



Report of Meeting #4 of The International Forum of Meteorological Societies

<http://www.ifms.org/ifms/index.cfm/meetings/ifms-global-meeting-four/>

Development of an Organization

Final Version V01

Sponsored by AMS and CMOS

**Location: Hilton Riverside Hotel Meeting Room Chart B & Lunch/Break
Room Chart C**

New Orleans, USA

On January 13 (Afternoon) and January 14, 2016

Concurrently with

96th AMS Conference

<http://annual.ametsoc.org/2016/>

March 13, 2016



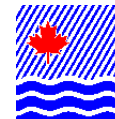
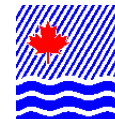
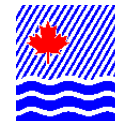


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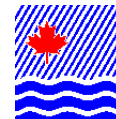


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ACRONYMS/ABBREVIATIONS

ACT	Accreditation/Certification and Training
ACM	Asian Conference on Meteorology
AMOS	Australian Meteorological & Oceanographic Society
AMS	American Meteorological Society
CAM	Centro Argentino de Meteorologos
CCR	Canadian Consortium for Research
CEO	Chief Executive Officer
CGU	Canadian Geophysical Union
CMOS	Canadian Meteorological and Oceanographic Society
CMS	Chinese Meteorological Society
COMET	Program established by UCAR and NOAA's NWS to promote a better understanding of mesoscale meteorology
CWRA	Canadian Water Resources Association
EAC	East African Community
EMS	European Meteorological Society
FLISMET	Latino American Federation of Meteorological Societies
GFDRR	Global Facility for Disaster Reduction and Recovery
Hydromet	Hydrology and Meteorology
IAMAS	International Association of Meteorology and Atmospheric Sciences
ICSU	International Council for Science
IFMS	International Forum of Meteorological Society
ISB	International Society of Biometeorology
IUGG	International Union of Geodesy and Geophysics
KMS	Korean Meteorological Society
LDC	Least Developed Countries
Met	Meteorology



MMT	Hungarian (Magyar) Meteorological Society
MSCT	Meteorological Society of Chinese Taipei
MSJ	Meteorological Society of Japan
NGO	Non-Government Organisation
NMHS	National Meteorological and Hydrological Services
NMSoc	National Meteorological Society
NWS	National Weather Service
PAGSE	Partnership Group for Science and Engineering
PB	Program Book
PPT	Power Point
QMS	Quality Management System
REC	Regional Economic Cooperation (s) groupings in Africa USA
RMetS	Royal Meteorological Society
SG	Secretary General
STA	Science and Technology Australia
USA	United States of America
VP	Vice President
WB	World Bank
WebEx	Web Conferencing Software (Proprietary)
WMO	World Meteorological Organization
WWOSC	World Weather Open Science Conference

Preamble

The IFMS was created in 2008 to focus on advancing the goals and objectives of the world's professional and scientific societies in the field of Hydrometeorology. As per the initial plan, the IFMS was intended to be an informal mechanism that facilitated interactions among Societies and, as such, would not have any legal or official formalism. Although it is a noble idea, practically it does not work. Nobody appears to have taken initiative to further the cause of IFMS. There has to be some formal structure and follow-up mechanism for IFMS to progress.

With that idea in mind, the Canadian Meteorological and Oceanographic Society (CMOS) and the American Meteorological Society (AMS) cosponsored the 4th Meeting of IFMS. This meeting in New Orleans, Louisiana, USA took place on January 13 (afternoon) and January 14, 2016, concurrently with the 96th Conference of the AMS. The objective of the meeting was to discuss and determine what we would like IFMS to be and how we can make it happen.



The meeting was attended by representatives from National Meteorological Societies from all six continents. Presentations were made as listed in the Program Book as well as three Panels were successfully completed.

All issues we set out to address were discussed and the required decisions were taken. This document summarizes the proceedings of the meeting as well as the panels along with the results of the discussions. It also provides the Action Items to be acted upon in order to make IFMS a vibrant and operational organization.

I would like to profusely thank AMS for doing a wonderful job of making arrangements for the meeting and CMOS for its strong support for this meeting.

Sincere thanks are due to Mary Voice, Elizabeth Bentley and Jack Hayes, the Moderators of the three panels and the Panelists for preparing the reports presented in Annex B, C and D.

We would also like to thank all delegates who took the time out of their very busy schedules to attend this meeting and make it a great success which is demonstrated by the progress we made in the meeting and the emails we have received since then.

We believe that we had very fruitful discussions and gathered sufficient ideas to move forward. Some bold decisions and actions will be required to strengthen IFMS and make it capable of acting as a thread between all the societies and make a big contribution in the creation of Weather Ready Globe.

Dr. Harinder Ahluwalia, Eng.

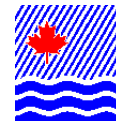
Convener – IFMS Meeting #4

“You must be the change you want to see in the world. ...” Gandhi

“Do not take status quo as granted; always think of change for the better” Harinder

“No mission is impossible if a dedicated unwavering person or group is prepared to work hard for it” Harinder

“Caution is important, but don’t let it destroy your ultimate goal”.....Harinder



Introduction

The 4th Meeting of the International Forum of Meteorological Societies (**IFMS**) was held in New Orleans on January 13 (Afternoon) and January 14, 2016. The main objective of this meeting was to make IFMS a viable organization which has a well-defined structure, charter, activities and agenda to achieve it.

The first activity was to create a Discussion Paper on the need for IFMS. This was followed by inviting member societies to attend Meeting #4 in New Orleans sponsored by AMS and CMOS, make presentations as well as participate in Panel discussions and preliminary decision making.

Three Panels were constituted to discuss the following topics:

- Panel 1:** List of Activities which IFMS should undertake,
- Panel 2:** Constitution, Council, Secretariat and Financing, and
- Panel 3:** Future Activities of IFMS in support of the New Weather Enterprise.

A Moderator and three Panelists were assigned to each of the three Panels.

The meeting included presentations by many attendees as well as a Keynote Speech by Dr. Louis Uccellini, the Director of National Weather Service, USA.

This document presents the outcome of the Meeting which should be read in conjunction with the following documents:

1. Program of Meeting #4 which provides the detailed program along with a summary of the presentations and introduction of the presenters.
2. Power Point Presentations of each presenter.

The Report is presented in the following parts:

Part 1 presents a very short summary of each presentation. More details can be found in the documentation listed above.

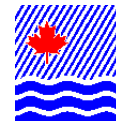
Part 2 provides the summary of each Panel with more details presented in the Annexes.

Part 3 deals with activities generated as a result of Panel discussions and related Action Items which need to be taken care of.

Additional information is provided in the Annexes.

The attendees of IFMS Meeting #4 are listed in Annex A. The Presentations were made as per the Program Book.

All final documents are available on the IFMS Website at www.ifms.org.



PART 1

SHORT SUMMARY OF PRESENTATIONS BY DELEGATES

1 Summary of Presentations on Day 1 (Afternoon)

After a sumptuous lunch, the Welcome session started with speeches by many of the delegates. This Part of the Report provides a summary of the presentations. As already stated, please refer to the Program Book for the resumes of the Presenters and the Power Point Presentations which are also available on the IFMS Website.

1.1 Welcome Address by Dr. Harinder Ahluwalia

Dr. Harinder Ahluwalia, the Convener of the Meeting and the MC welcomed the attendees and explained the objective of the meeting and the operation of the three Panels. He thanked AMS for wonderful collaboration and financial support for IFMS Meeting #4 and CMOS for its cosponsoring and taking care of the meeting program. Dr. Ahluwalia also stressed the importance of IFMS and the role it can play in the “Future Weather Enterprise” to create a Weather Ready Globe.



1.2 Presentation of Dr. Alexander MacDonald



He was followed by **Dr. Alexander MacDonald**, the current President of AMS (2015-2016) who heartily welcomed all; especially those who had overcome challenges related to attending the meeting. He hoped that the attendees would be able to take advantage of the incredible presentations, sessions, keynotes, and networking that this Annual AMS meeting has to offer and return with the energy and commitment we need to sustain the IFMS. Dr. MacDonald reminded attendees about the theme of the 2016 New Orleans meeting which was “Earth System Science in Service to Society”. He stressed that certainly, the global science we need to help us in the coming years cannot be the purview of only some regions, or of some of our global scientific cohort. “The 50 meteorological societies that comprise the IFMS allow us to globalize our efforts to address the great issues facing our stewardship of the world’s oceans and atmosphere and their biological universe. We owe it to the future to use every tool we have to our utmost ability; we believe that the IFMS is unique and invaluable in its ability to increase global cooperation in creating a “Weather Ready Globe” and much more effective disaster management strategies for the people of the world”.

1.3 Presentation of Dr. William Gail

The next speaker was **Dr. William Gail** the Past President (2014-2015) of AMS. He stressed that Scientific and professional societies play a critical role in the weather and climate enterprise. They provide foundation services ranging from publications to meetings, acting as a sort of “glue” to bring together the academic, government, and commercial sectors. As we expand the global connectivity of our enterprise, collaboration among societies is increasingly important.



1.4 Presentation of Prof. Elizabeth Bentley



Dr. Gail was followed by **Prof. Elizabeth Bentley**, CEO of the Royal Meteorological Society, UK's Learned and Professional Society for weather and climate. She spoke about Professional accreditation in meteorology which is one of our key priorities. This talk covered the UK's current meteorological accreditation framework and the importance of professional accreditation to individuals, organisations and the meteorological community.

1.5 Presentation of Dr. Jack Hayes

Dr. John (Jack) Hayes, the Senior VP at Harris Corporation and ex-Director of NOAA provided the summary of the World Weather Open Science Conference (WWOSC) of the World Meteorological Organization (WMO) conducted in Montreal, Canada, August 16-21, 2014. The Conference brought together the entire weather science and user communities (over 1000 attendees) for the first time to review state-of-the-art technologies and map out the scientific frontiers for the next decade and more. A two-day special session was held to focus on enhancing collaboration across the weather enterprise (public, private and academic sectors) to benefit societies worldwide. At a time when the impacts of weather and climate are growing dramatically, the interaction among these three enterprise sectors is increasingly important. The session was designed to enhance the dialogue and collaboration across the global weather community and to identify areas where greater collaboration among the enterprise's three sectors could significantly benefit people worldwide. Three panels (Weather Services, Weather Services Supporting Infrastructure, and Strategies to Improve Collaboration) were addressed by 18 panelists who are recognized leaders within the Weather community – these included the Deputy Secretary General of the WMO, the Director of the National Weather Service, the CEOs from AccuWeather and the Weather Company, and the President of the University



Corporation for Atmospheric Research. Presentations summarized the key observations and conclusions of the three panels.

1.6 Presentation of Prof. Teruyuki Nakajima

Prof. Teruyuki Nakajima, JAXA EORC, member of the executive board of the Meteorological Society of Japan (**MSJ**) provided the overview, the conference status and outcomes on behalf of the 1st Asian Conference on Meteorology (**ACM**) Conference Bureau: Chinese Meteorological Society (**CMS**), Korean Meteorological Society (**KMS**) and the Meteorological Society of Japan (**MSJ**) which have been organizing a joint conference on meteorology since 2005. The purpose of the joint conference was to enhance the development of atmospheric science, promote international academic exchange, organize regional activities in the field of meteorology and create an academic exchange platform for meteorological societies of China, Korea and Japan. It is also intended to enhance the friendship among the meteorologists of the three countries.



After the sixth conference held in Nanjing, China in 2013, the three societies have been discussing the future of this conference, especially how to make the conference more scientifically attractive and international. Recognizing that the conferences have provided good opportunities to young scientists among the three countries and that the benefit will be expanded in the future, the representatives of the three societies agreed to organize a joint conference among the three countries every two years in each country by turns with a title of the Asian Conference on Meteorology. The first of this conference was held in Kyoto, Japan in October 2015.

1.7 Presentation of Dr. Martina Junge

The next speaker was **Dr. Martina Junge** who is the Executive Secretary of the EMS which is an association of associations, with no individual members; through its Member Societies it represents 10 000 individuals in Europe. It is further supported by currently 32 Associate Members (organisations). 60% of the income is through Membership fees by Member Societies and Associate Members; there is a stable membership of Member Societies and Associate Members, but little scope for growth in Membership due to the concept and regional reach of the EMS membership.



The EMS is steered by a Council (biannual meetings, representatives elected at annual General Assemblies) and the EMS Bureau (elected by Council); it has a small secretariat (1.2 staff). It consequently depends on individuals partly supported by Member Societies and Associate Members to implement any new major initiatives.

Mission: Promote professional standards and best practices across European meteorological service providers and practitioners, raise the profile of Member Societies, establish collaborative activities and share experiences, be an umbrella organisation for the entire European meteorological community.

Key activity is the annual conference, attended by 450 – 700 participants from all sectors and areas of meteorology, mainly in Europe but also beyond, serving as a forum and umbrella for the entire meteorological community. The success of the EMS Annual Meetings is vital for the EMS in fulfilling its mission. The EMS has a well-established and expanding Awards program which serves the promotion of best practice and professional standards as well as support for early career scientists.

The EMS has no mandate to act as a European voice on policy matters. Continued effort is required to encourage the sharing of information and experiences that are of benefit to the membership. There is a need to put increasing emphasis on highlighting the role of the EMS and the benefits of membership.

Any association of associations will face the same issues: dependence on the work of individuals that are already active in their association and whose time for additional initiatives on an international level is limited. A functional umbrella organisation will require adequate funding which may be difficult to come by.

1.8 Presentation of Dr. Yongyun Hu

Dr. Yongyun Hu, the VP of the Chinese Meteorology Society (**CMS**) spoke about the plans of CMS regarding national and international collaborations. In line with the developments in science and technology in China, academic societies are entrusted to play more important roles that were previously undertaken by the government. With this opportunity, the CMS aims at enhancing international collaborations and domestic outreaches. In this presentation, we will introduce CMS's strategies of international collaborations and outreaches in China, evolution of society publications, membership service, academic exchanges, and domestic outreach. These issues, activities, and solutions presented herein constitute persistent efforts of the CMS in promoting sustainable development of the weather, climate, and environment enterprises of China.



1.9 Presentation of Mr. John Mungai

Mr. John Mungai, represented the East African Community (EAC) which is the regional intergovernmental organisation of the Republics of Burundi, Kenya, Rwanda, the United Republic of Tanzania, and the Republic of Uganda, with its headquarters in Arusha, Tanzania. It is one of the eight regional economic cooperation (RECs) groupings in Africa. The Vision of EAC is a prosperous, competitive, secure, stable and politically united East Africa; and the Mission is to widen and deepen Economic, Political, Social and Culture integration in order to improve the quality of life of the people of East Africa through increased competitiveness, value added production, trade and investments.



Meteorology has been recognized as one of the enablers of economic development in East Africa. The EAC Region is affected by a range of weather and climate related hazards that often translate into natural disasters – principally arising from drought, severe storms and floods. These and other weather and climate related disasters account for over 80% of the natural disasters affecting the region. Meteorology is also recognised as a cross cutting sub sector that impacts on activities in civil aviation, construction, agriculture, food security, peace and security, disaster management and water management, among others.

1.10 Presentation of Prof. Judit Bartholy

Prof. Judit Bartholy provided information about the Hungarian Meteorological Society (MMT) and its history and activities.



The basic objective of MMT is the study of meteorology improving the general education, disseminating meteorological knowledge, the environmental mentality and new scientific results. The MMT organizes scientific meetings and symposia, establishes permanent and ad hoc committees, maintains sections, co-operates with other institutions and international organizations. It also issues and edits meteorological publications, prepares meteorological studies and gives awards for outstanding meteorological activities.

MMT would like to host Meeting #5 of the IFMS in Budapest from September 3-7, 2018 for two days.

1.11 Presentation by Dr. Harinder Ahluwalia

The next speaker was **Dr. Harinder Ahluwalia** who presented the case why IFMS is required and why this Meeting #4 was organized. He stressed that for “Future Weather Enterprise” in which all nations and various sectors of the enterprise (Public, Private,



University, NGO and Users) must cooperate, an organization like IFMS can play a very important role in creating the required cooperation and strengthening those Societies which need assistance and mentoring. He then explained the objectives of the three Panels and what we wished to achieve as a result of the discussions. Dr. Ahluwalia stated that after the completion of the Meeting, a Report containing the summary of presentations, panels and the list of Action Items will be prepared.

1.12 Presentation by Dr. Makoto Suwa

Dr. Makoto Suwa, a Senior Disaster Risk Management Specialist at the World Bank’s Global Facility for Disaster Reduction and Recovery (**GFDRR**), spoke about the World Bank’s Experience in Strengthening Weather, Climate, and Hydrological Service in Developing Countries.



Hydro-meteorological hazards—such as storms, floods, droughts, heat and cold waves—are responsible for the greatest proportion of losses from adverse natural events, causing nearly 80 percent of disasters and over 50 percent of disaster-related deaths between 1980 and 2011 around the world. In recent decades, damage incurred by hydromet hazards has shown a growing trend and as climate changes such events may become even more costly.

In these circumstances, strengthening weather, climate and hydrology services will be a key aspect of promoting sustainable development, including cost-effective adaptation to weather and climate extremes. Weather, climate and hydrology forecasts and other information products help to minimize risks in all sectors, and are used for decision-making in agriculture, water resources management and irrigation, energy, transport, public health, and environmental management, among other sectors.

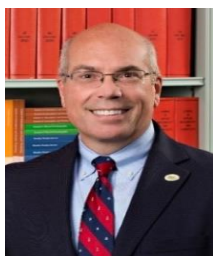
In most countries, National Meteorological and Hydrological Services (NMHSs) are responsible for collecting, analyzing and providing weather, climate and hydrological data, forecasts and information services and issuing early warnings, but their capacity in many developing countries is limited and not adequate to fully meet user requirements. The 2013 publication by the GFDRR Hydromet team entitled “Weather and Climate Resilience – Effective Preparedness through National Meteorological and Hydrological Services” highlighted the importance of an integrated approach and long term support to address

challenges which NMHSs are facing. Also, a globally and regionally integrated approach by leveraging global and regional resources in weather, climate and hydrological services has been proven to be an important contribution to improving hydromet services delivery at the national level. The presentation will discuss the WB/GFDRR's recent work in this domain, highlighting challenges and opportunities.

2 Summary of Presentations on Day 2 (Morning)

2.1 Presentation by Dr. Keith Seitter

The second day started with **Dr. Keith Seitter**, the Executive Director of AMS welcoming the attendees. He stated that the AMS was extremely pleased to have been able to partner with CMOS in the planning and execution of the Fourth Global Meeting of IFMS. He offered a very brief reminder of the origins of IFMS, as well as a look to the future.



IFMS was conceived in 2009 in Phoenix, Arizona where leaders of the world's regional and national meteorological societies met and unanimously agreed to form the very first International Forum of Meteorological Societies (IFMS). The first Meeting was held in Atlanta, Georgia, USA on January 19-20, 2010 in conjunction with the AMS Annual Conference. The second Meeting was held in Xiamen, China on November 3-4, 2011 in conjunction with CMS Annual Meeting. The third IFMS Meeting was held on September 12-13, 2013 in Reading, UK in conjunction with EMS Meeting.

This 4th Meeting is meant to strengthen IFMS to become a viable organization capable of interconnecting national societies and helping the developing ones to grow.

2.2 Presentation by Dr. Frederick Carr

The next speaker was **Dr. Frederick H. Carr** who is now the current President of the AMS (2016-2017). He believes that AMS has developed a number of close partnerships with International Meteorological Societies, which he hoped to strengthen. He stated that AMS also looks forward to developing new relationships with additional nations. Plans for the 2017 AMS Annual Meeting, whose theme is "Observations Lead the Way", were outlined, and he hoped that the next Annual Meeting could attract a strong international presence to discuss how our shared goal of maintaining and increasing our global observing infrastructure can strengthen the bonds among us.



2.3 Presentation by Martha Anderson

Martha Anderson, the President of CMOS, spoke about “Cooperation with Societies of other Disciplines”. She stated that in addition to the obvious benefits of National



Meteorological Societies working together, there are benefits to be gained from working with synergetic societies of other domains as well. Her talk presented some Canadian examples of cross-cutting and multi-discipline activities that have helped CMOS achieve its goals. She gave an example of CMOS’ cooperation with the Partnership Group for Science and Engineering (**PAGSE**) and the Canadian Consortium for Research (**CCR**).

PAGSE is a cooperative association of more than 25 national organizations in Science and Engineering representing approximately 50,000 individual members from industry, academia and government sectors. It represents the Canadian Science and Engineering community to the Government of Canada. The CCR consists of 20 organizations that represent researchers in all disciplines across Canada. The member groups of CCR represent 50,000 researchers and 500,000 students. Primary concerns of CCR are the funding of research in all sectors and support for post-secondary education.

In addition, from time to time, CMOS holds Shared Conferences with the Canadian Geophysical Union (CGU), the American Meteorological Society (AMS) and the Canadian Water Resources Association (CWRA). This allows CMOS to hold these conferences at an optimum cost and to achieve cross fertilization.

2.4 Presentation by Dr. Teruyuki Nakajima

Dr. Teruyuki Nakajima, Secretary General of the International Association of Meteorology and Atmospheric Sciences (**IAMAS**) spoke about the current status of its initiatives and its



future prospects. IAMAS is one of the eight Scientific Associations of the International Union of Geodesy and Geophysics (**IUGG**) under the International Council for Science (**ICSU**). It has 66 member states and for many years it has been providing the scientific community with platforms to present, discuss and promote the newest achievements in meteorology, atmospheric science and related fields. IAMAS also facilitates and coordinates research that requires international cooperation, especially through its ten commissions and one committee. All the commissions, and

IAMAS as a whole, play a leading role in the global communication and discussion of the latest research results. The future direction of IAMAS is agreed at its General Assemblies, composed of National Delegates of the Adhering Countries. Through this mechanism IAMAS is strongly related to and collaborates with the world’s meteorological and atmospheric science societies.

2.5 Presentation by Prof. Mark Schwartz

Dist. Prof. Mark D. Schwartz, the current President of the International Society of Biometeorology (**ISB**), spoke about opportunities for interaction and mutually beneficial activities between ISB and IFMS. Biometeorology is an interdisciplinary science studying the interactions between atmospheric processes and living organisms—plants, animals and humans. The most important question that biometeorology answers is: How does weather and climate impact the well-being of all living creatures? The ISB provides an international forum for the promotion of interdisciplinary collaboration between meteorologists, health professionals, biologists, climatologists, ecologists and other scientists. The Society, as a community of scientists with similar interests, fulfils an important role in providing information, expertise and advice to organizations requesting this assistance worldwide. The ISB represents the most comprehensive organization to bring together people with expertise in these areas. The IFMS was formed to foster and encourage communication and exchange of knowledge, ideas and resources among the world's more than sixty meteorological societies. Given that the impacts of climate change on organisms are a crucial issue in global change research, there are many opportunities for the activities and expertise of the ISB and its members to interact and support meteorological societies participating in the IFMS. The areas that seem most self-evident are: 1) information exchange on climate change impacts; 2) possible joint society membership agreements; and 3) opportunities for co-sponsorships of professional conferences.



2.6 Presentation by Prof. Eduardo Agosta



Eduardo Agosta participated in the meeting as representative of the Argentine Meteorological Society (CAM) and on behalf of the Iberian and Latin-American Federation of Meteorological Societies (FLISMET). He gave two brief presentations on the history of these institutions and about their current activities, their accomplishments and challenges they face. He brought to the floor queries about the need for their societies in South America to continue working on the creation of a professional certification program and for advocating its implementation under a professional liability law issued by the national and state governments. He also presented the question on financial aid among the member Societies of IFMS since it is a big issue among Latin-American societies. During the discussion on initial funding for IFMS, he proposed that all member societies contribute one-percent of their membership fee to raise funds for the IFMS' needs.

2.7 Presentation by Mary Voice

Mary Voice, Vice President AMOS, stated that our disciplines are even more exciting now than they were 20-30 years ago – to all of young students, existing scientists and the interested (amateur) public. One only needs to consider satellite observing advances, the prospects for cube-sats, the capacity for data analysis, visual display for both professionals and the general public, and the prospects for citizen science projects.



The Australian Meteorological & Oceanographic Society (**AMOS**) is hoping to be more active in presenting these ideas to the public in the near future, and would welcome information sharing with other meteorological societies under the IFMS umbrella.

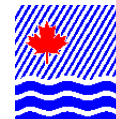
Recent activities by AMOS that might be of interest to other societies are:

1. An annual weather tipping competition that coincides with the football season whereby anyone can compete with the official forecasts.
2. Participation in an annual Science meets Parliament programme co-ordinated by Science and Technology Australia (STA).
3. Participation in an annual Science meets Business programme, again coordinated by STA.
4. Efforts to improve equity and diversity in our Society - while we have fairly recently put some effort into this area, we will pose the question: should this also be a broader IFMS priority?
5. Since Australia is located both in an ocean-dominated hemisphere and also at the western edge of the huge Pacific Ocean, AMOS makes considerable effort to include oceanography in its annual conference.

2.8 Key Note Speech by Dr. Louis Uccellini

Dr. Louis W. Uccellini, Director of the National Weather Service, was the key note speaker. He provided a perspective on professional societies as a nexus between sectors of the meteorological community and how that engenders responsibility. He explored how that responsibility extends beyond national borders, and how international cooperation is not simply a nicety but essential to achieve a weather ready globe. Dr. Uccellini linked discussions at the World Weather Open Science Conference (WWOSC) - 2014 to the potential contributions from the IFMS. He acted as a provocateur for following discussions on the Future Weather Enterprise and the role of the IFMS.





PART 2

PANEL SUMMARIES

1 Proceedings of Meeting #4

This Part 2 presents the summary of the three Panels which were conducted as a part of IFMS Meeting #4. The Panels were conducted as planned in the Program Book. The summary of discussions and outcomes have been prepared by the respective moderators with input from the panelists. Each of the three Reports is presented in Annex B, C and D, respectively.

After the completion of the three Panels, an open discussion led by Dr. Harinder Ahluwalia took place. Part 3 provides the outcome of that discussion.

2 Introduction

The 4th Meeting of the International Forum of Meteorological Societies (**IFMS**) was held in New Orleans on January 13 (Afternoon) and January 14, 2016. The main objective of this meeting was to make IFMS a viable organization which has a well-defined structure, charter, activities and agenda to achieve it.

The first activity was to create a Discussion Paper on the need for IFMS. This was followed by inviting member societies to attend Meeting #4 in New Orleans sponsored by AMS and CMOS, make presentations as well as participate in Panel discussions and preliminary decision making.

Three Panels were constituted to discuss the following topics:

- Panel 1:** List of Activities which IFMS should undertake,
- Panel 2:** Constitution, Council, Secretariat and Financing, and
- Panel 3:** Future Activities of IFMS in support of the New Weather Enterprise.

A Moderator and three Panelists were assigned to each of the three Panels.

The meeting included presentations by many attendees as well as a Keynote Speech by Dr. Louis Uccellini, the Director of National Weather Service, USA. Please consult the Program Book for an outline of the presentations. The Power Point Presentations are also available on the IFMS Website.

The Agenda and Summary of the Presentations have already been presented in the Program Book which is also available on the IFMS Website.

3 Panel Summaries

In each Panel, the Moderator and the Panelists made a presentation of 5 to 10 minutes.

The first two Panels were conducted by the Moderator proposing a limited number of ideas and then making 3 to 4 break-out groups of the attendees to discuss each idea and come up with more details. Then all the ideas so collected were presented to all attendees and then those which can be achieved in the next two years were selected.

The third Panel was run slightly differently. After presentations by the Moderator and the three Panelists, the Moderator opened the floor for questions and each question was answered by each Panelist. The Moderator then summarized the proceedings of the Panel.

3.1 Summary Panel 1: List of Activities IFMS must Undertake

Panel 2 Members:

Mary Voice	– moderator
Elizabeth Bentley	– panelist
Yongyun Hu	– panelist
Fei Chen	– panelist



Panel 1 discussed the mission statement and objectives of IFMS and the activities it could undertake to create cooperation and mutual assistance among the Meteorological Societies of the world and to facilitate capacity building of existing societies and assistance in establishing new societies.

Mission statement: *IFMS aims to foster and encourage communications and exchange of knowledge, ideas and resources among the world's more than sixty meteorological societies in order to “serve” civil societies.*

Although many potential activities and objectives were discussed, the meeting selected three objectives for implementation in the immediate future:

- ✓ Facilitate strengthening of NMSocs and help establish new ones.

This can be achieved by taking the assistance of already existing multi-national societies such as EMS, EAC, FLISMET, etc.. In addition, we can prepare “Best Practices” documents for which we will identify the topics.

- ✓ Communication – develop and implement effective ways to communicate between NMSocs, including Web-based and electronic conferencing.

This is important for keeping the dialogue going.

- ✓ Facilitate the sharing of relevant accreditation information, procedures, guidelines and standards.

This will be achieved through providing procedures used by developed societies and by the mentoring process.

In addition, an administrative objective was identified to finalise and distribute the report from this meeting and to communicate widely on interim administrative arrangements to enable IFMS to:

- ✓ progress towards becoming a recognisable entity for financial support purposes;
- ✓ explore options for donor support, and
- ✓ work on agreed actions surrounding the objectives in a smooth and coordinated way.

3.2 Summary Panel 2: Constitution, Council, Secretariat & Financing

Panel 2 members:

- | | | |
|--------------------|---|-----------|
| Elizabeth Bentley | – | moderator |
| Esperanza O. Cayan | – | panelist |
| Mary Glackin | – | panelist |
| Harinder Ahluwalia | – | panelist |



Panel 2 picked up the discussion from Panel 1 that examined the mission statement and prioritised objectives and activities of IFMS. The Panel 1 discussion led to a revised mission statement, thus becoming “the IFMS aims to foster and encourage communications and exchange of knowledge, ideas and resources among the world’s more than sixty meteorological societies for the benefit of our civil society”. Panel 1 prioritised three objectives for the near future:

1. Facilitate strengthening of National Meteorological Societies and help establish new ones;
2. Develop and implement effective ways to communicate between societies;
3. Facilitate the sharing of relevant accreditation information, procedures, guidelines and standards.

Panel 2 focused on the Implementation of IFMS and considered activities that might best achieve the prioritised objectives. Panel 2 reviewed the objectives captured during Panel 1 discussions and considered the business model required to deliver each objective, focusing on the structure, infrastructure and financial requirements of the IFMS as well as setting some targets and deciding which Meteorological Societies would take responsibility for each objective.

3.3 Summary Panel 3: Future Activities of IFMS

Panel 3 members:

Dr. Jack Hayes	– moderator
Martha Anderson	– panelist
Mary Glackin	– panelist
Michel Jean	– panelist



One of the most important ingredients for the success of the “Future Weather Enterprise” is increased partnership among the public, private and academic sectors and nations which could increase the benefit of timely, accurate forecasts and warnings delivered to societies, worldwide. However, even in countries where there have been notable successes, challenges remain – for example, addressing the perception of a private-sector threat to government meteorological services and impediments to academic sector contribution to operational services.

The objective of this panel discussion was to review the role *National Meteorological Societies (NMSoc)* could play to help advance collaboration and cooperation among the three sectors and nations. (Note: Sometimes in this document we state 5 sectors by adding NGOs and Users to the other three sectors: Public, Private and University).

Three questions were considered:

1. How can National Meteorological Societies act as a bridge between different nations to encourage collaboration among public, private and academic sectors as well as users to work together?

It was concluded that nationally and internationally the societies may be able to reach across groups that are difficult for the National Meteorological Services to reach providing communication and dialogue among diverse groups. Societies can act as the neutral host to resolve any conflicts between various sectors. Bringing

together the three sectors and users in their country or region should be a priority focus area for limited NMSoc resources.

2. How can National Meteorological Societies help in developing and promoting capacity building efforts that produce effective and sustainable service capabilities in developing countries?

NMSoc members could volunteer time and expertise, and be ambassadors with donors and other development agencies, acting as reviewers for capacity building projects. They can assist in assuring that education of Meteorology is on the national agenda and, if possible, also provide fellowship or bursary support and no or low cost NMSoc membership; and development opportunities to students studying meteorology.

National Meteorological Societies can assist their governments in creating strategies for developing the best weather information to make informed decisions in high impact weather events and ensuring credible sources.

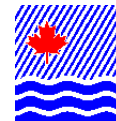
3. How can National Meteorological Societies (NMSocs) contribute to WMO Capacity Building initiatives?

Recognizing the role WMO plays as a facilitator of multi-lateral, integrated Capacity Building in developing countries using diverse resources (University, Private Sector, etc.), it can also seek the assistance of NMSocs and IFMS.

NMSocs can help by working with the National Meteorological Services and Governments to raise awareness of the importance of capacity building needs and priorities. Each NMSoc should help to ensure that capacity building needs and concerns of all the sectors are communicated to its national Permanent Representative with the WMO.

In addition to education and training, Capacity Building involves national legislative and policy frameworks in which NMSocs can assist. National institution(s) must be identified to carry out appropriate roles; what their links with government and other authorities are, what is the funding basis, and what are the expectations of government: demands, priorities, strategic plans, etc. to name a few.

Creating sustainable, adaptable and high functioning National Meteorological Services to serve national and societal needs is an immense undertaking and NMSocs and IFMS must recognize their resources' limitations will constrain the impact of their contributions – but even small steps forward are important.



PART 3

WAY FORWARD – MEETING OUTCOMES, DECISIONS & ACTION ITEMS

1 Way Forward - Meeting Outcomes, Decisions & Action Items

This Part of the Report presents a summary of the open discussion held after the three panels and led by Dr. Harinder Ahluwalia.

Various ideas and issues were discussed and Action Items were generated. This Part defines the action items from the three panels as well as the subsequent discussions.

We have presented the related Action Items in Table 1. The major Action Items fall under the following categories:

1. Produce Report of the Meeting #4
2. Complete the Interim Council and additional assistance
3. Organize IFMS as a Registered/Incorporated Entity
4. Cooperation between Societies to Strengthen each other
5. Preparation of Documents required for various Activities
6. Accreditation/Certification and Training (ACT)
7. Define Financial Requirements of IFMS and how to fulfill them
8. Communication Requirements of IFMS
9. IFMS Website
10. Plan for Meeting #5

The Action Item Table is based on the above categories of topics.

2 Produce Report of the Meeting #4

The result of the Action Items under this heading in Table 1 is this Report.

3 Complete the Interim Council and additional assistance

Recommended Council was discussed and it was suggested that we have the following structure: President, two VPs, General Secretary/Treasurer, and six Councilors (one from each WMO region).

This interim council will last 6 months after the Reports of the Meeting #4 have been accepted. However, in order to achieve some useful results, it is important to keep the Interim Council till the end of this Calendar Year.

The following people have offered their services for IFMS Council:

COUNCIL MEMBERS

1. President
2. Vice President Operations
3. Vice President Finance
4. General Secretary/Treasurer Kung-Yueh Camyale Chao (MSCT)

COUNCILORS

- | | |
|--------------------------------------|---------------------------|
| 1. RA I (Africa): | John Mungai (EAC) |
| 2. RA II (Asia): | Yongyun Hu (CMS) |
| 3. RA III (South America) | Eduardo Agosta (CAM) |
| 4. RA V (South West Pacific): | Todd Lane (AMOS) |
| 5. RA IV (North America): | Jack Hayes (AMS) |
| 6. RA VI: (Europe): | Elizabeth Bentley (RMetS) |

Dr. Harinder Ahluwalia was asked to be the President of Interim IFMS Council. In order to ensure that the mission he has started of making IFMS a reality is executed properly with well-defined tasks, resources and Execution Plan, he plans to accept the challenge provided the following:

- a) There is a Secretariat with at least an Executive Director – at least part time.
- b) All other members of the Council are prepared to play an active role.
- c) There is no other interested candidate.

It has been recommended that if and when the full Secretariat is implemented, it should be headed by the Executive Director, who should be responsible for day to day operations of the Secretariat and the implementation of the policies, set at General Meetings of the IFMS, under the direction of the Council.

In assembling the Secretariat the principal of regional balancing shall be observed.

4 Organize IFMS as a Registered/Incorporated Entity

Regarding making IFMS a real organization, it was recommended that we incorporate or register IFMS as a “not-for-profit” organization. We need to decide where to incorporate or register IFMS to minimize regulatory issues. The new Interim Council discussed above will work on this issue and the others identified in the following discussion record.

It was also recommended to have a Secretariat to do the day-to-day work without which it will be very difficult, if not impossible, to make IFMS a viable organization.

The Secretariat should have three persons eventually to take care of a multitude of activities which IFMS can perform.

However, because of initial funding issues, we plan to start with one person (Executive Director) full time or at least half time working from home in an affordable country.

5 Cooperation between Societies to Strengthen each other

Under this issue there are two aspects:

- a) Advanced Societies to help developing Societies in LDCs to become stronger
- b) All Societies to help each other – especially by developing Common Documents related to Best Practices which can be tailored by each Society to meet its local requirements and governance.

Under objective a) above, it was recommended that we select 6 Societies (preferably one from each WMO Region) which need assistance/mentoring to become stronger.

In addition, IFMS will select 6 countries (preferably one from each WMO Region) where there is no Meteorological or Hydromet Society, but according to the Criteria established by us, it should have one.

We would like to use the services of the other multi-national societies such as EMS, FLISMET, EAC, African Met Society, Asian Met Society (when formed) to achieve objective a).

In the medium to longer term, such societies can start cooperation between Scientists and Users from various countries. Eventually they can also help foreign private companies as the first door to enter the country.

Our objective is to have strong cooperation with WMO and, if seen useful by the Council and Societies and WMO, eventually to seek a seat for IFMS on the WMO Council.

6 Preparation of Documents required for various Activities

In order to make many decisions, certain information and evaluation criteria will be required. In addition, to make various types of Value Proposition(s), some documents are needed. Under this set of Action Items, we have included the following in Table 1:

- 1) Survey Document of all Meteorological societies to find out what information is valued and what they want from the IFMS and other Meteorological Societies in the IFMS.

- 2) Formulate a list of documents to be prepared as Best Practices documents. Some of them are:
 - i. A Value Proposition showing why a country needs to have a Met or Hydromet Society and the criteria to select a new country to have one.
 - ii. Why all Met/Hydromet Societies should become a member of IFMS.
 - iii. How to strengthen Met/Hydromet Societies of LDC?
 - iv. International Lecture to highlight role and importance of the IFMS – keynote speaker. Recorded and put on IFMS Website. Start with a Power Point presentation.

7 Accreditation/Certification and Training (ACT)

In order to ensure that those who provide Hydromet services are qualified to do so, Accreditation/Certification and Training are considered to be important topics of cooperation between societies through IFMS. Many societies need help while others already have operational programs. The purpose of this activity is to:

- 1) Define how to assist Met Societies in the Accreditation/Certification Process
- 2) Prepare a document outlining the names of Mentoring Societies for Accreditation/Certification and Societies to be mentored and how to achieve it
- 3) Look for Volunteers from Societies with accreditation schemes to share knowledge and information.
- 4) Focus on Quality Management System (QMS). Understand the difference between certification and QMS and perhaps a QMS for East Africa might be more appropriate. Many of our certification discussions included a reference to the new Aviation Meteorological Personnel (AMP) certification and training requirements of WMO/ICAO. This needs to be kept in mind.
- 5) How societies can help each other in Training. How assistance of COMET can be channeled through IFMS.

8 Define Financial Requirements of IFMS and how to fulfill them

In order to operate IFMS, a certain amount of funding is required. Funding is needed for the following activities:

- 1) Operation of the Secretariat and some travel expenses of the Secretariat personnel,
- 2) Publication of the Newsletter,

- 3) Travel expenses of delegates of LDCs who cannot afford to pay for the travel for their participation in biennial Meetings of the IFMS.

Various ideas for financing IFMS were discussed. Some of them include:

- a) Donor Agencies: Since IFMS is an organization working for the betterment of the world using mostly volunteer services, we must be able to make a Value Proposition for various Donor organizations to invest their money in IFMS. Because of the work being done mostly by volunteers, the benefit of small investment by these agencies will produce a much bigger benefit. Some of these organizations are: World Bank, WMO, National Aid Agencies of developed countries, benevolent organizations/trusts set up by people like Warren Buffet, Bill Gates, or organizations like Google, etc.
- b) Since we need to have some funds to activate the organization and have at least a part-time Executive Director working from home, one idea was to request all member societies to contribute 1% of their membership fee to IFMS (The Convener of IFMS Meeting #4 would add a minimum of \$250). We will consult all Societies to get their opinion on this idea.
- c) Finally, Crowd Sourcing is another idea which could work.

9 IFMS Website

A Website is the face of a business/society and it creates the first impression of the organization. IFMS needs to have an informative and attractive Website. In addition to the information about its member societies, it should carry documents related to IFMS and events (e.g. Conferences, Meetings, etc.) related to all its members and topics of interest to IFMS members.

A detailed study needs to be done to determine what should be the contents of the IFMS Website and how to keep this Website up to date.

AMS very kindly offered to maintain the Website for which we are very thankful.

10 Plan for Meeting #5

Hungarian (Magyar) Met Society (MMT) has offered to hold the 5th IFMS Meeting in Budapest from September 3-7, 2018, for two days.

Since many countries cannot participate in such meetings for one reason or another, we need to strongly consider providing remote participation capability.

MMT must also ensure that arrangements for Financial Assistance for LDC societies which need finances to travel to IFMS Meeting #5 are planned and executed early

enough for them to get the required Visa to travel to the Meeting #5. That is a lesson learnt from Meeting #4.

11 Conclusions

The 4th Meeting of IFMS was organized to redefine IFMS to be a formal organization to be able to coordinate, assist and be a broker among various Met/Hydromet Societies of the World to achieve strong cooperation.

Once the plan outlined in this document is implemented, IFMS will become a strong and useful organization performing various roles to strengthen developing societies, help create new societies, create cooperation between stronger societies, mentor on important issues such as Accreditation/Certification, training, and best practices, etc.

The participants in the 4th Meeting believe that a strong IFMS is important for leveraging the strength of well-developed societies to strengthen developing societies and help create a “Weather Ready Globe”.

Once IFMS starts its operations and provides the functions listed in this document and gains strength, it can be very useful to its members and fill a niche role in the international meteorological arena. For example, IFMS, through its constituent societies can bring the five segments (Public, Private, University, NGO and Users) of the “Future Weather Enterprise” together to cooperate and create bigger value. It can also connect the above five segments from different countries together.

Some societies (e.g. AMS, CMOS, Norwegian Met Society, etc.) have been able to convince their Meteorological Departments to provide free data to users to get maximum benefits for the society at large. Through IFMS, these societies can advise other societies interested in achieving this objective how to go about it.

IFMS can become a strong partner of the World Bank, WMO and National Aid Agencies, etc. to fulfill the mission of these potential partners.

*Since IFMS is a **volunteer-based organization** and can have reach in all countries of the world through its member societies, a relatively small investment in IFMS can provide disproportionately great benefits to WMO, WB, National Governments and all member societies.*

Some seed money (approximately \$20 K) from member societies will be required to hire at least an Executive Director who will be able to help promote IFMS and prepare the documents (with the help of Council Members and their associates) identified in this document. Only then we will be able to find additional ways of financing. **Societies are urged to pitch in!**

Let's all work together and reap the benefits of international cooperation.



Table 1: Action Items of IFMS Meeting #4

Note: Some of the Action Items such as Interim Council and its term were clearly discussed and agreed to. The other Action Items will be reconfirmed by the Interim Council and, when and if required, the respective National Societies will be consulted for major Action Items including future Council structure, required financial contribution etc.

S.N. #	ACTIVITY	WHO	WHEN	REMARKS
1.	Produce Report of the Meeting #4 as follows:	Harinder		
a)	Each Panel to produce its own report and circulate among its members to finalize it and provide it to Harinder.	Mary V, Elizabeth, Jack		Done
b)	Harinder to summarize the proceedings of the meeting and add the Panel Reports to the overall Report of the IFMS Meeting #4 and send it to all attendees for any comments. Although we would like to receive comments within 30 days, we will allow a maximum of 60 days.	Harinder		Done
c)	Depending upon the number of comments, Harinder will release the modified and Final Report within 2 to 4 weeks. The goal is to release the Final Report by mid-April 2016 but certainly before mid-May 2016. The Final Report will be made available on the IFMS Website.	Harinder		Done
d)	Assign people to the following activities	Interim Council		After approval of the Final Document, we will hold our first Council Meeting.
2.	Complete the Interim Council and additional assistance			
	Finalize Interim President and 2 VPs.	Harinder		
3.	Organize IFMS as a Registered/Incorporated Entity			
a)	Interim Council to set out in more detail, the niche role of IFMS, including its potential bridging role in international cooperation, its relationship to	Council		





IFMS Meeting #4 Report



S.N. #	ACTIVITY	WHO	WHEN	REMARKS
	potential affiliates, how it can <u>complement and reinforce</u> the activities of existing mechanisms and agencies. This will be circulated to all members of IFMS before a legal framework for IFMS is prepared.			
b)	Prepare the legal framework, Terms of Reference and Council for the IFMS.	Council		
c)	Interim Council to prepare a proposal for Incorporation or Registration and in which country to do it to have minimum regulatory issues. Interim Council to recommend to the membership of IFMS how to progress this incorporation.			
d)	Identify President, two Vice-Presidents, Secretary/Treasurer and leaders representing each WMO RA. Include rotation of members and term of office. – <i>Interim Council has already been identified which should last up to the end of 2016.</i>			
e)	Determine Secretariat duties, location, financing, etc. and plan for IFMS governance and office in place by the beginning of 2017			
f)	Consider how IFMS can effectively interact with affiliated societies and leverage their expertise.			
g)	Seek assistance of all national and multinational Societies to help in IFMS development so that IFMS will become a meaningful and powerful Forum.			
h)	Identify teams to work together on each of the items identified in this Action Items List. Leverage support of Regional Centres (Meteorological Societies or WMO RAs) to establish links within their region and encourage WMO to voice support for developing Societies			
i)	Get approval of the above by Member Societies			
4.	Cooperation between Societies to Strengthen each other			
a)	<i>Define the Role of WMO in IFMS</i>			
b)	Interactively, define relationships between IFMS and other multi-national societies such as EMS, FLISMET, EAC, African Met Society, Asian Met Society (when constituted), etc. and determine how to leverage them to mentor			





IFMS Meeting #4 Report



S.N. #	ACTIVITY	WHO	WHEN	REMARKS
	developing societies and to start new ones in countries where no such society exists.			
c)	Enlist support of relevant Meteorological Societies to assist in establishing new Societies; especially from EMS, FLISMET, EAC, African Met Society, Asian Met Society (when constituted).			
d)	The goal is to identify 6 Societies, one in each WMO Region, to assist and strengthen			
e)	Again the goal is to identify 6 countries, one in each WMO Region, to assist in starting Met or Hydromet Society			
5.	Preparation of Documents required for various Activities			
a)	Interim council to consider a survey content and format (possibly using something like “survey monkey”), to gain information as follows from IFMS members.			
b)	Each Meteorological Society to identify one thing they could contribute to other Meteorological Societies share it. This could include best practice / key lessons to share. Produce a list of coordinate contributions from Meteorological Societies and aim to highlight one contribution each month on IFMS’ Website.			
c)	Using the above Survey, develop a list of relevant topics and find suitable authors to produce content for the Website. Some topics are listed below.			
d)	Formulate a list of items to be included for preparing Best Practices documents.			
e)	Prepare Value Proposition as to why Meteorological Societies of all countries should become members of IFMS.			
f)	Develop a business case capturing the value of National Meteorological Societies to encourage countries which do not have Meteorological Societies to start one and then guide them through the process.			
g)	Prepare a document outlining how to strengthen Meteorological Societies of LDC.			





IFMS Meeting #4 Report



S.N. #	ACTIVITY	WHO	WHEN	REMARKS
h)	Prepare Criteria for selecting countries which do not have a Met or Hydromet Society but could have with the support of IFMS and its member Societies.			
i)	International Lecture to highlight role and importance of the IFMS – keynote speaker. Recorded and put on IFMS' Website. Start with a Power Point presentation.			
j)	Identify persons who could lead the above effort.			
6.	Accreditation/Certification and Training (ACT)			
a)	Look for Volunteers from Societies with accreditation schemes to share knowledge and information. Focus on Quality Management System (QMS) Understand the difference between certification and QMS and perhaps a QMS for East Africa might be more appropriate.	RMetS		
b)	Define how to assist Met Societies in Accreditation/Certification Process.			
c)	Prepare a document outlining the names of Mentoring Societies for Accreditation/Certification and Societies to be mentored and how to achieve it.			
d)	Virtual meeting/Webinar to share best practice on Accreditation/Certification (2016) with follow-up regional Webinars for implementation that include Q&A sessions. Might not be applicable to all Meteorological Societies as it may be done by the National Met Service.			
e)	Work with COMET (Note: WMO standards focus on knowledge rather than continuing development. CPD could be a focus for IFMS. Skills and abilities not set in WMO regulation 49 which includes best practice for forecasting instead).			
7.	Define Financial Requirements of IFMS and how to fulfill them			
a)	Define Financial Requirements of IFMS for the following items to be used for making decision on their implementation:			





IFMS Meeting #4 Report



S.N. #	ACTIVITY	WHO	WHEN	REMARKS
	Incorporation Costs, Secretariat, Cost of travel for LDC members who need assistance to travel to biennial (once every two years) Meetings, Newsletter Cost, Comet Training Services Cost.			
b)	Ask member societies whether they are prepared to contribute 1% of their Membership Revenue to IFMS to start operation. Additional Financial Support will be sought as follows.			
c)	Identify Sources of Funding, e.g. Contribution from WB, WMO, National Aid Agencies of Developed countries, etc.			
d)	Discuss and decide whether we should put ads from Private companies and charge them for that service.			
e)	If we start a Newsletter, should we have paid ads in the Newsletter & on the Web?			
f)	Look into crowd-sourcing for funding.			
g)	Prepare Value Proposition for Donor Agencies and crowd sourcing: why they should invest in the IFMS. The contents of this document will have to be based on the type of Donor Agency which is being requested to provide financial help.			
h)	Define Virtual sessions/Webinars covering best practices on topics suggested by Meteorological Societies – could be delivered regionally.			
8.	Communication Requirements of IFMS			
	Define Communications Requirements keeping the following in mind:			
a)	Run at least 2 virtual sessions/Webinars covering best practices on topics suggested by Meteorological Societies before the next IFMS meeting in September 2018. They can be posted on the Web for those who might not be able to participate due to the time difference.			
b)	Virtual sessions/Webinars could also be delivered regionally. Identify countries to include in each regional Virtual session/Webinar.			



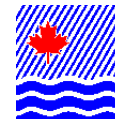


IFMS Meeting #4 Report



S.N. #	ACTIVITY	WHO	WHEN	REMARKS
c)	Develop an events calendar so that Meteorological Societies can share information on relevant events and meetings through the IFMS Website.			
d)	Populate a discussion point on LinkedIn at least every 3 months.			
e)	Define how we can use Social Media for discussion among Meteorological Societies – e.g. set up a LinkedIn group for IFMS for discussion; allow for tweets; etc.			
f)	Interim Council to decide whether we should start a Newsletter – could be twice a year in the first year and then quarterly. If yes, we need to define the contents of this Newsletter.			
g)	Ensure Meteorological Societies can remotely participate at future IFMS meetings, e.g. using Skype, Webex; etc.			
h)	Record meeting and share online.			
9.	IFMS WEBSITE			
a)	Define the Contents of the Website. What it should carry?	IFMS		
b)	Ensure that whatever defined in a) above is implemented.	AMS		
c)	Update the Website at least every month with contribution from each Meteorological Society	AMS		
10.	NEXT IFMS Meeting in Budapest – Organizer MMT (Hungary)			
a)	Coordinate the next IFMS meeting in Budapest to be held from September 3-7, 2018 for a couple of days (<i>Hungarian Met Society</i>).	IFMS/MMT		
b)	Technician at next IFMS meeting to ensure remote participation capability, if feasible.	MMT		
c)	Ensure that arrangement for Financial Assistance for LDC societies which need finances to travel to IFMS Meeting #5 is planned and executed early enough for them to get the required Visa to travel to Meeting #5.	MMT		



**ANNEX A: REGISTERED REPRESENTATIVES AT IFMS MEETING #4**

#	First Name	Family Name	Country	Society	Title if known
1	Eduardo	Agosta	Argentina	CAM	Representative
2	Harinder (Dr.)	Ahluwalia	Canada	CMOS	Convener IFMS Meeting
3	Martha (Ms.)	Anderson	Canada	CMOS	President
4	Elizabeth (Dr.)	Bentley (Ms)	UK	RMetS	CEO
5	Judit	Bartholy	Hungary	MMT	Representative
6	Fred (Dr.)	Carr	USA	AMS	Incoming President
7	Esperanza	Cayanan (Ms)	Philippines	PMS	President
8	Fei (Dr.)	Chan	International	IAUC	Representative
9	Kung-Yueh Camyale	Chao	Taiwan-Taipei	MSCT	Executive Director
10	Shuyi (Dr.)	Chen	USA	AGU	Representative
11	Tai-Jen George	Chen	Taiwan-Taipei	MSCT	Representative
12	Walter	Dabberdt	USA	Vaisala	Corp. Science Advisor
13	Bill (Dr.)	Gail	USA	AMS	Past President
14	Mary	Glackin	USA	WC	Senior Vice President
15	Jack (Dr.)	Hayes	USA	Harris	Senior Vice President
16	Yongyun (Dr.)	Hu	China	CMS	Vice-President
17	Lord Julian (Dr.)	Hunt	UK	UCL	Professor
18	Michel	Jean	Canada	EC-MSC	Director General
19	Martina (Dr.)	Junge (Ms)	Europe	EMS	Executive Secretary
20	Alexander (Dr.)	MacDonald	USA	AMS	President
21	Gordon (Dr.)	McBean	Canada	ICS-CMOS	
22	John	Mungai	East Africa	EAC	President
23	Teruyuki (Dr.)	Nakajima	Japan	IAMAS	Secretary General
24	Mark (Dr.)	Schwartz	International	ISB	President
25	Keith (Dr.)	Seitter	USA	AMS	Executive Director
26	Makoto (Dr.)	Suwa	International	WB	Representative
27	Louis (Dr.)	Uccellini	USA	NWS	Director
28	Mary	Voice	Australia	AMOS	Vice-President
29	Lan (Dr.)	Yi (Ms)	China	CMS	Managing Editor JMR



Yongyun Hu, Judit Bartholy, Martina Junge, Makoto Suwa, Martha Anderson, Mark Schwartz, Harinder Ahluwalia, Tai-Jen George Chen, Kung-Yueh Camyale Chao, Mary Voice, Eduardo Agosta, Esperanza Cayanan, Teruyuki Nakajima, Mary Glackin, Fredrick Carr, Keith Seitter, Michel Jean, Lan Yi, Shaoping Hu, Gordon McBean, Fei Chan, Elizabeth Bentley, Shuvi Chen, John Mungai
Other Attendees not in the photograph: Alexander MacDonald, William Gail, Louis Uccellini, Walter Dabberdt, Jack Hayes, Lord Julian Hunt

GROUP PHOTOGRAPH OF IFMS MEETING #4 ATTENDEES

ANNEX B: PANEL 1 DISCUSSIONS AND RECOMMENDATIONS

Report by Moderator Mary Voice VP AMOS (Australia)

Panelists:

Prof. Elizabeth Bentley CEO Royal Met Society

Dr. Yongyun Hu Vice-President - CMSoc

Dr. Fei Chen Board Member of the International Association for Urban Climate (IAUC)

This Panel discussed the mission statement and objectives of IFMS and the activities it could undertake to create cooperation and mutual assistance among the Meteorological Societies of the world and to facilitate capacity building of existing societies and assistance in establishing new societies.

Panel 1 discussions were broad and comprehensive, considering a range of objectives and associated activities. The meeting agreed that IFMS could be a strong facilitator in many if not all of the areas discussed, hence reinforcing the need for an IFMS. The meeting also noted the value of independent National Meteorological Societies (NMSocs¹), in advocating for professional standards within their countries and in supporting quality research and coherent meteorological, oceanographic (where relevant) and hydrological services. Thus there is also value in IFMS playing an independent role in supporting the NMSocs. The meeting selected three objectives considered appropriate for the next couple of years and most likely to produce useful and needed outcomes in the short timeframe. Other objectives were recognized as most useful and should be pursued in the near-term.

The first task was to review the mission statement, and a small but important addition was agreed. The revised mission statement is:

Mission statement: IFMS aims to foster and encourage communications and exchange of knowledge, ideas and resources among the world's more than sixty meteorological societies in order to "serve" civil societies.

¹ NMSocs is used as the abbreviation for National Meteorological Societies, because NMSs is the generally used acronym for the National Meteorological Services in countries around the world. In some countries or regions, Societies may include reference to oceans or hydrology in their titles (as do some NMSs). For the purpose of this document, NMSocs can be considered to cover these variations.

The range of objectives discussed included:

- Cooperation between NMSocs– general
- Fostering cooperation with societies of closely related disciplines (e.g. oceanography, hydrology)
- Capacity building within and between NMSocs
- Coordination and communication
- Contribution to ideas for a weather ready globe and exchange of information between NMSocs on progress and impacts
- Encouragement of information exchange and cooperation between the various sectors of meteorological activity, both within country and across borders
- Strong facilitator for mutual activities and assistance in establishing new Societies
- Sharing ideas and aiding in developing early career and next generation of scientists in our schools and universities
- Advocate for the societies and for the scientists within the societies

The meeting selected three objectives for the immediate future:

1. Facilitate strengthening of NMSocs and help establish new ones
2. Communication – develop and implement effective ways to communicate between NMSocs, including Web-based and electronic conferencing
3. Facilitate the sharing of relevant accreditation information, procedures, guidelines and standards

In addition, an administrative objective was identified: To finalise and distribute the report from this meeting and to communicate widely on interim administrative arrangements to enable IFMS to:

- Progress towards becoming a recognisable entity for financial support purposes;
- Explore options for donor support, and
- Work on agreed actions surrounding the objectives in a smooth and coordinated way.

ANNEX C: PANEL 2 IMPLEMENTATION DISCUSSIONS & RECOMMENDATIONS

Report by Moderator Prof Elizabeth Bentley, Royal Meteorological Society Chief Executive

Panelists

Dr. Esperanza O. Cayan	President Philippines Meteorological Society
Dr. Mary Glackin	Senior Vice-President, Weather Companies
Dr. Harinder Ahluwalia	Convener IFMS Meeting #4 & Past President - CMOS

Panel 2 picked up the discussion from Panel 1 that discussed the mission statement and prioritised objectives and activities of IFMS. The Panel 1 discussion led to a revised mission statement becoming the ***IFMS aims to foster and encourage communications and exchange of knowledge, ideas and resources among the world's more than sixty meteorological societies for the benefit of our civil society.*** Panel 1 prioritised three objectives for the near future:

- 1. Facilitate strengthening of National Meteorological Societies and help establish new ones;***
- 2. Develop and implement effective ways to communicate between societies;***
- 3. Facilitate the sharing of relevant accreditation information, procedures, guidelines and standards.***

Panel 2 focused on the Implementation of IFMS and considered activities that might best achieve the prioritised objectives. Panel 2 reviewed the objectives captured during the Panel 1 discussions and considered the business model required to deliver each objective, focusing on the structure, infrastructure and financial requirements of the IFMS as well as setting some targets and deciding which Meteorological Societies would take responsibility for each objective.

1. Facilitate strengthening of National Meteorological Societies and help establish new ones

FLISMET, Asian Met Society, African Met Society, East African Met Society, European Met Society to take the lead.

The group agreed on some targets:

- 5-10 new Meteorological Societies by the next IFMS meeting in September 2018.
- IFMS governance and office in place by the beginning of 2017.

The activities agreed upon were as follows:

- Set a legal framework, Terms of Reference and Council for the IFMS. Identify a board of trustees (President, Vice-Presidents, Secretary/Treasurer and leaders representing each WMO RA - to be decided at this IFMS meeting or soon afterwards);
 - Include rotation of members and term of office
 - Explore support
 - Financial requirements - maybe some part time for secretariat and some travel
- Board to develop a strategic plan for the IFMS;
- Develop a business case capturing the value of National Meteorological Societies;
- Survey all meteorological societies to find out what information is valued and what they want from the IFMS and other Meteorological Societies in the IFMS;
- Identify teams to work together - these could benefit from the leverage of regional centres (Meteorological Societies or WMO RAs) to establish links within their region and encourage WMO to voice support for developing Societies;
- List countries without a national Meteorological Society and prioritise list. Enlist support of relevant Meteorological Societies to assist in establishing new Societies;
- International Lecture to highlight role and importance of the IFMS – keynote speaker. Recorded and put on the IFMS Website.

Resources required to deliver these activities include:

- Board of trustees
- Support from regional groups
- Volunteers
- Co-operation of WMO
- Part time secretariat

Finances required to deliver objective:

- Travel
- Website content
- Conference fees for speakers
- Part-time person

2. Develop and implement effective ways to communicate between societies

American Met Society to take the lead.

The group agreed upon some targets:

- Website updated every month with contribution from each Meteorological Society.
- Use Social Media for discussions between Meteorological Societies – i.e. set up a LinkedIn group for IFMS for discussion.
- Run 2 virtual sessions/Webinars before the next IFMS meeting in September 2018.
- Ensure Meteorological Societies can remotely participate at future IFMS meetings e.g. using Skype, Webex.

The activities agreed upon were as follows:

- Coordinate the next IFMS meeting in Budapest in September 2018. (*Hungarian Met Society*)
- Strengthen the IFMS Website;
- Using survey from Objective 1, develop a list of relevant topics and find suitable authors to produce content for the Website;
- Develop an events calendar so that Meteorological Societies can share information on relevant events and meetings;
- Populate a discussion point on LinkedIn every 3 months;
- Virtual sessions/Webinars covering best practices on topics suggested by Meteorological Societies – these could be delivered regionally;
- Each Meteorological Society to identify one thing they could contribute to other Meteorological Societies and write it up and distribute it. This could include best practice / key lessons to share. Produce a list of coordinate contributions from Meteorological Societies and aim to highlight one contribution each month on IFMS' Website.
- Look into crowdsourcing for funding;
- Ensure only key information is communicated;

Resources required to deliver these activities include:

- Technician at next IFMS meeting to ensure remote participation capability;
- (Virtual forum and discussion preferred instead of the production of a newsletter);
- Webmaster;

- Regional representatives to deliver virtual sessions/Webinars;
- Social media savvy person;
- All to contribute to events calendar and to write Web contributions.

Finances required to deliver objective include:

- Travel
- Webmaster
- Secretariat could also cover social media?

3. *Facilitate the sharing of relevant accreditation information, procedures, guidelines and standards.*

Royal Met Society and Argentina Met Society to take the lead.

The group agreed upon some targets:

- Virtual meeting(s) in 2016 to share best practice on Accreditation/Certification.

The activities agreed upon were as follows:

- Virtual meeting/Webinar with follow-up regional Webinars for implementation that include Q&A sessions. Might not be applicable to all Meteorological Societies as it may be done by National Met Service.
- Societies with accreditation schemes to share knowledge and information. Focus on Quality Management System (QMS). Understand the difference between certification and QMS and perhaps a QMS for East Africa might be more appropriate.
- Record meeting(s) and share online.

Resources required to deliver these activities include:

- Work with COMET – funding? (Note: WMO standards focuses on knowledge rather than continuing development. CPD could be a focus for IFMS. Skills and abilities not set in WMO regulation 49 which includes best practice for forecasting instead)
- Facilitator for meeting(s) to develop and deliver programme and documents.
- Support from regional groups
- Volunteers

Finances required to deliver objective:

- N/A



ANNEX D: PANEL 3: INVOLVEMENT OF IFMS IN “FUTURE WEATHER ENTERPRISE”

Report by Moderator Dr. Jack Hayes, Senior VP - Marketing – Harris Corporation

Panelists:

1. **Michel Jean**, Director General of the Canadian Centre for Meteorological and Environmental Prediction;
2. **Dr. Mary Glackin**, Senior Vice President for Public-Private Partnership at The Weather Companies; and,
3. **Martha Anderson**, Director of Meteorology & Oceanography at Canada’s Department of National Defense

One of the conclusions of the WWOSC was that increased partnership among the public, private and academic sectors could increase the benefit of timely, accurate forecasts and warnings delivered to societies, worldwide. However, the conference also noted that even in countries, where there have been notable successes, challenges remain – for example, addressing the perception of a private-sector threat to government meteorological services and impediments to academic sector contribution to operational services. **The objective of this panel discussion was to review the role National Meteorological Societies (NMSoc) could play to help advance collaboration and cooperation among the three sectors.** Three questions were considered:

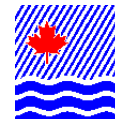
1. **How can National Meteorological Societies act as a bridge between different nations to encourage collaboration among public, private and academic sectors as well as users to work together?**
 - Nationally and internationally the **societies may be able to reach across groups that are difficult for the NMHSs to reach.** The key is communication and dialogue among diverse groups. Having a specific purpose is essential. NMSoc’s should look to the experience of other groups for successful models of how to foster communications. The Global Framework for Climate Services (GFCS) User Interface Platforms operating in a number of countries have been one particular model that seems to have had some success.
 - **Societies can act as the neutral host.** A key to success for the AMS has been to involve the public, private, and academic sectors in identifying topics for discussion and then selecting appropriate topics and organizing discussion sessions. It is important to recognize there are many different types of private sector companies (e.g., equipment manufacturers, service providers, business to business companies, etc.). So, at least initially, the NMSoc’s should be thinking inclusiveness and invite more companies rather than too few to promote fuller dialogues.

- **Bringing together the three sectors and users in their country or region should be a priority** focus area for limited NMSoc resources. IFMS can assist by sharing successful ideas and provide a forum where stronger Meteorological Societies can assist smaller or new societies in developing countries. IFMS assistance using virtual means such as by posting information on the IFMS Web site, email consultations and online Webinars should be used where limited budgets present a challenge.
2. **How can National Meteorological Societies help in developing and promoting capacity building efforts that produce effective and sustainable service capabilities in developing countries?**
- NMSoc members could volunteer time and expertise, onsite or at a distance, and, in some instances could **act as mentors to senior NMHS staff**. They could **be ambassadors with donors and other development agencies**, acting as reviewers for capacity building projects.
 - NMSoc's could work in-country with education and other groups to **ensure meteorology and environmental sciences are on the national agenda** of the education authorities and promote opportunities in science, particularly weather, water and climate.
 - Where NMSoc budgets support, societies could seek to provide: **fellowship or bursary support; no or low cost NMSoc membership**; and **development opportunities** to students studying meteorology.
 - NMSoc's could engage parties including private sector organizations to **highlight and encourage opportunities for contribution and partnership**.
 - NMSoc's could **document and promulgate best practices**. Often private companies spend philanthropic funds and are looking for sound investment areas to ensure funds produce effective and sustainable results.
 - National Meteorological Societies can **assist their governments in creating strategies** for developing the best weather information to make informed decisions in high impact weather events and ensuring credible sources.
 - When assisting developing nations, it is important to **involve NMHSs in understanding what their issues are and developing solutions**. And, NMSoc's should not assume that the roles of government, private sector and academia are the same in all regions of the world.
3. **How can National Meteorological Societies contribute to WMO Capacity Building initiatives?**
- First, recognize the role **WMO plays as a facilitator of multi-lateral, integrated Capacity Building** in developing countries. WMO Capacity Building initiatives are guided by a strategy and implementation plan approved by its 190+ Member countries. Although the WMO is comprised of government representatives, there are many other contributors to its process, for example, the Hydro-Meteorological Equipment Industry



association (HMEI) represents the private sector, and various UN agencies and international scientific groups have representation. Consequently, WMO is well-positioned to integrate capacity building contributions from diverse sources.

- National Meteorological Societies can help by working with the NMHSs and Governments to **raise awareness of the importance of capacity building needs and priorities**. Each NMSoc should help to ensure that capacity building needs and concerns of all the sectors are **communicated to its national Permanent Representative with the WMO**.
- **Capacity Building involves much more than just education and training**: national legislative and policy frameworks must be developed to provide an enduring foundation; national institution(s) must be identified to carry out appropriate roles; what their links with government and other authorities are, what is the funding basis, and what are the expectations of government; strategic plans ... to name a few.
- Creating sustainable, adaptable and high functioning NMHSs to serve national and societal needs is an immense undertaking and **NMSoc's and IFMS must recognize their resources limitations will constrain the impact of their contributions** – but even small steps forward are important.



ANNEX E: PROGRAM SUMMARY OF THE IFMS MEETING #4

**Location: Hilton Riverside Hotel Meeting Room Chart B and
The lunch/break is in Room Chart C**

January 12, 2016 7:00 PM: International Dinner

DAY 1 – January 13, 2016 (Wednesday) Afternoon from 11:45 to 17:00

11:45 to 13:00 Lunch

Meeting Opening, Welcome & Presentation - 13:00 to 15:00

- PDF01 Welcome & Introduction by **Dr. Harinder Ahluwalia**, Convener IFMS Meeting #4
- See **PB (Program Book)**: Welcome and Presentation by **Dr. Alexander MacDonald** – President AMS
- See PB Presentation by **Dr. William Gail** - Past President AMS
- PDF02 “UK’s current meteorological accreditation framework” **Prof. Elizabeth Bentley**, CEO Royal Met Society
- PDF03 Future of Weather Enterprise - Summary of WWOSC-2014 Panels - Montreal **Dr. Jack Hayes**, Senior VP Harris Corp.
- PDF04 Report on the first Asian Conference on Meteorology **Dr. Teruyuki Nakajima**
- PDF05 “EMS – an IFMS on the European scale: – Experiences and recommendations”: **Dr. Martina Junge**, Executive Secretary, EMS
- PDF06 Enhancing In Enhancing International collaborations and Domestic Outreaches by Chinese Meteorological Society (CMS) **Dr. Yongyun Hu – VP - CMS**
- PDF07 “Meteorological Cooperation at the East African Community” by **John Mungai**
- PDF08 “About Hungarian Meteorological Society” - **Professor Judit Bartholy**, MMT
- PDF09 “Presentation on the Planning the Future o IFMS” by **Dr. Harinder Ahluwalia** and Q&A for clarification

HEALTH BREAK – 15 Minutes

- PDF10 “World Bank’s Experience in Strengthening Weather, Climate, and Hydrological Service in Developing Countries” - **Dr. Makoto Suwa**, World Bank

PANEL 1: Objectives of IFMS – 15:30 TO 17:00

- PDF11 Moderator: **Mary Voice**
- PDF12 Panelist: **Elizabeth Bentley**
- See PB **Yongyun Hu and**
- PDF13 **Fei Chen**





DAY 2 – January 14, 2016 (Thursday) Starting at 9:00 TO 17:00

DAY 2: Morning Session 9:00 to 12:00

- PDF14 Welcome by AMS Executive Director, **Keith Seitter**
- See PB Presentation by **Dr. Fred Carr**, AMS President-Elect
- PDF15 “Cooperation with Societies of other Disciplines” by **Martha Anderson**, President CMOS
- PDF16 “The Role of Sudanese Meteorological Society on Disaster Risk Reduction”: by **Dr. Noureldin Ahmed Abdalla** of Sudan. *Absent*
- PDF17 “Current status of IUGG/IAMAS initiatives” by **Dr. Teruyuki Nakajima**, SG IAMAS
- PDF18 “ISB-IFMS: Opportunities for interaction and mutually beneficial activities” by **Dr. Mark D. Schwartz**, ISB President
- PDF19 Presentation on CAM by **Eduardo Agosta Scarel**
- PDF20 Presentation on FLISMET by **Eduardo Agosta Scarel**
- PDF21 “Recent Activities of the AMOS and their relevance to Southern Hemisphere Meteorology and to IFMS Discussions” by **Mary Voice**, VP AMOS
- PDF22 Keynote Speech by Dr. Louis Uccellini, Director NWS, USA**

PANEL 2: Implementation of IFMS - Duration 90 Minutes – 10:30 to 12:00

- See PB Moderator: **Elizabeth Bentley**
- See PB Panelist 1: **Mary Glackin**
- PDF23 Panelist 2: **Esperanza Cayan**
- PDF24 Panelist 3: **Harinder Ahluwalia**

LUNCH from 12:00 to 13:30

DAY 2: Afternoon Session 13:30 to 17:00

PANEL 3: Involvement of IFMS in “Future Weather Enterprise” – 13:30 to 15:00

- See PB Moderator: **Jack Hayes**
- See PB Panelist: **Michel Jean**
- See PB Panelist: **Martha Anderson and**
- See PB Panelist: **Mary Glackin**

15:15 to 16:45 ELECTION/NOMINATION

16:45 to 17:00

Wrap Up and Conclusion

NOTE: Most of the Corresponding Presentations (PDFs) are available on IFMS’ Website.
Some others can be found in the Program Book (PB)

