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Introduction

The purpose of the Early Warning Meteorological System is to formulate and release information on predicted development and effects of extraordinary and hazardous meteorological phenomena and events. Meteorological elements, phenomena and events treated within this System may jeopardize human security, cause damage to property, affect transportation and other communication lines, disrupt the regular provision of food, heating and electrical energy, in other words, cause troubles in everyday life activities.

How should we behave when official information is released on forthcoming extraordinary and hazardous phenomena and events and their effects? The text that follows contains some practical advice.

First of all, try to remember the meteorological or hydrological hazardous phenomenon/event the warning refers to. Also, it is useful to remember the site or region the warning is referring to. The time period in the warning is also important. It is essential to follow official press releases on the weather and water in the media (radio, TV, Internet if possible). NEVER PANICK. We hope that you will find our advice helpful. Our advice includes the period before, during and after a hazardous meteorological phenomenon/event. Our instructions include the following:

- ☆ Violent storms with showers, thunder and lightning;
- ☆ Extremely high air temperatures and heat waves;
- ☆ Extremely low air temperatures and cold waves;
- ☆ Heavy snow, icy rain and roads;
- ☆ Thick fog;
- ☆ Strong wind gusts;
- ☆ Forest fires.

We hope our advice will prove useful in overcoming the problems caused by hazardous meteorological or hydrological phenomena/events.

1. Violent storms with showers, thunder and lightning

1.1. Before:

For prevention and protection sake, before the storm occurs, close the door and windows of your apartment or house. If you have Venetian blinds or shutters, make sure to use them for maximum protection of the windows from being damaged by objects the wind may bring or from hail; they will also protect from heavy precipitation. Unplug all unnecessary household appliances (TV, boiler, fridge...).

Maintain well your drain-pipes, keep them from choking. Heavy precipitation may cause damage on your façade and, in some cases, can even flood your flat, house or another facility.

Remove objects from your backyard, balcony or terrace (e.g. less heavy flower-pots, chairs and tables...), which the wind may carry/flip to windows, doors, parked cars, thus jeopardizing human security and property.

Park your car in the garage. If you do not have this possibility, seek a place without old rotten trees, unsecured fences, support walls, entrances into old and dilapidated buildings, construction sites.

If you are outside, seek shelter, but never under a solitary tree. If you are in your car, do not be afraid of a crash of thunder, as your car is like the Faraday Cage, (http://www.fizika.info/pojmovi/faradejev_kavez.pdf).

1.2. During

When you hear the thunder, you are already at risk. It may thunder during a storm 16km away from the place you are staying.

If you are inside (office, house, flat, shop...), stay there until the event passes.

In the case you must go out, beware of all objects or situations described in section *1.1. (Before)*. If necessary, stay in a shelter only if it is a safe one, i.e. if there is no danger of its being pulled down by the wind.

If you are in an open area, and without any chances of finding cover, never lie down and touch the ground with all your body. This contact with the ground must be as small as possible. A good position is to squat with your head between the knees. Your hair should not touch the ground.

While a storm is going on, never try to repair, for instance, a damaged drainpipe, or to remove a branch that has fallen onto a car. Beware most of all street flooding.

If you are inside a car, avoid parts with possible floods. Avoid bridges, lateral gusts of wind, and drive very carefully, with lights on.

Do not start a journey without great need, and do not use your car, if possible. Wait until the event has passed.

If lightning strikes or it thunders, do not use your phones, either stable or mobile phones. Be sure to turn off your cell phones, especially if you are not inside. Stable phones also use electrical energy.

Avoid using metal objects, as they are excellent conductors of electrical energy. Stop with fishing activities or other sports that require the use of bats or metal objects. Especially while fishing, avoid leaded bats, as they are perfect conductors of electricity. Avoid boat rides on a river or lake.

1.3. After

Avoid fallen or damaged pillars, posts, pipelines, sub-stations and other objects that are used to convey electrical energy. Never touch cables or any metal or copper wires that have been burnt, detached or damaged in any way, and which may still be charged with electricity. Such cables usually emit sparks so they are easy to spot. Beware of trees, pillars, buttresses or roofs that have been damaged due to a storm.

Provide help for those who need it. First aid is often vital for rescuing lives. Everybody must have a first-aid kit in the car. If necessary, use it. If a person has been struck with lightning, remember that such strikes usually damage vital organs, such as the heart, and cause heavy burns. Feel the pulse. If you are unable to help, call the relevant service.

Keep following official releases on weather conditions. If weather has stabilized, you may begin repairing damages incurred on your property.

If your property has been insured, call the insurance company to estimate the damage and ask for a written report on the weather from the Serbian RHMS. Give your personal details, time and date of occurrence of the damage and reference to the weather report. In insurance companies or in court proceedings, the weather report of the RHMS

of Serbia is considered as an official document, based on which you will be able to exercise your rights. The request should be sent to the following address: **Republic Hydrometeorological Service of Serbia, Department of Meteorology, Climatology Division, Kneza Visislava 66, 11030 Belgrade.**

2. Extremely high air temperatures and heat waves

Bear in mind that Serbian RHMS issues data on air temperature that has been objectively measured at the relevant measurement sites. There are, however, certain differences, especially in urban areas, among the so-called urban heat islands. These are city squares, wide streets, sidewalks paved with stone, granite, concrete or asphalt.

2.1. Before:

Check the functioning of refrigeration appliances, fridges, freezers and air-conditioning system. Service your air-conditioner on time. Provide enough drinks (water, lemonade and so on). Persons suffering from chronic diseases should have their regular medicines at hand. Listen to advice from local health care services or emergency ward. Follow your physician's advice.

2.2. During:

Be sure to protect the windows from direct sun radiation. Close the door and windows. If you have an air conditioning system, turn it on in accordance with the instructions for its use. Allow for occasional airing of your rooms. Remember that leaving a cold room to go into an over-heated environment, or else going from an extremely hot environment to a cold interior may cause a temperature shock. Sleep in a room with open windows at night. This is how you will provide for fresh air. Try to cool yourself by dressing in an adequate manner. Take frequent showers, wash yourself or splash yourself with water. Drink as much as possible, but never alcoholic drinks. Alcohol causes the body to dehydrate. Have light meals.

Avoid activities that may cause the body to collapse. In a state of total exhaustion you are most vulnerable to heat stress, even to a stroke. The first sign of a heat stress is the feeling of fatigue.

Do not go out from 11 to 17 hours, and if possible, plan to leave your home in early morning or late evening hours. When you go out, use Sun protection creams, wear light clothes, keep your head from direct Sun radiation (by wearing a cap or a parasol). Keep in mind that the air temperature in some parts of an urban area, in the so called urban heat islands, is considerably higher (by 5°C, sometimes by 10°C) than the officially measured one. Avoid longer exposure to Sun rays, even when on the beach. Always use Sun protection creams on the beach. Take special care with children. UV radiation can be dangerous even in an average sunny day. This is why you should follow official information on UV radiation and the relevant recommendations.

If you are in a car, and you do not have air-conditioning, be sure to make a draught and make frequent stops during the ride. Use the air-conditioning in the same way as in your flat and observe the instructions for its use. Sudden changes of air temperatures can prove fatal. Always choose to stay in the shade. Provide enough drinking water during a ride. Before entering an over-heated car allow for a thorough

airing in order to reduce the inside temperature. Air temperature in a car that was kept in the Sun is much higher than the air temperature of the environment. **NEVER** leave children or domestic animals in a parked car. This goes for an ordinary day, let alone days with extremely high air temperature or during a heat wave.

Sick or elderly people (neighbours or relatives), who are alone in a flat or a house should be regularly visited and provided the help they need in order to live through such extreme weather phenomena.

2.3. After:

Listen to official information on the weather and weather forecasts. Keep in mind advice how to behave when exposed to the Sun in the street, on the beach or in other places, regardless of whether the heat wave has passed or not.

3. Extremely low air temperatures and cold waves

3.1. Before:

Check your door and window isolation. It does not take high investments to isolate the doors and windows of your flats or houses. Use cheaper devices, such as rubber bands, or various strips made of sponge. Aluminum bands are somewhat more expensive. You can also put rolled towels inside the window frame.

Make sure to check and service your heating installations, be it electrical or gas heating. Check the functioning of the chimney. Provide heating devices. Also, provide candles, as one heated candle in a small room can increase temperature by several degrees. Provide food for a couple of days. Persons suffering from chronic illnesses should have regular medicines close at hand. Listen to the advice of health care services or emergency wards on duty. Observe your physician's advice. If you have a water pipe in the backyard, be sure to protect it from freezing, even better to turn it off. You should turn off the water from all installations in the rooms you do not use.

Help the elderly or sick persons (neighbours or relatives) who live alone to prepare well for the forthcoming cold. Inform them how to behave during the event. If possible, visit them regularly and check the heating, water and electricity installations.

If you have a car, prepare it for extremely low temperatures. If possible, keep it in the garage.

3.2. During

Regardless of the cold, open the door or window from time to time, in order to let in fresh air and the necessary oxygen. Russians, for instance, have a small opening (the so-called "fortochka") in their windows for ventilation purposes. Air ventilation is indeed necessary.

Control the operation of cookers, furnaces and similar heating devices. The malfunctioning of these appliances may prove fatal due to an increased concentration of poisonous gases. Follow the instructions on the use of mini heaters, electrical furnaces and similar devices that use electrical energy or gas. An open heater **MUST NEVER** be near a bed, armchair and other furniture, curtains, paper objects, poisonous substances or alcohol-based liquids. All heating devices must be under your control at every moment.

Never use open fire as heating in a room. E.G. There were cases that in longer periods of electricity cut-off and lack of other heating devices, people used barbecue coal. Such way of heating will certainly lead to poisoning or death due to consumption of oxygen and release of carbon-monoxide.

Avoid sudden leaving a warm room to go to a cold environment. Put on enough clothes for outside activities. Wear adequate clothing, footwear, caps, and protect your hands, ears and nose from the cold. If you stay outside for a longer time, and you begin to tremble, feel dizzy, and notice that your fingers have grown pale; if you speak slowly and incomprehensibly or you are losing your memory, i.e. you are unable to remember everyday things/activities – this is a positive sign of hypothermia. This is a medical condition in which the body temperature is lower than 35°C, and is caused by a long stay in the cold. This means that you lose more temperature than the body is capable of producing. Your vital functions and organs have been impaired. You should massage your hands and feet in order to restore circulation and keep away from cold. Avoid drinking alcohol as it helps to dilate blood vessels and makes your body lose heat. Smoking causes the peripheral blood vessels to shrink, which contributes to the loss of body temperature. Also, avoid drugs/medicines such as caffeine, which cause your body to dehydrate, as this is one of the main factors contributing to the state of hypothermia.

Use electrical energy economically. Each instance of saving is important, as in these days, the consumption of electrical energy is huge and can cause the system of electrical power distribution to collapse. Make sure to turn off the lights. A semi open door of the fridge or freezer increases the use of electrical energy. Observe the instructions on the economical use of electrical energy that you get from your Electrical Power Distribution Company.

Such long periods of low air temperature usually occur after bouts of snowfall and formation of snow cover. When the weather is stable and mornings are bright, the air becomes much cooler than the earth. The so-called cold air lakes are formed then in the valleys and low-land. In such cases, the combination of low air temperatures and snow cover causes traffic jams or congestion. Do not begin a trip without a great need. If you really must do it, and you travel by car, make sure to provide the equipment for winter conditions (wheel chains etc.). Check you heating system, be sure to have enough fuel, take enough food and drinking water. Listen to official info on the road situation and weather forecasts. Inform the persons you are visiting of the time of your departure and the expected time of arrival in final destination.

3.3. After

Check all installations, especially those for water supply. It is possible that water pipes have cracked at some places, due to water freezing. Pay a visit to elderly and sick neighbours and relatives. Remove possible damage on your property. Listen to official information on the weather and weather forecasts.

4. Heavy snow, icy rain and icy roads

4.1. Before:

Do not begin a trip without a great need. If you really must do it, and you travel by car, make sure to provide the equipment for winter conditions (wheel chains etc.). A

shovel for snow will prove useful. Check your heating system, be sure to have enough fuel, take enough food and drinking water. Listen to official info on the road situation and weather forecasts. Wait until the competent services have cleaned the roads or secured them in another way for traffic circulation. Before you set out, inform the persons you are visiting of the time of your departure and the expected time of arrival in final destination. Drive very carefully. In the case of icy rain, do not even think about going on a trip. Help elderly and sick neighbours and relatives who live alone.

4.2. During:

If you have been caught by a storm on the road, drive very carefully. Always turn the lights on. Avoid sudden braking. The braking process can be ten times longer than in normal conditions. If possible, stop your journey until the event passes, especially in the conditions of icy rain. It is useful to have in your car, besides ordinary footwear, non-slippery shoes. In this way you will be safer in case you have to leave your car. If necessary, use the wheel chains. Listen to official info on the road situation and weather forecasts. If you make a stop on your way, make sure that you are visible on the road. Your car should be off the road. If this is not possible, then park it so that it cannot cause a collision with incoming cars. If you have a mobile phone, contact the Automobile Association of Serbia, or another service that could help you and remove your car from the road. If this is not possible, contact your relatives or friends and ask them for help. Beware the state of hypothermia. See section 3.2.

4.3. After:

Clean the accesses in your backyard or to your apartment building, as well as the sidewalks. Pour the ash, sand or another material on them in order to reduce slipping to minimum. Walk very carefully and wear adequate clothing for this kind of weather. If you work outside, rest more often, as cold air impairs breathing, work becomes harder and you can experience heart problems.

Never try to remove the snow from the roofs during a frost, when there is a great risk of slipping. Clean the roofs carefully when it gets warmer.

5. Thick fog, especially on the roads

When there is a thick fog, avoid traveling. If you must use a car, then turn on the fog lights. Avoid using the so called "long lights", as they cause "a white wall", which makes the ride even more difficult. Drive very carefully, adjust your speed to road conditions and often check your speed. Fog creates the illusion of a slow ride. Take care if the fog begins to freeze. Drops of water may freeze in the contact with frozen objects and form a thin layer of ice on the car, on the road (known as "Black Ice"), sidewalks and other objects. Such phenomenon will further aggravate your car ride.

6. Strong wind gusts

Everything we mentioned under section 1 goes for strong wind gusts, as well. This is why in this section we are going to give some advice for drivers and warn about lateral gusts of wind.

Listen regularly to official info on the road situation and weather forecasts. When the forecast predicts windy weather or when such weather already occurs, try to

remember the direction and the speed of wind, especially the speed of wind gusts. It is important to remember the geographic area or a closely defined environment to which the official info refers.

Check on your traffic map your route and note the direction of the wind. Consider the possibility of lateral wind gusts. Adjust your speed to the road conditions and be very careful. Sudden wind gusts can divert you from your direction, and there is a great risk of your car turning over. The Koshava situation is especially dangerous.

The Koshava is a south-eastern wind with gusts of 11m/s, or 39,6km/h. It brings dry and cold weather, but it can be a warm wind, too, when it announces very warm weather. It blows mostly in autumn and winter. The Koshava occurs in the Morava region, the Danube region, Vojvodina (especially in Banat) and in the region of Lower Kolubara, and maximum wind gusts range from 120km/h to 150km/h. In other areas it is weak or does not occur at all. When it comes to closer destinations, the Koshava wind can be felt in the north up to Subotica, in the south up to Nis, and in the west up to Sid.

7. Forest fires

It is worth noting that potential culprits causing forest fires are farmers (they burn their fields after harvests, they burn branches and leaves in their vineyards and orchards), collectors of forest fruits, tourists, campers, fishermen and hunters, or else everyone who finds himself near or inside a forest at the time of hazardous weather (thunder and lightning).

What is necessary in order to start a fire is burning material, a source of heat and oxygen, or the air. If either of these is missing, there will be no fire.

A source of heat can be camper's fire, cigarettes, matches, sparkles, fire on the field and the like. In a forest, plants make the burning material. In the initial phase the source heats the burning material up to a temperature where water evaporates and combustible gases appear. The oxygen makes the heating process go on and when the temperature reaches a certain degree, the gases released start burning. A flame appears and the burning process continues. The final product is ashes.

In view of factors contributing to forest fires, the most critical periods in our country are:

- Spring (March and the first half of April),
- Summer period (second half of July and August) and
- End of summer and beginning of autumn (the second half of September and first half of October).

It is utterly wrong to clean the fields by burning after a harvest. In this way you will destroy everything that is useful for the field and crops. Besides, you will thus destroy animals, and there is a great risk of fire getting out of control and causing great damage.

When you are near or inside a forest, avoid using a fire. If you do use a fire (for barbecue, camp fire and so on), never leave it without control. When you do not need the fire any longer, make sure to extinguish it, and check several times if you have done this properly. Smoking and uncontrolled throwing away of cigarette ends are also a potential cause of fire. More often than not, passengers throw unlit cigarettes from their cars and thus cause fires. Remember that a broken bottle or glass can also be a source of heating.

When the Sun radiation is very high, the sun rays penetrating the glass increase the effect and cause the combustible material to burn.

Be aware of the fact that when you are near or in a forest area, on an excursion, or if you are camping, hunting, fishing, or taking any sort of recreation activity, that when you cross a forest area in your car, when you cross dry fields and meadows - you are a potential cause of fire. Do your best to make your stay in the country a safe one. Protect the forests from yourselves.

If you notice a fire, always inform firemen. Fulfill your responsibilities and the commitments prescribed by laws and bylaws.

Some important telephone numbers:

92 – Police Service on duty

93 – Firemen 93,

94 - Ambulance 94,

976 – Military ambulance 976,

9821 – 24 hour-pharmacies and health care institutions,

987 – The Automobile Association of Serbia 987,

9824 – Important phone numbers 9824.

Note:

The Serbian Republic Hydrometeorological Service **warrants** that the state officials and employees will do their utmost, within the range of their responsibilities, in order to ensure the accuracy of information, forecasts and warnings that are posted on the website <http://www.meteoalarm.rs>. The Republic Hydrometeorological Service, however, or its state officials and employees, **do not take any responsibility** for a damage, loss or injury caused as a result of using this website. Please, see [“Terms and conditions”](#) .