Информационное сообщение о визите делегации Росгидромета в Республику Корея

The program of the Russian scientists' visit to Korea

Host: ***National Institute of Meteorological Research (NIMR)***

23 May (Sunday)

13:30 *Arrival in Seoul (Incheon Airport) , Flight KE09 30 (Pulkovo-2) (accompanied by an NIMR representative).*

** Accommodation in the hotel " LEXINGTON "*

15:00 *Check-in and Free time*

18:00-20:00 *Dinner (Host: Dr. Won-Tae Kwon)*

24 May (Monday)

09:20 *Meeting at the hotel lobby and transportation to KMA (accompanied by an NIMR representative).*

10:20-12:00 *Visit to Korea Meteorological Administration (KMA)*

12:00-13:00 *Lunch*

14:00-18:00 *Social program: Seoul Tour (accompanied by an expert tour guide).*

evening *Free time.*

25 May (Tuesday)

09:15 *Meeting at the hotel lobby and transportation to Jeju (accompanied by an NIMR representative).*

** Accommodation in the hotel " Jeju KAL "*

11:25-12:30 *Arrival in Jeju airport and check-in*

12:30-13:30 *Lunch*

13:30-20:00 *Social program: Jeju Tour (accompanied by an NIMR representative)*

26 May (Wednesday)

09:00-12:00	*Workshop: Morning sessions*
12:00-13:30	*Lunch*
13:30-17:20	*Workshop: Afternoon sessions*
18:00-20:00	*Banquet*

27 May (Thursday)

09:00-13:00	*Workshop: Morning sessions*
13:00-14:30	*Lunch*
14:30-16:00	*Workshop: Discussions*
16:00-evening	*Free time*

The 5th Korea-Russia Joint Workshop

Date & time	Topic / Title	Chairperson / Speaker
Wed 26th May	**Day 1**	
09:00 - 10:00	**Registration**	
10:00 - 10:20	**Opeing Session**	**Hyun-Suk Kang**
10:00	Welcome	Chee Young Choi (Director of NIMR)
10:10	Address	Vladimir Kattsov (Director of MGO)
10:20 - 12:00	**Session 1**	**Hyun-Suk Kang**
10:20	Priorities of Russian fundamental and applied climate research	Vladimir Kattsov
10:40	Climate Research in NIMR	Won-Tae Kwon
11:00	Performance evaluation of the current AOGCMs in simulation of the Northern Hemisphere climate	Valentin Meleshko
11:20	CarbonTracker-Asia, a tool to quantify CO2 uptake/release focused on Asia	ChunHo Cho
11:40	Sensitivity of dust emission over the Tibetan Plateau to simulated Asian summer monsoon rainfall in climate model	Young-Hwa Byun
12:00 - 12:10	**Photo**	
12:10 - 13:30	**Lunch**	
13:30 - 14:50	**Session 2**	**Valentin Meleshko**
13:30	Modeling land surface climate variability of Siberia with coupled Climate - Vegetation Model	Vladimir Krupchatnikov
13:50	Evaluation of UM-regional configuration during the Changma period in 2009	Sang-Ok Han
14:10	Air quality modeling and forecasting studies at MGO: present status and further development with account for possible climate and emission changes	Evgeny Genikhovich,
14:30	Scale-dependency of surface fluxes in an atmospheric mesoscale model: Effect of spatial heterogeneity in atmospheric conditions	Jinkyu Hong
14:50	Consistency estimation of observed and simulated terrestrial temperature changes from the middle of the 20th century to now	Petr Sporyshev
15:10 - 15:40	**Coffee Break**	
15:40 - 17:20	**Session 3**	**Sang-Ok Han**
15:40	Climate change in the Arctic in 20th and early 21st centuries: observations, detection and attribution	Genrikh Alekseev
16:00	Evaluating the Surface water budget and assessing the global water cycle for the IPCC AR4 A1B scenario simulations	E-Hyung Park
16:20	Climate extremes in 21st century and impact potential over Russia as inferred from MGO RCM ensemble simulations	Igor Shkolnik
16:40	CORDEX: Progresses and Plans at NIMR/KMA	Hyun-Suk Kang
17:00	Regional climate change projection over East Asia and Korea	Dong-Hyun Cha

Thur 27th May **Day 2**

09:00 - 11:20	**Session 4**	**Young-Hwa Byun**
09:00	An Introduction to North Eurasian Regional Climate Centre	Valentina Khan
09:20	An Introduction to KOPRI arctic climate research program - st	Young Jun Yoon
09:40	Observations of energy exchange on ice drifting stations in the Arctic Basin for development of sea ice description in regional and global atmospheric models	Sergey Shutilin
10:00	Sea Ice Maintoring in the Polar Regions Using Microwave Sensor Data	Mi-Lim Ou, Jung-Rim Lee, Chun-Ho Cho
10:20	NIMR's Contribution to International ARGO Project	Sang-Boom Ryoo, Pil-Hun Chang, and ChunHo Cho
10:40	Evaluation of global ocean-sea ice model (MOM4-SIS) performance based on basic	Cheol-Ho Kim
11:00 - 11:20	**Coffee Break**	
11:20 - 13:00	**Session 5**	**Genrikh Alekseev**
11:20	Impacts of Siberian forest fire aerosols on meteorology over East Asia in May 2003	Rokjin Park
11:40	On prediction capability up to a season in the mid-latitudes of the Northern Hemisphere	Vadim Matyugin
12:00	Prediction of East Asian Summer Precipitation: A Regularized Regression Approach	Hee-Seok Oh
12:20	Bayesian Change-point Analysis of the Annual Maximum of Daily and Sub-daily Precipitation over South Korea	Chansoo Kim, Myoung-Seok Suh, Ki-Ok Hong
12:40	Development of Climate Analysis Software for Urban and Environmental Planning of Seoul	Chaeyeon Yi, Kyu Rang Kim, Young-Jean Choi
13:00 - 14:30	**Lunch**	
14:30 - 16:00	**Discussion of the workshop results and future plans**	**Won-Tae Kwon & Vladimir Kattsov**

I send greetings to
Federal Hydrometereology and Environmental
Monitoring Service and especially its Siberian division

"Prompt, Accurate and Valuable Meteorological Services"

Chun Byung - Seong
Administrator
Korea Meteorological Administration

Brief History

Feb. 2008 The superior authorities of KMA was changed into the Ministry of Environment
May. 2007 KMA was elected as a member of WMO Executive Council

Jul. 2005 KMA was elevated to Sub-ministerial level

Jun. 2002 The Gangneung RMO was renamed as the Gangwon RMO
Oct. 2000 Supercomputer(224 Gflops) enhanced computing power
Jun. 1999 Supercomputer (128 Gflops) was installed.
Dec. 1998 The KMA headquarters were relocated to a new building
Dec. 1990 DMS was renamed to the Regional Meteorological Office(RMO)
Dec. 1987 KMS was elecated to the Korea Meteorological Administration(KMA)
Jan. 1982 The Daejeon DMS was established

Sep. 1979 Computer communication network was implemented
Apr. 1978 CMO was renamed as the Korea Meteorological Service(KMS)
Jun. 1971 Meteorological telecommunication circuit between Seoul and Tokyo was established
Dec. 1970 Commencement of meteorological satellite reception
Jul. 1970 Two District Meteorological Services (DMS) in Busan and Gwangju were established
Sep. 1963 Commentcement of weather radar observation
Aug. 1961 meteorological Service Law was enacted
Jan. 1959 aeronautical Service Law was enacted
Feb. 1956 Korea joined the World Meteorological Organization(WMO)
Aug. 1949 The Central Meteorological Office (CMO) was established
Mar. 1904 Commencement of modern meteorological services

Weather Forecast

KMA issues several kinds of weather forecasts such as short-, medium-, and long-range weather forecasts. KMA also issues typhoon forecasts and warnings/advisories for severe weather. All weather information issued by KMA is disseminated in real time to the general public, mass media and governmental organizations concerned via e-mail, Internet, Intranet, dedicated line, fax, DMB, PDA, etc.

Short-range Weather Forecast

The quantified information is published, eight times a day at three-hour intervals, on every three hours temperature extending over a period of two days, precipitation, daily maximum/minimum temperatures, precipitation probabilities, precipitation types, snow cover, sky conditions, wind directions, wind velocities, relative humidity, and sea wave height. The information is provided in types of text, graphics, time-series, charts, and voices at each grid point, by gridding the Korean Peninsula and coastal areas into 5x5 km zones. Moreover, it is provided in digital format to be easily used in such areas as tourist, leisure, construction, water resources developments, agriculture, health, environment, and industry, which helps them to produce high quality services to diverse end-users.

Medium-range Weather Forecast

Forecasts of daily weather conditions, temperatures, precipitation probabilities and wave height for the forthcoming week are issued twice a day.

Long-range Weather Forecast

KMA produces the monthly and the three-month forecasts. The monthly forecasts are announced three times a month including trends of temperature, precipitation and synoptic pattern for the next 30 days. The three-month forecasts which are issued once a month include the trends of temperature and precipitation for the next three months.

Climate Outlook

Climate Outlook which are presented in February, May, August and November include the trends of temperature and precipitation for two seasons after.

Weather Information & Severe Weather Alert

Occasionally KMA issues weather information whenever sudden and important changes of the weather conditions are detected or severe weather is anticipated. Severe weather alerts include advisories and warnings. Preliminary warnings are issued before severe weather alerts, and give information about the type, place and time of the expected severe weather. The Preliminary warning is usually issued several hours earlier than Severe weather alert and gives a crucial time advantage for the mitigation of weather disasters

Weather Bulletin

KMA issues Weather Bulletin when a severe weather situation or a serious meteorological disaster is anticipated. Weather Bulletin includes weather status, forecast and specific attentions required.

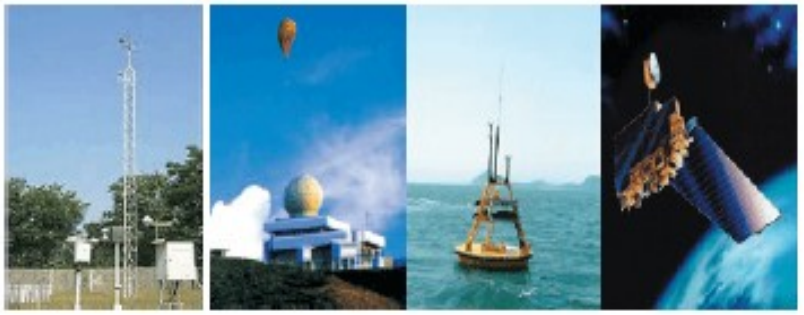
Typhoon Forecast

When a typhoon originates in the Northwest Pacific, KMA analyses and predicts the track, scale and intensity of the typhoon. When considerable damages are anticipated in Korea, typhoon advisories or warning are issued for the general public and the authorities concerned to take prompt measures against the typhoon.

Process of Weather Forecast

1.

Surface Upper-air Marine Satellite



1.

Weather Radar

Telecommunication networks Operational supercomputer

The observation data which are collected throughout the world by telecommunication networks are input into the operational supercomputer loaded with physics equations that are constructing the changes of atmospheric conditions. Later the data are transferred for various processes required to produce forecasts.

Weather Forecast

Numerical Weather Prediction

Numerical Weather Prediction (NWP)

A numerical weather model is the computer program that simulates an atmospheric motion in space and time. A variety of weather phenomenon can be analyzed and predicted by the different species of numerical models.

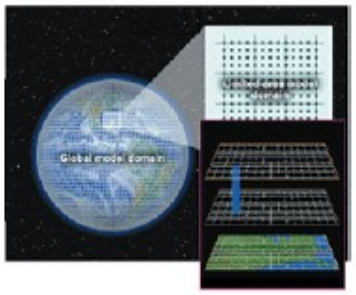
In the model the atmosphere is assumed to be composed of a number of lumps in which corner points are called as the grid points. The more number of lumps indicates the more elaborate simulation. Simulation by the model generates the future state of the model atmosphere at all grid points from its initial state.

Products of numerical models are serviced to forecasters as well as public on the web-site through Internetdedicated as a delivery system. In particular, forecasters use these products as a guidance with their expertises and experiences for an issue of weather forecasting. Besides, many other models such as statistical model, ocean wave model, and typhoon model, etc., are employed to exploit the output produced from the weather forecast model for their purposes.

During the past six years since 1999, KMA has run several numerical models in the operational supercomputer NEC/SX-5 to conduct the elegant numerical weather prediction. In October 2004, KMA introduced a new supercomputer CRAY/X1E and thus many kinds of models with higher resolution as listed in the table are now running faster in the operational suite.

Observation

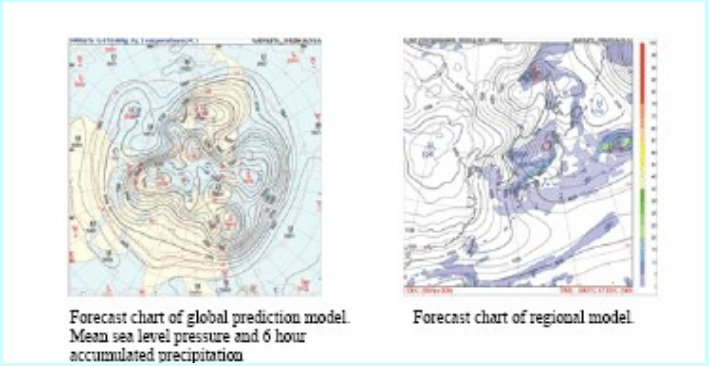
Model



Procedure of NWP

Numerical weather models:

Model	Horizontal Resolution (Vertical Layers)	Simulation/day	Prediction Period	Remarks
Global Prediction Model (GDAPS)	30 km(40)	2	10 days	Global domain
	55 km(40)	2	8 days	Ensemble forecasting
	110 km(21)	1	230 days	Climate prediction
Regional Prediction Model (RDAPS)	30 km(33)	2	2 days	Asia domain
High Resolution Prediction Model(HLAM)	5 km(33) 10 km(33)	2	1 hours	Korea and South Korea domain
Typhoon Model (DBAR)	30 km(1)	4 (when Typhoon generated)	72 hours	Typhoon tracks
Wave Model	0.25¢ª	2	2 days	Asia domain
	1.25¢ª	2	10 days	Global domain
Asian Dust Aerosol Model (ADAM)	30 km(25)	2	2 days	Asia domain
Statistical Model	-	2	3 months	Temperature, precipitation probability
El Nino prediction model	5.625¢ª X 2¢ª	1/month	6 months	El Nino prediction



Forecast chart of global prediction model. Mean sea level pressure and 6 hour accumulated precipitation

Forecast chart of regional model.