Organising Team

IOF Event Director (x2)

Course Planner

Arena Manager

Quarantine and Start

Terrain Works

IOF Senior Event Adviser

IOF

Secretary General

2. Written statements and/or response to Panel questions:

IOF

IOF President

IOF Jury Members (x2)

IOF Communications

IOF IT

Virtual Orienteering Event Office

Former IOF President

LOC Domestic Competition Manager

LOC Director

World Games IWGA Deputy CEO & Chair IWGA Ethics Commission

IOF Medical Commission

Austrian Orienteering Federation

Italian Team Coach

3. Athlete/Coach Contributions (x11)

Appendix 3 Relevant World Games Rules

Rules 2.6 and 2.7:

‘2.6 International Federations must provide full details of their competition schedules via the IWGA General Management System (IGMS). These must also include rehearsals, technical meetings and ceremonies. From the arrival day of the participants, no competition time changes will be permitted without the approval of the IWGA and its service providers.

2.7 If competition timings need to be delayed because of weather or other force majeure, International Federations must work together with the Local Organising Committee (LOC) and Service Providers on the decision-making process. The IF takes the final decision.

If the IF wishes to advance, postpone or cancel a competition, it must consult with IWGA Executive Staff (CEO or Sports Director) before taking a decision. The IWGA reserves the right to overrule such a decision in case of disagreement.’

Appendix 4 Photos of the Event start



* The circle indicates an ice tub



*Ice tub also present at start line.

Excerpt From IOF Bulletin #2 Dated 11 March 2025

18. Climate & weather



- Chengdu belongs to the subtropical humid monsoon climate zone. The climate is mild, with distinct four seasons, abundant rainfall, and limited sunshine.
- Historical average temperature between 7th-17th August: 25,2 °C
- In August, there can be very hot periods, with highs of 36/38 °C and tropical nights.
- Historical average rainfall between 7th-17th August: 101,3 millimetres
- The rains, due to the summer monsoon, occur in the form of showers or thunderstorm, but the sky can be cloudy even when it doesn't rain.
- The average humidity is 79%. Hence, the air is normally humid.
- The average wind speed is 6 kph

THE WORLD GAMES

CHENGDU 2025

Excerpt From IOF Bulletin #3 Dated 15 June 2025

19. Climate & weather



- Chengdu belongs to the subtropical humid monsoon climate zone. The climate is mild, with distinct four seasons, abundant rainfall, and limited sunshine.
- Historical average temperature between 7th-17th August: 25,2 °C
- In August, there can be very hot periods, with highs of 36/38 °C and tropical nights.
- Historical average rainfall between 7th-17th August: 101,3 millimetres
- The rains, due to the summer monsoon, occur in the form of showers or thunderstorm, but the sky can be cloudy even when it doesn't rain.
- The average humidity is 79%. Hence, the air is normally humid.
- The average wind speed is 6 kph

THE WORLD GAMES

CHENGDU 2025

Excerpt From IOF Bulletin #4 Dated 24 July 2025

9.20. Climate and Hazards

Chengdu belongs to the subtropical humid monsoon climate zone. The climate is mild, with distinct four seasons, abundant rainfall, and limited sunshine. In August, there can be very hot periods, with highs of 36/38 °C and tropical nights.

Historical average rainfall between 7th-17th August is 101,3 millimetres. The rains, due to the summer monsoon, occur in the form of showers or thunderstorms, but the sky can be cloudy even when it doesn't rain.

The average humidity is 79%. Hence, the air is normally humid.

Through the “Chengdu 2025” app, participants can access weather forecast and early warnings, real-time updates, and weather information for venues and cultural activities.

There are no hazards in the Middle distance terrain. Runners may encounter small dogs, but they are not barking and not running after anyone. No dangerous animals. Some negligible pedestrian and car traffic may occur.

No hazards in the Sprint and Sprint Relay terrains. The terrain will be free of pedestrians and cars.

Excerpt from Pre-TOM Presentation delivered during last week of July 2025

7. Climate & weather



- Chengdu belongs to the subtropical humid monsoon climate zone. The climate is mild, with distinct four seasons, abundant rainfall, and limited sunshine.
- Historical average temperature between 7th-17th August: 25,2 °C
- In August, there can be very hot periods, with highs of 36/38 °C and tropical nights.
- Historical average rainfall between 7th-17th August: 101,3 millimetres
- The rains, due to the summer monsoon, occur in the form of showers or thunderstorm, but the sky can be cloudy even when it doesn't rain.
- The average humidity is 79%. Hence, the air is normally humid.
- **Weather will be very hot and humid!**



2025年第12届世界运动会
The World Games 2025 Chengdu

场馆天气预报

2025年08月07日17时 第6期 成都世运会气象台

东部新区徒步定向场馆中心专题天气预报

一、天气综述

预计东部新区徒步定向场馆中心，今天晚上阴天有阵雨或雷雨，雨量中雨，明天白天阴天间多云，最高气温34℃，最高体感温度38℃。

温馨提示：白天体感较闷热，需注意防暑降温，同时请注意防范晚上的降雨、雷电和短时阵性大风。

二、东部新区徒步定向场馆中心具体天气预报

时间	天气	降雨量 (mm)	气温 (℃)	风向风力	相对湿度 (%)	体感温度 (℃)
07日20时-07日21时	多云转阴天	/	30~31	偏南风 1~3级	80~85	36~37
07日21时-07日22时	阴天转小雨	1.0	29~30	偏南风 1~3级	85~90	35~36
07日22时-08日06时	阴天有阵雨或雷雨，雨量中雨	10.0	26~29	偏东风 2~4级	90~97	31~35
08日06时-08日07时	小雨转阴天	1.0	26~27	偏南风 1~3级	90~97	31~32
08日07时-08日08时	阴天间多云	0.5	26~27	偏南风 1~3级	85~90	31~32
08日08时-08日09时	阴天间多云	/	27~28	偏南风 1~3级	80~85	32~33
08日09时-08日10时	阴天间多云	/	28~29	偏南风 1~3级	75~80	33~34
08日10时-08日11时	阴天间多云	/	29~30	偏南风 1~3级	70~75	34~35
08日11时-08日12时	多云间阴	/	30~31	偏南风 1~3级	60~70	35~36
08日12时-08日13时	多云间阴	/	31~32	偏南风 1~3级	60~70	36~37
08日13时-08日14时	多云间阴	/	32~33	偏南风 1~3级	50~60	37~38
08日14时-08日15时	多云间阴	/	33~34	偏南风 1~3级	50~60	37~38
08日15时-08日16时	多云间阴	/	33~34	偏南风 1~3级	60~70	37~38
08日16时-08日17时	多云间阴	/	33~34	偏南风 1~3级	70~75	37~38
08日17时-08日18时	阴天间多云	/	32~33	偏南风 1~3级	75~80	37~38
08日18时-08日19时	阴天间多云	/	32~33	偏南风 1~3级	80~85	36~37
08日19时-08日20时	阴天间多云	/	31~32	偏南风 1~3级	85~90	34~36


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审核：周学云
签发：周长春



成都世运会气象台
成都市科锦路980号
028-87039291

Appendix 7 IWGA
 Medical Committee
 weather data dated 7
 August 2025 at 4pm

← × Meteorology



2025年第12届世界运动会
The World Games 2025 Chengdu

2025-08-07 16:00

Special Weather Forecast

No.6

TWG 2025 Chengdu
Weather Forecast Centre

Weather Forecast for Venue Cluster


1. Weather Forecast

Venue Cluster	Time	Weather	Precipitation (mm)	Temperature (°C)	Wind Direction /Wind Force	Humidity (%)	Apparent Temperature (°C)
Tianfu New Area	7 th night	overcast/cloudy, with showers/thunderstorms	5.0-8.0	25-30	N 1-3	90-95	28-37
	8 th daytime	overcast/cloudy, with showers/thunderstorms in the morning and evening	0.1-2.0	27-34	E 1-2	50-90	32-37
Eastern New Area	7 th night	overcast/cloudy, with showers/thunderstorms, moderate rain expected	12.0-18.0	25-30	NE 1-3	85-95	30-36
	8 th daytime	overcast/cloudy, with showers/thunderstorms in the morning and evening	1.0-3.0	28-34	E 1-2	55-90	34-38
Hi-tech Zone	7 th night	overcast/cloudy, with showers/thunderstorms	3.0-8.0	24-30	N 1-3	85-95	28-36
	8 th daytime	overcast/cloudy, with showers/thunderstorms in the morning and evening	0.1-1.0	28-33	NE 1-2	55-90	34-37
Jinniu	7 th night	overcast/cloudy, with showers/thunderstorms	4.0-9.0	24-29	N 1-3	85-95	28-35
	8 th daytime	overcast/cloudy, with showers/thunderstorms in the morning and evening	0.1-1.0	27-33	NE 1-2	55-90	32-37
Wuhou	7 th night	overcast/cloudy, with showers/thunderstorms	4.0-9.0	24-29	N 1-3	60-95	28-32
	8 th daytime	overcast/cloudy, with showers/thunderstorms in the morning and evening	0.1-1.0	27-33	NE 1-2	55-90	32-37
Xindu	7 th night	overcast/cloudy, with showers/thunderstorms	3.0-7.0	24-29	N 1-3	85-95	28-35
	8 th daytime	overcast/cloudy, with showers/thunderstorms in the morning and evening	0.1-1.0	27-33	NE 1-2	55-90	32-37
Longquanyi	7 th night	overcast/cloudy, with showers/thunderstorms	10.0-15.0	24-30	N 1-3	85-95	28-36
	8 th daytime	overcast/cloudy, with showers/thunderstorms in the morning and evening	1.0-2.0	28-33	E 1-2	55-90	34-37
Jianyang	7 th night	overcast/cloudy, with showers/thunderstorms, moderate rain expected	11.0-20.0	25-30	N 1-3	85-95	30-36
	8 th daytime	overcast/cloudy, with showers/thunderstorms in the morning and evening	0.1-1.0	28-34	E 1-2	50-90	34-37

Produce: Yuxuan Zhang

Review: Haoshen Tian

Issue: Tao Zhang



TWG 2025 Chengdu Weather Forecast Centre
 No.980, Kejin Road, Chengdu
 028-87039291

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Boundless Sports, Countless Wonders

Appendix 8 IWGA Heat Policy



To: The participating IFs in TWG 2025

Via email distribution only

Chengdu, 2 August 2025

The World Games 2025 – Medical Heat Policy Information

Dear International Federations, CMOs and IWGA community,

The World Games 2025 Chengdu LOC has performed excellent planning and staffing. There will be ice, water, cold immersion tubs and medical staff and ambulances at all venues.

We understand that as the Medical Committee, our primary responsibility is to safeguard the health and well-being of the athletes, even when that requires difficult decisions. Our role is not to interrupt competition unnecessarily, but to help ensure that play continues under medically appropriate conditions.

Each International Federation (IF) should have its own, ideally evidence-based, heat protocol, as they are best placed to understand the nuances of their sport and athletes. In situations where an IF has no clear protocol in place, the Medical Committee will have a meaningful role in advising or recommending actions based on real-time conditions. Decisions should not be left to improvisation or made only after adverse events occur.

We anticipate potential high heat and humidity at The World Games 2025 World Games in Chengdu coming up next week. Our goal is to support safe sport participation at TWG 2025 by communicating and tracking risk posed by excessive heat. Symptoms of heat illness can be subtle and include:

- Muscle cramps
- Fainting
- Nausea
- Headache
- Dizziness
- Confusion

What we ask of you:

1. Let us know, yes or no, whether your International Federation will have a **Chief Medical Officer** who will direct implementation of your or our heat policy during The World Games 2025.
 - a. If yes, we will provide informational and medical guidance **only** as requested or if there are concerning heat illness trends in your discipline.
 - b. If your International Federation does not have a clear heat policy and/or does not have a Chief Medical Officer to provide direct implementation of your heat policy, please let us know before the start of The World Games.
2. The IWGA Medical Committee will more closely monitor the health of your athletes and provide guidance when competition changes should be considered based on Wet Bulb Globe Temperature (WBGT) and health trends. Please reach out to medical@iwga.sport with any **questions or concerns**.
3. Regardless, please send us a **copy of your International Federation heat policy** and the contact information of your Chief Medical Officer for our records and so we can provide support.

Office Tel.: +41 21 801 03 21 office@iwga.sport www.theworldgames.org
CHE-100.602.518 VAT

IWGA Headquarters · Avenue de la Gare 12 · 1003 Lausanne, Switzerland

The LOC and IWGA Medical Committee will perform the following:

- The LOC will publish regular heat, humidity and Wet Bulb Globe Temperature (WBGT) information. WBGT is a combined measure of air temperature, humidity and solar radiation. It is NOT the same as air temperature alone. In addition, at higher levels of relative humidity, the safe WBGT is decreased.
- The LOC and IWGA Medical Staff will together monitor athlete health, look for trends, and adjust policies and communication as conditions demand.
- Disciplines and International Federations that **do not have** their own published climate policies will fall under the general IWGA heat policy which is below.
- This policy applies to **'Continuous Activity Competitions.'** We will be following guidelines for **acclimatized, fit, low-risk individuals.** Please note, these guidelines **do** not easily apply to
 - sports that are without continuous activity or for
 - athletes that are not acclimatized to the heat.

The IWGA has defined the following thresholds based on recommendations of Roberts et al (2023):

WBGT 25.7-27.8: Moderate Risk

- Normal activity with moderate risk.
- Consider increasing hydration breaks

WBGT 27.9-30.0: Increased Risk

- Consider increasing hydration breaks
- Shorten the competition format

WBGT 30.1-32.2: High Risk

- Limit exercise time to <1h
- Provide additional access to cooling, shade and recovering areas
- Closely monitor athletes for suspected heat-related illness (cramps, exhaustion, heat stroke)

WBGT > 32.2: Extreme risk

- Postpone or cancel exercise

You can find the table with table with humidity and heat factors only below.

The health, safety, and performance of our athletes remain our highest priorities. Thank you for your cooperation and we look forward to successful and safe competitions at The World Games 2025.

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WGBT Index - Thresholds for The World Games 2025

2 August 2025

Moderate Risk (25,7-27,8)*

Increased Risk (27,9-30)*

High Risk (30,1-32,2)*

Very high risk (>32,2)

*Rough estimate because of missing wind speed and solar radiation.

