## REPORT OF THE FIFTH COORDINATION MEETING OF THE WORLD WEATHER INFORMATION SERVICE (WWIS) WEB SITE HOSTS



LISBON, PORTUGAL, 30 NOVEMBER – 2 DECEMBER 2015)



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#### 1. INTRODUCTION

- 1.1. At the kind invitation of the Government of Portugal, the 5<sup>th</sup> Coordination Meeting of the World Weather Information Service (WWIS) Website Hosts was held in Lisbon, Portugal from 30 November to 2 December 2015). The list of the participants is attached as Annex I.
- 1.2. 1.2 The Meeting was opened on behalf of the Permanent Representative of Portugal by a representative from the meteorological service of Portugal. He emphasized on the great importance Portugal attached to hosting the Portuguese version of the website. The coordinator of WWIS, Mr. Armstrong Cheng, made comments thanking all the web language hosts for their cooperation which ensured success of the initiative. The representative of WMO, Mr Samuel Muchemi, expressed gratitude to all the hosts for their hard work in ensuring the success of the WWIS website as a platform for availing official weather forecasts of Members to international media and the public. Mr Federico Galati (WMO), technical expert from WMO thanked all the participating members for keeping a high standard of data compliance and information and regularly keeping WWIS alive.
- 2. REVIEW OF THE STATUS OF WWIS
  - 2.1. Review of current status of WWIS since the Fourth WWIS meeting (Warsaw, Poland, 2013)
    - 2.1.1. Mr Cheng highlighted the following points for the progress of WWIS in 2014:
    - The new WWIS Website, including both the desktop and mobile versions were launched on 23 June 2014 during the 66<sup>th</sup> session of the Executive Council (EC-66);
    - (ii) Congo joined the WWIS project as a new member;
    - (iii) Uganda furnished forecasts of 6 cities to the WWIS;
    - (iv) The forecast range of 94 Indian cities on the WWIS was extended from 2 to 7 days;
    - The iOS version of the MyWorldWeather app was updated to ensure compatibility with latest iOS;
    - (vi) Maps on the WWIS were replaced by the official WMO map.
    - 2.1.2. The following points for the progress of the WWIS in 2015 were highlighted:

- Forecasts of 113 cities were added to the WWIS, increasing the total number to 1859. New forecasts were contributed by USA (93), Costa Rica (13), Italy (12), Ecuador (4) and Nigeria (3).
- (ii) The forecast range of all Canadian cities on the WWIS was extended from 2 to 6 days;
- (iii) The Korean language version of the WWIS was to be launched on 8 Dec as the 11<sup>th</sup> language supported by the WWIS.
- 2.1.3. Mr Cheng provided a review of decisions made in the 4<sup>th</sup> coordination meeting:

Please note that the references given below refer to the "report of the Fourth Coordination meeting of the WWIS Web Hosts which can be accessed through the following web link: https://www.wmo.int/pages/prog/amp/pwsp/documents/FinalReport\_WWI S-4\_FIN.pdf

- Re: para. 3.1 (ii): Korean language of the WWIS to be launched on 8 Dec;
- (ii) Re: para. 3.1 (vi): Detect user's device so that user will be presented with desktop or mobile version automatically done;
- (iii) Re: para. 3.1 (vii): To clarify hosting environment and security provided in WWIS v2 Installation Manual;
- (iv) Re: para. 3.1 (viii): Add online disclaimer done;
- (v) Re: para. 3.1 (ix): To run a close private mailing list for the group to better coordinate on the project, exchange ideas, concerns, project status and follow up – to be further discussed in the meeting;
- (vi) Re: para. 3.2.1 (i): Include a world-map webpage with welcome message for the WWIS done;
- (vii) Re: para. 3.2.1 (ii): Allow users to have choice of homepage done;
- (viii) Re: para. 3.2.1 (iii): Add Twitter/Facebook/RSS feeds done;
- (ix) Re: para. 3.2.1 (iv): Reduce space occupied by the orange WWIS banner done;
- (x) Re: para. 3.2.1 (v): Check horizontal width of website checked to be 960;
- (xi) Re: para. 3.2.1 (vi): Add a dedicated function near the top for users to select whether sharing location is allowed – done through the functions provided by browsers;
- (xii) Re: para. 3.2.1 (vii): Design new logo (optional) to be reviewed;
- (xiii) Re: para. 3.2.1 (viii): Design new weather icons with a transparent background (optional) to be reviewed;
- (xiv) Re: para. 3.2.1 (ix): Need to point the user automatically to the mobile app if visiting the site from mobile device mobile version of the WWIS developed.
- (xv) Re: para. 3.2.2 (i): To allow choice of displaying news from NMHSs (optional) to be reviewed;
- (xvi) Re: para. 3.2.2 (ii): To replace the orange arrow with words done;

- (xvii) Re: para. 3.2.2 (iii): To add "Add to MyFavourite" next to the city on the member page done;
- (xviii) Re: para. 3.3 (i): To include technical information page about the website done by adding user guide under "Support";
- (xix) Re: para. 3.3 (ii): To include loading symbol to cater for slow connection speed – done;
- (xx) Re: para. 3.3 (iii): To add privacy statements done;
- (xxi) Re: para. 3.3 (iv): Needs to meet the minimum requirements in web accessibility the website attained W3C AA standard;
- (xxii) Re: para. 3.4 (i): To add current weather using SYNOP observations to be reviewed;
- (xxiii) Re: para. 3.4 (ii): To add current local time for forecast done;
- (xxiv) Re: para. 3.4 (iii): To add sunrise and sunset time (optional) to be reviewed;
- (xxv) Re: para. 3.4 (iv): To add two icons for a day, probabilistic forecast, etc. to be reviwed;
- (xxvi) Re: para. 3.4 (v): To add update time for forecast on homepage done;
- (xxvii) Re: para. 3.4 (vi): To add member name together with city name in the search box done;
- (xxviii) Re: para. 3.4 (vii): To include images for "What's New" section to be reviewed;
- (xxix) Re: para. 3.4 (viii): To add weather photos from webcam provided by Met services (optional) – to be reviewed;
- (xxx) Re: para. 3.5 (i): To share content rather than links (optional) to be reviewed;
- (xxxi) Re: para. 3.5 (ii): To automatically change to that member after searching a city name done;
- (xxxii) Re: para. 3.5 (iii): To display the search box directly near the top of the webpage done;
- (xxxiii) Re: para. 3.5 (iv): To reverse the ordering of the search box by starting with city/country ... done;
- (xxxiv) Re: para. 3.6: In Cg-17, the data policy issue was addressed in Resolution 5 which decides that the information content of WWIS, including the official weather forecast and climatological information for worldwide cities, should be made available on a free and unrestricted basis.

#### 2.1.4. Visitor statistics

Mr Cheng presented the meeting with the overall visitor statistics of the WWIS, which showed a declining trend in the last couple of years. He urged the hosts to review the status of their own websites and take measures to increase the popularity of the WWIS website. Mr Galati asked the group to consider the possibility of pushing live this information to users as a way of promoting WWIS. He also welcomed the future

enhancement of running reports and having Big Data analyses possibly out of it (helping detect patterns and trends).

2.1.5. Download statistics of MyWorldWeather app

The number of downloads of the MyWorldWeather app increased steadily, which shows a general trend of user behavior of migrating from desktop to mobile devices.

- 2.1.6. More analysis on MyWorldWeather app usage
- It was noted that majority of users (>75%) of iOS version of the MyWorldWeather app originated from Asia Pacific, followed by Europe, and US & Canada.
- (ii) Regarding the Android version of the MyWorldWeather app, majority of users (~ 70%) originated from Hong Kong. Compared with the region profile of other weather apps, it was found that there was room for improvement in the popularity of the app in other regions.
- 2.1.7. Overview of visitor statistics of various language versions

Mr Cheng gave a brief review of the visitor statistics of other language versions of the WWIS. In general, there was a declining trend in page views. The reasons would be elaborated by individual language hosts in the following session. Mr Galati explained the reason why WMO cannot use the standard GIS Google map environment as mainly due to the UN policy on country borders compliance. The WMO Map disclaimer defines it.

- 2.2. Language host operations and coordination; and future direction of the WWIS service
  - 2.2.1. Oman

Mr Abdullah Al-Breiki presented the status of the Arabic version of WWIS and highlighted the following:

- The number of visits to the Website was declining;
- There is a problem of competition with Google which provides higher resolution forecasts than for WWIS information;
- There is a need to add observations and to increase the number of cities;
- There is a need for marketing of WWIS;
- The weather warnings niche is under threat as well.

#### 2.2.2. China

Mr Rui Zhou presented the WWIS Chinese version and made the following points:

- There is a decline of visits to the Website because it is too slow. It takes 20secs to open the website the first time and 4 secs in subsequent visits;
- Many crawlers do not work in the new version. Adding to reason for decline;
- The new version is doing worse on search compared to the old version;
- He suggested to try to cache the map to make loading faster. He wondered whether the map data could be deployed to HKO;
- Key words for different language versions to be given to Armstrong for addition to the website;
- In order not to compete with Google etc, it is necessary to define the goal of the website and find ways to sensitize the target users and keep them interested
- Mr Galati presented some alternative GIS standards to compete with Google. WMO Standard ESRI may be adopted as the standard GIS system because of veracity, quality, accuracy, and vicinity of data that is also useful for WWIS.

#### 2.2.3. France

Mr Quoc-Phi Duong presented the status of the French version of WWIS and pointed out the following:

- WWIS has a weakness in that it displays only a few parameters, has no observations, and no warnings;
- We should examine possible services from other WMO programmes that could be integrated into WWIS;
- It is desirable to design a new format file for transferring forecasts to HKO from NMHSs in xml format; and
- Web based data service may be a solution to increasing the number of cities.

#### 2.2.4. Germany

Mr Rudolf Mohr made the following points concerning the German version of WWIS:

- There is a need to use one tool with the same configuration for preparing statistical information. Configuration for the tool webalizer has already been sent out by HKO. The temperature value should be updated every 1 hour;
- There is a need to choose an observation point with respect to a city;
- We could consider central hosting of all the language versions as an option

#### 2.2.5. Italy

- Lt. Col. Guido Guidi presented the Italian version of WWIS and pointed out the following:
  - Layout of the Met service Website was obscuring the WWIS/Italian version link. This changed quite dramatically the visibility of WWIS resulting in a significant drop of our statistics Moreover wwis.meteoam.it lost almost entirely its google indexation.
  - Modernization of website is underway and will improve visibility of WWIS
  - To add a photo gallery of touristic sites for all the Italian cities on WWIS.

During discussions, the meeting was informed that HKO would provide links to their webcams. It was agreed to have the user community send and share meteorological images to be sent through WWIS or with more touristic information as a modern successful way of sharing on social platforms on-line.

#### 2.2.6. Poland

Mr Robert Kazimierczak presented the status of the Polish version of WWIS Website. He said the following:

- There is still small number of website views but it is steadily growing;
- Summer months are the time of increased interest in browsing WWIS and weather connected issues by recipients;
- Recipients connect to the WWIS from the official polish weather service websites: imgw.pl and pogodynka.pl;
- Recipients use Google Chrome and Mozilla Firefox to browse WWIS;
- There is still low level of promotion of WWIS on official polish weather service websites.

He presented the following recommendations and future challenges. There is a need to:

- Increase the low popularity of the WWIS in Poland through social media (e.g. improving official websites, promotion on FB);
- Create more attractive and clear layout and icons on WWIS to make it more intuitional for all recipients.
- Make WWIS more interactive with ordinary people (e.g. weather photos on WWIS from FB visitors).
- Create more attractive content (e.g. add the weather glossary, youtube plug-in to WMO channel).

#### 2.2.7. Portugal

Mr Ricardo Deus presented the state of the Portuguese version of the Website and suggested/reported the following:

- To approach end users using a global media partner;
- To carry out a user survey;
- To design modern and dynamic weather icons;
- Portugal will allow access by media to data by API interface;
- They intend to add present weather data for the Portuguese cities;
- To increase the number of cities;
- They will add a Widget application for producing forecasts for Facebook, hotels, etc

#### 2.2.8. Russia

Mr Evgeny VASILYEV presented the status of the Russian version of WWIS and highlighted the following:

- The number of visits is not satisfactory for WWIS Russian version. The visits are low but are steadily rising;
- The hyperlink to WWIS Russian version on Meteorological Service's website (HMC) was not located in the best place initially. However, one more hyperlink was recently added to the "Forecasts" section of HMC website;
- Unlike HMC, private companies which have websites with higher visitor statistics are spending money for promotion;
- Interaction with the media needs to be enhanced in order to raise the reputation of the Meteorological Service;
- There is a plan to have official accounts of HMC in social media and other popular web-resources in the nearest future.

#### Future plans

- To continue providing the WWIS website with forecasts for the Russian cities;
- To provide the translation of all the information needed;
- To promote the HMC (hence, WWIS) website on the Internet through social media

#### 2.2.9. Spain

Mr Francisco Javier Méndez Río presented the state of the Spanish version of WWIS and made the following points:

- From 2012 Spain is providing daily 5-day forecasts for 52 cities.
- AEMET migrated the Spanish WWIS website from 4 stand-alone dedicated servers to a virtualized solution: one pair of frontend-backend servers in two Fujitsu Servers resulting in a high availability of the service.
- In June 2014, the operation of the new website becomes easier
- Pending: To increase the coverage. Number of cities and time range of forecasts.

How WWIS could be improved:

- Listen to users: AEMET received some requests about WWIS: specific cities, time range, access to data,...
- Responsive web design.
- Include some enhancement such as Geographical and time range coverage and Weather warnings;
- Promote WWIS and MyWorldWeather visibility.

#### 2.3. Modern Web

Mr Galati made a presentation on the modern web and made the following comments:

There are ideas and features that could be considered for inclusion in WWIS to modernize it and to improve user experience such as:

- Augmented reality;
- Weather alerts and notifications;
- Webcam enabled social media;
- RealFeel temperature;
- off-line use capability;
- Promotion of Mobile based weather apps through the WWIS platform;
- To be adaptable to InternetOfThings and provide an optimal user viewing experience;
- Follow the Website development and project approach also used at WMO (Agile approach): define, explore, create, communicate, act/embed and promote;
- WWIS to align with the evolution of the Web <u>http://www.evolutionoftheweb.com/</u>
- 3. To add other app platforms such as windows mobile, WebOS, Symbian etc. There is a need to strengthen advertising etc. WMO could also pay an SEO marketing company to ensure WWIS appears on top 10 return hits.
  - 3.1. Increasing number of countries, cities and information on the WWIS

The Secretariat, through the PWS Programme continuously requests Members who have not done so to join the WWIS initiative. This is done through circular letters and presentations at various WMO events. WMO is also planning on revitalizing the WWIS Focal points and will be doing circular letters to this effect. It also stresses on:

- Increasing number of cities for climate information and weather forecasts;
- Increasing frequency of updating forecasts;
- Providing same day weather forecasts;
- Providing links to WWIS Websites from NMHSs' Websites; and,

- Informing local media and other users, such as the tourism industry, of WWIS and encouraging its usage by these users.
- 3.2. Upcoming enhancement of the WWIS
  - 3.2.1. Current weather
  - (i) To enhance the service of the WWIS with current weather, it was proposed to add observational data including (a) temperature; (b) relative humidity; (c) wind direction and speed; and (d) present weather symbol with mapped weather description to the website.
  - (ii) As a first step, it was suggested to update the current weather once every hour.
  - (iii) It was agreed to request WWIS participating members to furnish the current weather data. If current weather data is not available from the members, SYNOP data could be used instead but it was less desirable because SYNOP data is only available 3-hourly or even less frequent.
  - (iv) It was suggested to have participating members transmit current weather data to WWIS similar to the mechanism currently adopted for forecast bulletin.
  - (v) For members with data service on their websites (e.g. USA, Canada, Bermuda, etc.), Hong Kong, China would develop routines to acquire data from their websites.
  - (vi) Should SYNOP data be used for providing the current weather of a city on the WWIS, the SYNOP station with closest distance from the city concerned would be chosen.
  - (vii) Hong Kong, China would develop an online tool for members to provide inputs on data source of current weather and/or feedback on SYNOP station to be used for providing current weather of each city.
  - (viii) To better reflect the different states of sky during daytime and nighttime, different set of weather icons would be developed respectively.
  - (ix) The limitations on SYNOP data to derive current weather was discussed. The limitations include (a) weather not updated frequently as SYNOP is available 3-hourly or even less frequently; (b) not all WWIS cities could be mapped with a SYNOP station; (c) SYNOP station might be far away from the point where the city forecast is referred to; and (d) missing ww and/or N fields in SYNOP, etc. Therefore, it was highly recommended that participating members furnish current weather data to the WWIS.
  - (x) The proposed XML data format for transmitting observational data was discussed. In view of the benefits of XML, it was agreed to develop an XML schema for forecast data as well. Hong Kong, China would send the detailed schemas for comments by language hosts.

#### 3.2.2. Website facelift

- (i) The mockup of the proposed facelift of the WWIS website was presented and discussed. In particular, the facelift version would include new features such as present weather icon, global satellite image, improved listing of countries/territories and cities for easier navigation on the front page. A new page would also be added to facilitate users to add and manage list of My Favourite cities quickly.
- (ii) A number of new features including sunrise/sunset time, more current weather information such as relative humidity, winds, links to webcam photos, etc., would be added to the city webpage on the facelift website.
- (iii) The style of the mobile version of the WWIS would also be updated.
- 3.2.3. New weather icons

A set of new weather icons were developed and presented for use on the facelift of WWIS website. Comments were provided and would be incorporated for upcoming update.

3.2.4. Search function

To bring more convenience to the users, it was agreed to enhance the search function to support English name in all other language versions.

#### 4. THE FUTURE OF WWIS

- 4.1. Future Development of the World Weather Information Service
  - 4.1.1. The meeting re-affirmed that the purposes of the project and website are: (i) to provide official and authoritative source of weather information; (ii) to encourage the use of official weather information by media (including emerging new media) and general public; and (iii) to enhance the visibility of NMHSs especially those in developing countries and LDCs.
  - 4.1.2. In view of the emergence of web media (e.g. social media)/ service provider (e.g. Google) and the change of user behavior in embracing the use of online service in acquiring weather information, there is an urgent need for NMHSs to adapt the delivery of their public weather service on these exchange of information realities to maintain their visibility and credibility.
  - 4.1.3. Meanwhile people travel more than ever before nowadays and this, plus the increasing use of the Internet raises the demand in global weather information. NMHSs have to allocate significant amount of resources to meet the demand of their users in providing weather information of foreign

countries but may not be able deliver a service better than that of a local NMHS and hence the importance of the WWIS project.

- 4.1.4. It was observed that the usage of the WWIS was on the decline since 2014. This was probably due to the emergence of new media/service provider that makes weather information available to ordinary users very conveniently. Therefore, users move away from official source of weather information. This trend will harm the visibility of NMHSs and the credibility of NMHSs will be at stake in the long run.
- 4.1.5. The meeting emphasized on the value of WWIS as an ideal platform to coordinate the provision of official weather forecast by NMHSs. Nonetheless, there are some weaknesses in the WWIS that prevent it from carrying out its purposes effectively. The major one, among others, is the lack of forecasts for certain locations and the short forecast lead-time for some of the cities.
- 4.1.6. The meeting reviewed the statistics of the WWIS and identified the following issues:
  - a. Availability of forecast has to be improved as around 40% of participating members are not sending forecasts to the WWIS on a routine basis in the past two years.
  - b. Forecast range of the cities has to be extended as for more than 40% of city forecasts on WWIS the range is less than 5 days.
  - c. The number of locations provided by participating NMHSs has to be increased as feedback received from users indicated that they cannot find their cities on the WWIS and on the MyWorldWeather app.
- 4.1.7. Noting that progress on increasing participation by Members in WWIS was not significant given that Members were encouraged to enhance their participation on many occasions and that a guide had been developed to facilitate the participation, the meeting discussed other options including (i) the provision of processed NWP model outputs to NMHSs for forecast provision on the WWIS; and (ii) the adoption of multi-model ensemble forecasts. The meeting was of the general opinion that option (ii) should not be considered in the context of this project as this would reduce the participation of the NMHSs greatly and cannot increase the visibility of the NMHSs. Option (i) would take a relatively long time to implement while it may be technically feasible to resolve some of the existing issues on the WWIS. It should later be considered after exhausting all efforts in increasing the participation of Members in the WWIS through the enhancement of the existing approach.
- 4.1.8. In order to better coordinate NMHSs to meet the ever increasing challenges and service needs swiftly, the meeting requested the Secretariat to:
  - a. liaise and work with members, with the support of WWIS Coordinator, to ensure that forecasts were disseminated to the WWIS on a routine basis;
  - b. request members to provide forecasts to the WWIS with a range at least 5 days but preferably 7 days;
  - c. request members to provide forecasts for more cities, big towns and locations such as tourist attractions in the country or territory

- 4.1.9. The meeting also agreed to develop a website portal for monitoring the performance of members in participating in the WWIS (e.g. availability of forecast on the WWIS, time period of forecast provided to WWIS, etc.). The website would be of restricted access but the website would display information available for viewing by all members. The meeting also discussed means (e.g. sending the website to Chairpersons of Regional Associations) on reminding members in sending forecasts to the WWIS if necessary.
- 4.1.10. The meeting also agreed to update the contact points of the WWIS members. It was agreed that the Secretariat would send a letter to PRs requesting for the update. The Secretariat would further discuss with the Coordinator of WWIS to send out the letter together with the information of the website portal as stated in 4.1.9.

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# PROGRAMME OF THE FOURTH COORDINATION MEETING OF THE WORLD WEATHER

## **INFORMATION SERVICE (WWIS) WEB SITE HOSTS**

(LISBON, PORTUGAL 30 NOVEMBER - 2 DEC 2015)

#### **PROVISIONAL PROGRAMME**

### Monday 30 November 2015

	DAY 1			
0900- 0940	Opening Addresses:	<ul> <li>Representative of Portugal WMO</li> <li>A. Chen (HKO)</li> <li>S. Muchemi (WMO)</li> </ul>	40 minutes	
0940- 0950	<ul><li>Assigning Chair of the meeting</li><li>Adoption of the agenda</li></ul>	<ul> <li>S. Muchemi (WMO)</li> </ul>	10 minutes	
	SESSION 1: REVIEW OF THE STATUS OF WWIS			
0950- 1030	Review of current status of WWIS since the WWIS 4 meeting (Warsaw, Poland, 2013).	<ul> <li>Presentation by A. Cheng (HKO) followed by Discussion (All Participants)</li> </ul>	40 minutes	
1030- 1100	GROUP PHOTO; COFFEE / TEA BREAK		30 minutes	
1100- 1230	Experience Sharing and Coordination Challenges: presentations by WWIS website hosts	<ul> <li>Al Breiki Abdullah (Oman)</li> <li>R. ZHAO (China)</li> <li>Quoc-Phi DUONG (France)</li> </ul>	90 minutes	
1230- 1400	LUNCH BREAK		90 minutes	

1400- 1530	Experience Sharing and Coordination Challenges: presentations by WWIS website hosts (continued)	<ul> <li>R. Mohr (TBC, Germany)</li> <li>Guido Guidi (Italy)</li> <li>Kazimierczak Robert (Poland)</li> </ul>	90 minutes
1530- 1600	COFFEE / TEA BREAK		30 minutes
1600- 1700	Experience Sharing and Coordination Challenges: presentations by WWIS website hosts (continued)	<ul> <li>R. DEUS (Portugal)</li> <li>VASILYEV Evgeny (Russia)</li> <li>F. J. MÉNDEZ RÍO (Spain)</li> </ul>	60 minutes
1700	END OF DAY 1		

### Tuesday, 1 December 2015

0900- 1000	Modern Web (WWIS version 2)	F. Galati (WMO) and	60 minutes		
1000- 1030	COFFEE/TEA BREAK	30 minutes			
SESS	SESSION 2: OPTIMIZATION OF OPERATIONAL PROCEDURES				
1030- 1200	Discussion on the optimization of operational procedures	• A. Cheng (HKO)	90 minutes		
1200- 1230	Increasing number of countries, cities and information on WWIS. The role of WMO	<ul> <li>S. Muchemi (WMO)</li> </ul>	30 minutes		
1230- 1400	LUNCH BREAK		90 minutes		
1400- 1430	WWIS Forum Discussion page	<ul> <li>Al Breiki Abdullah (Oman)</li> </ul>	30 minutes		
1430- 1530	Web hosts language coordination issues, common framework and translation	<ul> <li>Discussion (All Participants)</li> </ul>	60 minutes		
1530- 1600	COFFEE / TEA BREAK		30 minutes		
1600- 1700	Web hosts language coordination issues, common framework and translation	<ul> <li>Discussion (All Participants)</li> </ul>	60 minutes		
	END OF DAY 2				

<b>SESSION 3 – THE FUTURE OF WWIS</b>			
0900- 1000	Upcoming Enhancement of the WWIS (Current weather, more elements, etc.)	• A. Cheng (HKO)	60 minutes
1000- 1030	COFFEE/TEA BREAK	30 minutes	
1030- 1100	Upcoming Enhancement of the WWIS (Current weather, more elements, etc.) (Continued)	• A. Cheng (HKO)	30 minutes
1130- 1200	Discussion on Data Transfer Protocol	<ul> <li>Discussion (All Participants)</li> </ul>	30 minutes
1200- 1230	Future Direction of the WWIS and SWIC and their roles in PWS	• A. Cheng	30 minutes
1230- 1400	LUNCH BREAK	90 minutes	
1400- 1430	Visit to Met Service	• TBD	30 minutes
1430- 1500	Consideration of the draft report of the meeting	• S. Muchemi (WMO)	30 minutes
1500- 1530	COFFEE / TEA BREAK		30 minutes
1530- 1630	Any Other Business (AOB)	Discussion (All Participants)	30 minutes
1630-	Closure	<ul> <li>IPMA</li> <li>HKO</li> </ul>	30 minutes
1700		• WMO	