



Establishment of MAP-AQ Asian Office

WMO OMM
World Meteorological Organization
Organisation météorologique mondiale
Organización Meteorológica Mundial
Всемирная метеорологическая организация
المنظمة العالمية للأرصاد الجوية
世界气象组织

Secrétariat
7 bis, avenue de la Paix – Case postale 2300
CH 1211 Genève 2 – Suisse
Tel. +41 (0) 22 730 81 11
Fax: +41 (0) 22 730 81 81
wmo@wmo.int – public.wmo.int

Our ref.: 27485/2019/2019-RES/ARE
Annex: 1 (available in English only)

Ms Yaming Liu
Permanent Representative of China with WMO
China Meteorological Administration (CMA)
46 Zhongguancun Nandajie
Beijing 100081
China

9 October 2019

Subject: Establishment of the Shanghai office for Monitoring, Analysis, and Prediction of Air Quality (MAP-AQ) project

Dear Ms Liu,

As you may be aware, the eighteenth World Meteorological Congress (Cg-18, Geneva, 3-14 June 2019) adopted a historical reform of the constituent bodies of the World Meteorological Organization (WMO) to embrace a more comprehensive Earth system approach, with a stronger focus on water resources and the ocean, more coordinated climate activities, and a more concerted effort to translate science into services for society.

Within WMO, the Global Atmosphere Watch (GAW) Programme coordinates the activities related to the atmospheric chemical composition. GAW, as a research programme, focuses in particular on development of new services, and through close cooperation with the WMO operational community, it strives to translate these new services to operational capabilities to provide benefits to user community. GAW is supervised by the newly established Research Board that works closely with the new Technical Commissions to ensure the co-design of the new services.

WMO co-organized the first Global Conference on Air Pollution and Health with the World Health Organization, from 30 October to 1 November 2018. At this conference WMO took a commitment to improve the air quality forecasting capabilities to avoid acute health episodes. Such capabilities would build on the earlier successful systems implemented and being developed by the National Hydro-Meteorological Services and by academic partners.

One of such joint initiatives co-organized by WMO and the International Global Atmospheric Chemistry (IGAC) project is Monitoring, Analysis, and Prediction of Air Quality (MAP-AQ) project. This project has an objective to develop and implement a global air pollution monitoring, analysis, and prediction system for air quality with downscaling capability in regions of the world affected by high levels of atmospheric pollutants, in particular in Asia, Latin America, and Africa, and it constitutes one of the important elements of the Global Air Quality Forecasting framework being spearheaded by WMO.

The concept of the MAP-AQ, its objective and workplan were discussed at the meeting of the WMO/GAW Scientific Advisory Group on Application at the end of May 2019. This meeting was attended by the delegation from Fudan University that proposed its capabilities to support MAP-AQ project. In particular, the group in Fudan University can help in facilitation of the regional activities related to air quality observations and forecasting and assist in connecting this activity with WMO global initiative. In this way, the Shanghai office of MAP-AQ could serve as a regional hub for the related activities and support the capacity building effort for WMO members in the Asian region. More specific tasks of this office are proposed in the Annex.

cc: Prof. Renhe Zhang, Department of Atmospheric and Oceanic Sciences & Institute of Atmospheric Science, Fudan University

10/2019 Shanghai With the support of WMO and China Meteorological Administration (CMA), the first MAP-AQ office was set up in Fudan University, China.

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The Shanghai office would work very closely with China Meteorological Administration (CMA) on implementing its activity and with WMO Secretariat where the global coordination office will be established being supported by the Junior Professional Officer (supported by China).

I should be grateful if you could indicate your concurrence with establishment of the MAP-AQ office in Shanghai by Fudan University and the intention of CMA to work closely with this office. Please do not hesitate to let me know if any further information is required. For the technical clarification please consult with Oksana Tarasova, Chief, Atmospheric Environment Research Division at otarasova@wmo.int

I would like to take this opportunity to express our appreciation for your continuous support to the programmes of WMO.

Yours sincerely,

(E. Manaenkova)
for the Secretary-General

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ANNEX

The main activities of the Shanghai office will include:

- provide support/coordination of the national and regional activities related to air quality and health including follow up on MarcoPolo and Panda projects;
- creation and support of the related web page;
- support of the organization of the regional and national meetings related to the air quality forecasting in the region in collaboration with the national and regional partners;
- establishment of the working relationship between air quality measurement and modelling community and health community in China in collaboration with the regional/national office of WHO;
- establishment and support of the regional collaborative activities through South-South collaboration calls;
- coordination of the contribution of the regional activities to the global activities of MAP-AQ project and WMO Global Air Quality Forecasting initiative.

- **Responsibility of MAP-AQ Asian Office**
 - Provide support/coordination of the national and regional activities related to air quality and health
 - Creation and support of the related website
 - Establish working relationship between air quality measurement and modeling community in China
 - Coordination of the contribution of regional activities to the global activities of MAP-AQ project
- **Organizational Structure**
 - **Sponsors:** CAM and Fudan University
 - **Organizer:** Department of Atmospheric and Oceanic Sciences/ Institute of Atmospheric Sciences, Fudan University
 - **Director:** Prof. Renhe Zhang (Member of the Chinese Academy of Sciences)

03/2019 Beijing Prof. Renhe Zhang had a face-to-face meeting with Dr. Xu Tang (Director of the Weather and Disaster Reduction Services Department of WMO) and Prof. Greg Carmichael (Chair of SAG for WMO GURME) to discuss the initiate of MAP-AQ Asian Office.

05/2019 Geneva Delegates from Fudan University introduced the research background in Fudan University and Shanghai Meteorological Serves (SMS) related to air quality and some possible roles/work plan of MAP-AQ office during the WMO GAW APP SAG/MAP-AQ SAG meeting.

MAP-AQ Asian Office published a Chinese paper to introduce the MAP-AQ project

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2020年1月

气候变化研究进展
CLIMATE CHANGE RESEARCH
January 2020

Vol. 16 No. 1
January 2020

DOI: 10.12006/j.issn.1673-1719.2019.161
王晓妍, 赵德峰, 欧阳慧灵, 等. 空气质量监测、分析、预报国际研究计划及前沿问题 [J]. 气候变化研究进展, 2020, 16(1): 130-132
Wang X.Y., Zhao D.F., Ouyang H.L., et al. International project of monitoring, analysis, and prediction of air quality and some essential questions [J]. Climate Change Research, 2020, 16(1): 130-132

空气质量监测、分析、预报国际研究计划及前沿问题
International project of monitoring, analysis, and prediction of air quality and some essential questions
王晓妍, 赵德峰, 欧阳慧灵, 张人承

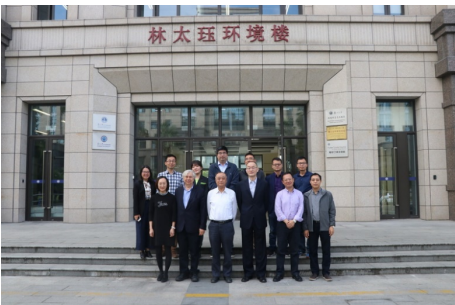
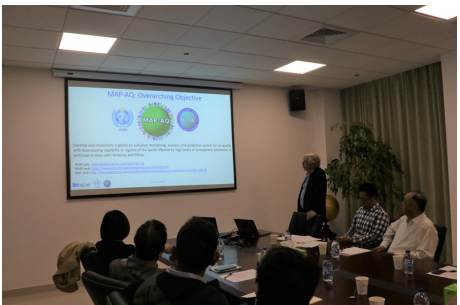


Academic Events

Air Pollution Workshop
Monday October 21, Room 5015, John Ling Building
Chair: Prof. Renhe Zhang
09:00-09:10 Welcome & Introduction of Institute of Atmospheric Sciences (IAS)
09:10-09:25 Introduction of Monitoring, Analysis, and Prediction of Air Quality (MAP-AQ) project
09:25-09:40 Introduction of Department of Environmental Science and Engineering (DSESE)
09:40-09:55 Ambient air pollution and population health in China
09:55-10:10 Measurement and model analyses of ozone variations in Shanghai
10:10-10:25 Meteorology and air pollution & MAP-AQ activities at Fudan University
10:25-10:45 Break
10:45-12:00 Discussion

Mitigation of heat wave in the context of global warming and COVID-19 Prevention and Control
“气候变暖与新冠肺炎疫情防控背景下夏季热浪科学应对”
科普座谈会
Popular Science Seminar
时间: 2020年8月6日(星期四)上午9:00-11:00
地点: 利用腾讯视频会议形式进行
主讲人: 俞浩教授(复旦大学公共卫生学院副院长)
会议ID: 481 880 203
会议密码: 200438
具体议程
1. 专家在线科普讲座(30分钟)
2. 线上互动(30分钟)

MAP-AQ 亚洲区域办公室系列学术报告暨绿芽学术沙龙第四期
MAP-AQ Asian Office Forum Series & Academic Salon-IV
极端气候事件、大气环境风险影响与公共卫生安全
Extreme Climate Events, Atmospheric Environment Risk, Public Health and Security
时间: 2020年10月20日 14:00 - 17:00
腾讯会议ID: 254 526 664
会议密码: 200438
研讨会议程
联合主持人: 叶谦
叶谦
未来地球综合风险防范计划(IRGP)执行主任
未来地球风险知识行动网络(Risk KAN)沿海地区与城市领域全球协调人
北京师范大学珠海校区 地表过程与资源生态国家重点实验室 教授
杨绪
复旦大学发展研究院、大气与海洋科学系/大气科学研究所教授高级工程师
联合国特别机构世界气象组织天气与减灾服务司副司长
国际灾害风险综合研究计划国际计划办公室(IRDR-IPD)高级科学顾问



大气海洋科学论坛第85期
2019-37
大气科学研究所系列学术报告会
The Ozone Layer: From its Discovery to its Recovery
报告时间: 2019年10月21日下午14:30-15:30
报告地点: 复旦大学江湾校区环境科学楼6008会议室
主办单位: 复旦大学大气与海洋科学系/大气科学研究所
报告人: Guy P. Brasseur, National Center for Atmospheric Research Boulder, CO, USA and Max Planck Institute for Meteorology, Hamburg, Germany.

Research Advances In Atmospheric Bioaerosol
大气生物气溶胶的研究进展
报告时间: 2020年6月3日 10:00-11:30
主办单位: 复旦大学大气与海洋科学系/大气科学研究所、MAP-AQ亚洲区域办公室
报告人: 黄恩伟 教授
邀请人: 王颢新 青年副研究员
通讯会议ID: 884 828 361
简介: 生物气溶胶(bioaerosols)是对流层大气气溶胶的重要组成部分, 主要包括空气中细菌、真菌、病毒、花粉等组分...

Thoughts on search of Atmospheric Science
大气科学一些重要方向研究的思考
报告时间: 2020年12月28日(周一)上午10点
报告地点: 复旦大学江湾校区环境科学楼6008会议室
主办单位: MAP-AQ 亚洲区域办公室(复旦大学)
报告人: 张人尧 院士
邀请人: 张人尧 院士
个人介绍: 张人尧中国工程院院士, 中国气象科学研究院首席科学家, 1998年国家自然科学基金杰出青年科学基金, 1999年首届全国百篇优秀博士学位论文, 2012年首届国家万人计划领军人才获得者...



Academic Events



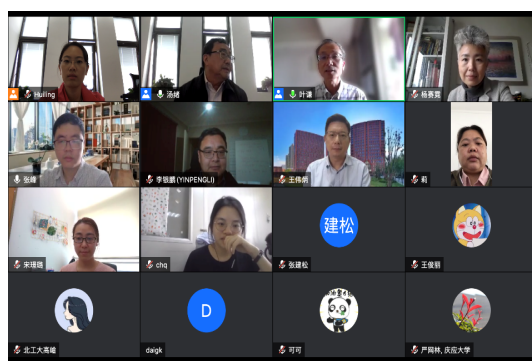
2019/10 Prof. Guy Brasseur (MAP-AQ co-chair) visited Fudan University. Researchers in Fudan University and SMS related to air quality were invited to the Air Quality Workshop hosted by MAP-AQ Asian Office.



2019/05 Representatives of Fudan University attended the MAP-AQ SSC meeting at WMO

2019/12 Office member seconded at the Weather and Disaster Reduction Services Department of WMO

2020/02 Office members in International Humanitarian Networks and Partnerships Week



2020/06 Online seminar on research progress about Atmospheric bioaerosol, given by Prof. Zhongwei Huang

2020/10 Online seminar on extreme climate events, environment risk, public health, co-organized by MAP-AQ Asian Office

2020/12 Seminar on thoughts of atmospheric sciences, given by Academician Xiaoye Zhang

MAP-AQ Joined EHAN/JEU

Max-Planck-Institut für Meteorologie | Bundesstr. 53 | 20146 Hamburg

Institutional Letter of Endorsement for Environment in Humanitarian Action Network (EHA Network)

Prof. Dr. Guy Brasseur
Max-Planck-Institut für Meteorologie
Environmental Modeling Group
Bundesstr. 53
20146 Hamburg
Deutschland
Tel.: +49 - (0)40 - 41173 - 209
Fax: +49 - (0)40 - 41173 - 390
guy.brasseur@mpimet.mpg.de
www.mpimet.mpg.de
Hamburg, 4.05.2020

Dear Colleagues,

I, Prof. Dr. Guy P. Brasseur, Max Planck Institute for Meteorology and co-Chair of the MAP-AQ Project, have been informed about the *Environment in Humanitarian Action Network (EHA Network)*.

The failure to take the environment into account during humanitarian response planning has manifested itself in many ways across various crisis situations and countries. For instance, it resulted in deforestation because of brick production for humanitarian operations in Darfur; dried up wells due to over-drilling for water by humanitarian organisations in Afghanistan; lead to fishing stock depletion in post-Tsunami Sri Lanka following an over-provisioning of fishing boats; triggered environmental contamination in Haiti due to a failure to meet waste treatment standards, causing the largest outbreak of cholera in recent history; and has triggered landslides in the Cox's Bazar Rohingya refugee camp in 2017. These examples illustrate how nature's contributions to people are often invisible in the humanitarian choices we make, with short term stability being realized by steadily drawing down local natural resources. Indeed, failing to properly take environmental issues into consideration can inadvertently undermine the humanitarian "do no harm" principle.

The Environment and Humanitarian Action Network (EHA Network) is a global partnership of UN agencies, NGOs, as well as specialist organisations that collectively aim to influence policy, enhance implementation and better coordinate efforts in the field of *Environment and Humanitarian Action*. The network advocates for a timely and appropriate inclusion of identified environmental issues in humanitarian planning processes. The EHA Network was established in 2014, in line with the mandate given by the Strategic Advisory Group on Environmental Emergencies (SAGEE), and the Secretariat is hosted at the UNEP/OCHA Joint Environment Unit.

My organization fully endorses this vision and I officially express our support to the EHA Network.

I hereby appoint Prof. Xu Tang and Dr. Huiling Ouyang (Fudan University) as the focal point from our organization. They will support the implementation of the work plan of the EHA Network. We may also consider additional support to the network subject to our mandate and resources on a case to case basis. I wish the EHA Network the very best in all its endeavours.

Sincerely yours,

Guy P. Brasseur
Chair of MAP-AQ
Senior Scientist
Max Planck Institute for Meteorology
Hamburg, Germany

05/2020 Prof. Guy Brasseur agreed that MAP-AQ joined the EHAN network. Dr. Xu Tang and Huiling Ouyang were appointed as Focus Points.



The Environment and Humanitarian Action Network (EHAN) was initiated by Joint UNEP/UNOCHA Environment Unit (JEU) to avoid, minimize, or mitigate environmental impacts of humanitarian action and to promote environmentally responsible humanitarian programming through collaboration and cooperation. EHAN has been endorsed by 10 organizations.

Meeting between WMO Coordination Hub (WCH) and Joint UNEP/OCHA Environment Unit (JEU)

11 December 2019, 11:00 h - 12:30 h, WMO Secretariat (Jura 5)

MEETING MINUTES

I. Participants

JEU: Ms. Emilia Wahlstrom

WCH: Dr. Xu Tang, Ms. Huiling Ouyang, Mr. Zheqing Fang

II. Meeting agenda

Time	Theme	Presenter
11:00 - 11:45	Introduction of JEU	Emilia Wahlstrom
11:45 - 12:15	Introduction of WCH	Xu Tang
12:15 - 12:30	Discussion of future collaborations	

11/2019 **02/2020**

- Dr. Xu Tang and Huiling Ouyang had a meeting with the official of JEU/EHAN to discuss the potential cooperations in the fields of environmental disasters and humanitarian actions.





MAP-AQ Joined EHAN/JEU

04/2020

Briefing MAP-AQ and its Asian Office

- Huilong Ouyang/MAP-AQ Shanghai informed EHAN members that the MAP-AQ Shanghai Office is a newly setup office and the first regional office of the MAP-AQ project, coordinating the national and regional activities related to air quality and health, and support the organization of the regional and national meetings related to the air quality forecasting in the region in collaboration with the national and regional partners. They are planning to host an international meeting on chemical weather analysis and forecasting at the end of this year. More information will be available soon.
- AP 14.** EHAN members interested in this topic are requested to contact Huilong Ouyang/MAP-AQ (ouyanghuiling@fudan.edu.cn) for further information.

06/2020

Briefing the preparation of the International Forum on Chemical Weather and Chemical Climate.

- 9. AOB**
- Xu Tang/MAP-AQ briefly introduced the forum on Chemical Weather and Chemical Climate. Xu Tang will share the agenda and more information with EHAN members at a later date.
 - AP 11.** EHAN members interested in "The First International Forum on Chemical Weather and Chemical Climate" organized by MAP-AQ (date now set to May 2021 due to COVID-19) to contact Xu Tang/MAP-AQ (xutang2016@gmail.com).

09/2020

Updating the progress of the forum and inviting members of EHAN to attend the forum.

- Opportunities for collaboration**
- The MAP-Forum on Chemical weather and Chemical climate, originally planned for November 2020 is postponed to May 2021 due to COVID-19. Six sessions are planned, one of which is on global governance on air quality and interactions with stakeholders. EHAN members are invited to attend the forum. Those interested can contact ouyanghuiling@fudan.edu.cn or Prof. Tang Xu (tangxu@fudan.edu.cn).

Activities of MAP-AQ were involved in the annual work plan of EHAN

Work Plan for the Environment and Humanitarian Action Network 2020						
Area of work	Objectives	Activities	Timeframe	Lead/Co-leads	Contributors	Remarks
	[added in April 2020]	4.3.1 Produce global guidance for environmental mainstreaming in humanitarian response planning including low cost actions, indicators and additional guidance per sector	March 2020 - March 2021	UNEP, IOM	JEU (currently building working group) UNITAR/GPA interested	Concept note here .
		3.1.2. Provide ad-hoc expert advice to the JEU as needed, including through the OCHA remote analysis cell (support OCHA and inter-agency partners to carry out coordinated and joint assessments in crisis context)	Ongoing / as needed	Members of Environment Assessment and Analysis Cell (see TOR here)	International Expert Network (MAP-AQ) Interested in joining the team as requested.	MAP-AQ is a WMO Initiative under the WMO Global Atmosphere Watch (GAW) Programme

Work Plan for the Environment and Humanitarian Action Network 2020						
Area of work	Objectives	Activities	Timeframe	Lead/Co-leads	Contributors	Remarks
		3.1.6. Inclusion of EHA matters in the regular Summer School of MAP-AQ to train all relevant national professional teams on how to connect the knowledge and experience on atmospheric environment with JEU and environment humanitarian actions.	July and/or August, during each summer vacation period	MAP-AQ: Guy Brasseur, Renhe Zhang, Rajesh Kumar, Xu Tang	JEU and EHA Network	

Work Plan for the Environment and Humanitarian Action Network 2020						
Area of work	Objectives	Activities	Timeframe	Lead/Co-leads	Contributors	Remarks
		2.1.3. Organize side event and booth on EHA at ECOSOC HAS	June 2020	JEU	-	Are EHAN interested in this? JEU organized one in 2019 NB: Event may be postponed due to COVID-19
		2.1.4 Organizing the International Forum on Chemical Weather Analysis and Forecasting (ICWAF) and a special Forum Session on Environment Emergency and Governance will be included.	Nov. 2020 (Shanghai, China)	Guy Brasseur, Renhe Zhang, Xu Tang (MAP-AQ)	JEU, EHA and others who are interested in this topic and willing to join the Forum Session will be invited.	The timeline for the Forum will be finally announced in August due to Covid-19 (it might be postponed to Nov. 2021 and keep it as the face-to-face meeting).



Major Activities in 2021

- Recruit 1-2 full-time staff
- Construct website of MAP-AQ Asian office
- Review the status of the Air Quality Forecast System
- Support to transition of MarcoPolo – Panda projects
- Host webinars with focus on hot topics, latest policy, and high-impact research
- Assist training activities
- Facilitate the organization of International Forum and the development of Young Scientist Award

1st International Forum of Chemical Weather and Chemical Climate (Preliminary Plan)

Time	Day 1	Day 2	Day 3	Day 4
08:30 - 09:00	Opening Ceremony VIPs + Launching (1 h) Plenary talk: Jiming Hao (THU)(45 min) Photo & Break (45 min)	Plenary Talk: Renhe Zhang (FDU)	Plenary Talk: Kebin He (THU)	Scientific Tour: Shanghai Meteorological Museum (Optional)
09:00 - 09:30		Plenary Talk: Daniel Jacob (Harvard)	Plenary Talk: Vincent-Henri Peuch (ECMWF)	
09:30 - 10:00		Coffee Break & Poster	Coffee Break & Poster	
10:00 - 10:30				
10:30 - 11:00		Sessions 1 - 5 in Parallel	Sessions 1 - 5 in Parallel	
11:00 - 11:30				
11:30 - 12:00	Plenary Talk: Jim Crawford (IGAC)			
12:00 - 14:00	Lunch	Lunch	Lunch	
14:00 - 14:30	Sessions 1 - 5 in Parallel	Sessions 1 - 5 in Parallel	Session 6	
14:30 - 15:00				
15:00 - 15:30				
15:30 - 16:00	Coffee Break & Poster	Coffee Break & Poster	Coffee Break	
16:00 - 16:30				
16:30 - 17:00	Sessions 1 - 5 in Parallel	Sessions 1 - 5 in Parallel	Closing Ceremony Summary talk: Rajesh Kumar Award announcement	
17:00 - 17:30				
17:30 - 18:00				
18:00 - 19:00		Dinner	Dinner	
19:00 - 19:30	Banquet	Business Meeting	Business Meeting	
19:30 - 20:00				
20:00 - 20:30				
20:30 - 21:00				

Sessions	Chairs
Session 1: Emission inventory of gases and aerosols	<ul style="list-style-type: none"> ● HUGO Denier van der Gon (TNO) ● Kebin He (THU)
Session 2: Observation of the physic-chemical characteristics of atmospheric components	<ul style="list-style-type: none"> ● Tao Wang (HK PolyU) ● Lin Wang (FDU)
Session 3: Multi-scale simulation and forecasting of chemical weather/climate	<ul style="list-style-type: none"> ● Oriol Jorba (Barcelona Supercomputer Center) ● Hong Wang (CAMS)
Session 4: Linkage between air pollution and weather/climate	<ul style="list-style-type: none"> ● Johannes Flemming (GAFIS, ECMWF) ● Xiaoye Zhang (CAMS)
Session 5: Assessment of environmental and health risk associated with air pollution	<ul style="list-style-type: none"> ● Sophie Gumy (WHO) ● Tong Zhu (PKU)
Session 6: Global governance on air quality and interactions with stakeholders	<ul style="list-style-type: none"> ● Jessica Seddon (World Resource Institute, Washington, DC) ● Xu Tang (FDU)