

## AVALANCHE WARNINGS: THE MAIN INFORMATION CHANNELS IN FRANCE, WITH A FOCUS ON “VIGILANCE”, A MATURE CRISIS COMMUNICATION TOOL

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**ABSTRACT:** In France, avalanches are responsible for around thirty fatalities a year, mainly among winter recreationists. Avalanches also threaten housings and transport routes (road and railways) ; the damage to mountain infrastructure and forests is considerable some years. There are many channels of information on avalanche danger and avalanche risk in France : daily avalanche bulletins, use of social networks, specific crisis communication tools, whether for spontaneous or triggered avalanches.

We will highlight the complementarity between these different approaches, but also the difficulties that can arise from their simultaneous use. We will focus in particular on the target audiences and the means of reaching them. Particular emphasis will be placed on the "Vigilance" information system, set up in 2001 (<https://vigilance.meteofrance.fr>). "Vigilance" is the French crisis management tool for natural hazards (meteorology, hydrology and avalanches) ; its main idea is to provide both the authorities and the general public with the same level of information, including a description of the expected consequences and prescribing the behaviour to deal with them. We will also explain its direct link with the "European Multiservice Meteorological Awareness system", EMMA.

**KEYWORDS:** avalanche risk, crisis communication, audience, CAP

### 1. INTRODUCTION

Around 30% of France is mountainous, and more than 10% of the country's population lives there. In some winter periods, the population increases dramatically, with tourist activities attracting both nationals and foreigners, France being the 2<sup>nd</sup> country in terms of skiers-days sold in 2022/2023 – 51 millions as stated by Vanat (2024). Avalanche hazard has therefore long been a major concern. Avalanches are responsible for around thirty fatalities a year over the last decades, mainly winter recreationists. Avalanches also threaten housings and transport routes (road and railways) ; the damage to housings, mountain infrastructure and forests is considerable some years. Two particular winters, marked by very deadly avalanches, triggered the set up of the two main French avalanche specific products : the daily avalanche bulletins (winter 1969-1970) and the avalanche section in the Vigilance system (winter 1998-1999).

The origins of structured avalanche forecasting in France dates back to 1970, following a catastrophic winter in terms of number of avalanches, damage and victims in the Pyrenees and the Alps (1969-1970) : 57 fatalities, including 39 trapped in a building during breakfast in a single exceptional avalanche at Val d'Isère (Savoie). Since then, the French National Meteorological Service is in charge of monitoring the snow cover, to forecast its evolution and to disseminate the corresponding information. The

first avalanche bulletins issued in winter 1970-1971, were covering only the Northern Alps 3 times a week, extended to the Southern Alps the next winter. Between 1975 and 1978, these bulletins were extended to the Pyrenees and Corsica and became daily (Coléou et al, 2022).

On the other hand, in December 1999, the consequences of the wind-storms Lothar and Martin (92 casualties in France) highlighted the ineffectiveness of the meteorological warnings at that time despite the fact that the storm had been well forecast. The population clearly demonstrated a lack of risk culture during these episodes, see Lepape (2004). These observations led to the idea of a simpler system, giving the authorities and the general public the same level of information, describing the expected consequences of the predicted events and prescribing the behaviour to adopt in order to cope with them, the so-called "Vigilance system" (Gillet-Chaulet et al, 2023). "Vigilance" refers to awareness: it is a first level of information (warning) which can lead the authorities, if necessary, to take particular measures (alert) concerning the population (evacuations, sheltering, traffic bans, etc.). The alert is the responsibility of the crisis management authorities and not of Météo-France. Estimating consequences, however, is challenging in the context of severe natural hazards. Nevertheless, "Vigilance" bulletins could include a description of the possible impacts the event may have - such that the broader public and professionals may imagine the possible im-

part of the event and may individually take informed decisions. Bulletins also gives advice on appropriate behaviour to help the general public and professionals to take full account of the warnings issued. Earlier that same year 1999, during a sequence of heavy snow storms, on 9 February 1999, an avalanche destroyed 17 chalets and killed 12 people in the Chamonix valley. Avalanches were thus included in the 5 first natural hazards covered by Vigilance with Wind, Rain, Thunderstorm and Snow or Ice in land (for roads, collapsing roofs, snow on cables, etc). This early warnings system was set up on 1 October 2001. It has undergone evolutions since and has been improved in order to constantly adapt to the needs. It has also spread more widely at the European scale with the EMMA project since 2007 ("European Multiservice Meteorological Awareness system") and even at the global scale with the "United Nations spearhead[ing] a new action to ensure that every person on Earth is protected by early warning systems within 5 years" (UN Secretary-General António Guterres in March 2022), action led by the World Meteorological Organization (<https://www.preventionweb.net/publication/early-warnings-all-executive-action-plan-2023-2027>).

This paper details the publications of Météo-France related to avalanche hazard for the Alps, Pyrénées and Corsica ; both, routine publications as well as publications in crisis situations are presented. Their status in 2024 will be described, focusing on the target audiences and the information strategies used to reach them. Then, the interplay and complementarity of all these products will be presented and explored.

## 2. DAILY AVALANCHE BULLETIN

### 2.1 Issued information

An avalanche bulletin or also called avalanche forecast describes the degree and characteristics of avalanche danger in a mountain region. Communication employs among others, the avalanche danger level and the avalanche problems. Avalanche danger refers to the frequency of natural avalanches, the potential of artificial triggering and the potential impact of these avalanches on human activity in a forecast region (e.g. Perla, 1975). Avalanche bulletin is thus the main avalanche forecasting product, developed and distributed by all the world's avalanche forecasting services for their geographical area of responsibility. In Europe, since their creation, avalanche bulletins have benefit of regular consultation between the Alpine and then the

European avalanche services, within a working group called the European Avalanche Warning Services (EAWS, [www.avalanches.org](http://www.avalanches.org)), of which Météo-France is a partner, that has enabled the avalanche bulletin to evolve coherently, both in form and content, see Coléou et al (2022).

Météo-France publishes daily avalanche bulletins since the early seventies for three main mountain regions in France: the Alps, the Pyrénées and Corsica.

They are emitted on 36 fixed massifs by 4 mountain centers - 7 local locations (see Figure 1) and are issued at 16:00 from early November to early June.

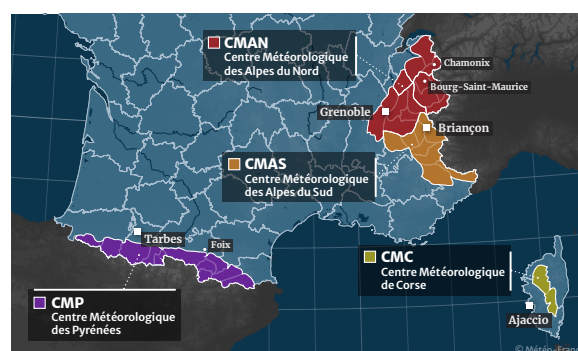


Figure 1 : Map highlighting the forecasting centers in France and their area of responsibility.

It displays the usual information on avalanche hazard according to the EAWS information pyramid : danger level, avalanche prone locations (aspect, elevation), avalanche problems, full danger description, additional information (such as key contributory weather parameters, snow cover information and snow surface quality and a sentence dedicated to safety related to weather) ; then, a graphical section provides information on snow and weather conditions over the last 7 days in order to give the most qualified users a better understanding of the situation.

In addition to the bulletin, real-time snow and weather data are available online.

Bulletins are only issued in French : a vector of improvement would be to translate the top-level information for foreign users into English.

### 2.2 Target audiences

The avalanche bulletin enables a wide range of users to include relevant information on avalanche hazard into their risk assessment which is specific for each categories of users (e.g. backcountry skiers, ski patrol or avalanche com-

missions). The target audiences can be grouped into the categories:

- Authorities and institutions at several scales who exercise responsibility either for residences, communication pathways or other mountain infrastructures: mountain villages or towns but also the next administration level encompassing the French “departements”, as well as civil security and professional rescue teams ;
- Ski resorts: for the risk management on their area of responsibility (safety of the ski tracks). The ski resorts are also involved in a strong relationship with forecasting services as they provide the vast majority of snow and avalanche observations in France (120 posts) ;
- Winter recreationists both amateurs and professionals may be the most obvious audience but not the only one.

### 2.3 Information diffusion

Given the very wide range of users, the information is diffused in many way, which include:

- Bulletins pushed daily by e-mail to institutional audience,
- Free bulletin on the Météo-France web site on pages dedicated to mountain products,
- Application “Meteo Ski”, an application combining weather and snow information and additional information on ski areas (open skitrails, snow conditions and webcams),
- Data made available via an open platform for online republication (API) since 2023 : free of charge, allowing a wide re-use of the data under Etalab license<sup>1</sup>

With the latter point, the main information on avalanche danger can be re-diffused widely, including the “ski-resort experience applications”, as well as various social media devoted to ski touring.

One difficult target group to reach and raise awareness of is the occasional off-piste skiers without any snowpack knowledge and even not knowing the existence of an avalanche bulletin.

<sup>1</sup> <https://www.etalab.gouv.fr/licence-ouverte-open-licence/>, last access 13 August 2024

## 3. VIGILANCE

### 3.1 Issued information and fundamental principles

The “Vigilance” information system is a French crisis management tool for natural hazards (meteorology, hydrology and avalanches); its main idea is to provide both, the authorities and the general public with the same level of information, including a description of the expected consequences and prescribing the behaviour to deal with them, see Gillet-Chaulet et al (2023).

Vigilance is presented for today and tomorrow at the scale of the administrative region, which is the “departement”. For some phenomena such as avalanches, a sub-departmental scale is available to specify the hazard (see Figure 2). The double map (for today and tomorrow) comes with a chronology of events, monitoring reports and bulletins, updated during the event when necessary and at least twice a day. Those text bulletins are specifying the intensity of the phenomena, their location and chronology, and the uncertainty inherent in the forecast as well as their possible impact on human activity and behavioral advice for the general public.

For instance, for avalanche hazard, the Vigilance bulletin in crisis situations describes the frequency of natural avalanches - typically avalanches of at least large size possibly reaching human housings and infrastructures. This information is already included in an avalanche bulletin, but vigilance sets a new focus and employs more efficient communication pathways to raise more awareness in the population by describing also the possible impact of the forecast events.

In France, this system is regulatory and organized by the State (Ministry of Ecological Transition and Territorial Cohesion) ; it is the subject of an inter-ministerial “circular”<sup>2</sup>, involving also the Ministries of Interior and Solidarity and Health which “specifies and reaffirms the guiding principles of the Vigilance and its articulation with crisis management systems” and then operated by the French Meteorological service.

The Vigilance indicates the level of danger to which a territory is subject for the upcoming 2 days with 4 colours: Green, Yellow, Orange and Red associated with definitions that are common to the 9 hazards covered by the Vigilance system in 2024: Avalanches, Coastal event, Flood-

<sup>2</sup> <https://www.legifrance.gouv.fr/circulaire/id/45225?origin=list&page=4>, last access 13 August 2024

ing, High temperature, Low temperature, Rain Flood, Snow or Ice, Thunderstorm, Wind.

### Vigilance “green” :

No particular vigilance.

### Vigilance “yellow” :

Be careful. If you practice activities that are sensitive to meteorological hazards or are exposed to floods. The forecast phenomena are usual in the region. They can occasionally and locally be dangerous (e.g.: Mistral wind, summer thunderstorm, rising water). Keep yourself informed of the evolution of the situation.

### Vigilance “orange” :

Be very vigilant. Dangerous phenomena are expected. Keep yourself informed of the evolution of the situation and follow the safety advice issued by the authorities.

### Vigilance “red” :

Absolute awareness is required. Dangerous phenomena of exceptional intensity are expected. Keep yourself regularly informed of the evolution of the situation and follow the safety advice issued by the public authorities.

ability of a meteorological or hydrological event and its possible consequences. The definition of risk employed is the one of the 6<sup>th</sup> report of IPPC in Reisinger (2020) : the result from dynamic interactions between hazards with the exposure and vulnerability of the affected human or ecological system to the hazards. Thus, decision support criteria have been defined on the basis of thresholds relating to the various parameters monitored related to the hazard itself, the climatology of the affected region, but also the exposure and the vulnerability of the concerned territories. These criteria can be modulated according to specific contexts.

For avalanche hazards, the vulnerability of each territory is assessed jointly with INRAE, the institute responsible for keeping the avalanche catalogue of documented natural releases up to date since early XIX<sup>th</sup> century on critical sites (both inhabited sites and communication routes), see De Crecy (1980) and <https://www.avalanches.fr/>. Thus, the footprints of these critical sites are available directly into the forecasting tools, associated with qualification of return time, history, typical meteorological situations, passive protection, etc.

Specific contexts for avalanches used to modulate the vigilance color are more intense road traffic (e.g. worldwide competitions, week-ends) but also vacation periods as they exhibit both more people and a population less familiar to snow and avalanche hazards.

Regarding avalanches, Vigilances “orange” and “red” are thus designed to warn the population residing in mountain areas when avalanches are likely to occur and affect them in their everyday life, in controlled terrain, i.e. affect infrastructure such as residences, roads or dwellings in mountainous regions. In that case, authorities have to set up crisis units to consider and decide for site-specific mitigation measures to reduce the risk (like road closure, preventing triggering of avalanche, lock-down,...). Vigilance “yellow” corresponds to situations where people are not threatened in their everyday life, but only when they expose themselves intentionally by practicing an activity in avalanche terrain, like ski-touring or off-piste skiing - in uncontrolled terrain. Taking into account these definitions and that of the European avalanche danger scale, it is obvious that the colors associated to Vigilance and to the different levels of the European danger scale are the same (green yellow, orange, red) but do not cover the same situations and even the same nature, possibly misleading users (see §5).

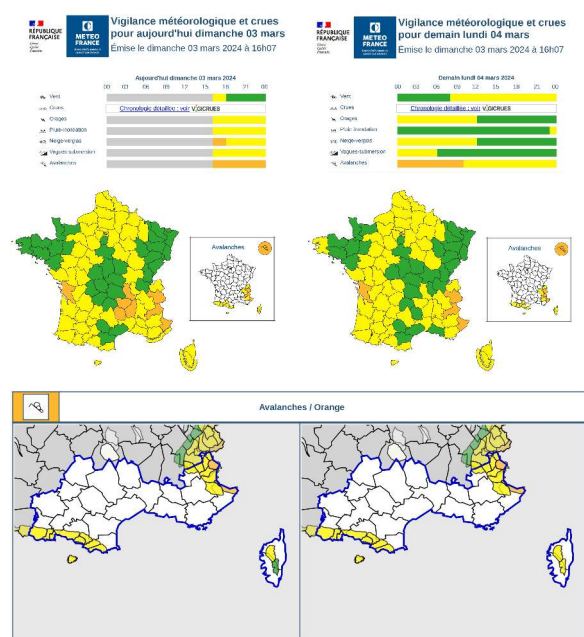


Figure 2 : Example of maps related to a vigilance ‘orange’ for avalanche, 3 March 2024 at 16:00. Top : national map for today and tomorrow at the scale of french departements, timeline, general map and Avalanche map. Bottom : zoom on the territory of interest for avalanche hazard, at the scale of mountain ranges.

The colour code of these impact-oriented warnings corresponds to a combination of the prob-

Avalanches are a seasonal hazard and are covered by vigilance from early November to early June (same period as avalanche daily bulletins).

The efficiency of these early warnings depends both on their relevance, but also on their frequency as too many false alarms / alerts are harming the reception of the message and reaction of people. To give an order of magnitude, for French massifs from winter 2001-2002 to winter 2023-2024 for avalanche hazard :

- red Vigilances are extremely rare : only 2 have been issued (one in the Pyrénées – départements of Pyrénées-Atlantiques and Hautes-Pyrénées in January 2013, the other one in the Alps – department of Savoie in January 2018);
- orange Vigilances are rare (mean of 3,6 per year over the last 20 years) even if their number shows a high inter-annual variability, from 0 during winter 2007/2008 to 9 during winter 2012/2013 (see Figure 3);
- yellow Vigilances are common, although they account for the vast majority of fatal accidents, consistent with the fact that deaths in controlled terrain due to avalanches have significantly decreased in France – and in Europe – as indicated by Techel et al (2016). Other specific tools are thus used for crisis situations in uncontrolled terrain presented in §4.2.

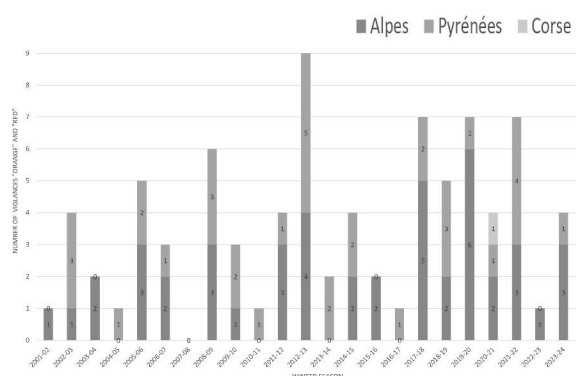


Figure 3 : Winter number of vigilances “orange” or “red” for avalanche in Alpes, Pyrenees and Corsica for the period 2001-2024.

Vigilances are systematically evaluated afterwards. A committee, made up of the stakeholders, meets several times a year for a shared evaluation of the episodes when Vigilances “Orange” or “Red” were issued, or an event that

should have been “orange” or “red” was missed. An annual report is published (posted on the Météo France website: <https://meteofrance.fr/actualite/publications/documents-institutionnels/les-bilans-vigilance>). For instance, all hazards combined, for 2023, the relevance rate (i.e. the forecast hazard effectively happens in the right departement with the right intensity and consequences) is 88%; the more-than-6-hours anticipated detection rate is 73% and the non-detection rate is 0.6%.

### 3.2 Target audiences

As stated in the fundamental principles of the Vigilance, the target audiences of these early impact-oriented warnings are :

- the authorities,
- the general public,

as the underlying idea is to reach simultaneously all audiences in a crisis context to get the best civil response by further empowering individuals to take early action.

### 3.3 Information diffusion

The aim is to extend the dissemination of prevention messages about avalanche hazard to as wide an audience as possible.

- free diffusion on the institutional Vigilance web site,
- vigilance bulletins pushed by e-mail to French institutional audiences; forecasters are also regularly solicited by officials for assistance in crisis management,
- data made available via an open API free of charge, allowing a wide re-use of the data,
- FR-alert (see appendix),
- integration in a European context via EMMA (see appendix).

## 4. OTHER AVALANCHE CRISIS COMMUNICATION CONCERNING ARTIFICIAL TRIGGERING : THE SPECIAL AVALANCHE COMMUNIQUE

Fatalities are almost exclusively caused by avalanches in uncontrolled-terrain. These accidents can occur at any danger level, but they are more numerous during periods and at locations where the danger level is considerable or higher (more than 3 quarters of fatal accidents, Reuter 2023) and when terrain use is high, simply making accidents more numerous. A typical situation is de-



scribed as follow, both in terms of number of recreationists and avalanche danger :

- a sunny day just after a snowstorm, a week-end in the heart of a winter with a thin snow cover: an activity peak is expected (both local and tourist recreationists) to make the most of rare snow and meteorological conditions,
- the avalanche danger is high (level 4) for artificial triggering while the peak of natural release is over.

Days like that are quite rare in a single winter (typically from 1 to 10 in France by winter, with a mean of 5,7 over the last 23 years) but concentrate a large numbers of accidents and fatalities. The idea of Special Avalanche Communiques is to anticipate those characteristic days in a special production warning. A brief press release is issued the day before, ideally in the beginning of the afternoon so that the communique can be subsequently re-issued, both by traditional medias (press, TV), social media (including Météo-France accounts) and winter recreationists main platforms to which the communique is addressed, besides institutionals (like prefecture and professional rescue teams) as well as ski resort authorities. A Special Avalanche Communique is a short text (10 to 20 lines written for the general audience) highlighting the spatial and temporal danger for recreationists. In this case, interviews of avalanche forecasters are often carried out and broadcast in the traditional media.

The main target audience of those communiques are the recreationists with poor knowledge in snow and avalanche, typically not reading or even knowing the daily avalanche bulletin (that already contains the relevant information and reach its regular audience).

The main difficulty with these releases is regulating their frequency so that they remain effective.

## 5. COMPLEMENTARITY OF THE DIFFERENT PRODUCTS AND CHANNELS OF INFORMATION

As seen in the previous sections they are numerous products forecasting avalanche hazard to support risk assessment of the various users.

Some of them are complementary but others overlap and can even be confusing.

How is it perceived by users and how managing the difficulties?

### 5.1 Complementary sources.

The different avalanche productions get positive feedback from users, both from skiing and institutional worlds. The inclusion of avalanches in the well-established Vigilance system facilitate the treatment of early-warning by public authorities while local practitioners and authorities find in the avalanche bulletins the details they need to make decisions. Efficient communication is also reached to general public with special avalanche communique as it is generally rediffused by the majority of local media and by local authorities, rescue teams or mountain professionals.

### 5.2 Overlaps

The similarity of colours used for avalanche danger scale used in the avalanche bulletins and the four levels of vigilance can lead to possible confusions. To limit this possible mix-up, avalanche productions systematically use the pictogram from avalanche danger scale while vigilance is presented on the national map with full-surfaces of colour. However, this similarity require efforts in education, especially for institutional users that get accustomed to vigilance but may have occasional use of avalanche bulletins.

The following corresponding rules apply in France :

- automatically, levels 1 and 2 correspond to Vigilance "green"; level 3, 4 and 5, Vigilance "yellow" ;
- human expertise is mandatory to assess the relevance of a Vigilance "orange" or "red" for certain level 5 (or even level 4 exceptionally depending both on the exposure of housings and infrastructures in the concerned territory as well as the vulnerability of people supposed to be in the territory during the episode).

The avalanche special communique is sometimes not fully understood by institutional users as it does not hang together with existing tool for population protection. Its future articulation with vigilance system will clarify this tool as well as ensuring its diffusion. Indeed, within the Vigilance warning system, these situations correspond to the colour "yellow". Indeed, the general public is not affected by avalanche hazard in their everyday life and the only people affected by avalanche hazard are the one practising off-piste skiing or ski touring, that is to say "activities sensitive- [...] to phenomena that are usual in the region but are occasionally and locally dangerous". Usually, the Vigilance "yellow" has no emitted bulletin associated, just the mention of the nature of the concerned hazard(s). In the fu-

ture, for those particular days, a bulletin with an infographic if needed may be emitted. It will benefit from the wide spread and re-use of this channel, particularly for non-specialist audiences targetted on those occasions.

## 6. ASSESSMENT OF CURRENT FORECASTING PRACTICES

Vigilance products benefits from a formal evaluation jointly done by Météo-France and national authorities in charge of civil safety. Thus, all “orange” and “red” situations are retrospectively evaluated to decide whether it was a correct forecast or a false alarm and improve future crisis management. The evaluation of missed events is also done with civil safety that identify days with anomalous rescue activity.

Evaluation of avalanche bulletins are less formalized in France as it could be for instance in Switzerland (e.g. Techel, 2022). Daily meetings with all forecasters (one for the Alps and one for the Pyrenees) allow for informal discussions around situations analysed the day before and comparison to available observations. However, the avalanche bulletin is well known in the skiing community, widely used by sportive federations for training of backcountry skiers. Communication of the avalanche bulletins also seem to be efficient as there are less people touring the higher the danger level is (Techel, 2015).

## 7. CONCLUSIONS

In France, a set of complementary information tools have been set up to early-warn both authorities and general public of possible avalanche hazard. Different bulletins are used depending on the expected event, the targetted public, and with different information level.

The vigilance system was set up for all major meteorological hazards and avalanche was taken into account, favoring an homogeneous appropriation and answer from local authorities and rescue services to such early-warning messages as well as an efficient diffusion of the warning to both local authorities and general public.

The avalanche bulletins are produced daily to provide detailed information on snow and avalanche conditions. This tool is well handled by ski practitioners and mountain professionals but may be confusing for some local authorities due to the use of the same colors as Vigilance (from green to red) for a different scale.

The special avalanche communiqué is a press communication designed to have a larger audi-

ence that avalanche bulletins and warn for a situation with high mountain visitors and at least considerable hazard. The role of this communication is to raise consciousness of the hazard for persons that are not used to consult avalanche bulletins, in critical situations for triggered-avalanche hazard.

Both special communiqué and vigilance are designed to address critical situations and communicate to general public while avalanche bulletins are produced daily from early November to early June and are designed for avalanche-aware public.

The overall system is now considered mature, with 23 years of experience of Vigilance system and 54 years of bulletin production. Feedbacks from users underline the efficiency of the system as well as the need to clarify the articulation between the different tools, especially between vigilance and avalanche bulletins.

These tools are in permanent evolution to adapt to the users need, evolution of communication channels and new ways of communicating.

## A. A APPENDIX.

### FR-Alert

FR-Alert is a new French public alert and information system. Deployed nationwide from the end of June 2022, FR-Alert will alert anyone with a mobile phone in real time to their presence in a concerned area and inform them of the measures they need to take to protect themselves.

The scope of dangers is very large and encompasses any type of major event requiring the alerting of the population concerned to ensure their safety : natural (including avalanches), biological and chemical, health, technological and industrial, serious public safety incidents (acts of terrorism).

People in an area affected by imminent danger will receive a notification accompanied by a specific sound signal, even if their mobile phone is in silent mode (both by Cell Broadcast and Location-Based SMS).

This tool can be used to inform on serious meteorological hazard and help in the diffusion of Vigilance information, mainly in Red level and on the decision of local or national authorities.

## EMMA

EMMA (European Multi service Meteorological Awareness) is one of the projects of the forecasting program of EUMETNET, the European Network of National Meteorological Services launched in 2007. Its main objectives are to set up and extend the concept of Vigilance at the European scale so as to provide impact-oriented warnings of extreme weather and related hazards (via the MeteoAlarm System), harmonization across Europe, enhancing of cross-border collaboration between forecasters as well as coordination with relevant organizations at the European scale (like ERCC, the Emergency Response and Coordination Centre of the European Commission).

MeteoAlarm is an Early Warning Dissemination System that visualises, aggregates, and accessibly provides awareness information from 38 European National Meteorological and Hydrological Services (<https://meteoalarm.org/en/live/>).

MeteoAlarm covers 12 types of hazards, including “avalanche” and “snow and ice” for those related to snow. To be noted that not every country covers all hazard types (e.g. France, Italy, Spain, Norway, Slovenia, Slovakia and Montenegro are countries currently including avalanche)

MeteoAlarm is designed to consistently visualise awareness information from the MeteoAlarm Members, following an easily understandable colour code of yellow, orange, and red, to ensure coherent interpretation throughout Europe. The colors are similar to those of the French Vigilance, but for the lowest level of awareness (transparent versus green), the meaning of the levels are defined as below, and compatible with the French Vigilance :

**Yellow | Moderate** The weather is potentially dangerous. The weather phenomena that have been forecast are not unusual, but be attentive if you intend to practice activities exposed to meteorological risks. Keep informed about the expected meteorological conditions and do not take any avoidable risks.

**Orange | Severe** The weather is dangerous. Unusual meteorological phenomena have been forecast. Damage and casualties are likely to happen. Be very vigilant and keep regularly informed about the detailed expected meteorological conditions. Be aware of the risks that might be unavoidable. Follow any advice given by your authorities.

**Red | Extreme** The weather is very dangerous. Exceptionally intense meteorological phenomena have been forecast. Major damage and accidents are likely, in many cases with a threat to life and limb, over a wide area. Keep frequently

informed about detailed expected meteorological conditions and risks. Follow orders and any advice given by your authorities under all circumstances. Be prepared for extraordinary measures.

**Transparent** The weather does not pose any significant risk and, therefore, it does not require any particular awareness.

Technically, MeteoAlarm accessibly provides warnings from the MeteoAlarm Members and Partners through the MeteoAlarm 2.0 system. MeteoAlarm 2.0 provides a web based visualization of the warnings, the information is disseminated to (re)users via feeds (RSS/CAP) and the alert hub. It facilitates the dissemination of awareness information through both national and international redistributors.

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