



CONSULTATIVE SIGNAL ASSESSMENT
PRIMARY RISK ASSESSMENT
EVIDENCE BASED RISK ASSESSMENT
PUBLIC HEALTH EVENT ASSESSMENT

HEAT AND OZONE, 26 AUGUSTUS 2019

Date of the signal	Date of the PRA	Signal provider	Experts consultation	Method
26/08/2019	28/08/2019	KMI/IRM Irceline	Permanent experts: Dr Valeska Laisnez (AZG), Dr Romain Mahieu (COCOM-GGC), Dr Paul Pardon (FOD), Dr Carole Schirvel (AViQ), Ms M. Thomas (OstBelgien), Dr Sophie Quoilin (Sciensano). Opinion from : M. F. Fierens, M. Ph. Maetz (irceline), Dr B. Legiest (AZG, milieu), Dr N. Bossuyt, Ms S. Willems (Nehap) M. F. Defays (Crisiscentre), M. P. Mailier (IRM/KMI)	eMail
Date of update	Closing date			

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Signal	<p>IRCEL/CELINE observed that the ozone threshold has been exceeded in one place on Sunday 25th Augustus (193 µg/m³ in Berendrecht) and is forecasting a more extended excess in the North and the centre of the country today, Monday 27. The objective criteria's for the Alert phase are met today. In accordance with the plan 'Heat and Ozone', the activation of the alert phase must be the result of putting into context the objective criteria's in order to assess whether additional measures should be taken.</p> <p>On Monday 26/08 based on the forecasting from KMI/IRM and IRCEL/CELINE: Criteria for warning phase : T°cumul J1-J5 ≥ 17°C: 28 Temperature J0 ≥28°C: 31°C Ozone J-1 >180 µg/m³ at least one place Ozone J0 >180 µg/m³ : on the main part of the North and centre of the country See <i>in annexe</i>.</p>
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Weather consideration		Based on forecasting done on Tuesday 24/07/2019
Maximum temperature	Temperature will be higher than 25°C during at least 4 days between Saturday 24 th and Wednesday 29 th Augustus.	
Minimum temperature	Temperature will stay lower than 20°C during the nights during the four days.	
Rainfall/drought	Lack of rainfall during the summer and insufficiency of rainfall forecasted. Low groundwater levels.	
Wind	Weak	
Environmental conditions		
Ozone - hour mean (µg/m³)	Only one zone in North Belgium above 180 µg/m ³ on Sunday. Higher levels forecasted for Tuesday and Wednesday.	
PM2.5 (µg/m³)	Running 24 hours mean is higher than 25 µg/m ³ in some places, mainly in the North of the country.	
Pollen	High densities of allergenic fungal spores of the genera Cladosporium and Alternaria are observed in the air during the summer but Sciensano measured the exposition is currently progressively ending.	
Health indicator		
Number of deaths	Delay in receiving mortality data from national register. Data will be processed as soon as received. The results of the all-cause mortality surveillance during the first wave in June-July show a moderate excess mortality in Belgium (102 deaths) around the warmest days.	
Emergency admission	No syndromic surveillance yet by using UREG data. No signal on a major increase in 112 activities.	
Other diseases	No indicator- or event-based signal about an increased risk for health up to now.	
Planned mass gathering events		
Festivals	/	
Youth camp	/	
Exceptional situation		
During the last heat period, there were some problems of distortion of railway tracks or catenaries by extreme heat. Some travellers were blocked for several hours. No exceptional situation like power failure, water cut-off, people blocked on the highway, no red day for departure or return from holidays, ... are expected since no extreme temperature.		
Assessment		
Cause know	Heat periods in the summer are known and a specific plan does exist since they can have an impact on health.	
Unusual/unexpected	Heat period during the summer are expected but the frequency of heat periods is increasing. Lack of rainfalls is a concern.	
Severity	Based on the previous observations done by Be-Momo, we can expect that there will be an impact on health but moderate if measures applied. Air pollution has to be taken into account in the recommendations.	

Exposed population	The whole population is concerned by the heat but a particular attention has to be given to persons with chronic conditions, vulnerable persons, elderly, young children. Measures have also to be taken for workers doing heavy work.
Preparedness and response	
Preparedness	<p>Since the heat period of 2003 health authorities are prepared thanks to an action plan detailing the necessary measures in order to mitigate the impact of heat and ozone on health.</p> <p>Each region and the federal level have such a plan.</p> <p>Organisers of mass events are also foreseeing measures. There are also some local initiatives like museum having offered to 65+ a free entrance during the previous heat period.</p> <p>There is a labour legislation.</p> <p>Surveillance systems partially exists. We are missing of a rapid indicator-based system like the possibility to use nearly real-time data from emergency wards (UREG).</p>
Response	<p>The plans have been activated by each region and the necessary measures put in place (e.g.: communication, air-conditioned rooms in the cities, ...).</p> <p>Employers are now used to ensure that working conditions are adapted.</p>
Decision	
	Based on the forecasting, the objective criteria's for the alarm phase will last for 24 hours. Considering the limited period of time during which the objective criteria's will be reached and the activation of the plan with concrete measures, the RAG is assessing that no additional measures have to be taken.
Actions	
Immediate action	To repeat again the preventive messages to the population and to stress avoiding physical activities during the three coming days also due to ozone values at least until Thursday. Also to draw attention on the need to take water when travelling. In the context of general climate change, measures and/or additional measures should be considered by regional authorities in order to prevent groundwater depletion.
Short term action	<p>Surveillance of the impact on health should be reinforced by making possible to start working with emergency wards data (UREG) even if the system is not yet completely efficient. UREG data is an essential tool to detect and follow the impact of potential threat on health. The project has to be maintained.</p> <p>To evaluate the new procedure for the RAG activation, the communication flow and time, during the next meeting of the WG Ozone. When the alarm phase is reached it's too late to propose additional measures because to put them in place can require time.</p>
Mid-term action	<p>In the context of general climate change, it is expected that such events could occur more frequently. The feasibility of concrete additional actions for the alarm phase should be discussed during the next meetings of the WG Heat and Ozone of the NEHAP like the possibility</p> <ul style="list-style-type: none"> - to limit the traffic and encourage homework (from the warning phase onwards) - to oblige organisers of mass gathering events to have a heat plan, - to open public places like museum, church, library, swimming pools, ... - to prohibit alcohol consumption in mass gathering events, - to reinforce work capacity in nursing homes, hospitals, - to reinforce teams visiting isolated people, - to cancel some manifestations, - <p>Ambitious goals for climate should be supported by the health authorities.</p>

REFERENCES

Situation and forecasting drought :

<https://www.meteo.be/fr/meteo/previsions/secheresse>

<https://www.wallonie.be/fr/actualites/quel-est-letat-de-la-secheresse-en-wallonie>

https://www.waterinfo.be/default.aspx?path=NL/Thema/Droogte_Actueel

WBG: <http://www.emploi.belgique.be/defaultTab.aspx?id=39434>

Heat index : <http://meteoherhet.be/template/plugins/bioIndexes/index.php>

Pollen: <https://airallergy.sciensano.be>

ANNEXES

Evolution objective criteria's based on forecasting from KMI/IRM and IRCEL/CELINE on Monday 26/08/2019

		Forecasted t° (fT°)	fT°- 25°	Ozone	Criteria's
J0	Sa 24/08	30	5	121-160	J0 ≥28°
J1	Di 25/08	31	6		T°cul ≥ 17
J2	Lu 26/08	31	6		Ozone J-1 >180 µg/m³
J3	Ma 27/08	32	7		Ozone J0 >180 µg/m³
J4	Me 28/08	29	4		
J5	Je 29/08	24			
T° cumul			28		
		Forecasted t° (fT°)	fT°- 25°	Ozone	Criteria's
J0	Di 25/08	31	6	193 µg/m3, 1 place	J0 ≥28°
J1	Lu 26/08	31	6		T°cul ≥ 17
J2	Ma 27/08	32	7		Ozone J-1 >180 µg/m³
J3	Me 28/08	29	4		Ozone J0 >180 µg/m³
J4	Je 29/08	24			
J5	Ve 30/08	22			
T° cumul			23		
		Forecasted t° (fT°)	fT°- 25°	Ozone	Criteria's
J0	Lu 26/08	31	6	181-240	J0 ≥28°
J1	Ma 27/08	32	7		T°cul ≥ 17
J2	Me 28/08	29	4		Ozone J-1 >180 µg/m³
J3	Je 29/08	24			Ozone J0 >180 µg/m³
J4	Ve 30/08	22			
J5	Sa 31/08	25			
T° cumul			17		
		Forecasted t° (fT°)	fT°- 25°	Ozone	Criteria's
J0	Ma 27/08	32	7	181-240	J0 ≥28°
J1	Me 28/08	29	4		T°cul ≥ 17
J2	Je 29/08	24			Ozone J-1 >180 µg/m³
J3	Ve 30/08	22			Ozone J0 >180 µg/m³
J4	Sa 31/08	25			
J5	Di 01/09	21			
T° cumul			11		
		Forecasted t° (fT°)	fT°- 25°	Ozone	Criteria's
J0	Me 28/08	29	4	161-180	J0 ≥28°
J1	Je 29/08	24			T°cul ≥ 17
J2	Ve 30/08	22			Ozone J-1 >180 µg/m³
J3	Sa 31/08	25			Ozone J0 >180 µg/m³
J4	Di 01/09	21			
J5	Lu 02/09	19			
T° cumul			4		