



Institute of Meteorology and Water Management
National Research Institute

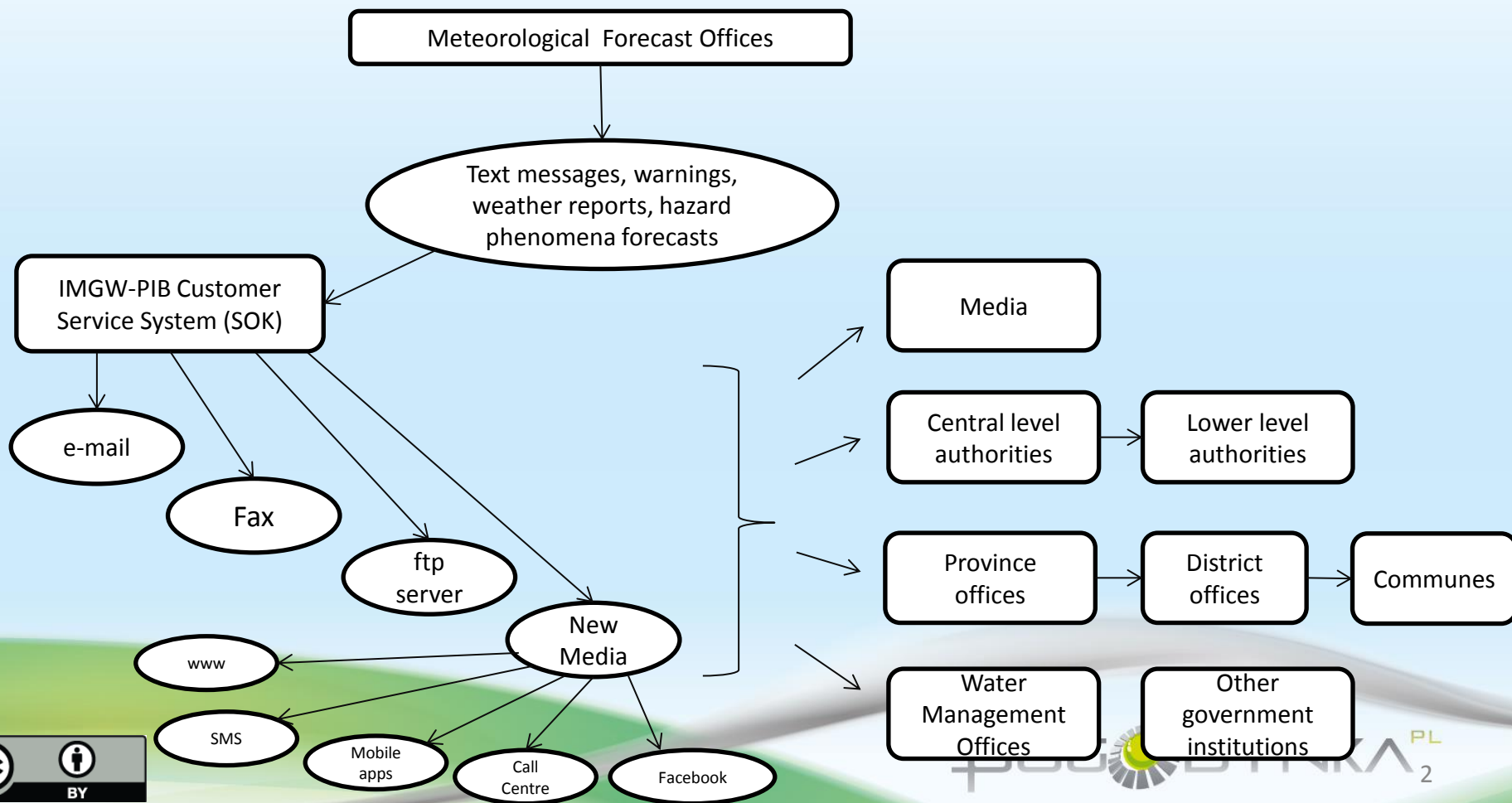
New media vs. efficiency analysis to inform the public against extraordinary threats

Institute of Meteorology and Water Management –
National Research Institute, 2014

Łukasz Legutko

WARNING SYSTEM - FORECASTS AND WARNINGS DELIVERY SCHEME

The Institute of Meteorology and Water Management – National Research Institute provides hydrological and meteorological support over Poland.





WARNING VIA NEW MEDIA

IMGW-PIB providing hydro-meteorological support to inform the public and institutions in different ways of communication. Since 2007 it has regularly developed new technologies in a warning system. By now we have the following new media

- **Internet Portals:**

- www.imgw.pl
- www.pogodynka.pl

- **Thematic portals:**

- [Awiacja IMGW.pl](http://Awiacja.IMGW.pl) (aviation)
- [Bałtyk Pogodynka.pl](http://Bałtyk.Pogodynka.pl) (sea)
- [Góry Pogodynka.pl](http://Góry.Pogodynka.pl) (mountains)
- [Żagle Pogodynka.pl](http://Żagle.Pogodynka.pl) (sailers)
- [AgroMeteo Pogodynka.pl](http://AgroMeteo.Pogodynka.pl) (farmers)

- **Light portal versions:**

- m.latanie.pogodynka.pl (pilots)
- m.pogodynka.pl (smartphones)

- **SMS delivery systems:**

- SMS METEO IMGW-PIB (warnings)
- SYSTEM SAILERS SMS

- **Apps for smartphones:**

- Pogodynka
- PogodynkaPro

- **Profile on the Facebook, TWITTER**

IMGW.pl



INSTYTUT METEOROLOGII I GOSPODARKI WODNEJ

Państwowy Instytut Badawczy
Najlepsze źródło informacji o polskiej meteorologii i hydrologii



Pogoda	Działalność	Produkty	Wiedza	Wiadomości	Oddziały	Kontakt
 WYDANO OSTRZEŻENIA Ostrzeżenia Hydrologiczne	 WYDANO OSTRZEŻENIA Ostrzeżenia Meteorologiczne					

IMGW-PIB

Strona Główna

O IMGW-PIB

Dokumenty prawne

Oferty Pracy

Jak dojechać?

Ogłoszenia

Publiczne obrony prac doktoranckich



Biuro prasowe IMGW

Szczegóły

Awiacja

Szczegóły

PAŃSTWOWA SŁUŻBA HYDROLOGICZNO-METEOROLOGICZNA

Dofinansowano ze środków Narodowego Funduszu Ochrony Środowiska i Gospodarki Wodnej

Sieć Stacji Wczesnego Wykrywania Szkodliwych Radioaktywnych IMGW-PIB

Dofinansowano ze środków Narodowego Funduszu Ochrony Środowiska i Gospodarki Wodnej

Współpraca Funduszy Ochrony Środowiska i Gospodarki Wodnej w Warszawie

Terminowa realizacja budżetów Instytutu Meteorologii i Gospodarki Wodnej oraz Instalacji kolektorów słonecznych dofinansowanych przez Województwo Funduszy Ochrony Środowiska i Gospodarki Wodnej w Warszawie

Regulamin Funduszy Ochrony Środowiska i Gospodarki Wodnej w Warszawie

Regulamin Funduszy Ochrony Środowiska i Gospodarki Wodnej w Warszawie

Współpraca Funduszy Ochrony Środowiska i Gospodarki Wodnej w Warszawie

Dofinansowano ze środków Wojewódzkiego Funduszu Ochrony Środowiska i Gospodarki Wodnej w Warszawie

Współpraca Funduszy Ochrony Środowiska i Gospodarki Wodnej w Warszawie

Dofinansowano ze środków Wojewódzkiego Funduszu Ochrony Środowiska i Gospodarki Wodnej w Warszawie



1-2 października 2014
Centrum Nauki Kopernik

wyślij SMS o treści:

progniza codzienna + gratis OSTRZEŻENIA

START P MIEJSCOWOŚĆ
(lista miejscowości)
dostępna w serwisie pogodynka.pl

na numer: **55068**

POGODYNKA.PL

0,50 PLN + GŁ. za każdy otrzymany sms / 0,62 PLN brutto / Usługa dostępna w sieci: T-Mobile, Orange, Plus / Pły

Aktualna sytuacja pogodowa



www.pogodynka.pl - aktualna pogoda / wejdź!!!

Wiadomości IMGW-PIB

Konferencja podsumowująca projekt „Meteo Risk system numerycznego prognozowania pogody i przewidywania zagrożeń meteorologicznych”

Opracie WMO z okazji Światowego Dnia Meteorologii 2014

System Obsługi Klienta SOK

Oferta produktów IMGW / KONTAKT

Sklep internetowy IMGW

Zamówienia

Współpraca z uczelniami

Projekt KLIMAT

INWENTARIJNY W WARSZAWIE PRZEBIEGŁOŚĆ

Strona o suszy: posucha.imgw.pl

Pocztę Programu Operacyjnego Innowacyjna Gospodarka

Podjęto priorytetowe zadanie: Rozwój infrastruktury telekomunikacyjnej (budowa elektronicznej administracji)

Biuletyn Monitoringu Klimatu Polski

9 lat

Zamówienia publiczne



Szczegóły



Działalność wydawnicza i biblioteczna

Szczegóły

Oferty

[illegible]


BALTYK.POGODYNKA.PL
 BAŁTYCKI SERWIS INFORMACYJNY
 

ODDZIAŁ MORSKI DZIAŁALNOŚĆ OFERTA PROJEKTY AKTUALNOŚCI NAUKA I EDUKACJA KONTAKT POLMAR ZALOGUJ

PL
language

Ostrzeżenia


Burze: strefa brzegowa - część wschodnia ***

11 SIERPIEŃ 2014
 11:20 (EUROPE/WARSAW)

ZOBACZ RÓWNIEŻ

Oceanografia
 Hydrologia i zlodzenie
 Platforma Baltic Beta
 Pomiary hydrologiczne
 Prognozy numeryczne
 Prognozy falowania
 Projekt MOMENT


PROGNOZA MORSKA STREFA BRZEGOWA PROGNOZA LĄDOWA



KOŁOBRZEG
 KOŚCIERZYNA
 ŁEBA
 ŚWINOUJŚCIE
 SZCZECIN
 USTKA
 ELBLĄG
 GDAŃSK

Bałtyk Południowo-Wschodni
 Ważność od 06:00 UTC 11.08.2014 to 18:00 UTC 11.08.2014

prognoza 12-godzinna


OSTRZEŻENIE PRZED SILNYM WIATREM
 Wiatr z kierunków południowych, później południowo-zachodni 5 do 7, słabnący na 4 do 5 w skali B. W czasie burz porywisty. Stan morza 4 do 3, Zatoki Gdańskiej 3 do 2. Temperatura około 22°C. Widzialność dobra do umiarkowanej, lokalnie słaba. Przelotne opady deszczu i burze.


kolejne 12 godzin











































Wiatr południowo-zachodni 4 do 5, później okresami do 6 w skali B.















Prognoza 72h
 Prognoza rybacka

Baltyk
Pogodynka.pl


Mountains Pogodynka.pl







































































[Zarejestruj](#) / [Zaloguj](#)



















[Poprzednia wersja strony](#)


[NASZE PORTALE](#)



[BAŁTYK](#)



[GÓRY](#)



[ŻAGLE](#)



[AGROMETEO](#)



[AWIACJA](#)



[WWIS](#)


[BLOGI METEO](#)


[DLA CIEBIE](#)



[DLA FIRM](#)





[DLA PRASY](#)

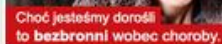

[GMINA](#)

[Subskrypcja newslettera!](#)











































[WYŚLIJ](#)












































[PARTNERZY](#)





































































































































[Szczegółowe informacje o pogodzie w naszym serwisie](#)
















































































































































































































































































































Home

Strona używa informacji zapisanych za pomocą cookies w celach [reklamowych](#) i statystycznych oraz w celu dostosowania naszych serwisów do indywidualnych potrzeb użytkowników. Mogą też stosować je współpracujący z nami reklamodawcy, [firmy](#) badawcze oraz dostawcy aplikacji multimedialnych. Uznajemy, że kontynuując korzystanie z serwisu, wyrażasz na to zgodę. Korzystanie z serwisu bez zmiany ustawień dotyczących cookies oznacza, że będą one zapisane w pamięci urządzenia.

[Zamknij]

1 maja został uruchomiony [system](#) meteorologicznej osłony SMS dla żeglarzy. Zapraszamy do korzystania!

UWAGA! WPROWADZILIŚMY ISTOTNE ZMIANY W PROGNOZACH I SMS-ach. Szczegóły na stronie [Prognozy pogody SMS](#)

W dniach 11-13 kwietnia br. w Gdyni odbyła się IV Edycja Szkoły Meteorologii Żeglarskiej. Więcej możecie Państwo przeczytać w artykule ["Szósta na szóstkę"](#).



Mapa synoptyczna
Prognoza na dzień 2014-08-11
Poniedziałek

◀ czas ▶



Pierwszy raz w portalu?

Jak korzystać



**Jak zamówić prognozy i informacje
o zagrożeniach meteo SMS?**

**Pływam
bez promili**



 **Zielona
Banderka.pl**



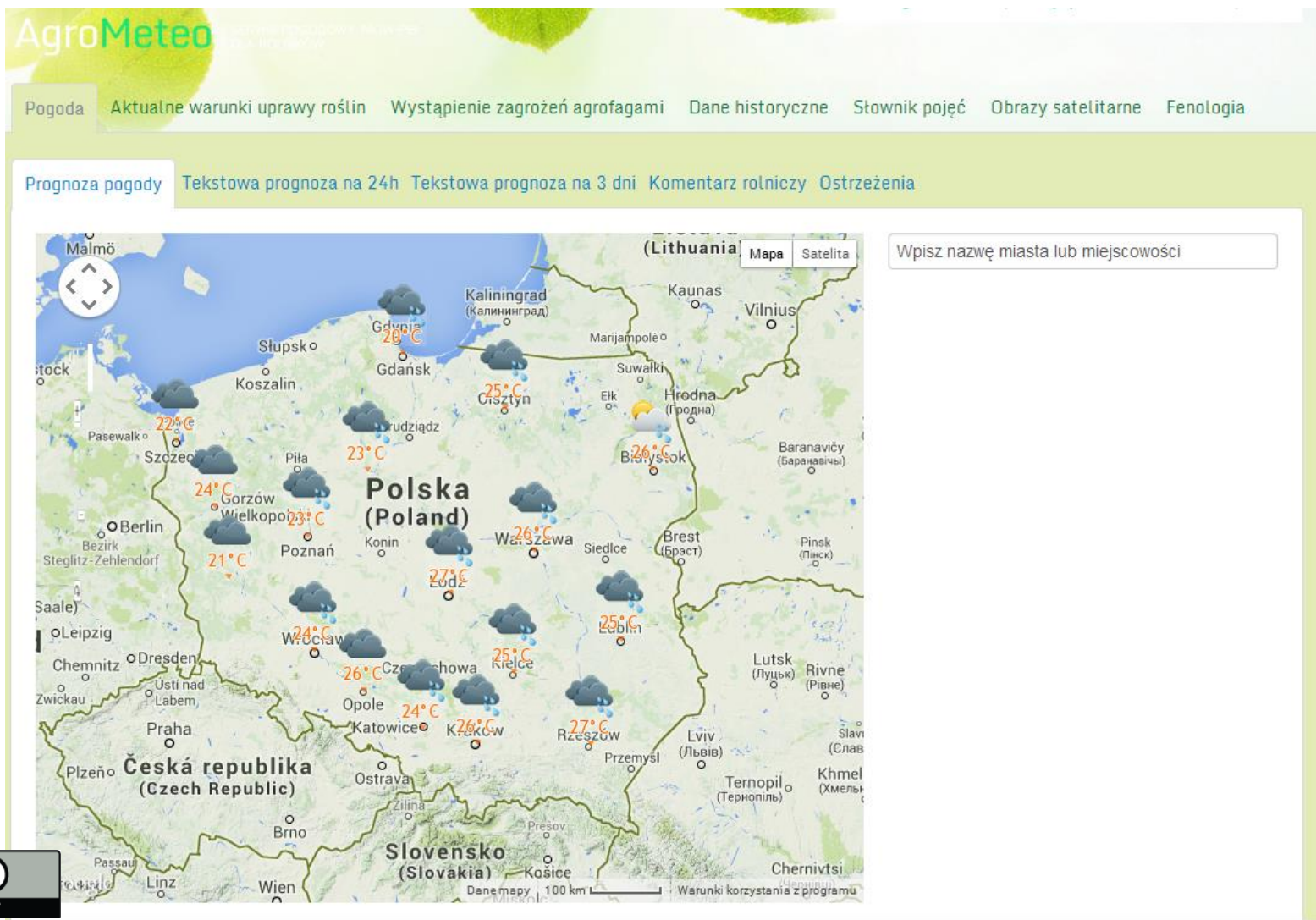
**Pływam
bez promili**



Portal Żagle Pogodynka.pl laureatem
Nagrody Przyjaznego Brzegu 2012!

Sailors
Pogodynka.pl

AgroMeteo Pogodynka.pl





WIADOMOŚCI

Uprzejmie informujemy, iż z dniem 05.08.2013 r. udostępniona została nowa zakładka „Mapy radarowe”. Znajdują się w niej: aktualna mapa radarowa całej Polski, zobrażowanie wyładowań atmosferycznych, jak również możliwe jest wykonanie animacji zdjęć radarowych z ostatnich 5 godzin.

ostatnia aktualizacja: 18.04.2014 17:54

[pokaż więcej »](#)

PRODUKTY

GAMET

- METAR GG00 (1 h)
- METAR GG30 (30 m)
- METAR lotniska wojskowe
- TAF FT (długi)
- TAF FC (krótki)
- TAF lotniska wojskowe
- AIRMET
- SIGMET
- SIGMET WV
- Significant
- Significant europejski
- Mapy radarowe
- Mapy wiatrowe
- Turbulencje
- Obłędzenie
- Pogoda w górach
- Burze

OPISY PRODUKTÓW

- GAMET
- METAR
- TAF
- AIRMET
- SIGMET
- Significant
- Mapy wiatrowe
- Turbulencje

GAMET

[SEKCJA WYDRUKÓW, pokaż »](#)



☒ koordynaty ☒ województwa ☒ lotniska ☒ kody lotnisk ☒ obszary

Aviation
IMGW.pl

LIGHT PORTAL VERSIONS

m.pogodynka.pl


11.08.2014

progniza pogody

ostrzeżenia

radary

Warszawa



prognoza synoptyczna wysokosprawdzalna

Dzień
28°C

Noc
17°C



zachmurzenie umiarkowane, burza z deszczem




zachmurzenie duze, deszcz przelotny

przejdź do prognozy modelowej

miasto	Dzień	Noc	T°C max	T°C min
Białystok			29°C	16°C
OSZCZ			25°C	14°C

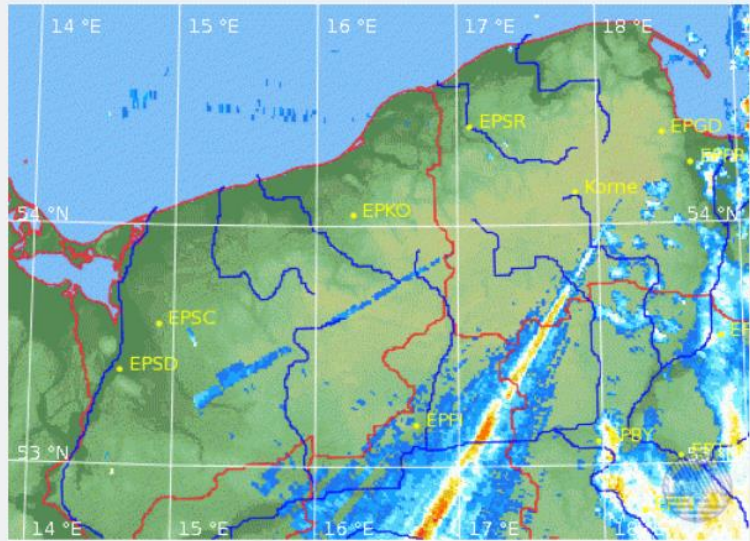
m.latanie.pogodynka.pl


11.08.2014

progniza pogody

ostrzeżenia

radary

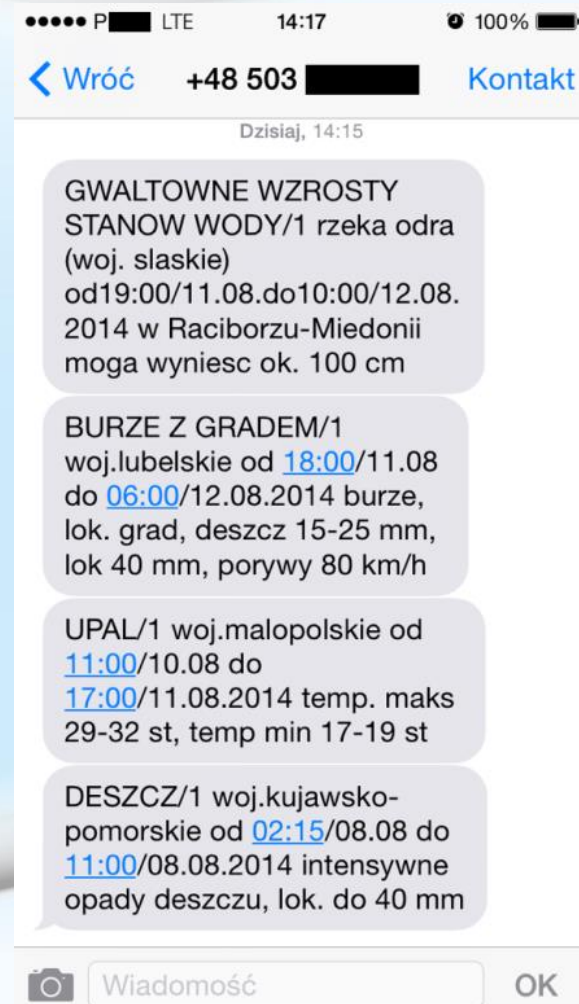


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SMS METEO IMGW-PIB SYSTEM

- Advanced tool to disseminate on a large scale meteorological and hydrological warnings over Polish territory.
- A mobile user receives information about dangerous phenomena that can occur in his area and directly or indirectly can threaten his security.
- There are two product categories: daily weather forecast for one location supplemented with SMS alerts or warnings dedicated to selected village. Each text message consists of 160 characters.
- A user decides which service he wants by sending an appropriate code. Barcode generator can be found on the www.pogodynka.pl website.



MOBILE APPS

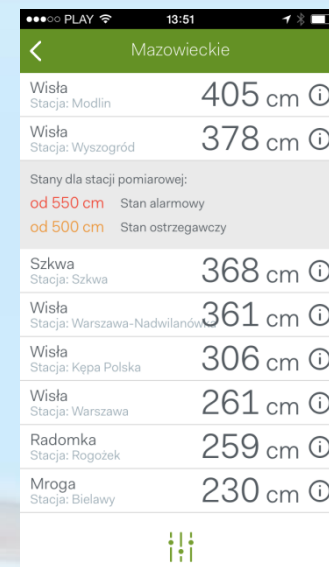
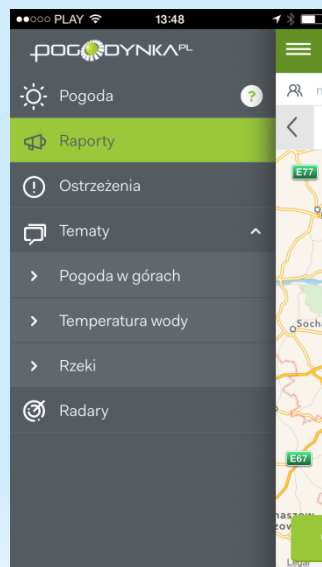
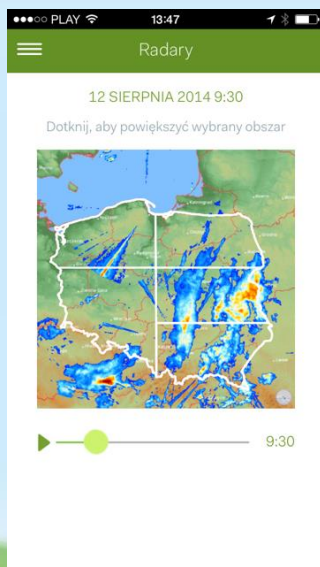
For quick and easy access to meteorological and hydrological information, including above all warnings, the Institute has created two applications on mobile devices: **Pogodynka** and **PogodynkaPro** available in two operating Android and iOS systems.

Pogodynka is a version of the basic apps and displays both current and forecast weather conditions for a village selected by user and meteorological and hydrological warnings issued by the Institute.



MOBILE APPS

PogodynkaPro is an extended version, comprising in addition animated weather radar images of Poland, current water levels in Polish rivers, as well as seasonal weather products i.e. weather in mountains, water temperature, rivers, including the ability to send weather reports of the user location.





QUERY ON THE PUBLIC NEEDS FOR PROVIDING INFORMATION ON METEOROLOGICAL AND HYDROLOGICAL RISKS

SURVEY METHODOLOGY

The study was conducted to assess the quality and effectiveness of the current IMGW-PIB warning system, including in particular the use of modern tools for warnings distribution. The study covered Polish society. The results are used to improve operation of the warning system and to introduce new technology and ICT solutions that increase population safety and reduce the effects of extraordinary meteorological and hydrological phenomena.

The system quality was examined, its efficiency and effectiveness, and its reception by the surveyed entities, including warnings intelligibility and their simplicity. Current warning products made within the statutory activities of IMGW-PIB and distribution technologies were evaluated. Appropriate conclusions were drawn to find a proper method of improving warning system.

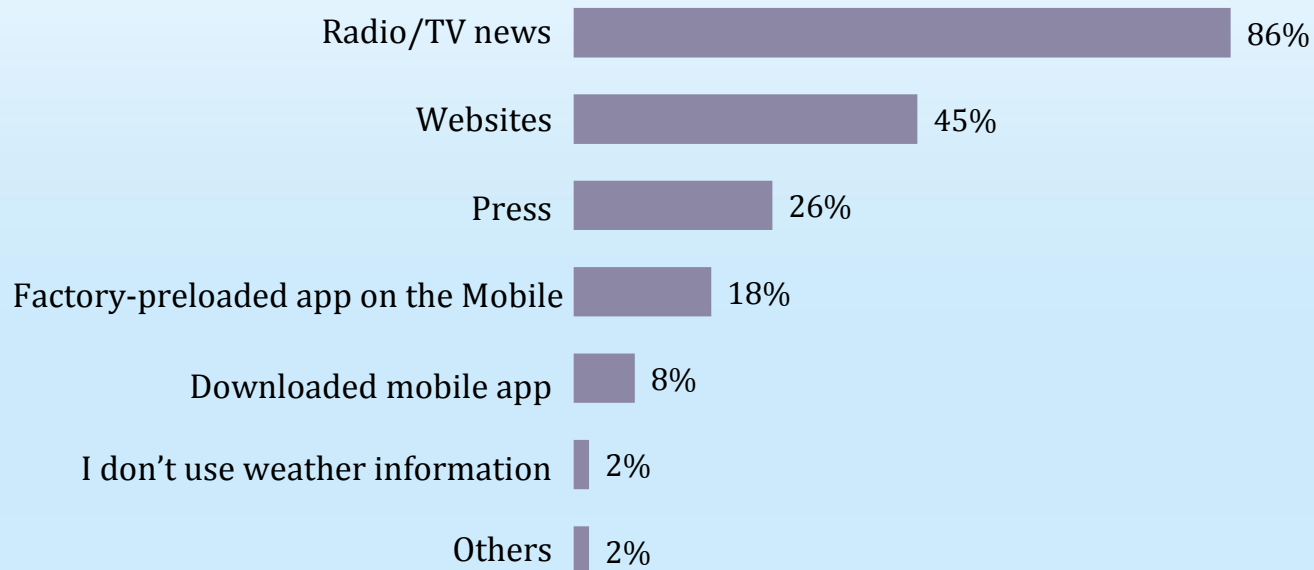


SOCIETY

The group surveyed was a representative sample of 1,000 Poles, which reflects the distribution of characteristics of the studied population selected in a quota-random sampling. With this sample 95% of confidence level may be inferred with a maximum 3% of estimated sampling error.

METEOROLOGICAL AND HYDROLOGICAL INFORMATION SOURCES - SOCIETY

Q: What sources do you use to get weather information?



n=1000 (multi choice answer)

For the majority (86%) of the surveyed Poles one of the sources of meteorological and hydrological information are television and radio. In the second place is the Internet, from which such information derives 45% of the population, while 26% of respondents draw weather information from the press. 18% of respondents as one of the sources of meteorological and hydrological information indicate factory-preloaded app on the phone, while 8% specifically downloaded mobile app. 2% of respondents said they do not use weather information. To answer "others" respondents indicated information from word-of-mouth" information, announcements on information boards and SMS text messages.



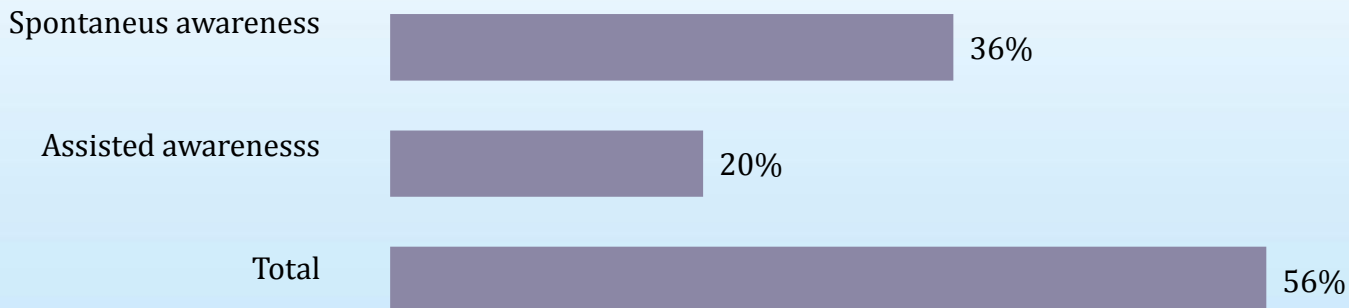
TENDENCY TO SEARCH INFORMATION ON THE INTERNET AND USE OF MOBILE APPS

Younger age groups are more prone to look for weather information on the Internet and to use mobile apps

The higher the education, the greater tendency to look for weather information on the Internet and to use mobile apps

POGODYNKA.PL BRAND AWARENESS - SOCIETY

Pogodynka.pl brand awareness



n=446 (Internet users, spontaneous awareness), n=284 (Internet users, assisted awareness), n=1000 (population)

Spontaneous awareness of the pogodynka.pl service (tested by open question on known weather services) is 36% of Internet users representing 16% of the population. Assisted awareness (tested on knowledge of decisive question on pogodynka.pl service) is 20% of the Internet users representing 9% of the population. In other words, **slightly more than half of those seeking weather information on the Internet uses, or at least looks at the pogodynka.pl site. This group of people is both ¼ of the population sample surveyed.**

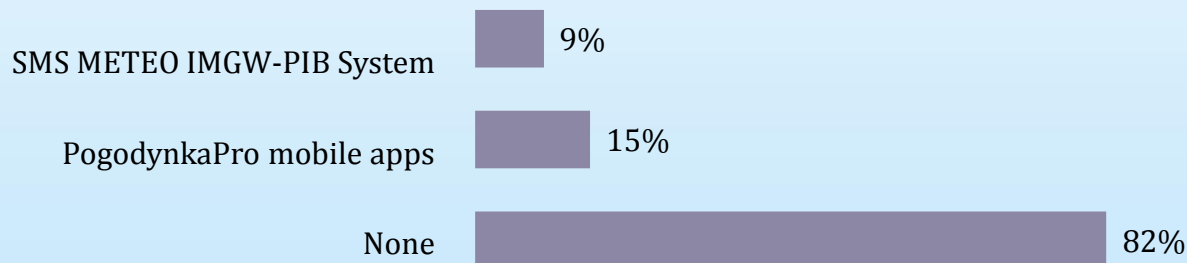
Pogodynka.pl brand general awareness is 56% of Internet users representing 25% of the population sample



Institute of Meteorology and Water Management National Research Institute

AWARENESS AND EVALUATION OF OTHER INFORMATION PRODUCTS OFFERED BY IMGW - SOCIETY

I will read a list of the information systems run by the Institute of Meteorology and Water Management. Please select those familiar to you



n= 1000 (multiple choice answer)

9% of the population declare they know **SMS IMGW-PIB system** and 15% know **Pogodynka** and **PogodynkaPro** mobile apps. 82% of respondents don't know any of the above information systems on meteorological and hydrological phenomena.

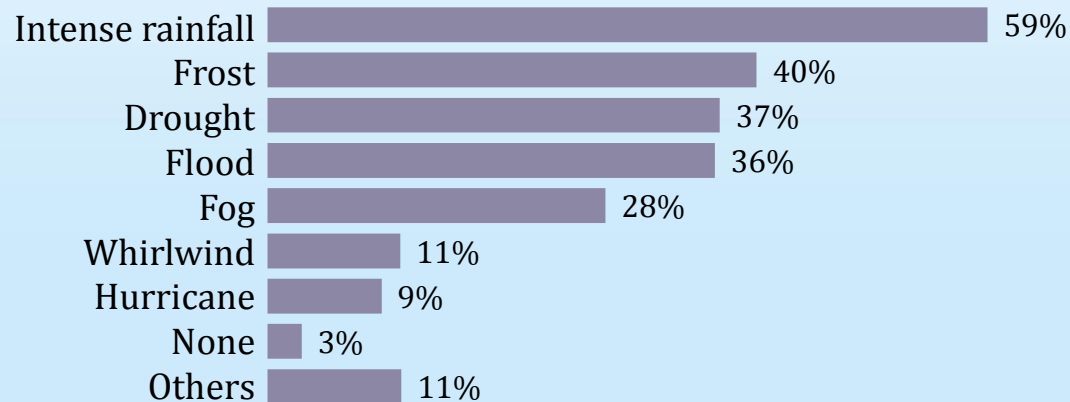
People with undergraduate education / engineering (33%, n = 88) and those aged 18-30 (24%, n = 202) and 31-44 (21%, n = 289) more frequently than other groups recognize **mobile apps** offered by the Institute.

SMS METEO IMGW-PIB system is recognized more frequently by people with undergraduate education / engineering (19%, n = 88) and higher education (12%, n = 205) compared to any other groups.

The lowest level of SMS METEO IMGW-PIB and mobile apps of Pogodynka and PogodynkaPro recognition is observed among people of age group 60 + (1% of SMS system, 4% of apps, n = 278) and those with primary education (4% of SMS system, 4% of apps n = 56) and vocational education (6% of SMS system, 6% of apps n = 207).

PUBLIC HAZARD AWARENESS AND SENSE OF BEING WELL INFORMED

Q: What meteorological and hydrological risks are most common in your area?

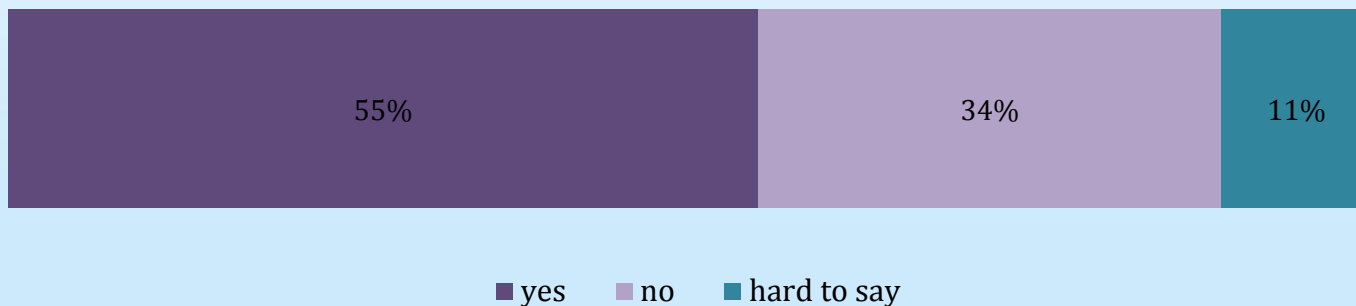


n=1000

59% of the population declare intense rainfall as the most common threat affecting their area, 40% indicate frost, while 37% drought. Flooding was indicated by 36% of respondents, and fog by 28%. 11% have chosen a whirlwind as the most frequently occurring phenomenon and 9% hurricane. 3% of the population say there are no risks in their area.

PUBLIC PERCEPTION OF BEING KEPT INFORMED

Q: Are you well informed about meteorological and hydrological hazards?



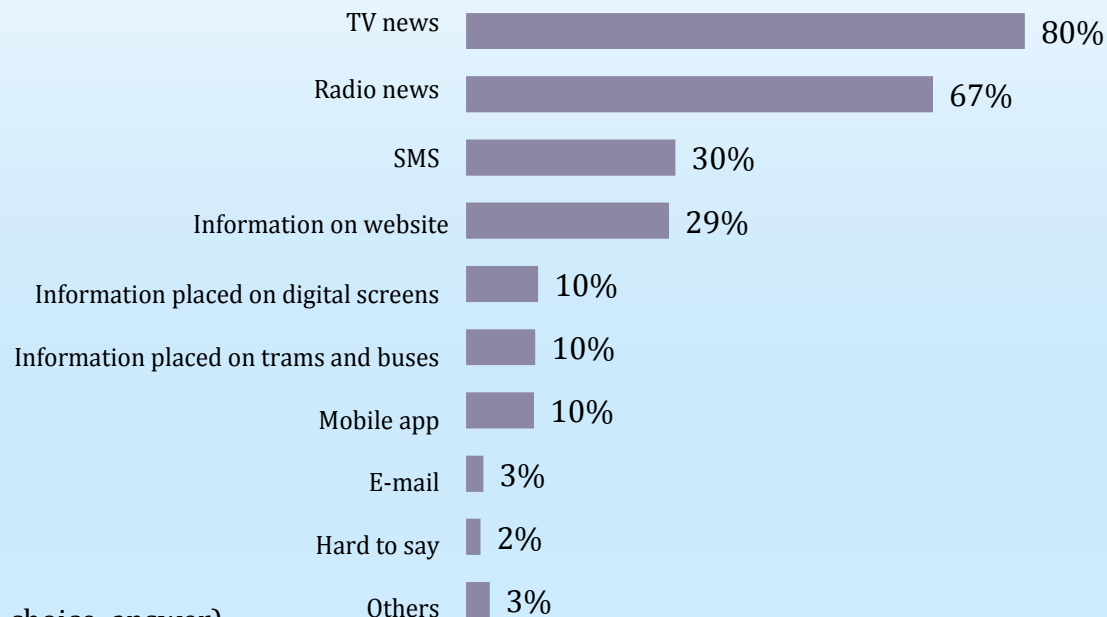
n=1000

55% of the surveyed public sample say they are well informed about meteorological and hydrological hazards. **Slightly more than one third (34%)** believe they are not well informed, while 11% have no opinion.



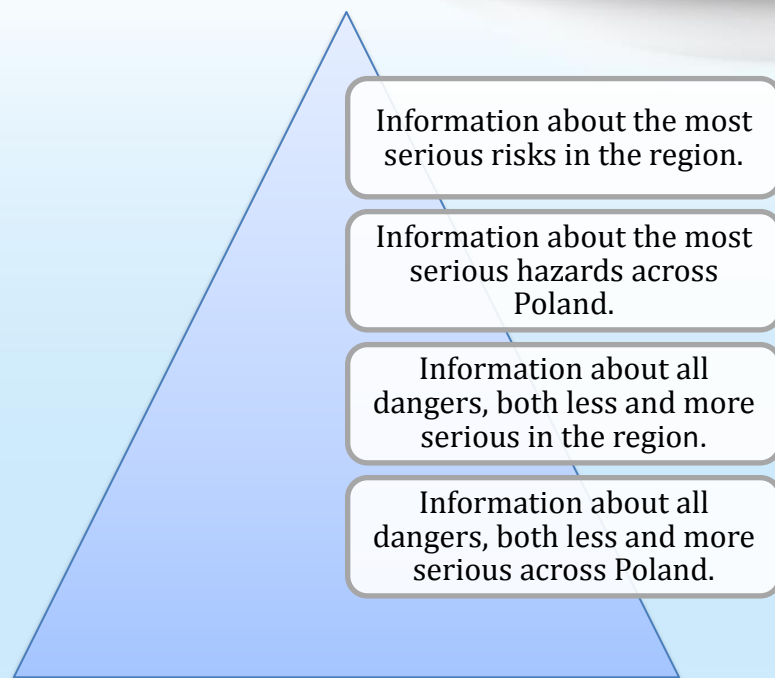
BEST WAYS TO INFORM THE PUBLIC ABOUT HAZARDS - SOCIETY

Q: What are in your view the best ways of people informing about meteorological hazard?



80% of the surveyed population select TV news, and 67% radio news as one of the best ways to inform the public about meteorological and hydrological dangers. According to 30% SMS work best and 29% point to information on the website. 10% of the population considered placing warnings on digital screens at the roadside as a good method. The same number of people choose the information placed on trams and buses and mobile apps. Only 3% of respondents say that email is a good way of informing the public.

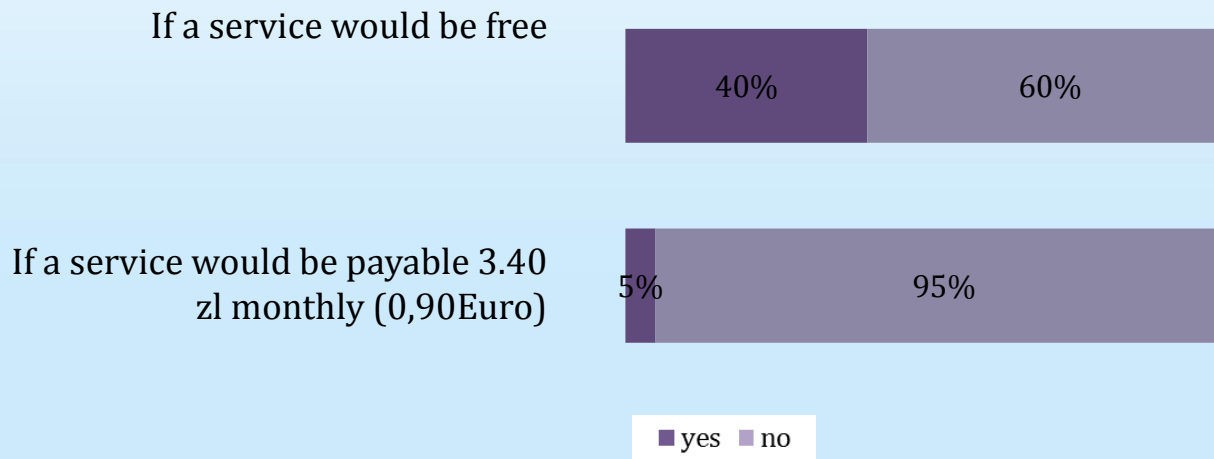
PREFERRED TYPE OF ISSUED WARNINGS - SOCIETY



37% of respondents would like to be kept informed of the most severe meteorological and hydrological threats occurring only in their area. 19% would like to be kept informed only of the most serious meteorological and hydrological threats occurring across the country. 16% of respondents would like to be informed about all meteorological and hydrological risks, both less and more severe in their area, while 8% would like to be informed about all such risks, both less and more serious occurring in Poland. As many as 17% of respondents do not like to be kept informed about meteorological and hydrological dangers at all.

OPENNESS TO MODERN METHODS OF INFORMATION EXCHANGE - SOCIETY

Q : Would you like to receive SMS with daily text weather forecast on your mobile?



40% of the surveyed population sample would like to get a daily weather forecast by SMS text message if the service was free. However, 60% would not be interested in receiving such information, even it was free. Only 5% of respondents would be interested in receiving daily weather forecasts by SMS text message if the service cost 3,40zł /month.

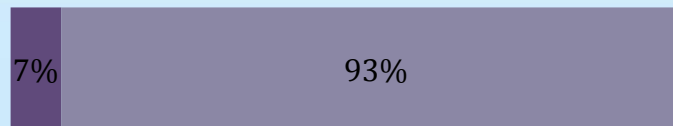
OPENNESS TO MODERN METHODS OF INFORMATION EXCHANGE - SOCIETY

Q: Would you like to be informed of severe meteorological and hydrological threats via SMS?

If a service would be free



If a service would be payable
3.40 zł monthly (0,90Euro)



n=1000

■ yes ■ no

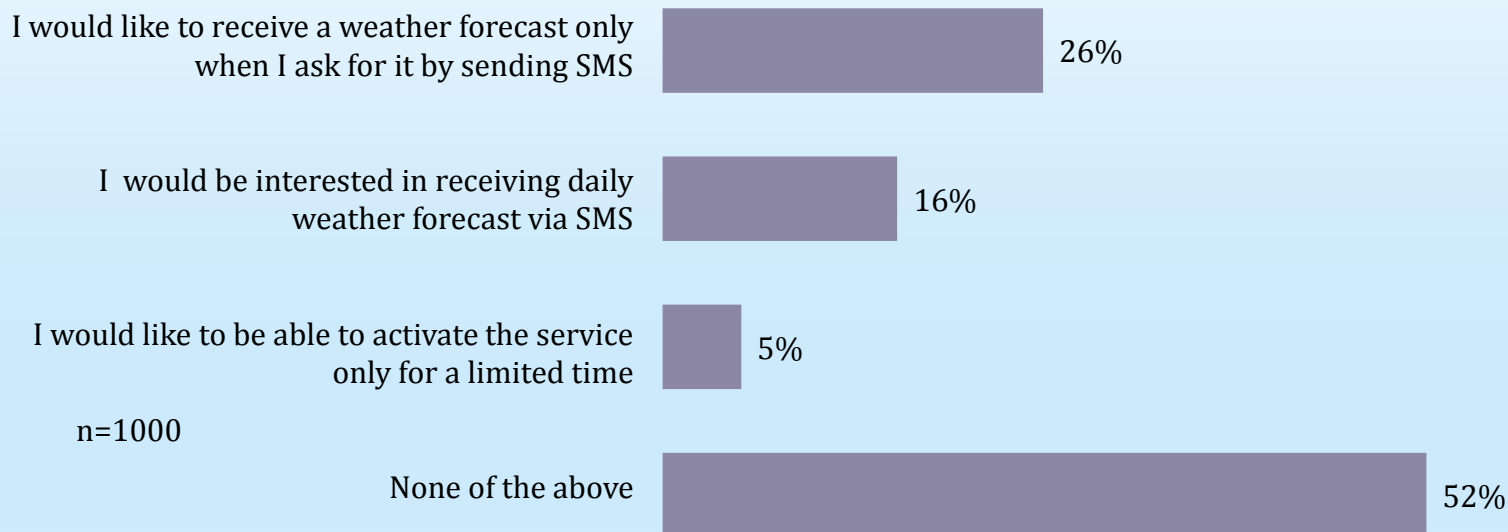
45% of respondents would like to be informed about severe meteorological risks by SMS text message if a service would be free (which is 5% more than the desire to receive daily weather this way). 55% of the surveyed population would not be interested in receiving warnings about meteorological and hydrological hazards by SMS text messages even if the service would be free.

If the service would be payable, only 7% of the population would be interested in receiving information about meteorological and hydrological hazards by SMS (which is about 2% more than the desire to receive daily weather this way under the same conditions)



OPENNESS TO MODERN METHODS OF INFORMATION EXCHANGE - SOCIETY

Q: Please choose a sentence which best describes your situation (one option)



26% of respondents would prefer to receive a weather forecast only in situations when they ask for it by sending SMS text message. People most interested in receiving information this way are aged between 18-30 (32%, n = 202) and 31-44 (30%, n = 289). 16% of surveyed public sample would be interested in receiving daily weather forecast by text message on a mobile phone, while 5% would like to be able to activate the service for a fixed period of time (e.g. for a leave).



OPENNESS TO MODERN METHODS OF INFORMATION EXCHANGE - SOCIETY

Q: Would you agree to tracking your location by your mobile to receive meteorological information tailored to your current location?



n=1000

■ yes ■ no ■ hard to say

25% of surveyed public sample would agree to tracking their location via their mobile to obtain meteorological information tailored to their current location. 69% of respondents would not accept such service, while 6% are not sure. People with higher and undergraduate education are more likely to agree to track their location via their mobile in order to obtain meteorological information tailored to their location (BA 47%, n = 88; higher 35% n = 205).

OPENNESS TO MODERN METHODS OF INFORMATION EXCHANGE - SOCIETY

Q: Would you like to report / send feedback to IMGW-PIB through apps on your mobile about the current weather in your location to confirm the weather state in exchange for current information from other users?



n=1000

■ yes ■ no ■ hard to say

16% of respondents would like to report / send feedback to IMGW through apps on their phone about the current weather in their location to confirm the weather state, in exchange for current information from other users, 76% would not be interested in such a way to exchange information, while 8% have no opinion. Some participants in the focus groups suggested they would be interested in this kind of information exchange **only if reporting method was simple and would not take a lot of time (just few clicks)**.

PERFECT INFORMATION ABOUT METEOROLOGICAL HAZARD - SOCIETY

Q: What, in your opinion, should a perfect information about meteorological hazard look like ? What should it include?



Respondents asked how an ideal information about meteorological or hydrological threat should look like, to the greatest extent pointed out that it should be easy to understand for its recipients (25%). 16% of surveyed public sample declare that it should include details and 9% that it should precisely specify the area of the phenomenon occurrence. 5% of respondents indicate that it should be short and factual, it should specify a nature of the threat and contain verified forecasts. 24% of surveyed public sample have no opinion.



GUIDELINES FOR WARNING SYSTEM AGAINST DANGEROUS METEOROLOGICAL AND HYDROLOGICAL PHENOMENA

Public education – to increase public awareness

The society should be educated on meteorological and hydrological hazards through awareness campaigns, training in schools and workplaces. Training should include ways of getting information about the risks, ways of reading / understanding messages and warnings, and how to prepare for particular dangerous phenomena.

Change in law on mass warning the public against threats

it should be an obligation of mobile network operators to provide SMS information to the general public about the most serious warnings.

Warning transmission directly from IMGW to society

Warning via multiple communication channels, including a variety of recipients. Most optimal way of informing the public about hazards should take into account different groups of customers (part of the population committed to traditional sources of information and another part open to newer information technologies). It is important that information about serious threats can reach the society via multiple communication channels.



GUIDELINES FOR WARNING SYSTEM AGAINST DANGEROUS METEOROLOGICAL AND HYDROLOGICAL PHENOMENA

Better positioning of Pogodynka and PogodynkaPRO apps Investing in advertisements and better positioning of Pogodynka and PogodynkaPro to increase number of their users.

IMGW products using new technologies in informing the public about meteorological and hydrological phenomena or hazards should be free.

Otherwise, the public interest will be very small.

Tailor-made warnings.

Warning the public against threats too often may lull the recipients. Warnings not tailored to a particular region makes sometimes residents are warned of the phenomena that do not occur. It's worth to limit such situations, because in the event of serious threat, the recipients can ignore a warning.

Recipients should be warned of phenomena which actually pose a threat in the region - the so-called tailor-made warning.