



World Meteorological Organization

GUIDELINES ON THE IMPROVEMENT OF NMSs—MEDIA RELATIONS AND ENSURING THE USE OF OFFICIAL CONSISTENT INFORMATION

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Chapter 1 EMERGENCY SITUATION

Chapter 3 UNDERSTANDING THE MEDIA



Lead author and coordinator of text:

Part I: Claire Martin
Contributions from Samuel Muchemi and Elena Cordoneau

Part II: Tarini Casinader
Contributions from Jon Gill, Ivan Cacic and Jose Rubiera

Cover design by Josiane Bagès

Because of the close relevance of good media relations to NMSs in ensuring that official, consistent information is used routinely, it was decided to publish the two sets of guidelines contained in this technical document in a single volume.

The connection between the Guidelines on the Improvement of NMS–Media Relations and the Guidelines on Ensuring the Use of Official Consistent Information is strongest on facets of both topics which relate to improved visibility of NMSs through improved collaboration with the media, and on cultivation of long-term relationships between NMSs and the media. These facets encompass attribution of the NMS by the media, taking into account the media's own requirements, effective two-way communication, and establishing procedures and mechanisms for dealing with the media particularly in times of severe weather.

Lesser but still relevant connections between the two sets of guidelines are found in the more specific and detailed advice provided by the Guidelines on the Improvement of NMS–Media Relations on such issues as improving media handling skills of NMS staff, including interview situations and answering difficult questions, the writing of media releases, the choice of NMS staff to deal with the media, and the training of TV weather presenters and producers.

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Part I

GUIDELINES ON THE IMPROVEMENT OF NMSs–MEDIA RELATIONS

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INTRODUCTION

The most important role of National Meteorological or Hydrometeorological Services (NMSs) is to provide reliable and effective weather and related products and services to ensure the safety of life, protection of property and the well being of their citizens. To achieve this objective it is imperative that there be effective cooperation between a given National Meteorological Service and local, national and international media.

The most important single information source for the public about science and technology is the media. Thus, helping science journalists to produce factual, intelligible and timely information is critically important to society.

There are, without doubt, separate roles for individual governments and media outlets, but as partners in the enterprise of weather and climate information dissemination, there is great potential for rewarding collaboration. A strong partnership between individual National Meteorological Services and their respective media outlets, in the provision of weather information, during either an emergency or normal weather situations, is a critical element in the application of the science of meteorology. A coordinated and cooperative sharing of responsibilities between media and weather services will:

- Enhance public safety and the protection of property;
- Benefit industry and commerce;
- Speed the transfer of new technologies and scientific knowledge to benefit society;
- Enhance economic growth which in turn provides support for the public sector;

- Add to the visibility of NMSs and hence support for funding of the Service;
- Increase credibility of electronic and print media and enhance their popularity and hence their profitability.

In recognition of the need for NMSs to improve their relationship with the media, the Commission for Basic Systems (CBS) Open Programme Area Group on Public Weather Service (OPAG on PWS) tasked the Expert Team on Media Issues to develop a set of guidelines on the improvement of NMSs-media relations.

These guidelines seek to address the terms of reference as set out by the CBS Management Group at its meeting in Geneva in January 2001. The guidelines were developed to assist NMSs in improving the effectiveness of their public weather services, improving public understanding and enhancing NMSs visibility through improved partnership with national and local media. The guidelines also examine the increasing demand by the media for weather information especially during times of severe weather or in regard to weather-related disasters. Finally, this Technical Document was developed to provide NMSs with explicit guidelines on effective two-way communication with the media.

Part I of this Technical Document is structured into six chapters. The first chapter offers suggestions to the various NMSs on how to deal with the media during emergency weather situations. The rest of the guidelines offer advice on how to build media relationships during times of non-emergency weather situations, with a final chapter as a recapitulation on important do's and don'ts.

Chapter 1

EMERGENCY SITUATION

1.1 AT THE NATIONAL METEOROLOGICAL SERVICE OFFICE

During times of emergency, weather service staff must learn to prioritize their tasks. Once the weather warnings have been issued, one of the highest priorities within the office should be to get in contact with the local media outlets. The lines of communication during the critical first few hours, should be open, frank and forthright. Information should flow freely between the respective media outlets and weather offices in question. This is a time of “reactive” collaboration – and should continue as the situation warrants. Weather service staff should realize at this point that the media generally just wants short video clips on the reaction to the event. More detailed interviews will come later.

1.2 “DURING THE EMERGENCY” INTERVIEW TECHNIQUES

1.2.1 Have someone available immediately

The general public perceives reticence or reluctance to communicate to be a lack of control of the situation, or even worse, an unwillingness to deal with the severity of the event. The person available to speak on behalf of the NMS need not necessarily be the best spokesperson for the weather service, but they should be someone closely involved with the unfolding event – and who can talk knowledgeably about it. An “expert in the field”, working at the time of the event, is the most desirable. If at all possible, a person should be designated ahead of time – preferably working operationally – who will step into this role as necessary.

1.2.2 Schedule regular updates

Use a pre-assigned conference area for meeting journalists. Make sure that all people attending the original brief know exactly when the update will occur and where. Start all news conferences and briefings on time – even if reporters are running late. Treat all media outlets as equal at this time. Informing the media that you will be back at a pre-designated time and place serves two purposes: you can keep track of the media and you can buy yourself some time! Remember to use the same spokesperson for updates as continuity is essential in the developing stages of an emergency situation. This will mean that everyone will get the same story as the new information is being delivered by the same person. Don't be concerned with the overall appearance of this spokesperson, and don't be concerned with this person looking more haggard as time goes by. The general public will understand and appreciate that he/she is “in for the long haul”, suffering

through the situation with the rest of the population. Note that radio outlets can do interviews over the phone. Make sure that the key spokesperson is also available with a mobile phone during this period.

1.2.3 Do not misinform or omit information

This may sound trite and obvious, but a small white lie, making the spokesperson look good at the time, may come back to haunt you when the chronological details of the event start to unfold. Remember that everything that you say will go on tape! If the question that the reporter asks is beyond the realm of interviewee, or the answer is simply not available, say so. Tell the reporter that you will get back to them with that information – and make sure you do – promptly! At all costs, do not avoid questions.

1.3 “3 TO 4 HOURS LATER IN THE EMERGENCY” INTERVIEW TECHNIQUES

1.3.1 Have another mass briefing

This second briefing may take place either by teleconferencing on the phone, video-conferencing if available, or in a pre-arranged meeting room at the local weather service office. A face-to-face briefing is by far the best option – bear in mind that the footage shot from this event will be used extensively in the ensuing television coverage. This coverage will help to further enhance the public perception of the NMSs control over the situation. It is useful to now have a spokesperson and a weather expert (preferably the forecaster on duty during the event) ready for this briefing. The spokesperson should be a manager – someone who will be able to field “protocol” questions; the expert will discuss the emergency at hand. The media will respect that the expert will have little time to talk, and will generally ask brief “what's new with the event” type questions.

1.3.2 Put the event in context

Have some history of the event at hand. Detail the weather service's reaction to the event. Make copies of the chronology of – for example – the warnings issued in reaction to the tornado. Have flip charts ready of – say – the tornadic path, maps and charts, etc. That will eliminate redundant questions. There are critical details that will arise frequently in the days to come. Make sure that they are as accurate as possible from the beginning. Be absolutely fair to all media outlets when issuing these details; all respective media outlets should have access to all the information at this point.

1.4 “DAY ONE AFTER THE EMERGENCY” INTERVIEW TECHNIQUES

1.4.1 Hold a news conference

The NMS and media are now in a “proactive” collaborative mode. If at all possible, use the same spokesperson and expert as were available during the time of the event. It is usually now that the “event” will have been deemed a “natural disaster” – don’t play with semantics, don’t deny the title – especially if there have been deaths. Otherwise, you will alienate the media, the general public and make the NMS itself, sound petty. It is here that the weather service should be extremely sensitive to reaching as wide an audience as possible. This is where you can start to regain control of the analysis and discussion of the event.

1.4.2 Always try to hold news conferences early in the day

The media’s more experienced reporters usually work day shifts and will give a better, more balanced story if they have plenty of time to prepare. Remember that a newsroom is driven by a strict timetable. To make the biggest impact, hold the conference mid-morning, allowing the reporters time to return to the office and write their story. If there is any “damage control” that needs to be done, it should be brought up immediately in this news conference. Again, report only the facts – don’t lie – explain any errors that may have occurred in the chaotic hours prior to the conference, apologize for any inconsistencies, explain why they occurred, correct them, and move on. It is absolutely imperative at this point in the process to consolidate the partnership role that the NMS and the media are now entering – relationships can be made or broken during these tense days following an emergency weather situation.

1.4.3 Have as much information available as possible

Bring all data on the weather event to the conference – usually in the form of a “fact sheet”. Have copies made of these pertinent points – distribute these copies to the media at the start of the meeting. Start off the news conference by going through the event methodically, carefully and accurately. Steer clear of a prepared statement, unless it is short and absolutely necessary. However, do make sure that all pertinent information is clarified from the outset e.g. “eyewitness reports”, “when they were received”, “how that information was used”, etc. Clearly set out the lead times of warnings that were issued, often in response to these eyewitness reports. Finish with an “open floor” or forum for questions. Remember that, in general, reporters want to hear the story given with a conversational tone – stay away from “science talk”, jargon and technical terms if at all possible.

1.4.4 Offer the option of a “one on one” interview

Before the news conference draws to a close, offer a “one on one” interview option. Offer it both “live” and “taped” and offer it at the reporters’ convenience. They will rarely turn you down. You may end up live on the noon show, or taped on the evening or late night shows – either way, be prepared to give short, snappy answers to the questions – try to talk in 10–12 second bursts. Be succinct! Ask the reporter what questions you will be asked, and how much air time you will be given. A good reporter will be more than willing to discuss structure and content of their piece ahead of time. It also allows you, as the spokesperson, time to gather your thoughts and give a more coherent answer to their questions.

1.5 “ONE WEEK FOLLOWING THE EMERGENCY” INTERVIEW TECHNIQUES

Do a post-mortem. The NMS should by now have conducted an extensive debriefing of the event and even initiated an internal review of the procedures followed. Often, the procedures and planning of how to handle emergency events will have been addressed, and potentially even plans made for improvements and alteration. These are all new aspects of the story as far as the media is concerned. Don’t be afraid to approach them with any findings that these reviews may have brought up.

1.6 “A YEAR LATER” INTERVIEW TECHNIQUES

This is the “anniversary” story. This is finally where the NMS should be completely in control and driving the agenda of the media! It is critical for the reputation of the weather service to hold this interview. Have a brief and accurate synopsis of the original event at hand – memories are notoriously poor. Explain any official reviews that may have occurred in response to the emergency. Go through any policy changes that may also have arisen. Show that the weather service has learned from the experience, and hopefully, indicate that new technologies have been implemented that would lessen the impact of a similar emergency today. Although there is virtually no industrial and commercial benefit from natural disasters, the provision and consequent implementation of new policies within the weather service – to help protect life and property – is at least, taxpayers’ (or public) money being wisely spent.

An approach to preparation of news releases has been covered to some detail in the Appendix. The material has been extracted from a workshop on Public Weather Services.

1.7 THE “OFF-THE-RECORD” RULE

Off the record may mean different things to different reporters. To one, it may mean that the material is on “deep background” and may not be used in any form in the story. To another, it may mean material that may be used but not

attributed. If the meteorologist is willing to reveal information but is unwilling to be quoted, he or she should clearly say so beforehand. The reporter will decide whether information on such a basis is acceptable. The meteorologist should not give the data and then belatedly ask that the information be non-attributable. Finally, giving off-the-record

information is hazardous because in the confusion of researching, writing and editing, it may end up as part of a story, much to the embarrassment of all concerned. The best policy, by far, is to simply make all information on the record and to carefully word such information so that misunderstanding is not likely.

Chapter 2

MEDIUM- AND LONG-RANGE FORECASTS AND EARLY WARNINGS

2.1 ROLE OF THE MEDIA

The media plays a vital role in the dissemination of long – and medium – range weather predictions. An example of an NMS that routinely produces and publishes such predictions is the Meteorological Service of Canada:

http://www.weatheroffice.ec.gc.ca/saisons/index_e.html.

Equally, in countries where there is a strong financial reliance on agriculture, major economic decisions often depend on the climate predictions made by the respective NMS. Examples of the type of decisions based on these forecasts include planting and harvesting dates, best periods for spraying crops against pests, cultivation, etc. Government policy-makers may also use seasonal forecasts as an aid in

deciding what future national farming strategies to adopt. Stockpiling grain in anticipation of a dry period, or pre-assigning market prices when a bumper harvest is anticipated are various scenarios that depend on the timely issuance of a medium- and long-range forecast. NMSs will often call for the media to help prepare their country for a given situation through the dissemination of such information.

2.2 ON THE DAY OF ISSUING A PREDICTION

On the day of presenting the climate outlook or the seasonal forecast on the NMS Website (an example of which is shown in Figure 1), it is advantageous to offer a short e.g. half a day,

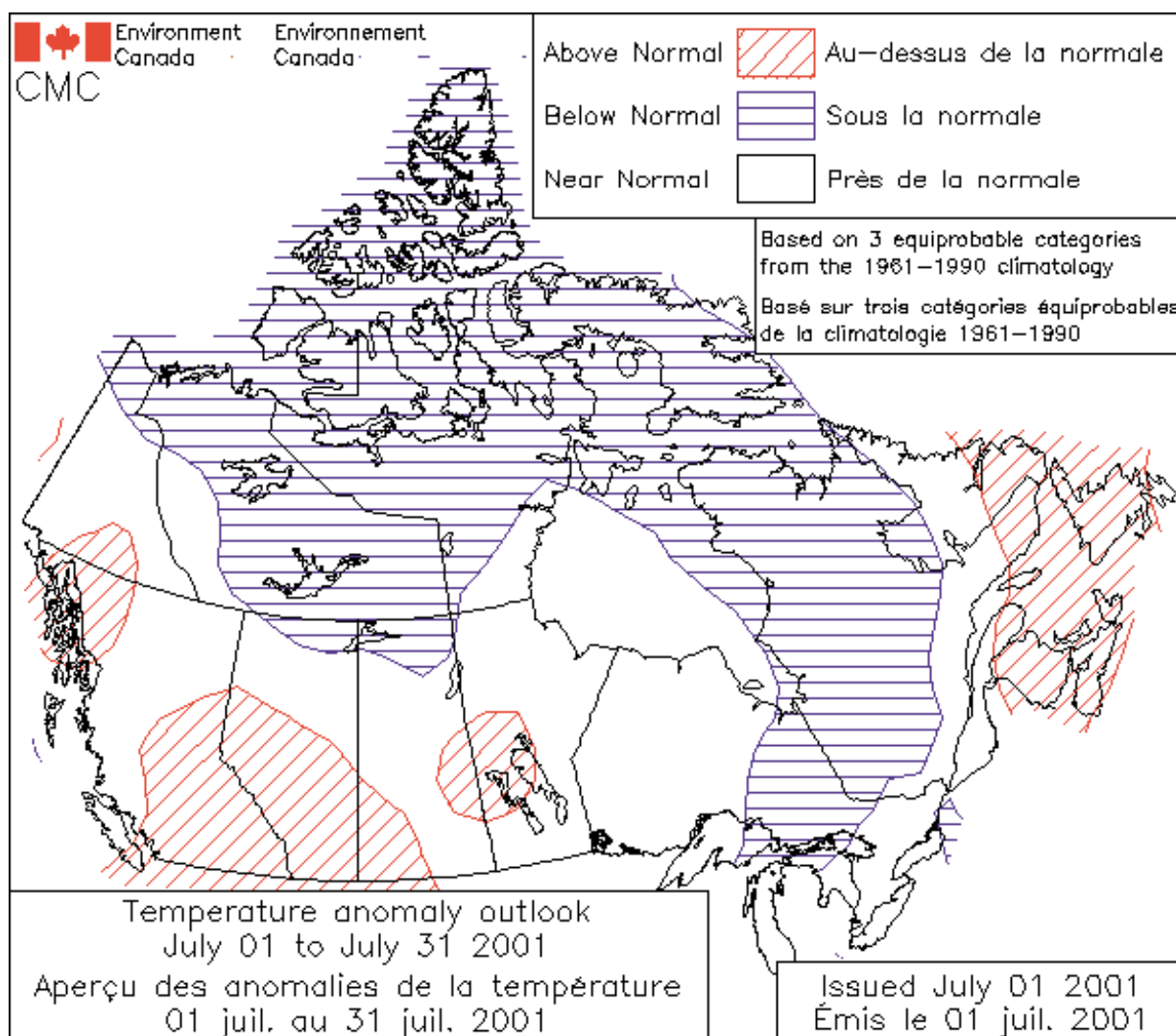


Figure 1 — Example of a seasonal forecast. The map can be found on: <http://www.weatheroffice.ec.gc.ca/saisons/images/mfcst.gif>

seminar on the product, to be held within the NMS office and invite the press to participate.

The seminar should focus on the details of the explicit information being published, however the scope of the seminar should not be solely restricted to this information. A good understanding of the seasonal forecast is often enhanced when contextual fine points are explained. This extraneous information is invaluable when trying to build a deeper understanding of the product with the media. Organize a guided visit to the relevant section of the NMS that issued the product, and have an expert spokesperson available during the visit to answer questions.

NMSs should take advantage of such an event to educate the media and other users on various aspects of weather forecasting and climate prediction. In addition to presenting the actual prediction, there must be a deliberate attempt to explain, in plain language, the methodology used to arrive at a seasonal forecast. An excellent example of this can be found on the Website used by the Meteorological Service of Canada: http://www.weatheroffice.ec.gc.ca/saisons/info_pc_e.html.

Support all presentations by explaining the skill of the methods used, their limitations, possible applications of the predictions, sources of updated forecasts and dates when those updates will be available. A presentation on understanding probabilistic predictions—explaining the meaning of some unavoidable terminologies such as “above normal rainfall” etc.—should be offered. Generally, presentations should be short and well focused to avoid losing the concentration of the audience. A question/answer session is obligatory, so that information not clearly understood at first can be reiterated.

2.3 “UNDERSTANDING THE SUBJECT” FORUMS

One of the biggest challenges facing an NMS, is the ability to effectively pass along – through the media – differing forms of weather predictions. In the case of “climate outlooks” for

example, helping science journalists to understand the subject can ensure the release of factual, intelligible and timely stories to the general public.

In an attempt to meet this challenge, “understanding the subject” forums or “mini-conferences”, which may last a couple of days, can be very rewarding. Use these forums as a vehicle for media reporters to present papers on, for example, “scientific reporting and journalists’ requirements from the NMS”. Let the media present their role in transmitting meteorological information, alerts, warnings etc., to the public and what they perceive to be the appropriate manner for packaging that information. It is also advantageous to the NMS to encourage the journalists to indicate the perceived impact that they feel they may have as the widely recognized main disseminators of meteorological information. Reporters and writers differ in their knowledge of science or of a particular discipline, in journalistic technique, in interests, and in details they seek. To avoid conflicts with journalists, the NMSs need to understand these differences.

Another tactic available to encourage a broader understanding of the subject is to hold a “panel discussion” at the end of the forum. The NMS can ask panelists from other disciplines, such as health or agriculture, to be interviewed along with the resident meteorologists. The true diversity of the field of meteorology is highlighted when it is introduced as a blend of disciplines. Equally, this tactic will also ensure greater exposure by the media and a better opportunity to explain all the various ramifications of predictions that may relate to particular specialized fields.

In advance of the forum, have packs of media material ready for those who attend. Packs should include a news release, background articles, copies of any reports to be released and a list of principal speakers with titles, addresses and phone numbers. To avoid premature release of incomplete information, it is best not to send such material beforehand to reporters who do not attend. Be ready at the end of the forum with a brief and properly prepared press release regarding the *raison d’être* and outcome (if any) of the forum.

Chapter 3

SPECIAL EVENTS

Special events may encompass such proceedings as:

- World Meteorological Day;
- Opening and closing of conferences, workshops and seminars;
- Conducting major experiments;
- Commissioning new equipment;
- Visits from important experts, etc.

These events offer valuable opportunities for NMSs to meet with the media. It is a good idea to use these occasions as workshops, or other training opportunities, in order to create links with the various media outlets who may hopefully appoint focal point reporters on meteorological matters for the NMS.

These special event situations are exceptions to the rules set for regular news conference type meetings. For example a special event conference may be called simply because an outstanding scientist is visiting and is now available to the local media. In this case, the news conference is the news itself. In short, be sure your principal speaker is as important to reporters as he or she appears to be to you. A NMS representative should introduce the visiting scientist by clearly explaining the background of the speaker and any other relevant technical information. The principal speaker should then open the news conference with a (brief) statement summarizing the story and its significance. This statement should keep in mind that television and radio stations prefer sound bites of no longer than about nine seconds

For most other special events news conferences, aim to specifically invite scientific reporters or journalists where possible, as they usually comprehend the newsworthiness of the material quite quickly. Prepare a media feature on the theme of the event, and keep it focused and brief. Where it applies, an information note (an example is given in Figure 2) on outstanding findings in a paper presented during the event

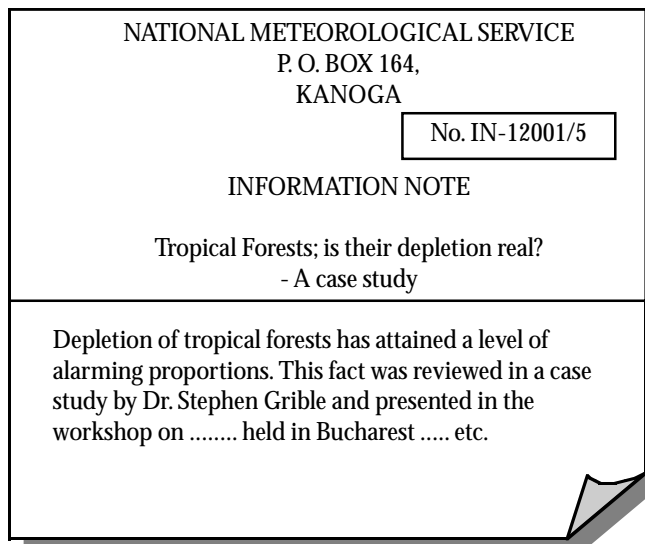


Figure 2 — Example of an information note issued for a news conference

could be issued. It should however, read like an easy article – a good information note presents clear, complete, and concise information. Where necessary, it should feature such key information as results and conclusions. This will ensure visibility of the event and give credit to the NMS. To the journalist and the public, such information is the most important.

Finally, at any special event meeting, have a NMS member fully briefed on the current local weather forecast – no matter how irrelevant to the subject at hand it appears! Remember that most journalists will always want to throw out the “What’s the forecast?” question, even if it has no impact on or relevance to the main story of the event.

Chapter 4

WORKING WITH THE MEDIA

4.1 IMPROVING COMMUNICATION

The NMS should encourage and cultivate working relationships with the media during periods of “normal” weather. This is so that during times of severe or emergency weather the NMS can use the media in a more effective manner to inform the public correctly and in a timely fashion. This relationship can be achieved in a variety of ways – for example, by setting up standing committees, organizing media workshops and more informally by inviting media representatives to social gatherings and events organized by respective NMS. It should also be acknowledged at this point, that offering ad hoc meteorological training, during periods of “quiet” weather, to reporters often further strengthens working relationships. It is highly advisable to formalize a strong working relationship with the media.

4.1.1 Using the media as a public educational vehicle

There are numerous benefits of having a good working relationship with the media. One immediate advantage is the ability of the media to help the NMS educate the general public in the expanding field of meteorology. It should be noted at this point that it is the absolute responsibility of the NMS to provide the content of the educational material, and as such, only use the media as a vehicle to disseminate this information. There are integral benefits to both organizations (the media and the NMS) in this collaborative effort. The NMS achieves the goal of educating the public, while the media is perceived to be scientifically aware. The public thus becomes more enlightened. This can lead to a community that appreciates and applies meteorological information in their lives – equally this increases the demand for such information (usually given through the media), and thereby increasing the popularity of the relative media outlet.

4.2 FORMALIZING RELATIONS WITH THE MEDIA

If possible, the NMS should attempt to create a Media Consultative Committee – the purpose of which should be to develop formal liaisons with respective media outlets. One of the priorities of the committee should be to address pre- and post-season media briefings on a routine basis. Another good example for the committee is to outline strategies for dissemination of upcoming weather prediction events. A committee format is preferable in this situation as it allows media to be involved in the planning stages of developing strategies and also strengthens the trust and relationships between the providers and the users of the information. The media also gets an opportunity to familiarize themselves with individuals

and the internal structure within an NMS, which will hopefully ease the situation when an extreme weather event occurs.

Once the committee has formalized liaisons, the next step is to develop a close, trusting and mutually beneficial relationship with the individual members of the media. At this point, the NMS may designate a specific position or person to act as an intermediary between the local weather office and the local media. This Information Officer (IO) serves to aid the flow of news and information from the local weather office, rather than control or restrict it. The IO should not be held back with obstructionist policies, as this tends to frustrate the media – which in itself can lead to negative publicity. In fact, encouraging the free flow of information leads to more opportunities for positive coverage of an NMS. Journalists are more likely to trust releases and other information from the NMS when the previous experiences with IO have been productive.

Good IOs are pro-active when dealing with the media. They should always be available to make or return calls to the media promptly, and should make every effort to ensure the availability of specific researchers or forecasters if requested. Particularly enlightened IOs will even contact their colleagues at other weather offices to help journalists if their own local scientists can't. They know that such effective service makes subsequent calls from reporters far more likely.

The only time that it is more preferable to have the local forecaster directly answering the media's questions, is during times of severe weather emergencies. On such occasions, the forecaster should be allowed a very brief period away from the operational office to quickly respond to questions (literally for about 2 to 5 minutes). Immediately following this, the IO should become the “designated spokesperson” for the event, and take over all media requests.

4.3 DOING BUSINESS WITH THE MEDIA

Depending on the setup of a particular NMS, doing commercial business with the media (quite literally selling the meteorological product) can be a major activity and this can impact the (oftentimes fragile) relationship with the media. If properly handled however, this economically driven aspect to the relationship may increase the variety of products available to the public as well as the quality of their presentation.

Financial opportunities for the NMS may arise in a variety of ways. There are however, a couple of instances that should be highlighted as they appear fairly frequently in many countries. By examining these cases in point it becomes obvious that doing business with the media requires some careful planning. The two main cases are:

- Selling commercial advertisement banners across NMSs' Websites; and

- Selling part of a television weather segment to a sponsor. In both cases, the sponsor and the advertiser are aligning their product with that of the NMS. In loose terms, the products being sold by these clients are therefore being marketed as one of as high a quality as that being delivered by the NMS. It therefore serves the NMS to be somewhat selective in choosing such clients or sponsors.

When it comes to commercial sponsorship of the television weather segment, the NMS will often find itself with considerably less control over the choice of potential client. However, by offering to help the graphic designers from the television station to develop the end product, it is possible to ensure that the media staff will not modify nor editorialize the meteorological content or scientific accuracy of the final product. It is absolutely imperative that there be no media driven adaptation of a weather-sponsored product.

The boundaries that encompass a commercial relationship with the media should be explicitly set out from the beginning. A memorandum of understanding between the NMS and the media agency is highly recommended. Outside of the usual contractual and financial obligations, the memorandum would aim to detail the fundamental ethical requirements under which the meteorological product would be used. For example, it is absolutely imperative that the source of the information be clearly cited, and that there be no editorializing or tampering with the underlying scientific data contained within the product. An unfortunate example of the negative ramifications of altering the context of an official forecast product was highlighted recently in Romania – the journal “Curentul” published an editorial “comment” on the seasonal forecast. The commentary grossly exaggerated the highest temperature given within the outlook, and reinforced



Figure 3 — According to the Journal Curentul: “In mai, vine arsita Iadului”, “A hotter than hell May”

the negative connotation of the seasonal outlook by publishing a photograph of an egg frying on a street sidewalk. The journal’s headline ran “A hotter than hell May” (Figure 3).

The Romanian NMS was forced to reiterate the original seasonal forecast, in the form of a press release, and downplay the newspapers commentary. The complete story can be found at the following Web address:

<http://www.curentul.ro/curentul.php?numar=20010418&art=582>.

Finally, the memorandum of understanding should be written in such a way as to allow revisions or updates.

Note: Commercialization of meteorological media products should never interfere with the primary aim of the NMS – that is the dissemination of weather information to the public (advisories, warnings, alerts, etc.).

Chapter 5

INTERACTING WITH SCIENCE JOURNALISTS

First and foremost, remember that science writers tend to be among the most conscientious of journalists. However, they are writers first and not scientists. Good science writers do their best to report accurately, but they always keep in mind what they think will interest the public – which may not be what the scientist thinks should interest the public.

The most important single information source for the public about science and technology today is the media. Thus, helping science journalists to produce factual, intelligible and timely information is critically important to our society. However, in addition to ethical motivations for aiding science journalists, there are also very practical reasons.

For one thing, publicity helps communicate scientific information among other researchers. Experience has shown that after a piece of research is publicized, a scientist inevitably receives a significant number of requests for further information from fellow researchers, many of whom may have missed the published scientific paper or meeting talk. It is particularly important to bear in mind that in the present era of interdisciplinary research, contacts can often come from colleagues outside the scientist's own discipline. These may result in useful collaborations or new insights into the scientist's work.

Cooperating with the media – specifically, locally designated science journalists or reporters – also makes it far more likely that the resulting stories will be accurate. As research becomes more complex, even the most expert science journalist finds it extremely difficult to keep up with the fields he or she covers. Regardless of the scientists' cooperation, journalists will cover a significant piece of research news. So, issuing carefully worded releases and explaining the work in interviews will help make that coverage more accurate. With this in mind, the NMS should always try to develop a close and friendly working relationship with known science journalists.

Undoubtedly however, there will be occasions where the NMS is portrayed poorly – in part perhaps because of a journalist's fundamental lack of understanding of the subject matter, or possibly in response to public demand over a certain weather-related disaster.

It takes a great amount of skill to deal with journalists who misrepresent the work being done by a NMS or who may even see fit to attack the NMS as an entity. If the criticism is clearly unsubstantiated, the NMS may seek formal and very public ways to respond (such as in the Romanian newspaper example) in order to set the records straight. However, if the

disparaging remarks are well founded, the situation should be handled in a slightly different manner.

The first rule in either situation is that the NMS should respond. If it is a simple case of misunderstanding, then the situation should be clearly explained. Many journalists have no idea that an inaccurate forecast can be updated, corrected or amended frequently during any time period. If this is the case, the NMS can reiterate their process of forecast updating. The added bonus in this situation is that the journalist – and by default the media – gain a greater understanding of the internal workings of the specific forecast office within the NMS.

However, if the forecast was categorically inaccurate, late or even vaguely misleading and the media has criticized it, the inaccuracy should be immediately admitted and the problem addressed. The NMS may take the opportunity to explain the explicit limitations of the science of meteorology, the skills of prediction models used, the meaning of a probabilistic forecast, and an indication of how a prediction should be applied. At all costs, keep the response to the media well-researched and dignified. Finger pointing and blame helps no one.

Again – always attempt to use these situations as learning opportunities. Invite the journalist to attend informal press briefings and to visit the individual weather offices and to see meteorologists at work. He or she will actually gain insight into the science of meteorology and appreciate the effort being put into making predictions.

5.1 THE FEATURE STORY OR EXCLUSIVE

A feature story is often developed when certain aspects of the science of meteorology fall under particular public interest or scrutiny – a good example recently was the worldwide fascination with the global El Niño event. Such stories are usually written from an “exclusive” standpoint. The media representative doing the feature will spend more time on this type of story than anything else, and the final product will usually reach a wider audience. Since more time is spent on these types of stories, the journalist may ask the NMS representative being interviewed to review the story once it has been written. If willing, the NMS representative should remember to limit their corrections to scientific fact and to the accuracy of direct quotes only.

Finally, exclusivity is very important to the media, and as a result should be treated with a greater degree of respect from the NMS.

Chapter 6

FINAL RECAP OF IMPORTANT DO'S AND DON'TS

- ◆ Be prepared to be absolutely honest at all times about the validity or importance of a story that is being delivered by the NMS. Your absolute credibility is vital to good long-term relations with the media.
- ◆ Don't ever hype stories, making them appear more important than they really are. Always deliver pertinent and relevant contextual information. Any short-term gain in publicity will be more than offset by a long-term distrust engendered in media who are burned by a hyped story.
- ◆ Don't try to censor stories. Most reporters want accurate stories as much as NMSs do.
- ◆ Don't attempt to hide or sequester reports. Make them all available.
- ◆ Do remember to spend time on the good news! Exceptional forecast model results, winners of awards and citations etc., are newsworthy, too.
- ◆ Do encourage frank, open discussion and acquaintanceships between your staff in NMS and the media.

Good luck!

Appendix

WRITING AND ISSUING NEWS RELEASES

News releases, if carefully written and well-timed, can give reporters a ready-made story to use on radio, television, or in the newspapers. If a release has been written correctly, it will be easy for the reporter to make use of it, rather than having to re-write. A news release should also provide the key points of the news story, so that a reporter can follow up and ask further questions. The following outlines various aspects of how to write and issue news releases.

WHEN SHOULD YOU ISSUE A NEWS RELEASE?

You should issue a news release when you have something to say which is newsworthy, and want to draw people's attention to it. Issuing news releases (which should always prominently mention the name of your NMS near the top) also raises the visibility of the NMS.

It may be useful to highlight upcoming unusual or even hazardous weather conditions. Even if these conditions have been mentioned in routine forecasts, or in official warnings, writing down the key points in the form of a "news story" in every-day language can assist in getting the message across and highlighting something that people may otherwise have missed.

A news release may also be issued after there has been a significant weather event, providing some of the details of what weather conditions were recorded by you. If you did a good job of forecasting the severe weather, say so. For example "Heavy rain hit the northeast of the country over the weekend, as predicted by MetService on Friday". If you didn't do such a good job on the forecast, you don't need to mention that; stick to highlighting the interesting aspects of the storm and (if you know the facts) some of the impacts which it caused for people.

News releases can also be issued about developments that have taken place in the NMS, which you want to promote. But remember that you have to have an angle that does make it newsworthy. For example, a news release about an international conference or training seminar being conducted in the country could highlight the many countries that participants have come from.

The answers to the question "When should a news release be issued" can be summarized in a few bullet points given below:

- When you have something newsworthy to say;
- When you want to draw people's attention to that news;
- To raise the profile of the NMS;
- To highlight upcoming unusual weather;
- After a significant weather event has occurred;
- To highlight developments in the NMS;
- To draw attention to international events taking place locally.

WHAT INFORMATION SHOULD BE IN A NEWS RELEASE?

The information must be interesting and newsworthy. The media get many news releases. If yours doesn't catch their eye and have an interesting angle, it is likely to be quickly read and discarded.

When the media evaluate your story, they are always thinking of what the ordinary person in the street will think of it. They look for the angles. Think about what interests you in media stories (other than your specialist area of meteorology).

People are interested in stories that have one or more of the following:

- Significance;
- Human interest;
- Useful information;
- Conflict or controversy;
- Pure entertainment.

Your news release must have one or more of these aspects, or no-one will be interested. You must always have one or two key points or key messages that you are trying to get across. Before starting to write a news release, decide what those key messages are.

HOW SHOULD A NEWS RELEASE BE STRUCTURED?

It is assumed that the news release is being put out as a fax, but similar considerations apply if it is being sent electronically (e.g. via e-mail).

There should be a bold heading at the top giving the name of your NMS (perhaps use a letterhead), and saying that this is a news release.

It is important to give the time that the release was issued. Indicate if it is for "immediate release". (Sometime, a news release may be embargoed until a certain time – it should not be used by reporters until after that, but it provides them advance warning of the news item and gives them an opportunity to ask follow up questions in time to issue their story after the embargo has been lifted.)

Then there should be some kind of headline. This may not be used by the reporter, or the newspaper, but it serves to highlight the main point of the story and catch the eye.

The story follows, in a series of short paragraphs. ENDS must go after the story. Following that should always be contact information for some spokesperson (usually the one who wrote the news release) who can be contacted.

The above points on "How should a news release be structured" can be summarized as:

- Use bold heading or letterhead;

- Clearly indicate time and date of release and whether it is for immediate use or embargoed;
- Use a concise and crisp headline;
- Main story in a few paragraphs;
- Clearly indicate “ENDS”;
- Indicate contact information.

The example below based on an actual news release issued by the Meteorological Service of New Zealand shows how it should be structured.

WHAT SHOULD THE STYLE OF THE NEWS RELEASE BE?

Always write the story in the third person – “MetService said that ...” – just as a reporter would do. Do not say “we think that ...” or this will cause more work for a reporter to re-write it into the third person. Similarly, use quotes (as in the example above) to highlight words that a spokesperson would have said, had a reporter interviewed them.

Write short paragraphs. Look at a few stories in a newspaper. You will see that the paragraphs are always quite short.

Always put the key messages up front, in the first one or two paragraphs. Further clarifying detail can be later in the story.

Think about how you read a story in a newspaper. If the headline interests you, you read the first paragraph. If that continues to maintain your interest, you might carry on to read the second paragraph. That may give you all the information you need, and you stop at that point. So the story should more or less stand alone, and be coherent, no matter at what point someone stops. This also allows the reporter to take your news story and use it almost unedited in a paper or a radio item, just by using as much of it as he or she wishes.

Never write a news release like a scientific paper, with an introduction, followed by data gathered, and so on, with the conclusions at the end. The conclusions – the key messages you want to convey – must be up front, or they may never be read or understood.

~METservice

METSERVICE NEWS RELEASE

ATTENTION NEWS STAFF

Issued at 10:55am 03-Jul-2000 For immediate release

MORE WIND AND RAIN, ALSO HEAPS OF WAVES

More rain is expected in the northeast. MetService forecasters have continued the heavy rain warnings for the Coromandel Peninsula for another night, and started heavy rain warnings for the Gisborne ranges and the Hawkes Bay ranges from the Kawekas northwards.

“Another factor to consider with this event is the abnormally high tides”, commented MetService Weather Ambassador, Bob McDavitt (MRSNZ). “We are having extra large spring tides over the next few days because the recent New Moon occurred close to perigee (when the Moon is closest to Earth). Combine this with the winds now piling up the swells onto the east coast of Coromandel and Gisborne, and chances are increasing that some of these coastal areas may be affected by the incoming high tide this evening or on Tuesday morning.”

Driving conditions over the entire North Island are expected to be tricky, not just with the rain but also because of the gusty easterly winds. Drivers are encouraged to take extra care and keep up to date with weather forecasts and warnings.

ENDS

For more information, contact Bob McDavitt, Weather Ambassador, Auckland
(09) 377 4831

Write the information in a friendly style, but with restraint, as if you were speaking to someone you like and respect, but don't yet know well enough to be very informal. Use plain language that will be understood by the ordinary person. Only use technical jargon if you know it is well understood by the public, otherwise, explain it. News releases can be an opportunity to do some limited public education, but always further down in the new story, not in the first paragraph!

Talk about impacts on the public. The release will be much more interesting to the media and public if there is some mention "what does this mean for me". In the example above, the impact for people driving in the poor weather has been mentioned.

For a news release about expected poor weather, take the opportunity, farther down in a story, to advise the public to stay in touch with the latest forecasts and warnings. Conditions can change rapidly, and people would not be left with the impression that the news story is the "last word" on what will happen. (However, be aware that the media may exercise their right to remove this mention if they see it as blatant self-promotion!)

In summary, observing the following points will help you create a successful style for your news releases:

- Always write in third person;
- Write short paragraphs;
- Always put key messages up front in the first one or two paragraphs;
- Never write a scientific paper;
- Use plain language and a friendly style;
- Mention the impact of the weather event on the public;
- Advise the public to stay in touch with latest warnings and forecasts.

WHAT TIME SHOULD YOU ISSUE A NEWS RELEASE?

For a "fast-moving" news story such as impending poor weather, the answer is as soon as you can write it and put it out. However, a news release at 2 a.m. is unlikely to get much coverage until later in the morning!

The best answer to this question is to talk with the news media in your country and find out. Deadlines differ between radio, television and newspapers, and the time of issue will depend on which outlet or outlets you are trying to target.

For example, deadlines for evening newspapers are typically in the late morning, so an afternoon release will not be used until the next day. Remember that reporters also like the opportunity to call and ask follow-up questions, perhaps so that they can put their own individual "spin" on a story. A TV station may want to send a camera crew to do an interview if the story is significant enough; sending out a news release at 4 p.m. will not give them anywhere near enough time to react and do an interview in time for an early evening news show.

For news releases which do not need to go out immediately, the day of the week that you issue it will be important. For example, a news release on Friday is unlikely to get as much attention as one earlier in the week. Again, check (coordinate!) with your local media to get their opinion, and information about deadlines.

Sometimes, the time of year is also important. News releases on non-urgent matters can get ignored when other major events are happening (elections, disasters, scandals). On the other hand, during some times of year such as holidays, the media may not have many other stories to cover and are more likely to be interested and use what you have to say.

To sum up, to decide on the timing of your news release keep the following points in mind:

- Talk with your local media to find out the best time;
- For a fast-moving story, issue the news release as soon as possible;
- Consider day of the week and time of the year.

WHERE DO YOU SEND IT?

Ask your local media. Get direct facsimile numbers for key radio and television stations and newspapers. There may be some kind of local "press association" where you can send news releases and they make them available to affiliated newspapers.

EXERCISE

Think of a major weather event that happened in your country in the last year or two. This should be something that was already newsworthy enough that there was lots of media coverage of it.

Write a news release about it. You can choose to either:

- Issue a news release in advance of the event, providing information that it is coming, and what impacts it might have; **or**
- Issue a news release after the weather event has finished, describing what happened, and (if you wish) mentioning how good the forecasts and warnings were.

This is just an exercise, so it is not important to have all the facts correct about what happened. No-one else will know, anyway!

The important points to remember are:

- Decide on one or two key messages that you want to convey;
- Make sure those one or two messages are “up front”;
- Write the news release in plain language;
- Write it in the “third person” as a reporter would;
- Think about the impacts on people (“what does this mean for me”).

Follow this exercise by an interview.

Imagine a radio journalist will call you on the phone and interview you for a “live” broadcast about the news release you have just issued. For a good radio interview keep the following points in mind:

- Remember to focus on the key messages;
- Remain polite and keep your cool even if provoked unnecessarily;
- Stick to the facts and be prepared to admit if you got the forecast wrong;
- Be sympathetic about effects (if hazardous weather turned into a disaster) on people;
- Pretend you are talking directly to a layperson, use plain language;
- Know and be confident about what you have said in the news release you have issued.

Part II

GUIDELINES ON ENSURING THE USE OF OFFICIAL CONSISTENT INFORMATION

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Chapter 1

INTRODUCTION

1.1 HISTORY OF THE GUIDELINES

The issue of achieving a “single official voice” with regard to meteorological information disseminated by the national and international media and over the Internet, is a significant concern for WMO members, and has been raised at a number of WMO meetings, including the WMO Thirteenth Congress (Cg-XIII, Geneva, May 1999), the Fifty-second Session of the Executive Council (EC-LII, Geneva May 2000), and the Twelfth Session of the Commission for Basic Systems (CBS-XII, Geneva, December 2000). More detail on pertinent discussions at these and other meetings is given in paragraph 1.1.1 below. These Guidelines are part of WMO’s strategy to help National Meteorological Services (NMS) address this issue.

The essence of the problem is that information disseminated by the media (both national and international) about meteorological events may not be the same as the official information issued by NMSs. This is of most concern with regard to warnings issued by NMSs before, during and after severe weather events, but also applies to other forecast and information services. The broadcast of erroneous or multiple versions of meteorological information, or inadequate dissemination of the information, can easily give rise to public confusion about the meteorological situation, particularly when, where and what kind of severe weather is going to occur, its degree of severity, who is likely to be affected, how they should respond and where they should go for further information or updates.

This set of guidelines has been developed by the Expert Team on Media Issues (ET/MI) of the Open Programme Area Group (OPAG) on Public Weather Services (PWS). The guidelines address that Term of Reference of the ET/MI, which is to:

“Continue to develop appropriate mechanisms for improved consistency between official information issued by NMSs and information disseminated by other sources”

The guidelines have considerable bearing on other Terms of Reference of the ET/MI as well, e.g. to *“Examine and advise on the increasing demand by national and local media for international weather information especially as regards weather-related disasters.”*

The scope of these guidelines inevitably overlaps to a considerable extent with other sets of guidelines being prepared as well as other initiatives being pursued by WMO. Where appropriate, these guidelines will refer to and take account of such related work and point out its relevance and connection.

1.1.1 Outcomes of previous meetings

A number of WMO meetings in recent years have considered the issue of ensuring that official, consistent meteorological information is received by the public, and have provided

guidance to the PWS Programme on how the issue should be addressed. Following is a summary of such guidance, arranged chronologically.

The WMO Thirteenth Congress (Cg-XIII) noted the increasing diversity of the media, including international broadcasters, and the information on the Internet which is now available to the public for accessing weather forecasts, and recalled the concern of WMO Members about the impact of these developments on the recognition of NMS services. Members urged the PWS Programme to continue efforts to strengthen links with the international media, and with international providers of information on the Internet, with a view to ensuring that the information provided in this way, especially warnings, were issued by a single authoritative voice, that there was proper acknowledgement of the role of NMSs and WMO in providing the core infrastructure of data and products on which forecasts were based, and that opportunities were exploited to enhance the visibility of NMSs.

Cg-XIII also noted that it was important to ensure that there were adequate mechanisms to supply the international media with warnings and forecasts and encouraged Members to establish their own Internet Websites and to exploit them to disseminate a full range of weather and climate information to the public.

After this session of Congress, a meeting of the Expert Team on Media Issues was held in Orlando, USA, (June 1999), which explored the issue in much greater detail, and importantly, was attended by representatives of a number of international broadcasters and the International Association of Broadcast Meteorology (IABM), who actively participated in the discussions and have been kept informed of activities within the PWS Programme as regards media issues.

At the Orlando meeting, there was general agreement that it is essential to ensure efficient and effective information flow between NMSs and the media. International media representatives re-affirmed their intention to make use of official warnings and information prepared by NMSs, and agreed that the benefits of acknowledging NMSs as the sources of data and information included increasing the visibility of NMSs and lent credibility to broadcasts. However, they also provided an insight into the obstacles they face in living up to these good intentions.

These obstacles include lack of easy access to the right information in a media-friendly format, working to very short deadlines, and attribution difficulties stemming from blanket company policies.

In devising ways to ensure the use of official and consistent information, it is therefore important to understand the constraints faced by the media themselves so that the difficulties can be minimized wherever possible.

Use of inconsistent and unofficial information is not limited to the international media. There can be just as much of a problem with national and local media outlets, and it

would be a mistake to focus too heavily on the international problem. This was recognized by the CBS Advisory Working Group (CBS-AWG) at their meeting in Buenos Aires, 22–26 November 1999, where they were concerned that the OPAG on PWS should ensure there is an appropriate balance between the attention given to local/national media and international media in addressing this issue.

The next WMO meeting to address the question of official and consistent information was the 12th Session of the Commission for Basic Systems (CBS-XII) (Geneva December 2000). CBS-XII requested the Public Weather Services Programme to give high priority to the enhancement of visibility of NMSs through improved dissemination and presentation of effective, high quality public weather products and services, and to the improvement of their partnerships with the international media.

The first CBS Management Group (CBS-MG), meeting in Geneva in January 2001, considered the work so far of the various Open Programme Area Groups, including that on Public Weather Services, and provided some additional guidance. It acknowledged that the breadth of the Public Weather Services Programme engendered some particular difficulties, but emphasised the importance of the Programme's progress because to a large extent the public's perception of the NMS depends upon its public weather services.

The MG noted with interest that the international emergency management community was developing plans for GDIN (Global Disaster Information Network), which was the proposed global equivalent of EMWIN (Emergency Managers Weather Information Network). It agreed that this provided a good opportunity for collaborative activities and that PWS should pursue coordination and collaboration on this project on issues of joint interest.

Finally, it is pertinent to note that the long-term plan of WMO includes roles, objectives, priorities and strategies to which the issue of ensuring use of official, consistent meteorological information is highly relevant.

A number of the regional priorities in the long-term Plan also reflect the drive to strengthen NMSs, improve their visibility, enhance their role in various economic sectors and in development generally, and raise the public's awareness of their contribution, as well as improving public weather services overall. Taking steps to establish the use of NMS information as the official source and to ensure consistency of the information provided to the public is an important part of all these.

1.2 OVERLAP WITH OTHER GUIDELINES AND PROJECTS

A number of other related guidelines and projects have recently been completed or are in progress. These are listed below and the reader is encouraged to examine them in order to understand the related issues.

1.2.1 *Guide to Public Weather Services Practices*

The *Guide to Public Weather Practices* (WMO-No. 834, second edition) contains a number of sections which relate

closely to the purpose of these guidelines, and it is recommended that readers refer to this publication for full detail of these. A brief summary of some relevant sections is given here.

Role of the media (section 7.1.1)

Broadcast and print media remain close partners of NMSs in getting their information to the public, and can be valuable allies in demonstrating to the public the value of NMSs and the resources invested in them. When the partnership is working effectively there are benefits to both parties – the NMS and the media outlets. The former are able to distribute their warnings much more widely than by other means, and the media receive highly newsworthy content for their broadcasts. There are few parts of the world where severe weather does not make a good news story. Live broadcasts from the NMS staff can be part of this content.

It is important however to ensure that the media outlets broadcast official, consistent information without modification that would confuse the public or change the sense of the message, and that priority of the various warnings and other information is appropriately allocated.

The advent of major international television broadcasters reaching many parts of the globe simultaneously has produced renewed challenges for NMSs in making best use of the media for warning the public of significant weather events.

Point-to-multipoint dissemination and presentation (section 7.3)

It is important not to neglect the high profile of national and international press networks which each deliver information to a wide variety of press, radio and television outlets both in the country of origin and outside it. All the recipients will get the information in the same format, generally a fairly standardized one, and there is a significant opportunity here for NMSs to ensure that the formats used are those approved by the NMSs themselves.

Coordination for early warning (section 8.1)

There is extensive documentation and evidence for the crucial importance of coordination in successful management of natural disasters. Early warning systems, which are part of this management effort, are no exception, and require an NMS issuing warnings to establish good coordination mechanisms within the hazards community, with neighbouring NMSs and with the media in order for the warning system to be effective.

The “hazards community” includes a wide range of organizations (including the United Nations and other international ones, where appropriate) as well as the local population and their political leaders and the NMS itself. There are significant challenges in maintaining communication and coordination across the many boundaries inherent

in this large and diverse group, such as those associated with differing organizational structures and cultures, and differing views about what is needed in a particular situation. NMSs must take an active role in resolving these problems and give the maintenance of coordination mechanisms a high priority.

Coordination with the hazards community (section 8.4)

As identified above, coordination between an NMS and the rest of the hazard community is an essential component of effective early warning systems, but presents sizeable challenges because of the characteristic diversity of the community and the physical circumstances under which it is inherently required. This section recommends the development of a plan, in conjunction with relevant agencies to cover roles, responsibilities and coordination mechanisms of all parties during an event. Inter-agency communication and the time taken up by coordination is a particular issue of concern, but it is vital to ensure that the picture presented to the public is complete and accurate enough to avoid confusion and give people the information they need to take action for themselves. Location of personnel in the offices of partner agencies is an option that should be considered.

Slow-onset and rapid-onset hazards present their own particular difficulties.

1.2.2 Pilot project on centralized Website

A pilot project is under development to facilitate media access to official NMS warnings as part of efforts in facilitating effective information flow between NMSs and the media. Following its endorsement by the Executive Council, the pilot project was successfully demonstrated at CBS-XII, which requested its early implementation. As an initial step, the project was developed and tested as a site for warnings of tropical cyclones in the ESCAP/WMO Typhoon Committee region. Hong Kong, China provided the overall concept for the project and was delegated by CBS-XII to further develop it. Success with this initial step of the project could lead to the long-term development of the concept to cater for other major severe weather events globally.

A development related to this project in the international field of disaster reduction is the move towards a Global Disaster Information Network (GDIN). This initiative, although originated in the USA, is now of international interest, and several international meetings have been held, in various countries, to better define the nature of GDIN, formulate a work plan and report on tangible progress. The basic objective of GDIN is to get “the right information, in the right format, to the right person, in time to make the right decision”, with a global focus. It is part of a less formal but worldwide move towards encouragement of better “disaster information management”, which encompasses availability, understanding and use of all types of information relevant to disaster management in all its phases, with particular emphasis on the mitigation/prevention phase. Clearly this covers much more than simply meteorological information; nevertheless real-time information from NMSs represents some of the most readily available information already in existence, and would be an easy focus for the early stages of GDIN. As noted by the 1st CBS Management Group meeting, there is scope for collaboration with GDIN, and possibilities for such coordination and collaboration on issues of joint interest could be explored.

1.2.3 Guidelines on weather on the Internet

As will be pointed out later in more detail, communications technologies and the Internet in particular, are highly significant in addressing the issue of use of official, consistent information. The WMO *Guidelines on Weather on the Internet and other New Technologies* (WMO/TD No. 1084, PWS-2) provides an in-depth exploration of the numerous issues involved and detailed suggestions for content, technical aspects and design aspects of the subject, and is highly recommended for use by NMSs which have the opportunity to take up such new technologies.

As emphasized in these guidelines, it can be strongly argued that the best defence against unofficial sources will ultimately be the quality (in the broadest sense) of the services provided by an NMS, and anything that helps in improving NMS services will contribute to the NMS's overall profile, credibility and the trust it engenders in the public mind.

Chapter 2

OVERVIEW

2.1 THE IMPORTANCE OF USING OFFICIAL CONSISTENT METEOROLOGICAL INFORMATION

Ensuring that forecasts, warnings and other information disseminated by the national and international media are either the official NMS products, or consistent with these products, is an important issue for WMO Members. Although it is most critical in severe weather situations, the issue also applies in any situation where such information appears in the mass media.

2.1.1 Severe weather situations

In severe weather events – before, during and after the severe weather occurs – it is essential to have a single authoritative source of warnings to avoid confusion amongst the affected public. Clarity about the expected meteorological situation increases the likelihood that the people in the community will be able to act quickly and appropriately to protect themselves, their families and their property.

It is also important to ensure that appropriate coordination exists between the NMS and the emergency management services, so that the emergency management services are clear on the expected development of severe weather situations. The emergency services are tasked with helping the public during severe weather situations, by advising them on what action to take to protect themselves, as well as through direct action such as evacuating people from their homes. Emergency services also ensure that the public remains well informed of developments during an event, and so it is important that the information provided by them is consistent with that made available to the public by other means (such as the media) to ensure that the best assistance is given to the community.

NMSs usually have a special relationship with their local emergency services, and this can assist greatly in ensuring that the emergency services look foremost to the NMS as their authoritative source of severe weather information. Maintaining a clear and accurate set of meteorological forecasts, warnings and other information in times of severe weather builds this relationship with the emergency services.

Relative to other user groups, emergency services can be one of the easier groups for an NMS to create good relationships with, since their need for meteorological information is so acute and obvious. Nevertheless, there is no room for complacency, since even these most closely allied user groups can now easily access other sources of information.

A well-established mechanism for ensuring strong ongoing relationships with emergency services is the establishment of a formal standing committee that has regular

meetings. Appointing a responsible officer as the official point of contact is also recommended.

Similar arguments apply in a broader sense to links with other areas of government services and administration that have a significant role in helping the community in times of severe weather. Local government officials, health and welfare agencies, transport authorities and operators of essential services such as power and water supply, all come into play when natural hazards threaten, or in the aftermath when the community is recovering. Once again, in the interests of serving the public, it is important for these agencies to receive consistent, accurate meteorological information in which they have confidence, and to turn to the NMS as the official source.

2.1.2 “Slow onset” severe weather situations

While it is easy to see the reason for encouraging the “single official voice” during the more obvious and urgent severe weather situations, it is important not to overlook its importance at other times. Meteorological information, including warning information, operates on a number of different time scales. While most natural disasters occur quite rapidly (e.g. earthquakes, severe storms, tropical cyclones), not all of them do so.

Drought for example is one of the so-called “creeping” natural hazards, which build up gradually and the exact onset of which is often a matter for debate. However, drought is one of the most far-reaching of all meteorological hazards and has some of the potentially longest lasting and most serious consequences for very large numbers of people and for a country’s economy. During such events, the need for a “single official voice” describing the drought outlook (for example) is high, and the confusion that can arise as a result of promulgation of unofficial, inconsistent information is just as great as for severe weather which has a faster onset.

2.1.3 Non-severe weather situations

Even in the case of routine weather, significant economic decisions are made by major industry or governments on the basis of meteorological forecasts and information. In these instances, the mass media may not be the main distributor of the forecast information, which is more likely to be provided directly to the users. However, an inconsistency between the NMS forecast and that available through the mass media will reflect poorly on the NMS.

In addition, good practices and relationships established and repeatedly confirmed during times of relatively benign weather benefit both NMSs and the community in times of severe weather. NMSs need to make use of benign weather to

discuss, develop and implement good practices in readiness for more critical events.

The importance of the “single official voice” is therefore not confined to any particular meteorological situation, season or user group, but is relevant and of concern at all times.

2.1.4 Visibility of the NMS

A compelling reason for ensuring the use of official, consistent information from the NMS is the impact this has on the visibility of the NMS itself. If information from the NMS is routinely used by the media and is identified as such, then the public becomes more aware of the existence and role of the NMS, and how it benefits the community. This in turn increases the likelihood that people will look to the NMS for information in future situations, and also highlights the value to the community of the government’s investment in the NMS – its infrastructure, staff and other resources. Hence, there is not only an immediate impact on the public perception of the NMS, but a longer term endorsement by the public of their government and the services it provides for the people, which in turn can lead to more tangible longer term benefits for the NMS.

For the long-term future and operation of NMSs and the public weather services that they provide, it is important for governments and the public to be able to recognize the contribution made by NMSs to the public good – especially safety of life and protection of property – and to understand that they are getting good value for the resources invested in them.

There is an important positive feedback loop here that needs to be recognized. Higher visibility and greater credibility for the NMS will encourage people to use their forecasts rather than those (potentially conflicting) of other agencies, including from other NMSs. The more people who use the official forecasts, the greater the opportunity to demonstrate to government and the public the value of the NMS; this should preferably be done through measurement and real data on the level of usage.

2.2 UNDERLYING CAUSES OF THE USE OF MISLEADING METEOROLOGICAL INFORMATION

The public can receive and/or understand meteorological information in ways that differ from those intended by the NMS (or RSMC). For example:

- The public may receive conflicting information from alternative sources (see below for a list of possible sources);
- The public may misunderstand or misinterpret the official information;
- Inconsistent information may have been issued by different sources within the NMS;
- Inappropriate (e.g. badly-designed) and confusing official products may have been issued by the NMS;
- Information may not have been updated in a timely fashion by the NMS, leading to “improvisation” on the part of the user.

The first-listed of these causes is external to the NMS, the second can be either external (in the sense that the public’s understanding is not entirely within the NMS’s control) or internal (in the sense that the NMS may not have done enough to ensure public understanding of their products); the rest are clearly internal. The importance of the external factors will vary between countries according to their particular circumstances, but the internal factors can apply to all NMSs.

2.2.1 Internal causes of misleading information

The existence and importance of the internal causes listed cannot be over-emphasized. To a large extent, the quality of the NMS’s services is fundamental to the NMS’s position (or otherwise) as the “single official source”. Where alternative, unofficial information sources are involved, the reason that they have been used may be due to low confidence in the NMS product, perhaps because the alternative products are more comprehensible or attractive, or accessible. Accuracy of the official products will also have an effect, although this may be a longer-term impact (whether negative or positive) than some of the other aspects of quality that are more immediately obvious to the public and to government.

The “inconsistency” of information issued by the NMS can itself stem from a number of causes:

- Unresolved or unrecognized differences in “forecast policy” between forecasting staff or between offices of an NMS due to inadequate coordination;
- Issuing products derived more or less directly from numerical weather prediction (NWP) output, alongside official forecast products from the same NMS;
- Issuing NWP-based products from neighbouring NMSs which typically extend across borders and may disagree with the NWP from the local NMS; and
- Multiple formatting of products by the NMS, e.g. into graphical or other formats as well as text, which does not closely enough reproduce the content of the original forecasts.

The trend towards increased dependence on NWP output as guidance for official forecasts, and the trend towards increased automation of forecast production, both by NMSs themselves and by other sources, means that some of these causes are becoming significant where once they would have been negligible. Another exacerbating factor is the progressively greater public demand for and accessibility of the basic data collated and held by an NMS; the general public, are often as much or more interested in the computer-generated charts of NWP output or displays of current weather information (including radar and satellite imagery) as in the official forecasts. This can lead to an increased risk of misinterpretation of the basic data, or simple confusion of observed and forecast information on the part of the public, even without the intervention of the private meteorological sector or other sources which may generate misleading information.

2.2.2 External sources of misleading information

Alternative sources of meteorological information can include:

- Other government agencies involved in dealing with meteorological situations (e.g. emergency management agencies, local government officials);
- Other NMSs or RSMCs;
- Private sector companies providing meteorological services;
- Professional meteorological associations;
- Associations of people with an “amateur” meteorological interest;
- Academic institutions;
- Media organizations employing their own meteorologists
- Websites of any of the above;
- Websites of organizations themselves unrelated to provision of meteorological information but wishing to provide weather information as a general public service (e.g. search engine sites, integrated information providers).

The relative importance and influence of the various types of alternative source will vary depending on the circumstances of each country.

There is a further divergence in the explanations of why these sources are producing misleading information. Apart from those explanations that stem from inadequate care on the part of the NMS (such as insufficient attention to the design of products), there may well be no intention to provide misleading information, in fact this may be generally speaking highly unlikely. However, there is potential for inappropriate re-formatting and packaging, or elaborative comment, by people who do not understand the NMS products well enough themselves, whether media presenters, or amateur meteorologists, or other government staff who may be professionals in a related field but not meteorologists. There is potential for well-intentioned but misguided reliance on basic data and NWP output, especially where automation or speed of production or a fast response is required; official forecasts are often not available in the variety of electronic formats that basic data and NWP are. There is also potential for misuse of related information in the sense of being stretched beyond its appropriate use, such as confusion of climate modeling results emanating from an academic institution with weather forecasts.

2.2.3 Promulgation of misleading information from non-NMS sources

Whatever its source, the inconsistent information can be promulgated to, or accessed by, the public, or can be picked up by media outlets broadcasting to the community, or picked up by other agencies with a role in informing the public during meteorological events.

Developments in communications technology are both part of the problem and part of the solution. They have made it much easier for alternative information to reach users – both the media and the public – from sources other than the NMS. On the other hand, the same technology has the

potential to assist NMSs by allowing them to provide high quality, authoritative and official information, often directly to individual users, without the need for the media to act as a conduit and often at faster speed.

Strategies for ensuring the use of consistent, official information need to cover all the above factors and underlying reasons for why and how misleading information comes to be generated or disseminated. However, the most common situation, experienced by most NMSs, is where the media – national or international – receive and use inappropriate information from alternative, non-NMS sources. This may also be the most serious situation, since the media generally has the greatest ability to disseminate the information to the public (together with limited, or at least highly varying ability to distinguish official from non-official information). This may become less true as the use of the Internet grows, but since the media also use the Internet for dissemination, most of what follows in these guidelines is focused upon the media-related issues.

2.3 EXAMPLES OF USE OR LACK OF USE OF OFFICIAL CONSISTENT INFORMATION

To demonstrate some of the above situations, the following case studies have been collated from WMO member countries.

2.3.1 Puerto Rico

In October 1989 Hurricane Hugo was expected to strike Puerto Rico. Through coordinated efforts involving the NMS, emergency management, the media and elected officials, radio broadcasts presented a highly integrated and complete picture of events to the public. First, the governor of Puerto Rico came on the radio to announce the threat of the hurricane. He introduced the meteorologist in charge of the Weather Service Office who presented predictions of the track and intensity of the storm, and then introduced the emergency management director who outlined how and when evacuations would be conducted.

The lessons from this event are:

- That coordination between several organizations with different roles can be a most effective way to advise the public about severe weather events;
- That planning ahead of time is required to enable this to occur;
- That NMSs, the media and governments are capable of working together to serve their different interests as well as the public interest.

This example has already been mentioned in the second edition of the *Guide to Public Weather Services Practices*, as a demonstration of how good coordination can operate.

2.3.2 Australia

In December 1995, a tropical low developed to the north of the city of Darwin in northern Australian. The low slowly

tracked westward into the Timor Sea towards an area in which a number of offshore oil-drilling rigs were in operation. A private company providing meteorological advice to the companies operating the rigs advised them that there was a potential for the low to intensify into a tropical cyclone. As a result, workers on the rigs were evacuated back to Darwin by helicopter as a precautionary measure.

Difficulties arose when news of the evacuation reached the media in Darwin and a headline story appeared in the main daily newspaper that a cyclone was expected to develop within a day or so. However, the official source of meteorological information in this area is the Bureau of Meteorology and their advice was that the low was unlikely to develop this quickly and was unlikely to affect Darwin itself.

As a result, there was conflicting information within the community regarding the likelihood of a cyclone and a significant degree of confusion and concern was created.

Nevertheless, the newspaper recognized the Bureau of Meteorology as the official source of information and sought comment from them. This allowed a degree of balance to be maintained during the episode, and the public confusion was relatively easily managed. Furthermore, a relatively cooperative and professional relationship existed between the private agency and the Bureau of Meteorology at the time, which meant that neither party publicly commented on the other's prediction in a way that might have caused tension or embarrassment.

The lessons from this event are that:

- The media may become aware of weather events before they make contact with the NMS;
- The media may issue a story regarding weather events that is inconsistent with the official information, even after consulting the NMS. Nevertheless, by having a good relationship with the media, the NMS will usually be offered the opportunity for comment and this can help bring balance to the story;
- It is important for NMSs to avoid public criticism of non-official sources. Otherwise, future difficulties may

arise that affect the ability to cooperatively work together for the public good.

2.3.3 Croatia

Local weather stations in Zagreb, capital of Croatia, broadcasted every half hour, warnings of a strong wind that was expected to strike the city, even though the official NMS forecast had mentioned only the possibility of sporadic gusts and had advised the public to keep all windows closed. Apparently, the broadcasters had misinterpreted this information in the context of an earlier damaging event in the neighbourhood of the country. As a result of the radio broadcasts, schools were closed, businesses were shut down and major traffic jams developed as anxious people endeavoured to get home.

Ultimately, no severe winds occurred. Nevertheless, the Croatian Meteorological and Hydrological Service sustained significant criticism, even though their original forecast was accurate. This was compounded by the media who did not acknowledge their own role in inappropriately reinterpreting the official information and unnecessarily alarming the community.

The lessons from this event are that:

- Close ties with the media are necessary to ensure that the media understand and react appropriately to information given to them by official agencies;
- Procedures should be established so that when an official warning is issued, the media know how to respond; likewise, that the media will only respond when official warnings are received;
- Outside periods of severe weather, the media and the NMS should work closely together, in the public interest, to develop a relationship that is based on mutual trust and cooperation. Not only will this ensure that official information is treated appropriately by the media, but should problems occur, then they can be remedied quickly and effectively.

Chapter 3

UNDERSTANDING THE MEDIA

3.1 THE NATURE OF THE MEDIA

The first step in addressing the issue of how media organizations obtain and present their meteorological information is to understand the nature of the media themselves – who they are, how they operate and what their aims are. Ways of doing this are addressed in more detail in later paragraphs, and improving relationships between the media and NMSs is the subject of Part I of this technical document. This part of the Technical Document outlines some basic points only.

Use of consistent and official information is not just an issue with the international media, but is just as important with national and local media outlets, and it would be a mistake to focus too heavily on the international aspects. However, the international media, especially the largest organizations, present some new challenges that are fundamentally different from those experienced with national media.

The Internet, and the Web in particular, can be thought of as an alternative “mass medium”, since it offers the most comprehensive and flexible alternative to the conventional mass media and is available to the general public.

3.1.1 National media

Although the issue of use of inconsistent unofficial information most often focuses upon the international media, national media around the world are by no means excluded from the issue. National media are normally responsible for disseminating weather information to their own national or local territories, usually informally rather than as a result of any formal agreements or conditions. However, they are rapidly becoming more interested in meteorological events taking place in other parts of the world, possibly as a result of widening technical access to international networking of information, greater interest of their audiences in world news, and growing competition and the search for advantage over their competitors.

Generally, national media will want detailed information on most, if not all, severe weather events in their domestic area of interest, in contrast to the needs of the international media.

3.1.2 International media

International media can be defined as those who cover a region of many States, up to the whole globe. The most extensive coverage is presently by the BBC (originating

from the UK) and CNN (originating from the USA). Nevertheless, there exist significant international media organizations with more limited influence.

WMO through its collaboration with the International Association of Broadcast Meteorology (IABM), can help NMSs to identify international media relevant to them and to supply contact information. In addition, there may be value in each NMS identifying a focal point in their NMS for direct contact by the media organizations; it would be appropriate for these contacts to appear on a centralized register of some kind, such as the WMO Website, and be updated regularly.

International media will be for the most part only interested in the major weather events or disasters that are severe or widespread enough, or cause high levels of danger to human life. However, they may want fewer meteorological details compared to details regarding matters of human interest.

3.1.3 The Internet

The Internet, and the World Wide Web in particular, is the most obvious and significant of the new technologies mentioned in Section 2.2 that increases both the challenges and the opportunities for NMSs in achieving a “single official voice”. This is not surprising when the capabilities of the Web are considered. The Web can carry not only text but also graphics, both static and animated, in black-and-white as well as in colour. The Web also provides the capability for arranging information with a high degree of structure, and in “layers”, so that only that depth of information required by the user need be accessed.

At the same time the Internet, for all the above reasons, makes it extremely easy for alternative sources to make their information cheaply and easily available, and for users to access many other sources of meteorological information, from anywhere in the world. Although this might seem to diminish the visibility of NMSs, the latter still have the advantage if they are seen as the most authoritative source of information.

Particular features of the use of the Internet for dissemination of weather information that merit special attention if use of official, consistent information is to be encouraged, and some suggestions for strategies on the part of the NMS are outlined in Chapter 4.

The publication *Weather on the Internet and other New Technologies* (WMO/TD No. 1084, PWS-2) goes into these and many other aspects of the NMS use of the Internet in depth; an outline of the connections between that technical document and these guidelines is given in paragraph 1.2.3.

3.2 ISSUES FOR THE NATIONAL AND INTERNATIONAL MEDIA IN MAKING USE OF OFFICIAL INFORMATION

In devising ways to ensure use of official and consistent information, it is important to understand the issues, problems and constraints faced by the media outlets. Some general suggestions in this regard are made below, but it is important for individual NMSs to gather additional information about the situation in their own country.

The core requirement in ensuring a single official voice is to facilitate effective information flow between NMSs and the media. The IABM members have made it clear that it is their intention to encourage the use of official warnings and information prepared by NMSs. They further agree that there are benefits in acknowledging NMSs as sources of data and detailed information on severe weather warnings, lending

credibility to broadcasts, and that it is in the interests of all parties to increase the visibility of NMSs.

However, known obstacles faced by the broadcast media in living up to these intentions include:

- Lack of easy access to information, especially to a single centralized source of the official information;
- The severe time constraints under which broadcasters operate;
- Information not being available in a media-friendly format;
- Lack of time on air to give attribution to official sources;
- Technical difficulties with 'crawler' messages;
- "Company policy" stating, for instance, that ownership of all presented information resides with the media outlet, and attribution to other organizations is not permitted, even when these organizations are not direct competitors with the media outlet.

Chapter 4

STRATEGIES FOR NATIONAL METEOROLOGICAL SERVICES

4.1 DESIRED OUTCOMES FOR NMSs AND FOR MEDIA ORGANIZATIONS

In attempting to address the issues raised above, it needs to be recognized that each of the parties involved – the NMSs, the media, other sources of meteorological information – have their own aims and purposes in mind. It is essential to acknowledge the differences in these aspirations and to take them into account in framing strategies to ensure that information reaching the public is consistent with that from the official source.

First of all, it is important for NMSs to clearly formulate what their own aims and aspirations are in addressing the issue of consistent, official information. Most of these will focus on provision of services in the public interest, but some may be about the visibility and public perception of the organization itself. The latter are legitimate aims since, for the long-term viability of NMSs and the services they provide, it is important for governments and the public to be able to recognize the contribution made by NMSs to the public good, especially safety of life, and to understand that they are getting good value for the resources invested in them.

Similarly, knowledge by the NMS of the aspirations and aims of the national and international media organizations will be essential in any attempt to arrange appropriate dissemination of information, and ongoing relationships with the relevant media outlets should be established by the NMS.

4.1.1 Possible desired outcomes for NMSs

The following list describes some of the reasons NMSs seek improved usage of official, consistent information:

- Users (the public, and particularly those affected by a weather situation) receive correct and useful information;
- Users receive consistent information and are not confused by mixed messages from different sources (including from different offices or services of the NMS);
- Users receive information at adequate frequency and in a timely manner;
- Users are able to have trust in the information by being able to identify its source as being credible and having authority in meteorological matters;
- The NMS is seen to be serving the public interest and providing good value for the investment of public resources;
- Due recognition of the authority of the NMS or RSMC in its assigned region of responsibility as the most accurate and credible source of information about weather matters.

4.1.2 Possible desired outcomes for disseminators of information (largely media)

The following list describes some of the reasons the disseminators of information (primarily the media) seek improved usage of official, consistent information:

- More credible and reliable information is likely to be of more interest to the audience;
- The information may provide a different angle on a story not available from other media, thereby giving a competitive advantage. This may also lead to increased business for their commercial operations;
- For public sector broadcasters, they are seen to be serving the public interest and providing good value for the investment of public resources;
- Giving accurate and reliable information to the public will more closely match any public interest role that the media organization wishes to perform.

4.2 STRATEGIES TO ACHIEVE THE ABOVE OUTCOMES

First of all, when it comes to strategies to encourage the use of official, consistent meteorological information, all NMSs should start by examining their own internal operations. Many of the potential causes of the use of unofficial information come back to issues under the control of the NMS itself.

Secondly, once their own internal operations are in order, NMSs can turn to external considerations, starting with the relationships they have built, and the operational plans they have agreed to, with the media and other organizations, especially emergency management.

Finally, there is a set of strategies that can be employed by NMSs to address the difficult issue of understanding and building relationships with the sources of unofficial meteorological information. Internet sources are included in this group.

Although, these three sets of strategies are addressed below, it is not intended that they be considered sequential actions. Many of them will be addressed in parallel, and individual NMSs will need to select from them according to their particular circumstances and the needs existing in their own country.

4.2.1 Good coordination of forecasts and warnings within the National Meteorological Service

Avoiding inconsistency in the forecasts emanating from the NMS itself might seem an obvious necessity, but can occur

surprisingly easily, and even more so in larger NMSs, those where operations are widely distributed geographically (because of the greater difficulty of communication and consultation over greater distances) or where communications systems are inadequate.

This issue is addressed in some detail in Chapter 8 of the WMO *Guide to Public Weather Service Practices*, under the heading “Internal Forecast and Warning Coordination”. Section 8.3, in particular, provides a set of principles which are in fact actions that NMSs can implement in order to ensure that adequate coordination of predictions is achieved.

4.2.2 Careful designation and description of products within the National Meteorological Service

Another of the causes of internal inconsistency of information from an NMS is the indiscriminate use of NWP as a basis for products, without sufficient labeling of the product to apprise the use of its true nature. A similar concern applies to the generation of products containing observations rather than predictions; confusion on the part of the public between weather “reports” and weather “forecasts” is extremely common, especially given that the former expression is frequently used (at least in English-speaking countries) in a colloquial sense simply to refer to presentation of weather information.

The trend towards increased dependence on NWP output as guidance for official forecasts, and the trend towards increased automation of forecast production, both by NMSs themselves and by other sources, means that this issue is becoming significant where once it would have been negligible. More advanced technological means of displaying weather information – for instance – software providing animated visualizations for use on television often require electronically formatted input data; NWP output fits this need perfectly whereas providing official forecast information in the same format is extremely difficult and resource-consuming on the part of the NMS. Another exacerbating factor is the progressively greater public demand for and accessibility of the basic data collated and held by an NMS; the general public are often as much or more interested in the computer-generated charts of NWP output or displays of current weather information (including radar and satellite imagery) as in the official forecasts.

The risk in these cases is of misinterpretation of the basic data or NWP output, or simple confusion of observed and forecast information, on the part of the public or the media, even without the intervention of the private meteorological sector or other sources which may generate misleading information. Where more than one product is displayed simultaneously, perhaps where animations are being shown while the forecast is being displayed, the two sources of information can even directly disagree.

The pressure to respond to media demands and desires for use of new technology can make this a very difficult issue to resolve. Superficially, adequate labeling of products would

seem to be a solution, so that the word “forecast” is only used where what is being presented is in fact an official forecast, and products containing other sorts of material are given appropriate titles using words such as “guidance” and “observations”. In practice, the public and media’s limited awareness of the distinctions and the understandable lack of rigour with which people typically use these words is often insufficient to make this an adequate action.

Explanatory information on the nature of the various products can also be provided verbally where the opportunity presents itself, perhaps at media workshops designed for this purpose or public education activities, or in written form. Provision of this type of adjunct information is easier and can be more effective on the Internet, especially if such links appear next to the actual product rather than on a previous menu page which can be rendered invisible by “bookmarking” of the user’s favourite pages.

More creative ideas will need to be developed to address these issues as they grow in significance with the trends in user demand.

4.2.3 Design of appropriate products

Acceptance by the media of official information from the NMS will be facilitated if the information appears in a form that suits the purposes of the media organizations. Media organizations often have quite clear ideas of how they want to present meteorological information; these may include the length of public weather forecasts, the locations and areas for which they want forecasts, the parameters they want each forecast to contain, and how frequently they want the forecast updated.

Some of the media product requirements may not be scientifically or practically feasible, for reasons that are understood by the NMS but not the media organizations. Decisions on the type of public weather products the NMS issues should therefore be the result of a dialogue between the NMS and the media. When media requirements exceed the limits of the NMS’s capability for scientific or operational reasons, the NMS should endeavour to propose an alternative as close to the original requirements as possible but within acceptable bounds, while explaining the reasons in terms that the media can appreciate and accept.

Product design, whether design of new products or redesign of existing ones, should always involve the media organizations who are expected to make use of the product at an early stage before decisions are “locked in”. This is best done via meetings where potential products can be viewed and discussed.

Particular attention should be paid to product design when there are several products showing the same information – for example, a text warning, a graphical warning and a warning intended for use on a recorded telephone service – to reproduce the exact same information in each form of the prediction. Frequency of updates of each format type should be the same, and any numbering system, e.g. for a series of warnings, should be clearly identified so that users can be sure which products go together.

Chapter 7 of the *Guide to Public Weather Services Practices* provides more information regarding the design of weather services products and the role of the media.

4.2.4 Design of user-friendly (including media-friendly) products

Products that are in a media-friendly format are more likely to be broadcast in the form in which they were originally prepared. This ensures that the NMS's message is communicated to the end user in a way that matches the NMS's original meaning. The following list provides some brief tips on designing media-friendly products:

- Use a format for the product that matches the capabilities of the broadcast medium, e.g. simple, colourful graphics for TV; more detailed graphics are possible for newspapers; simple text messages for radio;
- Use clear non-technical language;
- Clearly attribute the NMS as the source of the information;
- Use clear labeling on graphical products;
- Ensure the product is compatible with media systems (e.g. appropriate file formats);
- Plan any product changes or new developments with the media in mind;
- Ensure there are adequate resources within the NMS to support the provision of any new products. It may be possible to make use of media resources such as graphics designers in this respect;
- Consider ways of expressing uncertainty in a simple fashion.

4.2.5 Developing the media partnership

A number of important considerations exist when planning and implementing a partnership with the media. These may be formalized to a degree by some sort of mutual agreement, such as that presented in Chapter 8 (section 8.8) of the *Guide to Public Weather Services Practices*.

Careful explanation of the nature of the partnership model being employed by the NMS and the media is required, with sufficient discussion to ensure that a mutual understanding has been reached. The fundamental model should cover the specification of roles and responsibilities of both the NMS and the media party, and identification of any other entities who might be involved in the partnership.

On the subject of how products are to be treated, it should be specified how they will be supplied, what sources will be used, the format and presentation of the products, who may alter them and to what extent. Appropriate attribution to the NMS, including usage of logos and text where needed, should be included in the products themselves wherever possible. Conversely, non-NMS information should be identified as such by the media when it is used. On the part of the NMS, there also needs to be acknowledgement and acceptance of the authority each media agency has in defining its own services.

Changes in any aspect of product format requires if at all possible, that there is adequate notification given to the media before any changes are made. This is particularly important now that electronic transmission, assimilation and processing of products is often carried out, so that minor changes in product format that once would have been transparent to a human broadcaster will now produce errors in an automated system.

Joint participation in public awareness activities is highly desirable, for example, developing promotional material for use on the media, testing of new products, conducting 'awareness weeks' (e.g. prior to each severe weather season) and other public events, perhaps targeting particular community groups such as schools.

It is a good idea to conduct actual surveys or questionnaires of media staff and the public to identify their needs, rather than relying on anecdotal evidence or the informal impressions of NMS staff.

A programme should be established for routine liaison such as quarterly meetings or annual reviews, or where there is a definitive severe weather season, pre- and post-season meetings.

Mechanisms should be agreed for ensuring that NMS-related feedback received by the media from their audience is passed on to the NMS, and vice versa.

It needs to be clearly set out and agreed that the NMS will treat each media agency in a fair and unbiased manner, and that the media agencies understand that the NMS will not enter into exclusive arrangements with individual outlets. Where there are issues relating to copyright and disclaimers, these need to be worked through and a mutual understanding reached. This includes dealing with circumstances in which media agencies have company policies that prohibit the attribution of their information sources.

Where this is possible, mutually-agreed scientific and presentation standards for weather presenters may also be developed.

4.2.6 Knowledge by the media and public of NMS services available

One of the reasons why the media may not use official NMS information is when they are unaware of what is available or do not know how to find it. Their lack of knowledge can result from many factors, including rapid staff turnover in some media organizations (leading to a loss of corporate knowledge), and a lack of information on NMS and RSMC operations and responsibilities.

NMSs can assist the media by making information readily available on the areas of responsibility and rules of operation of the NMSs (and RSMCs if appropriate), or taking the trouble to explain these aspects carefully when meeting with the media. Diagrams and maps can assist as a ready reference for media staff.

Information on the services and products issued by the NMS should also be made readily available. Ways of communicating this information could take the form of a simple list or a short brochure in which the name, purpose, content and

issue times of each product are briefly explained. Again, provision of such information at meetings would be most useful, as well as inclusion of some sample products.

The potential impacts of not using the official source should be made clear to the media, who will often be quite receptive to such arguments. Presentation of accurate official information can enhance the credibility and reputation of the media organization, with possible negative impacts on the organization if less reliable information is used instead.

4.2.7 Effective information flow between the NMSs and the media

Above all else, effective information flow between NMSs and the media is essential for ensuring that consistent, official information reaches the public. It is important to recognize that information flow must be two-way. Nor should its occurrence be limited to the weather event. Liaison and consultation before and between events, as well as during the planning phases is at least as important as communication during the response phase.

Nevertheless, during an event, the critical issue is for the media to have easy access to the correct information so that they do not have to waste precious time seeking it out and ensuring its credibility.

For international media, the long-term solution is the establishment of a centralized web site giving direct access to warnings from numerous NMSs (see paragraph 1.2.2). It should be kept in mind that Websites generally have to be coordinated by a single agency, and constant technical support is needed in keeping them up to date and useful. For the international media, warning types would normally be limited to those phenomena such as tropical cyclones, major floods or other events where scales are sufficiently large as to make them important for coverage by global broadcasters.

For national media, the maintenance of a national Website giving access to all types of warnings for the entire country can be a more easily achieved, though still neither trivial nor a complete solution. An important point about Web access to warnings is that for products that are not issued on a routine schedule (i.e. warnings, especially the initial ones), there is no means of alerting recipients that the information has just been issued. However, once the recipients are aware that a weather event of significance is in progress, the Web is an invaluable source of information, both text and graphical.

Facsimile and e-mail distributions are more direct ways of delivering information to the media and include an “alerting” capability. This may be easier for some NMSs to implement and maintain than a Website.

Chapter 7 of the *Guide to Public Weather Services Practices* contains a great deal more information about dissemination methods.

Another action that should be undertaken between weather events is to draw up lists of contact information both for media broadcasters to contact the NMS and for NMS staff to contact media representatives. To some extent, broadcasters can make use of the WMO Website as a centralized source

of contact information for NMSs, since WMO links to the Websites of all its Members where these exist; however, depending on the design of the individual NMS Websites, the appropriate operational contact information may not be very straightforward to find. NMSs who do have Websites are encouraged to ensure that links to such contact information are prominent and can be easily and quickly used in an operational situation by broadcasters.

4.2.8 Effective information flow between the NMSs and emergency services

Since emergency services are vital to the effectiveness of NMSs’ operations during severe weather, and since they are often a means of communicating official information to the community, similar strategies to those for the media can be employed to ensure effective two-way information flow between them and the NMS.

Communities and local government officials in areas affected by severe weather will usually look to the emergency services for guidance about what is happening; this often includes guidance on meteorological developments. NMSs with a good relationship with emergency services and local government agencies have a much better chance of ensuring that official information is used as guidance and passed on to the public.

Chapter 8 of the *Guide to Public Weather Services Practices* describes in detail issues of coordination between NMSs and emergency services at national and local level.

4.2.9 Availability of NMS staff during meteorological events

When a weather event – most particularly a severe weather event or one with a major impact – is in progress, there are a number of tactics that NMSs can employ to encourage the national media to treat them as the main source of information.

Most effective are tactics that involve personal contact between the NMS staff and media broadcasters. Provision of regular interviews to the media, pro-active phone calls to media representatives when the situation changes or is approaching a critical point, or when some new information is available, can be extremely effective. While the making of such calls can interfere with other operational priorities (such as preparation and issue of warnings), careful planning can avoid this problem. Additional staff can be called in to allow for the extra resource needed to talk to the media, or media interviews can be carefully scheduled (in consultation with the media) for times when warnings are not actually being issued.

There is a significant advantage in careful designation of who will do what in this situation. Forecasting staff may have differing skill levels in giving media interviews. Even where two forecasters are equally proficient, one may have a greater desire to talk to the media. It often pays dividends to take note of such personal preferences.

Although it is not essential that the media contacts in these situations are the forecasters themselves, it can be very effective when they are, since the media know that they are speaking directly to the official source, especially when the interviewee is the most senior forecaster on duty and has ultimate control over the content of warnings and forecasts being issued. Alternatively, non-operational staff can be called on in these situations, relieving the pressure on the forecasting staff. It is imperative that they are fully briefed and have constant access to the forecasters to discuss the latest information.

Senior management staff may also take on the media liaison role, especially in very serious situations. This can be very well received by the media, since it may add some emphasis and extra impact to the information being given. There may be a view, especially among the forecasters themselves, that this is not appropriate, since the people that know most about the meteorological situation are the operational staff on duty. However, depending on the severity of the situation, the success with which it was forecast, and any other problems which have arisen in its course, media questioning may not follow a purely meteorological track and may divert to questions of funding, laying of blame, adequacy of the service from the NMS and more political questions which forecasters are not the most knowledgeable on. In these cases it is clearly an advantage to the NMS to have a senior person as the designated interviewee. However, in any case, NMSs interested in encouraging the use of official, consistent information should avoid designating people who do not have sufficient background in meteorology or understanding of the services provided and products being issued.

Irrespective of who is chosen for the role of media contact, it is essential that they have skills in dealing with the media, including specific training where necessary. This is another aspect of the careful planning that is required.

4.2.10 Routine interviews with the media

While the previous paragraph deals with direct contact with the media during especially significant weather events, a routine arrangement with the media for interviews with forecasting staff can also be a powerful tool. Regular appearances on media broadcasts builds credibility with the public, as well as presenting an opportunity to better explain the forecasts, and increase public understanding of the NMS, its existence, role, and value to the community.

In some countries, where routine broadcasts or interviews are provided, the individual forecasters can become well-known to the general public, even becoming household names. Far from opening the NMS to greater levels and opportunities for criticism, this can instead greatly increase the trust in the NMS, and provide a very high level of tolerance when the forecasts are wrong. Public behaviour in these cases seems to be willingness to listen to explanations given by the forecasters and to accept them. It is also possible with the advantage of personal contact to better express the uncertainty and confidence in a forecast, and this can also improve its acceptance by the public.

4.2.11 Dealing directly with non-NMS sources of meteorological information

Fundamentally, the best ways of fostering appropriate use of official meteorological information are to focus on the quality of the information and on maintaining good relationships with those disseminating it.

However, in circumstances where alternative non-NMS sources of meteorological information exist, NMSs can also pursue the goal of better relationships and cooperation. Many of the same “rules” apply to this as to relationships with the media. Firstly, the aspirations and aims of non-NMS agencies may not be well known to the NMSs and it should be the first task to make contact with representatives of those sources and discuss the issues from the viewpoint of serving the overall public interest. Not all the aims of unofficial sources will be opposed or in conflict with those of the NMS; many may be similar, depending on the nature of the unofficial source and the attitude taken by the people who operate it.

Some of the possible aims of the non-NMS sources may include:

- Issuing accurate and up-to-date information about the meteorological situation to the public;
- Acknowledging their own role and expertise in providing meteorological information to the public;
- Educating the public about meteorological matters;
- Increasing revenue in the case of commercial operations
- Having the public and the official NMS acknowledge that the private sector has a role in provision of meteorological services, complementary to that of the NMS.

Strategies that NMSs might employ to address these aims are, as with the media, based upon maintaining ongoing relationships with the non-NMS sources, and taking a cooperative, consultative attitude in coordinating the activities of both parties, to the extent that this is consistent with serving the public interest.

This will be easier with some non-NMS organizations than others. Academic or other government institutions that also serve the public interest, and especially those which take a science-based approach to meteorological services, are more likely to be amenable to this consultative, cooperative approach. Agreement may be able to be reached on what role each agency will take in providing services to the public, with the NMS retaining the issue of warnings and forecasts, especially those during severe weather, but with the academic institution or government agency participating in non-real time meteorological services such as public education.

Private sector organisations who provide meteorological services on a commercial basis may see themselves as in competition with the NMS and may be less likely to accept this cooperative model of operation. Nevertheless, they will share the interest of the NMS in avoiding confusion for the public that might reflect adversely on themselves. They may also be dependent on the NMS for basic information or the NMS's own products as a foundation for their own services. Scope therefore exists for a division of activity which retains the basic role of the NMS as the official source of forecasts and warnings, especially during severe weather, with the

private sector picking up areas of more specialized meteorological services, to particular industry sectors or user groups that have more focused needs.

4.2.12 Dealing directly with Internet sources of meteorological information

The errors of consistency that an NMS can make and which are listed in paragraph 2.2.1 will be more obvious on a Website. Easy navigation from one point of the site to another can effectively place different versions of information next to each other, highlighting their disagreement. This of course should make the discrepancy equally obvious to the NMS staff; it is therefore important for NMS staff to monitor their own Website so that such instances are picked up. It is a good idea for the NMS staff to always use their own (external) Website for their personal monitoring of weather situations, so that they are by default using the same presentations as the external users.

The NMS's Website can be used, as far as possible, to inform and warn the public about the dangers of unattributed weather information elsewhere on the Web, although this needs to be done carefully and with a degree of creativity in order to ensure the maintenance of good relationships with other organisations who may be providing misleading information but may have no adverse intentions in doing so. It is also a good idea to focus first and foremost on making the NMS's own practices on its Website as helpful as possible to the public, in preference to pointing out the deficiencies of others.

In counterpoint to the previous paragraph, special attention should be given to making the NMS Website appear official as well as offering the best information. Ways of achieving this are many and varied but include the provision of references to appropriate legislation which outlines the role of the NMS, provision of links from the NMS site to other Government sites, and the use of logos and attribution to the NMS, preferably within the body of a product so that when it is downloaded it still contains the reference.

The Internet should not be used by an NMS as the sole, or even primary, means of dissemination of forecasts and especially warnings.

A final point is that it is obviously of benefit to the NMS as the single official source if attribution is given to it on other Websites maintained by non-official sources. This can be difficult to achieve due to the number of Websites that are being established, and the extremely common desire to have weather information on many sites which in themselves are nothing to do with the provision of meteorological information, simply because they are popular or commonly used by the public. NMS staff may frequently not even be aware that their information is appearing on other web sites, let alone in what form it is being presented or whether attribution is being given.

Where this does come to the attention of the NMS, the first and best solution may be to try and persuade the organization concerned to link directly to the NMS Website instead of maintaining their own information, even if it is sourced from the NMS. This ensures that updates are always made and that the information is naturally always the official version. Where this is not possible, consideration should be given to setting conditions on the use of the NMS information, by means of a copyright statement or similar, that defines some basic rules of how that information may be presented on a Website.

4.2.13 Dealing with other NMSs

Section 8.2 of the *Guide to Public Weather Services Practices* addresses some of the basic issues of dealing with other NMSs, mainly to do with exchange of forecasts and warnings. These are relatively easy strategies to put in place, generally speaking, although care needs to be taken with addressing of products when areas of responsibility overlap.

More challenging are such issues as addressing coordination of forecast policy across international boundaries, and the growing issue of NWP products from neighbouring NMSs which may not agree with either the local NMS's NWP or their official forecasts.