

Work / rest tables and an aide memoire (summary guidance) for using the QuestTemp 34 wet bulb globe temperature (WBGT) monitor

Guidance on using work / rest tables

1. The work/rest tables in this annex indicate the safe durations of continuous work or intervals of work and rest in varying clothing and equipment, at different work rates and in different climates. Beyond these durations or intervals there is an increased risk of body temperature rising to unsafe levels. The appropriate table to use for carrying out a risk assessment for an activity depends on:

2. The work/rest tables in this annex indicate the safe durations of continuous work or intervals of work and rest in varying clothing and equipment, at different work rates and in different climates. Beyond these durations or intervals there is an increased risk of body temperature rising to unsafe levels. The appropriate table to use for carrying out a risk assessment for an activity depends on:

- a. the relevant acclimatisation status, clothing and equipment worn (see figure 1);
- b. the work rate (using the examples in figure 2); and
- c. the forecast WBGT (see paragraph 9) and
- d. QT34 measurements (see paragraph 17).

Acclimatisation and clothing and equipment

3. Figure 1 (below) indicates the work / rest table to be used, according to the clothing and equipment worn and whether or not personnel are acclimatised. All personnel in the UK and Northern Europe, and those in hot environments who have not undergone a graded supervised programme of increasing exercise to adapt to the environment, are to be considered to be not acclimatised.

Clothing and equipment	Not Acclimatised (including all personnel in the UK and Northern Europe)	Acclimatised
Physical training (PT) kit	Table 1	Table 5
Multi-terrain pattern (MTP) clothing or single service equivalents.	Table 2	Table 6
MTP clothing plus body armour.	Table 3	Table 7
CBRN PPE	Table 4	Table 8

Figure 1: Acclimatisation and clothing

Choosing the work rate

4. The work rate examples in Figure 2 (below) are categorised by the rating of perceived exertion (RPE) and are based on averages, so some people may be working much harder than others.

Work rate	Condition	Example
Easy work (RPE of 1, 2 or 3)	Feels like you can keep going for hours. Easy to breathe and carry a conversation	- Office work under normal conditions. - Light manual labour such as cleaning and maintenance. - Basic operation of a vehicle or aircraft, including routine embarking and disembarking. - Weapon training. - Static guard or sentry duty. - Chemical, biological, radiological, and nuclear (CBRN) sentry duty.
Moderate work (RPE of 4, 5 or 6)	Breathing heavily, can hold a short conversation. Still quite comfortable but becoming noticeably more challenging	- Office work in a difficult environment. - Moderate manual labour involving some lifting and use of machinery or equipment. - Light manual labour in a difficult environment or within a time limit. - Marching at normal walking speed. - Moderate operation of a vehicle or aircraft. - Ceremonial events. - Mobile guard or sentry duty. - Defence decontamination lane, CBRN recces and surveys - A deliberately controlled steady state run where all participants remain comfortable throughout.
Hard work (RPE of 7 or 8)	Borderline uncomfortable Short of breath, can speak a sentence but not maintain a conversation.	- Hard manual labour involving lifting and using heavy machinery or equipment. - Moderate manual labour in a difficult environment or within a time limit. - Annual or role fitness tests and physically demanding selection events. - Obstacle courses, circuit training, stretcher runs and speed marching. - Demanding operation of a vehicle or aircraft (combat operations or high G-force manoeuvres). - Patrolling in CBRN personal protective equipment (PPE). - A steady state run at a high pace where participants cannot maintain a conversation.
Very hard work (RPE of 9 or 10)	Very difficult or not possible to maintain exercise intensity. Can barely breathe and unable to speak or only able to speak a few words.	- Hard manual labour in a difficult environment or within a time limit. - Firefighting and emergency response (including handling casualties). - Vehicle or aircraft emergency-response procedures. - Guard or sentry duty in an emergency, including fire and manoeuvre. - Evacuating a casualty while wearing CBRN PPE.

Figure 2: Work rate examples

Wet Bulb Globe Temperature (WBGT)

5. The WBGT is a combined measure of the dry-bulb temperature (the air temperature), wet-bulb temperature (the temperature the air can be cooled to through the effect of evaporation) and globe temperature (a temperature reading that takes account of the effect of sunlight, air temperature and wind speed). It is measured in degrees Celsius (°C).

Work/rest tables

6. Use the work rate and WBGT in the appropriate table (tables 1-8, below) to determine the maximum duration of continuous work or the work / rest intervals for the activity.

Note - activities are to be strongly discouraged when the WBGT reading is above 36°C unless it is operationally essential.

7. The work / rest tables are based on information for adult males but can also be applied to adult females during the overall risk assessment. They **should** be used as approximate guidance only in risk assessments for those aged under 18.

8. Please note the following:

- a. personnel **should** be rested and hydrated at the start of the activity;
- b. continuous physical activity **should** be followed by rest and rehydration;
- c. one hour work/rest intervals can be repeated up to a maximum of four times (for a maximum total of four hours) and **should** be followed by several hours of enough rest and rehydration to return to starting body temperatures and hydration levels;
- d. all periods of work **should** include rehydration breaks;
- e. rest requires minimal physical activity (sitting or standing) in the shade;
- f. when considering the risk assessment and identifying the appropriate work / rest table, commanders and managers **must** use their own judgement when the exact clothing and equipment is not specified in figure 2 or a single-service alternative applies;
- g. for activities outside the parameters in the work / rest tables, see Policy statements 3 and 4 of JSP 375 Chapter 41 Part 1;
- h. the 'rate of perceived exertion' (RPE) scale assesses individual work rates based on physical effort. During group activities, the work rate of the activity **should** be determined by the highest individual RPE maintained for more than three minutes;
- i. consider the measurement of the WBGT in all environments where heat illness is a risk, including at night;
- j. there are known WBGT upper limits for some specific activities, such as annual fitness tests. Details on specific activities can be found in the Military Commands or Defence organisations policy;
- k. example dress states are presented in the work rest tables. If the dress state to be used differs from those presented, commanders and managers **should** select the nearest in the table and make adjustments according to the exact dress state and other factors in their risk assessment; and
- l. the time period, up to a maximum of 4 hours, begins at the start of an activity, regardless of temperature, and not just when the WBGT reaches 20°C.

Table 1: not acclimatised, maximum continuous exercise durations and **alternative** work-rest schedules permitted for a 4-hour period when **wearing PT kit (shorts & t-shirt)**.

	Maximum Exercise Duration (Minutes)			
WBGT (°C)	Easy Work	Moderate Work	Hard Work	Very Hard Work
20 to 21.9	240	240	205 OR 30 work 30 rest	145 OR 20 work 40 rest
22 to 23.9	240	240	185 OR 30 work 30 rest	135 OR 20 work 40 rest
24 to 25.9	240	240	175 OR 30 work 30 rest	130 OR 20 work 40 rest
26 to 27.9	240	225 OR 50 work 10 rest	150 OR 30 work 30 rest	110 OR 20 work 40 rest
28 to 29.9	240	195 OR 40 work 20 rest	130 OR 20 work 40 rest	90 OR 20 work 40 rest
30 to 31.9	240	160 OR 30 work 30 rest	110 OR 20 work 40 rest	75 OR 20 work 40 rest
32 to 33.9	160 OR 40 work 20 rest	110 OR 30 work 30 rest	70 OR 20 work 40 rest	40 OR 10 work 50 rest
34 to 35.9	145 OR 40 work 20 rest	85 OR 20 work 40 rest	40 OR 10 work 50 rest	20 OR 10 work 50 rest
36 to 37.9	100 OR 30 work 30 rest	55 OR 20 work 40 rest	30 OR 10 work 50 rest	15
38 to 40	80 OR 20 work 40 rest	45 OR 10 work 50 rest	20	10

Notes:

1. This work/rest table is guidance which Commanders and Managers can extrapolate from. If activity is planned to exceed then additional controls measures are required or the risk must be elevated. This is in accordance with Policy statements 3 and 4 of JSP 375 Chapter 41 Part 1 Directive.
2. All personnel in the UK and Northern Europe are considered to be **not acclimatised**.

Table 2: not acclimatised, maximum continuous exercise durations and **alternative** work-rest schedules permitted for a 4-hour period when **wearing MTP**.

	Maximum Exercise Duration (Minutes)			
WBGT (°C)	Easy Work	Moderate Work	Hard Work	Very Hard Work
20 to 21.9	240	195 OR 30 work 30 rest	120 OR 20 work 40 rest	90 OR 20 work 40 rest
22 to 23.9	240	165 OR 30 work 30 rest	110 OR 20 work 40 rest	80 OR 20 work 40 rest
24 to 25.9	240	145 OR 30 work 30 rest	100 OR 20 work 40 rest	75 OR 10 work 50 rest
26 to 27.9	240	125 OR 30 work 30 rest	90 OR 20 work 40 rest	60 OR 10 work 50 rest
28 to 29.9	205 OR 50 work 10 rest	110 OR 20 work 40 rest	80 OR 20 work 40 rest	50 OR 10 work 50 rest
30 to 31.9	180 OR 40 work 20 rest	100 OR 20 work 40 rest	70 OR 20 work 40 rest	40 OR 10 work 50 rest
32 to 33.9	140 OR 30 work 30 rest	80 OR 20 work 40 rest	50 OR 10 work 50 rest	25 OR 10 work 50 rest
34 to 35.9	120 OR 30 work 30 rest	75 OR 20 work 40 rest	40 OR 10 work 50 rest	20
36 to 37.9	95 OR 30 work 30 rest	55 OR 20 work 40 rest	30 OR 10 work 50 rest	15
38 to 40	80 OR 20 work 40 rest	45 OR 10 work 50 rest	20 OR 10 work 50 rest	10

Notes:

1. This work/rest table is guidance which Commanders and Managers can extrapolate from. If activity is planned to exceed then additional controls measures are required or the risk must be elevated. This is in accordance with Policy statements 3 and 4 of JSP 375 Chapter 41 Part 1 Directive.
2. All personnel in the UK and Northern Europe are considered to be **not acclimatised**.

Table 3: not acclimatised, maximum continuous exercise durations and **alternative** work-rest schedules permitted for a 4-hour period when **wearing MTP with body armour and helmet**.

WBGT (°C)	Maximum Exercise Duration (Minutes)			
	Easy Work	Moderate Work	Hard Work	Very Hard Work
20 to 21.9	240	110 OR 20 work 40 rest	80 OR 20 work 40 rest	60 OR 10 work 50 rest
22 to 23.9	195 OR 50 work 10 rest	105 OR 20 work 40 rest	75 OR 20 work 40 rest	55 OR 10 work 50 rest
24 to 25.9	180 OR 40 work 20 rest	95 OR 20 work 40 rest	70 OR 10 work 50 rest	50 OR 10 work 50 rest
26 to 27.9	150 OR 40 work 20 rest	85 OR 20 work 40 rest	65 OR 10 work 50 rest	45 OR 10 work 50 rest
28 to 29.9	130 OR 30 work 30 rest	80 OR 20 work 40 rest	55 OR 10 work 50 rest	35 OR 10 work 50 rest
30 to 31.9	115 OR 30 work 30 rest	75 OR 20 work 40 rest	50 OR 10 work 50 rest	30 OR 10 work 50 rest
32 to 33.9	100 OR 30 work 30 rest	65 OR 20 work 40 rest	40 OR 10 work 50 rest	20
34 to 35.9	90 OR 30 work 30 rest	60 OR 20 work 40 rest	35 OR 10 work 50 rest	15
36 to 37.9	80 OR 20 work 40 rest	50 OR 10 work 50 rest	25 OR 10 work 50 rest	10
38 to 40	70 OR 20 work 40 rest	40 OR 10 work 50 rest	20	10

Notes:

1. This work/rest table is guidance which Commanders and Managers can extrapolate from. If activity is planned to exceed then additional controls measures are required or the risk must be elevated. This is in accordance with Policy statements 3 and 4 of JSP 375 Chapter 41 Part 1 Directive.
2. All personnel in the UK and Northern Europe are considered to be **not acclimatised**.

Table 4: not acclimatised, maximum continuous exercise durations and **alternative** work-rest schedules permitted for a 4 hour period when **wearing CBRN PPE** (Mk4A suit, boots and gloves, general service Respirator, virtus helmet and virtus body armour).

WBGT (°C)	Easy Work			Moderate Work			Hard Work			Very Hard
20 to 21.9	90	OR	30 work 30 rest	55	OR	10 work 50 rest	40	OR	10 work 50 rest	20
22 to 23.9	85	OR	20 work 40 rest	55	OR	10 work 50 rest	35	OR	10 work 50 rest	20
24 to 25.9	85	OR	20 work 40 rest	55	OR	10 work 50 rest	35	OR	10 work 50 rest	20
26 to 27.9	75	OR	20 work 40 rest	50	OR	10 work 50 rest	35	OR	10 work 50 rest	20
28 to 29.9	75	OR	20 work 40 rest	50	OR	10 work 50 rest	30	OR	10 work 50 rest	15
30 to 31.9	70	OR	20 work 40 rest	45	OR	10 work 50 rest	30	OR	10 work 50 rest	15
32 to 33.9	70	OR	20 work 40 rest	45	OR	10 work 50 rest	25	OR	10 work 50 rest	15
34 to 35.9	65	OR	20 work 40 rest	45	OR	10 work 50 rest	25	OR	10 work 50 rest	15
36 to 37.9	65	OR	20 work 40 rest	40	OR	10 work 50 rest	25	OR	10 work 50 rest	10
38 to 40	60	OR	20 work 40 rest	40	OR	10 work 50 rest	20			10

Notes:

1. This work/rest table is guidance which Commanders and Managers can extrapolate from. If activity is planned to exceed then additional controls measures are required or the risk must be elevated. This is in accordance with Policy statements 3 and 4 of JSP 375 Chapter 41 Part 1 Directive.
2. All personnel in the UK and Northern Europe are considered to be **not acclimatised**.

Table 5: acclimatised, maximum continuous exercise durations and **alternative** work-rest schedules permitted for a 4-hour period when **wearing PT kit (shorts & t-shirt)**.

WBGT (°C)	Easy Work	Moderate Work	Hard Work	Very Hard Work
20 to 21.9	240	240	240	240
22 to 23.9	240	240	240	240
24 to 25.9	240	240	240	195 OR 30 work 30 rest
26 to 27.9	240	240	230 OR 50 work 10 rest	145 OR 30 work 30 rest
28 to 29.9	240	240	160 OR 40 work 20 rest	110 OR 20 work 40 rest
30 to 31.9	240	170 OR 40 work 20 rest	135 OR 30 work 30 rest	85 OR 20 work 40 rest
32 to 33.9	170 OR 50 work 10 rest	120 OR 30 work 30 rest	80 OR 20 work 40 rest	40 OR 10 work 50 rest
34 to 35.9	155 OR 40 work 20 rest	85 OR 20 work 40 rest	45 OR 20 work 40 rest	20 OR 10 work 50 rest
36 to 37.9	105 OR 30 work 30 rest	55 OR 20 work 40 rest	30 OR 10 work 50 rest	15
38 to 40	80 OR 20 work 40 rest	45 OR 10 work 50 rest	20	10

Notes:

1. This work/rest table is guidance which Commanders and Managers can extrapolate from. If activity is planned to exceed then additional controls measures are required or the risk must be elevated. This is in accordance with Policy statements 3 and 4 of JSP 375 Chapter 41 Part 1 Directive.

2. All personnel in the UK and Northern Europe are considered to be **not acclimatised**.

Table 6: acclimatised, maximum continuous exercise durations and **alternative** work-rest schedules permitted for a 4-hour period when **wearing MTP**.

WBGT (°C)	Easy Work	Moderate Work	Hard Work	Very Hard Work
20 to 21.9	240	240	200 OR 30 work 30 rest	115 OR 20 work 40 rest
22 to 23.9	240	240	160 OR 30 work 30 rest	90 OR 20 work 40 rest
24 to 25.9	240	240	135 OR 20 work 40 rest	85 OR 20 work 40 rest
26 to 27.9	240	200 OR 50 work 10 rest	105 OR 20 work 40 rest	70 OR 10 work 50 rest
28 to 29.9	240	155 OR 30 work 30 rest	90 OR 20 work 40 rest	55 OR 10 work 50 rest
30 to 31.9	240	125 OR 30 work 30 rest	75 OR 20 work 40 rest	45 OR 10 work 50 rest
32 to 33.9	180 OR 40 work 20 rest	90 OR 20 work 40 rest	55 OR 10 work 50 rest	25 OR 10 work 50 rest
34 to 35.9	135 OR 30 work 30 rest	75 OR 20 work 40 rest	40 OR 10 work 50 rest	20
36 to 37.9	100 OR 30 work 30 rest	55 OR 20 work 40 rest	30 OR 10 work 50 rest	15
38 to 40	80 OR 20 work 40 rest	45 OR 10 work 50 rest	20 OR 10 work 50 rest	10

Notes:

1. This work/rest table is guidance which Commanders and Managers can extrapolate from. If activity is planned to exceed then additional controls measures are required or the risk must be elevated. This is in accordance with Policy statements 3 and 4 of JSP 375 Chapter 41 Part 1 Directive.

2. All personnel in the UK and Northern Europe are considered to be **not acclimatised**.

Table 7: acclimatised, maximum continuous exercise durations and **alternative** work-rest schedules permitted for a 4-hour period when **wearing MTP and Body Armour and helmet**.

WBGT (°C)	Easy Work	Moderate Work	Hard Work	Very Hard Work
20 to 21.9	240	230 OR 50 work 10 rest	105 OR 20 work 40 rest	70 OR 10 work 50 rest
22 to 23.9	240	175 OR 30 work 30 rest	90 OR 20 work 40 rest	60 OR 10 work 50 rest
24 to 25.9	240	140 OR 30 work 30 rest	85 OR 20 work 40 rest	55 OR 10 work 50 rest
26 to 27.9	240	115 OR 20 work 40 rest	70 OR 10 work 50 rest	45 OR 10 work 50 rest
28 to 29.9	215 OR 50 work 10 rest	95 OR 20 work 40 rest	60 OR 10 work 50 rest	40 OR 10 work 50 rest
30 to 31.9	180 OR 40 work 20 rest	85 OR 20 work 40 rest	55 OR 10 work 50 rest	30 OR 10 work 50 rest
32 to 33.9	125 OR 30 work 30 rest	70 OR 20 work 40 rest	45 OR 10 work 50 rest	20
34 to 35.9	100 OR 30 work 30 rest	60 OR 20 work 40 rest	35 OR 10 work 50 rest	15
36 to 37.9	85 OR 30 work 30 rest	50 OR 10 work 50 rest	25 OR 10 work 50 rest	10
38 to 40	70 OR 20 work 40 rest	40 OR 10 work 50 rest	20	10

Notes:

1. This work/rest table is guidance which Commanders and Managers can extrapolate from. If activity is planned to exceed then additional controls measures are required or the risk must be elevated. This is in accordance with Policy statements 3 and 4 of JSP 375 Chapter 41 Part 1 Directive.
2. All personnel in the UK and Northern Europe are considered to be **not acclimatised**.

Table 8: acclimatised, Maximum continuous exercise durations and **alternative** work-rest schedules permitted for a 4-hour period when **wearing CBRN PPE** (Mk4A suit, boots and gloves, general service Respirator, virtus helmet and virtus body armour).

WBGT (°C)	Easy Work			Moderate Work			Hard Work			Very Hard	
20 to 21.9	110	OR	30 work 30 rest	60	OR	10 work 50 rest	40	OR	10 work 50 rest	25	
22 to 23.9	100	OR	30 work 30 rest	55	OR	10 work 50 rest	40	OR	10 work 50 rest	20	
24 to 25.9	95	OR	30 work 30 rest	55	OR	10 work 50 rest	35	OR	10 work 50 rest	20	
26 to 27.9	85	OR	20 work 40 rest	50	OR	10 work 50 rest	35	OR	10 work 50 rest	20	
28 to 29.9	80	OR	20 work 40 rest	50	OR	10 work 50 rest	30	OR	10 work 50 rest	15	
30 to 31.9	80	OR	20 work 40 rest	50	OR	10 work 50 rest	30	OR	10 work 50 rest	15	
32 to 33.9	75	OR	20 work 40 rest	45	OR	10 work 50 rest	25	OR	10 work 50 rest	15	
34 to 35.9	70	OR	20 work 40 rest	45	OR	10 work 50 rest	25	OR	10 work 50 rest	15	
36 to 37.9	65	OR	20 work 40 rest	40	OR	10 work 50 rest	25	OR	10 work 50 rest	10	
38 to 40	65	OR	20 work 40 rest	40	OR	10 work 50 rest	20			10	

Notes:

1. This work/rest table is guidance which Commanders and Managers can extrapolate from. If activity is planned to exceed then additional controls measures are required or the risk must be elevated. This is in accordance with Policy statements 3 and 4 of JSP 375 Chapter 41 Part 1 Directive.
2. All personnel in the UK and Northern Europe are considered to be **not acclimatised**.

Weather and WBGT forecasts

9. When planning an activity in the UK, if it is more than a week in advance a long range UK weather forecast temperature ($^{\circ}\text{C}$) can be obtained from the [Met Office](#) (for example up to 30 days) or for longer periods the [UK climatic averages](#) can be used. These estimated forecasts can be used as a base line for the work / rest tables to determine the maximum exercise duration for the planned activity. More information on Met Office weather forecasts are explained in the [Met Office forecast guide](#).

10. When planning an activity in UK locations or overseas that is five days or less before the activity starts, a more accurate Met Office WBGT forecast temperature ($^{\circ}\text{C}$) should be used to review the maximum continuous exercise duration determined from the work / rest tables. The Met Office WBGT forecast can be obtained from the Met Office Military Information Distribution System (MOMIDS), however a MOMIDS user account is required to be set up.

11. To set up a MOMIDS account an initial request should be made to the Met Office using the following group mailbox momidsacrequest@metoffice.gov.uk. The Met Office will then provide the new account holder with a MOMIDS account username and password.

12. Once the MOMIDS account is set up, the account holder can share the access with members of their team or unit (using the same username and password) to access MOMIDS directly to obtain a WBGT forecast for common areas across the UK (for example a military exercise on Salisbury Plain) and overseas locations. See figures 3 to 6 for an example of the area locations, screen shots of the menus covered by MOMIDS and an actual forecast example of the Salisbury area.

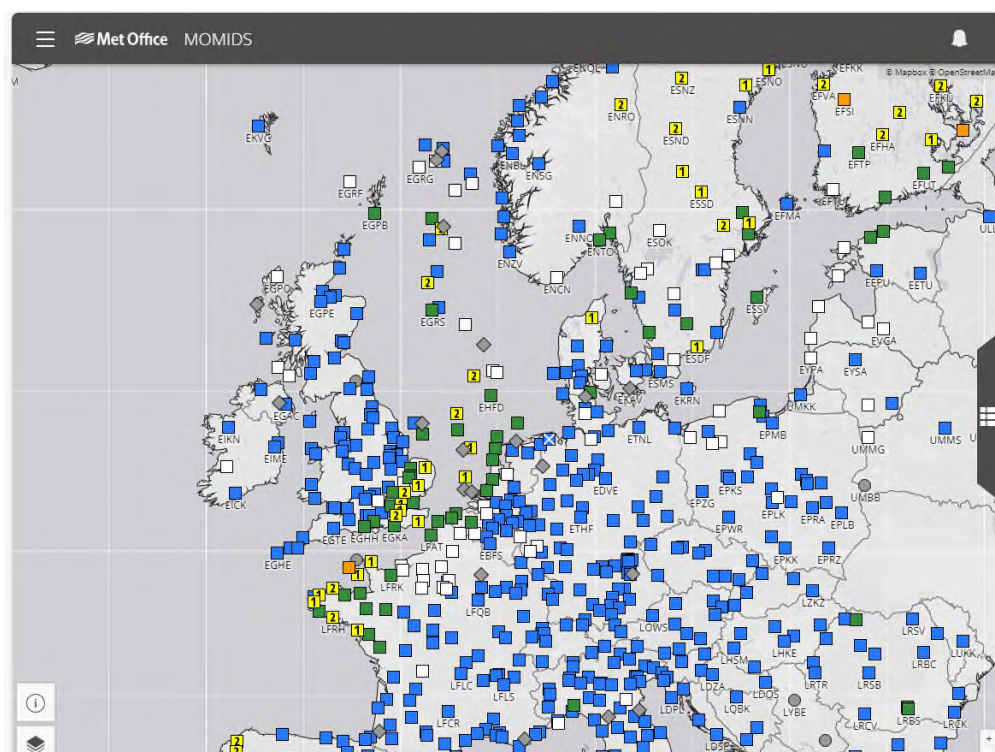


Figure 3 MOMIDS WBGT forecast locations.

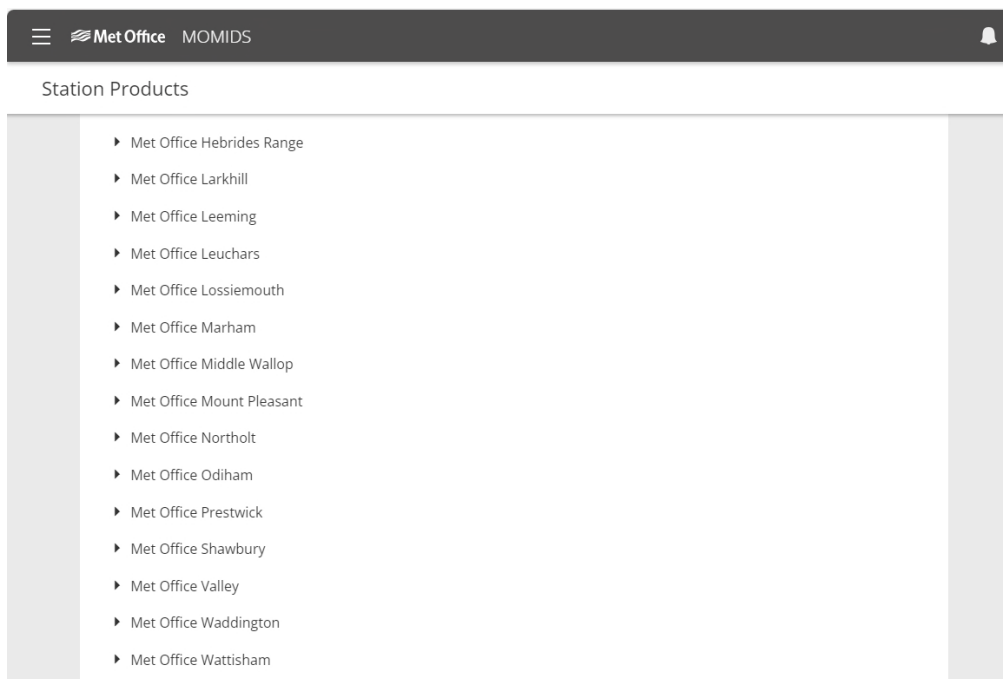


Figure 4 – Example of search menu

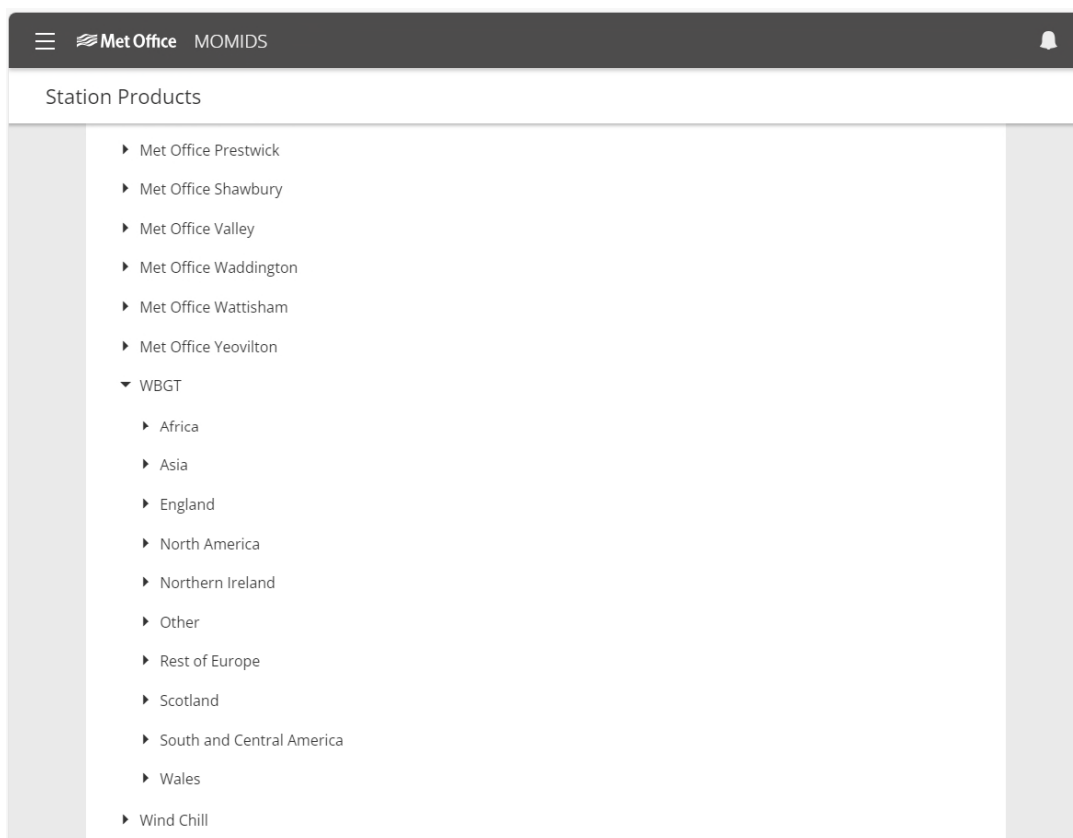
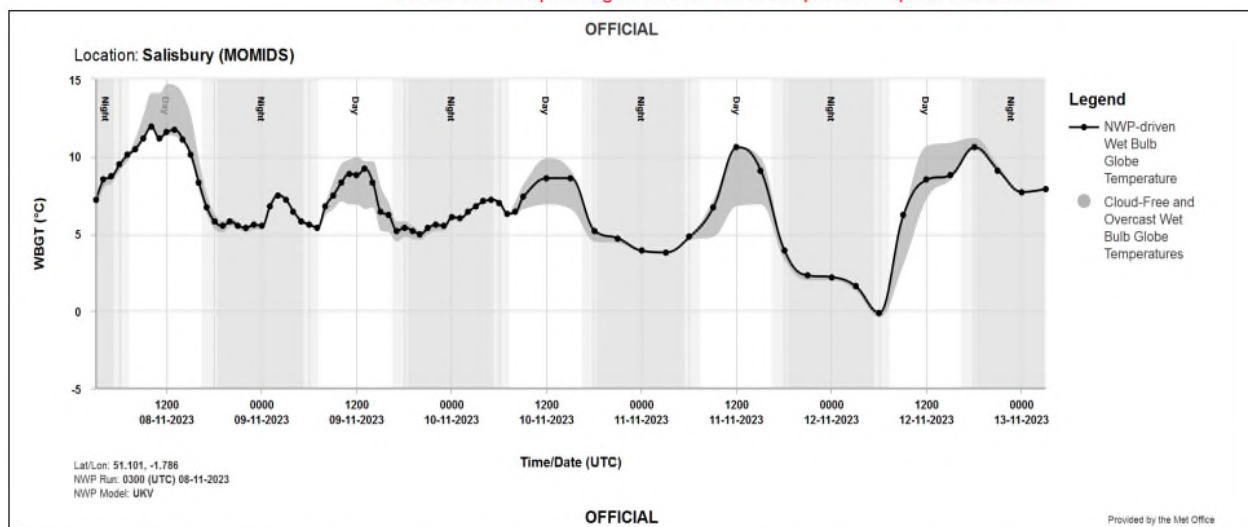


Figure 5 – Example of WBGT drop down selection.

	Wet Bulb Globe Temperature Forecast for Salisbury
	Issued on 08 November 2023 at 13:04Z (See graph for validity period)
	Time standard UTC (=Z) Wet Bulb Globe Temperature In Celsius (°C)

Please see the updated guidance for use of this product – updated 26/04/2023



This WBGT forecast is not subject to amendment. It must be used in accordance with **JSP 375 Chapter 41 (Defence Heat Illness Policy)**.

Key information for interpretation of wet-bulb-globe temperature forecasts is available at:

<https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/services/government/wbgt-forecast---april-2023.pdf>

For further information contact your local Met Office or our Weather Desk. Tel: +44 (0)1392 885680

Email: enquiries@metoffice.gov.uk

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Figure 6 - Example of the forecast style

13. If the location you require is not in the current list of MODMIS locations, then contact the Met Office via smdef@metoffice.gov.uk with the name, longitude and latitude in decimals of that location to request that the new location is added to the list. It is, however, advisable to apply for a MOMIDS account in plenty of time to make sure that the account can be set up well in advance of planning an activity.

14. For planning overseas activities that are five-days or more in advance of the activity, the Joint Operational Meteorology and Oceanographic Centre (JOMOC) **should** be contacted to obtain a weather forecast for the location of the planned activity. The commander or manager **should** provide the JOMOC with details of the location and date of the activity, the security classification, and the point of contact and JOMOC will discuss what Met Office services can be offered.

15. Urgent WBGT forecast requests for activities being delivered within a 5-day or less period, can be actioned by using the MOMIDS account self-service function or within 24 hours by the JOMOC team in exceptional circumstances.

16. The JOMOC can be contacted 24 hours a day on the following numbers.

Military personnel: 9360 58112

Civilian personnel: (01923) 958112 (+ 44 (0)1923 958112 from overseas)

Email: jomoc@metoffice.gov.uk

QT34 measurements

17. The QuestTemp 34 (QT34) is a mobile monitor that provides a WBGT reading. It is the only WBGT monitor approved by Defence. The QT34 monitor can be used to check the difference between the dry-bulb temperature and the wet-bulb temperature. When the two numbers are close, the humidity is high and the risk of heat illness is increased. This is because the higher humidity prevents sweat from evaporating.

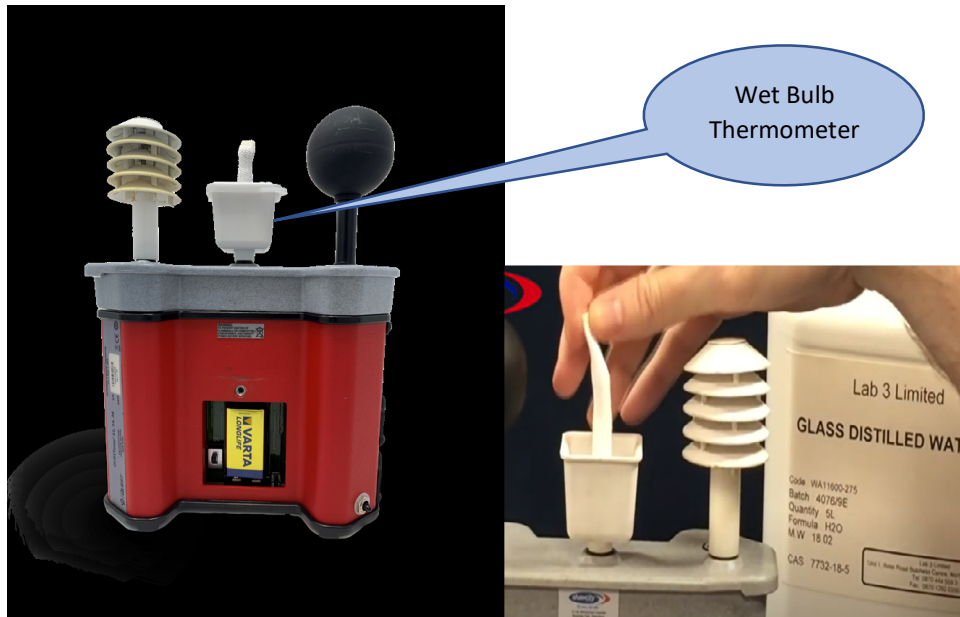


Aide memoire: Guidance summary for using the QuestTemp 34 (QT34) wet bulb globe temperature (WBGT) monitor.

18. Aide memoire (below) for the use of the QT34. This is to be printed out and a copy stored with each WBGT. It is intended as a prompt to help trained personnel use the instrument. The aide memoire includes links to guidance videos. These training tools are not a replacement for one of the approved specialist training courses (Annex D). They are only to be used as aide memoires for already trained operators. All trained personnel are encouraged to review training revision aides annually.

QT 34 Aide Memoire

1. The aim of this Aide Memoire is to refresh and revise trained users.
 - a. Make sure the wet bulb wick is clean (square box middle sensor). If the wick is discoloured it **should** be replaced. To replace the wick, take the lid off, slide the old wick off and place a new wick over the sensor, making sure the bottom of the wick is down in the reservoir.



- b. Fill the wet bulb reservoir with distilled or de-ionised water. Where either of these are not available, clean, bottled water may be used providing the wick is changed more frequently to avoid sediment accumulation.
 - c. Place the QT34 in the work area, approximately 1.1m above the ground, ideally on a secure and stable tripod, in an open area away from walls or obstructions that could interfere with the readings. The QT34 **must** be in direct sunlight and not shaded in any way unless such a location is representative of where the activity will take place. The positioning of the QT34 **should** be recorded.



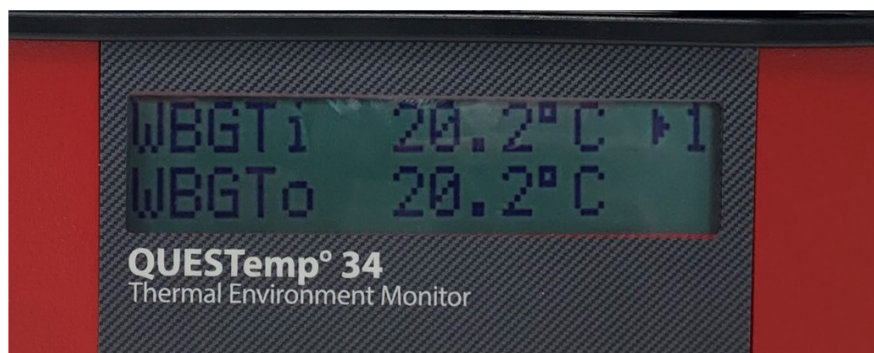
- d. Press the I/O Enter key to turn on.



- e. Check battery. If the battery voltage displayed during the power-on sequence is less than or equal to 6.4 volts, replace or recharge the battery.



- f. Leave on for 10 minutes to allow the sensors to stabilise.
- g. Take reading. I/O Enter button to select 'view'. Then scroll up and down using the arrow keys to see the readings. To record them, press the Run/ Stop button: the * symbol on the screen bottom right indicates when it is recording.
- h. Record heat stress indices. Make indices available to local commanders, line managers and staff controlling physical activities so that risk assessments can be carried out and appropriate mitigation put in place to reduce the risk of heat illness.



- i. Switch off by holding the I/O Enter button.
- j. WBGT monitor readings are not to be taken in the rain, as this will affect the heat stress index calculations and potentially give wrong readings. If raining, operators **should** remote the sensor bar and keep the instrument sheltered.
- k. Further [QT34 User Guidance](#) is available to **download** on defnet:
Or via the Shawcity website: <https://www.shawcity.co.uk/knowledge-hub/heat-stress>.

and on YouTube via the following QR code:



FAULT RECORDING OF WET BULB GLOBE TEMPERATURE MONITOR (WBGT)

WBGT Serial Number		
Date	Fault	Reported by

IMPORTANT - The following pages are for WBGT QT34 Monitor recordings.

These recordings are for a 24 hour period and if additional ones are required simply copy and add to this copy or print off as many as are required for the duration of the activity.

These recordings should be retained for 3 years (to support a MF5010 where required)

WBGT QT34 Monitor recordings over a 24-hour period

Date:

WBGT QT34 Monitor Serial No:

Timings	Requirement	Temp	Location of reading	Work rate (if activity is present)	Recorded by
0000hrs					
0100hrs					
0200hrs					
0300hrs					
0400hrs					
0500hrs					
0600hrs					
0700hrs					
0800hrs					
0900hrs					
1000hrs					
1100hrs					
1200hrs					
1300hrs					
1400hrs					
1500hrs					
1600hrs					
1700hrs					
1800hrs					
1900hrs					
2000hrs					
2100hrs					
2200hrs					
2300hrs					
2359hrs					