An Introduction to RIC-Beijing

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China Meteorological Administration

Contents

1. China Meteorological Administration (CMA)

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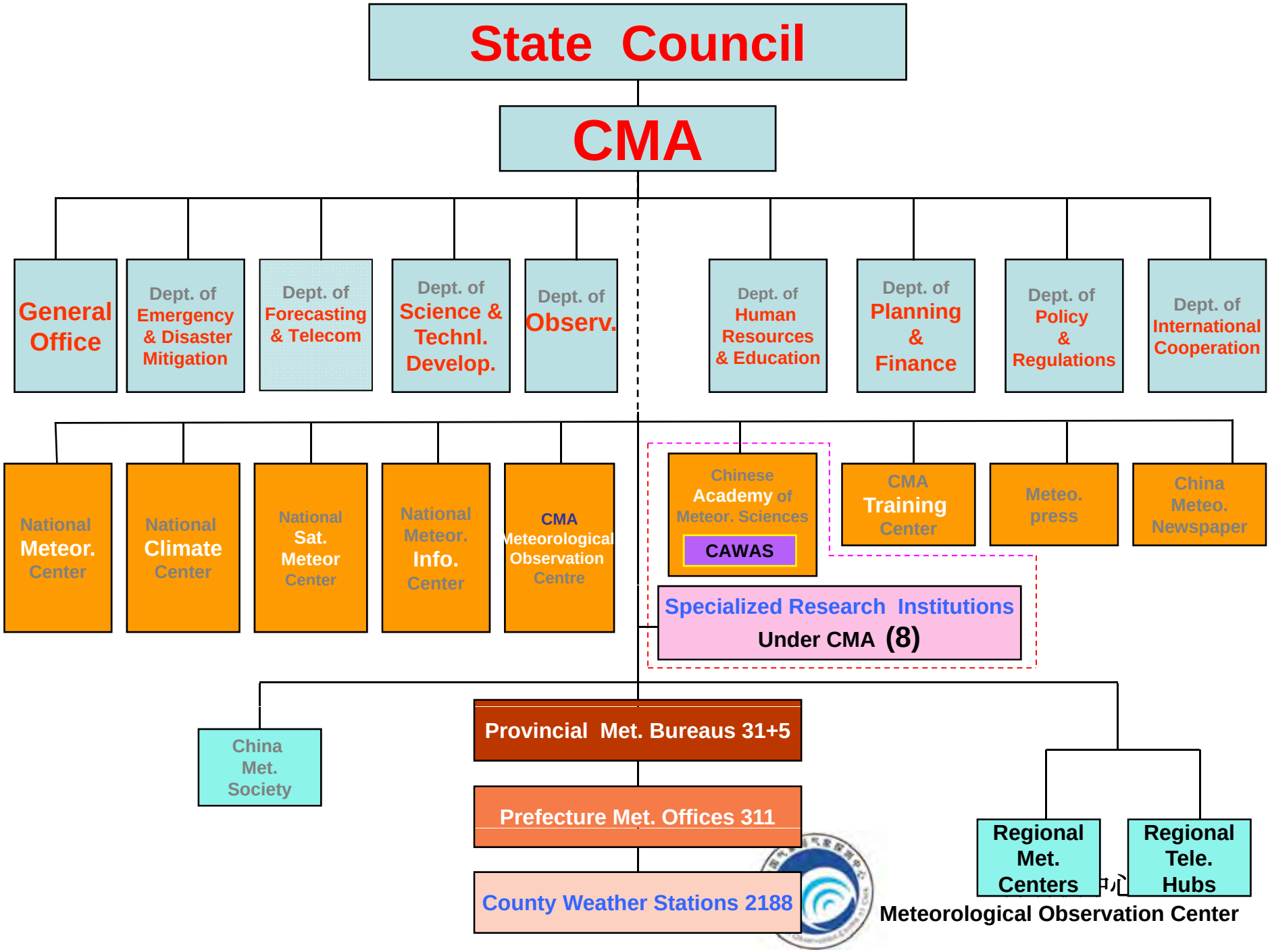
State Council
CMA
General Office
Dept. of Emergency & Disaster Mitigation
Dept. of Forecasting & Telecom
Dept. of Science & Technl. Develop.
Dept. of Observ.
Dept. of Human Resources & Education
Dept. of Planning & Finance
Dept. of Policy & Regulations
Dept. of International Cooperation
National Meteor. Center
National Climate Center
National Sat. Meteor Center
National Meteor. Info. Center
CMA Meteorological Observation Centre
Chinese Academy of Meteor. Sciences
CAWAS
CMA Training Center
Meteo. press
China Meteo. Newspaper
Specialized Research Institutions Under CMA (8)
China Met. Society
Provincial Met. Bureaus 31+5
Prefecture Met. Offices 311
County Weather Stations 2188
Regional Met. Centers
Regional Tele. Hubs
Meteorological Observation Center

Integrated Observation System

CMA has established an integrated meteorological observation network based on space-based, airborne and ground-based observing systems across the country.

Components of the observation

Surface observation stations

- CMA has 2,414 surface observation stations (including 2,194 AWS) at the national level.
- Locally, 22,766 AWS stations were set up for making intensified observation of small- & meso- scale weather systems.

Great Wall, *Zhongshan* and *Yellow River* meteorological stations were set up in the polar regions.

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An Automatic Weather Station

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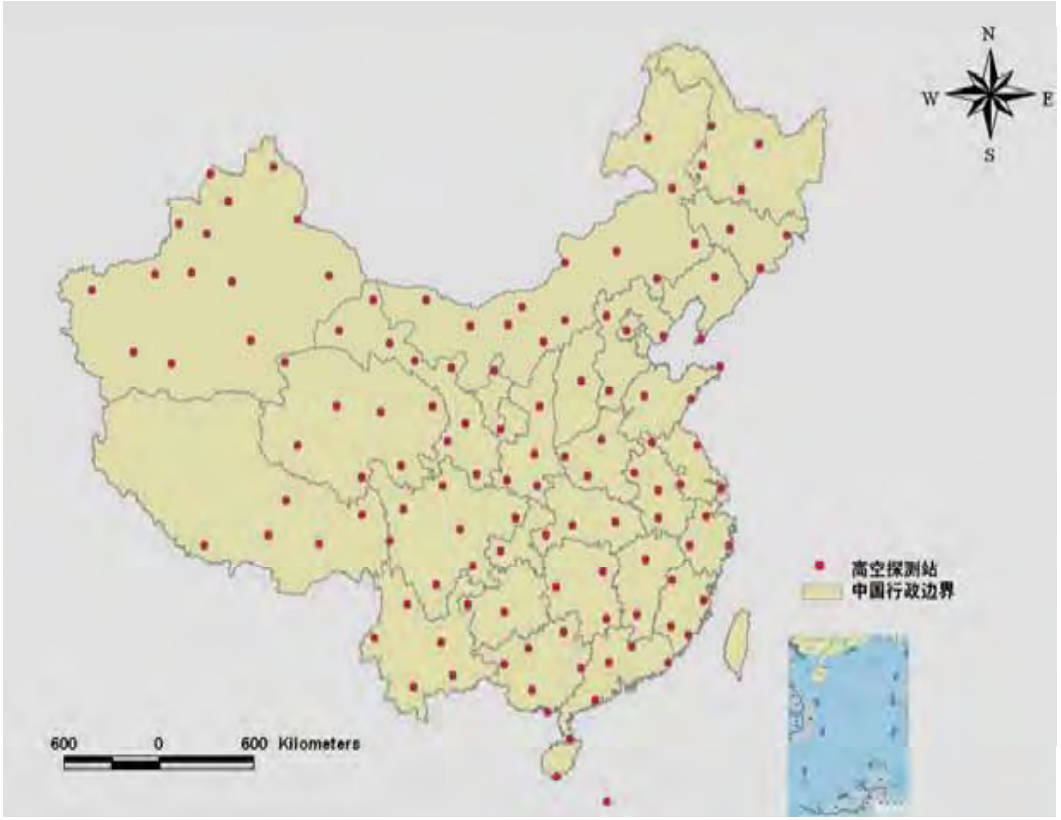
Upper-air observation

CMA operates 120 upper-air stations. 87 global data exchange stations and 7 GCOS GUAN stations

By the end of 2009, the deployment of 91 sets L-band secondary wind finding radar — radiosonde system was completed across the country.



Distribution of upper-air stations

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Thunder & Lightning Detection Network

The lightning detection systems have been established in each provincial meteorological bureau . The total number T&L substations reaches 323.

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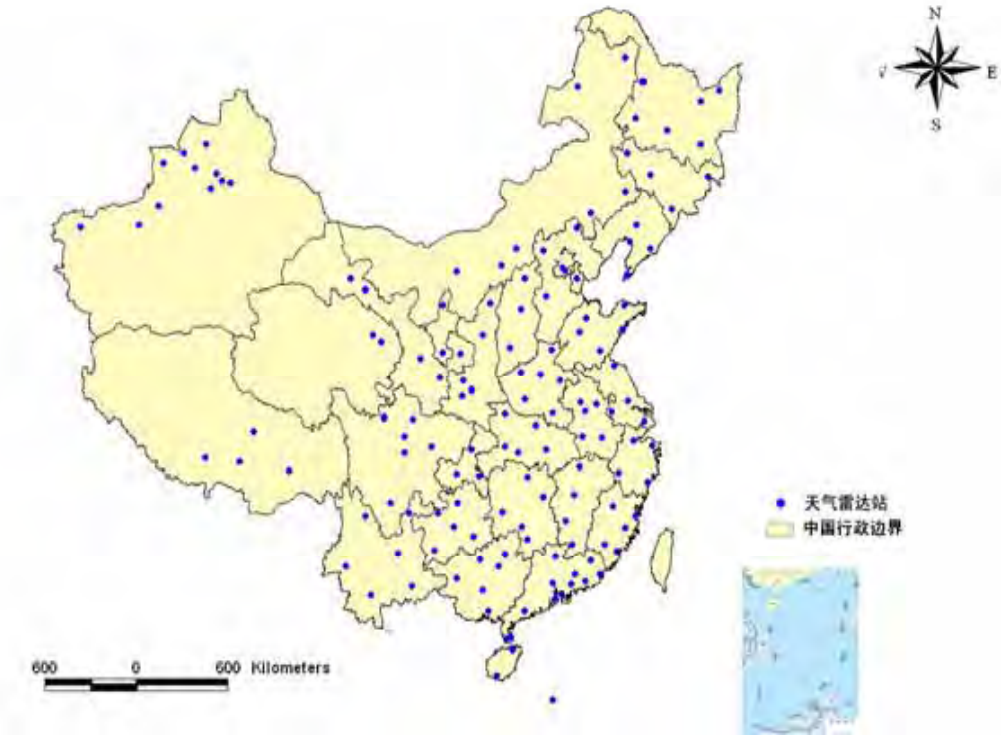
Weather Radars

- Since 1998, China has been deploying 158 new-generation Doppler weather radars in the major cities and disaster-prone areas.
- By the end of 2009, 143 new radars have been installed and put into operation, which they are used to effectively monitor severe events like typhoon, heavy rain, squall line, hailstone, tornadoes, etc., and to give a more accurate precipitation distribution pattern and precipitation quantity.



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Meteorological Satellites

China has successfully launched 9 meteorological satellites

5 polar-orbiting met. satellites

4 geostationary met. satellites

Current status:

- Polar orbiting FY-1D in orbit
- Polar orbiting FY-3A on testing in orbit
- Geostationary MetSat (FY-2C/D) in orbit

2. Meteorological Observation Center (MOC)

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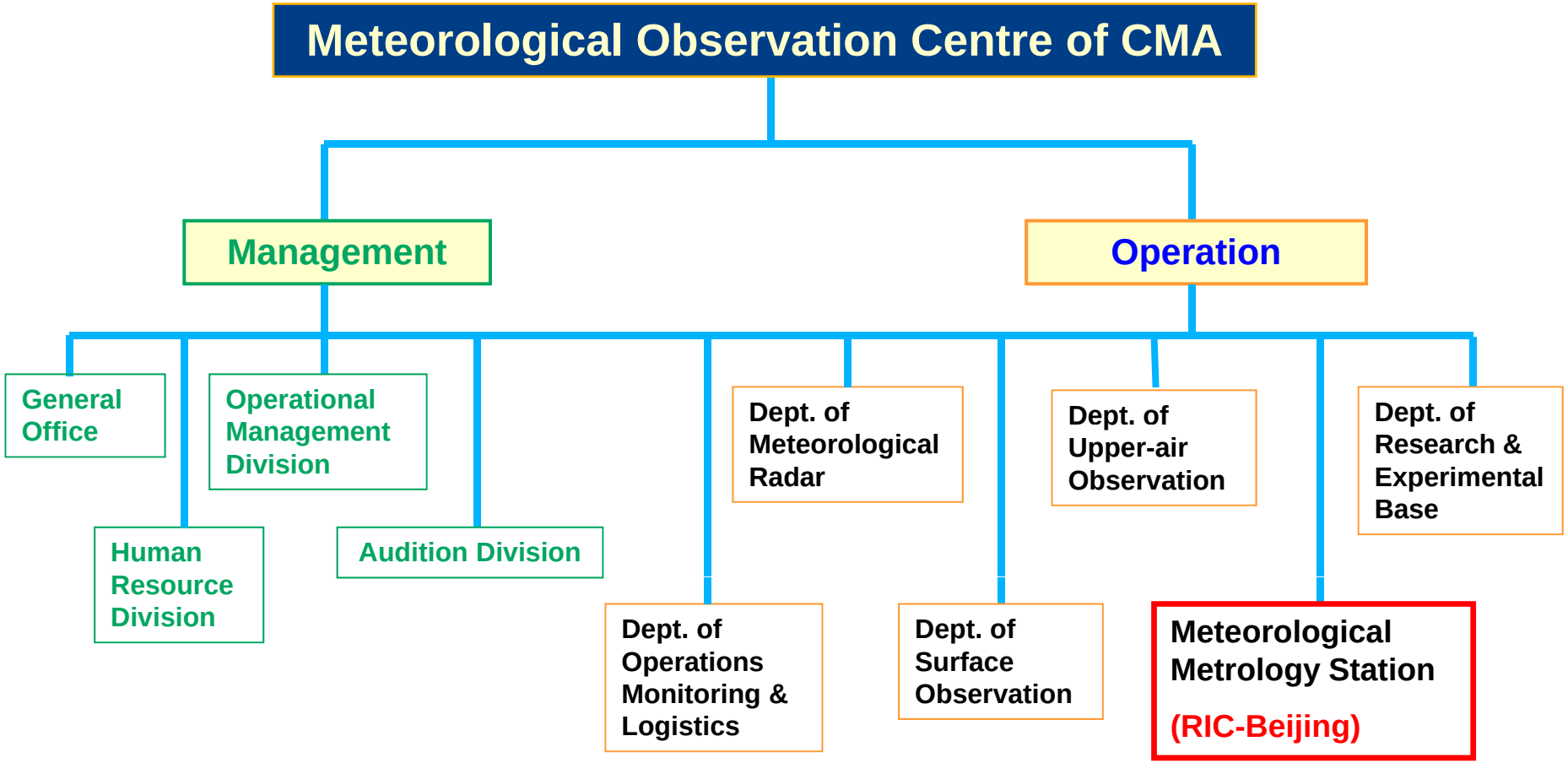
MOC Functional Structure



Responsibility Surface Observation

Surface Observation

Responsible for Network Designation, Maintenance, Technology Support, and Operation Evaluation.

- Automatic weather station (AWS)
- Thunder and lightning detection system
- Ecology and agrometeorological observation system
- Marine meteorological observation system

Technology standard, Observation method and criterion.

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Responsibility Upper Air Observation

Responsible for Network designation, Maintenance, Technology support & guide, Operation evaluation.

- Upper-air sounding system
- GPS/MET vapor sensing system
- Lidar
- Aeroplane
- Microwave radiometer

Technology standard, Observation method and criterion.

Responsibility Meteorological Radar

Responsible for Network designing, Maintenance, Technology support & guide, Software, Data quality control and assessment.

- Meteorological radar
- Windprofiler

Technology standard, observation criterion.

Responsibility Research & Experiment Base

- R&D for new observation technology, method and instrument & equipment and new information collection
- Experiment and comparison of new instruments

Responsibility Meteorological Metrology Station

- Meteorological standard tracing to the source
- Standard keeping and transferring
- Meteorological instrument calibration and checking
- Meteorological calibration criterion and method
- RIC-Beijing jobs for RA II

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Responsibility Monitoring and Logistics

- Monitoring and evaluating the running status of meteorological observation network
- Observation real-time data quality control
- Meteorological facilities logistics

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3.Meteorological Metrology Station (RIC-Beijing)

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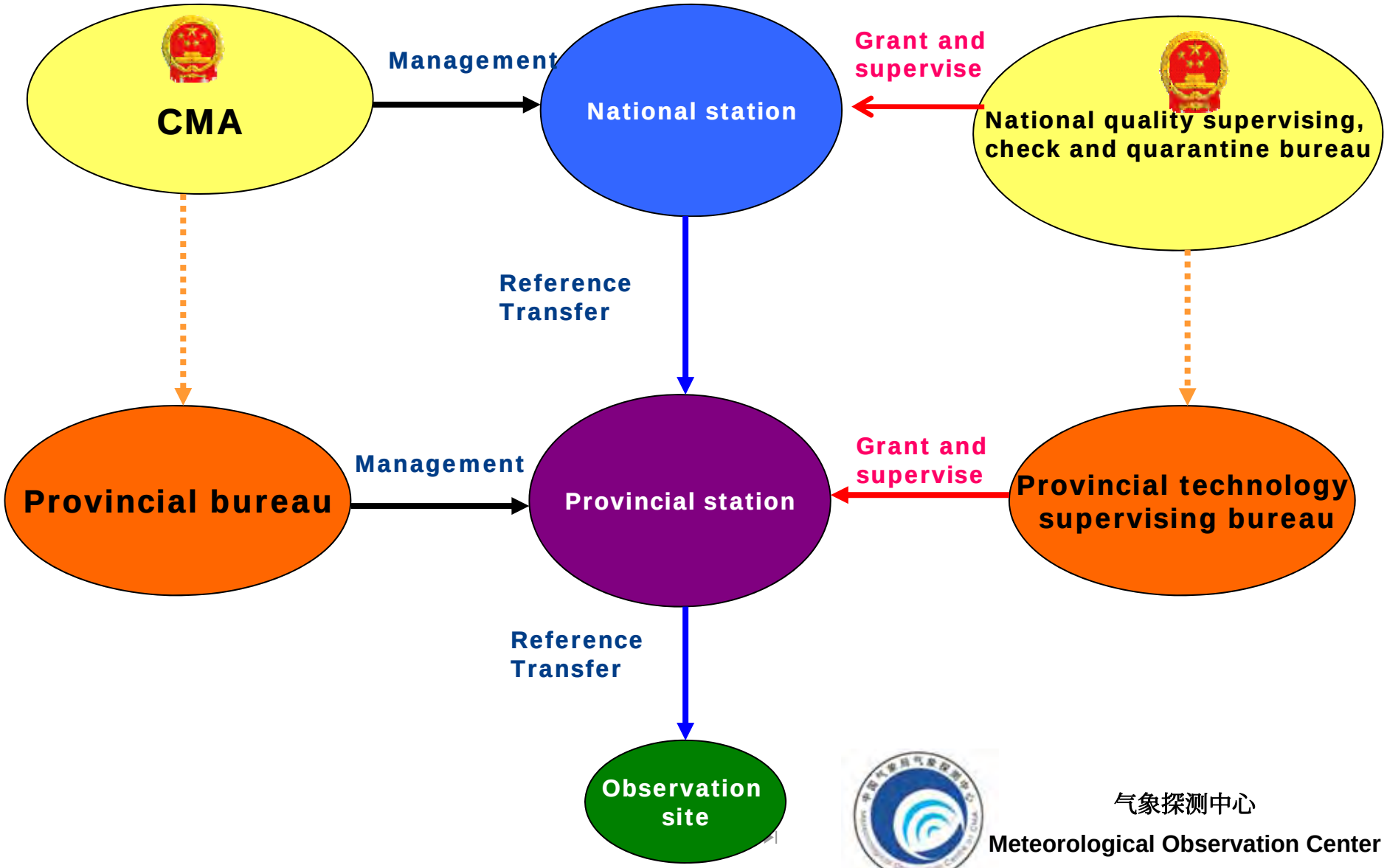
China and Japan were designated as RICs of WMO RA Ⅱ at the 11th session of RA Ⅱ in 1996.

Meteorological Metrology



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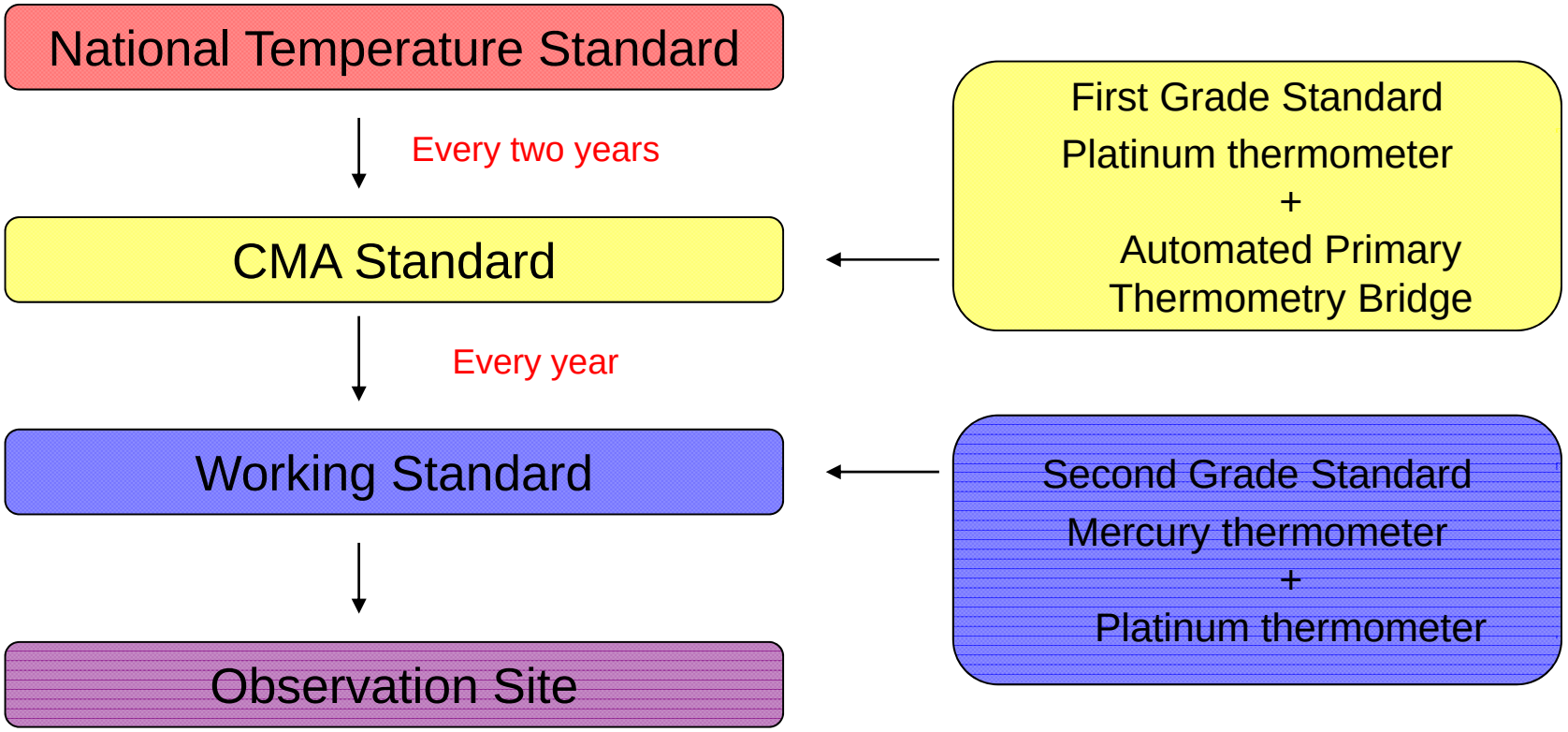
Instrument and Traceability

Temperature



Instrument and Traceability

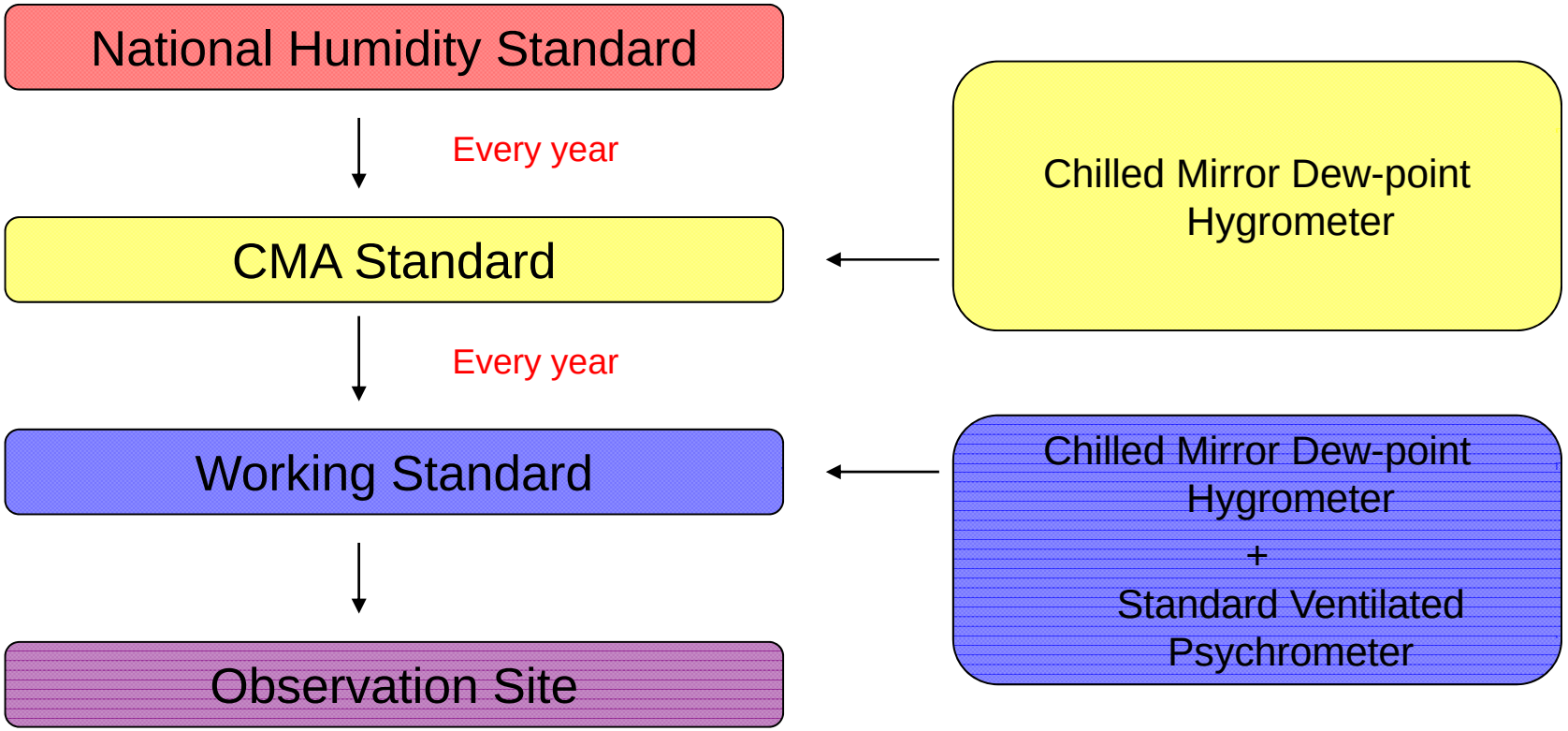
Temperature

917/L Low temperature Deep Immersion Liquid Bath (UK, ISOTECH)

6015T Automated Primary Thermometry Bridge (Canada, M.I.)

Instrument and Traceability

Humidity



Instrument and Traceability

Humidity

DewStar-S-1M Dew point Hygrometer (Japan, Shinyei)

VC3 7060 Climate Chamber (German, Weiss-Votsch)

Instrument and Traceability

Humidity

SRH-3MC135ADR Accurate humidity Generator
(Japan, Shinyei)

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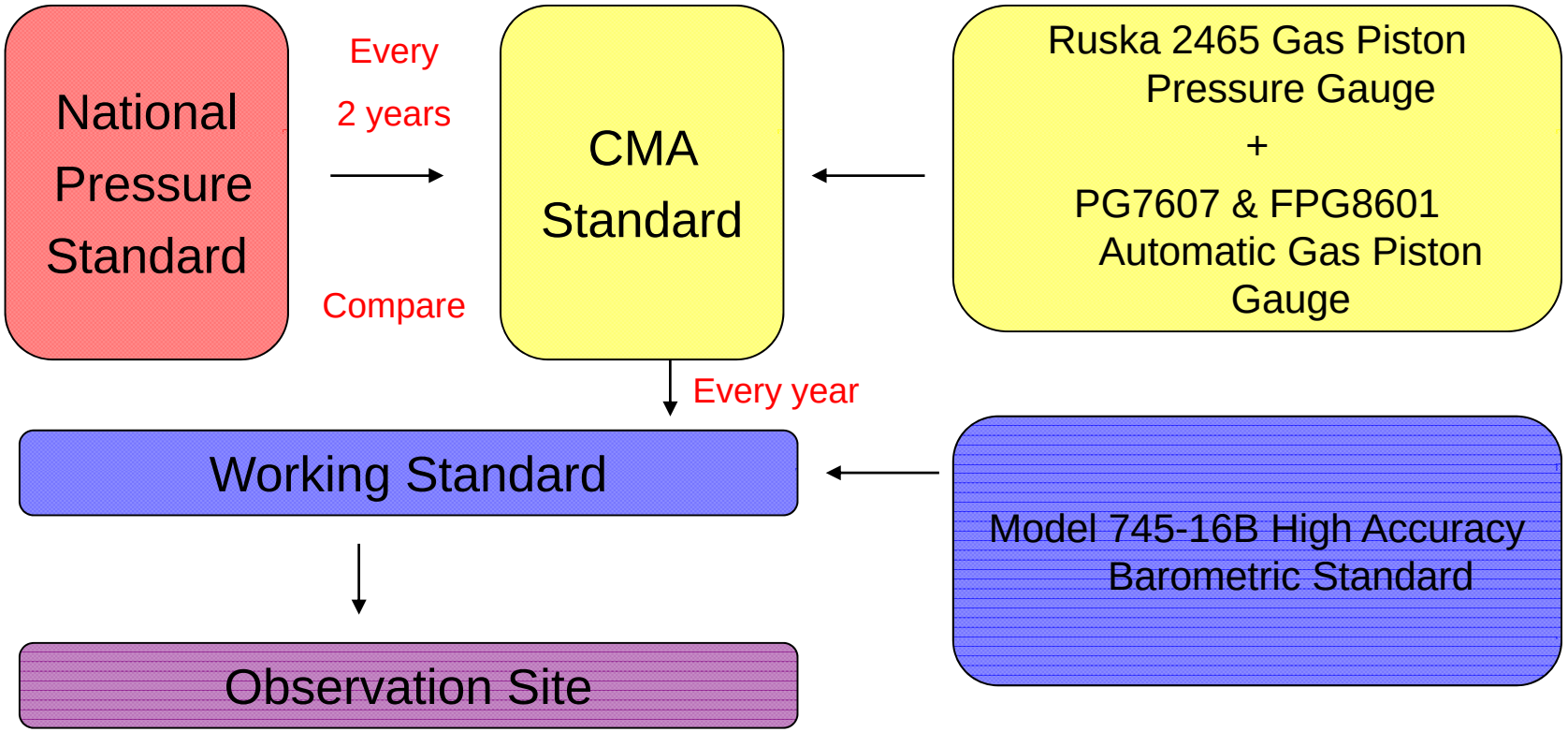
Instrument and Traceability

Pressure



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Instrument and Traceability

Pressure

PG7607 & FPG8601 Automatic Gas Piston Gauge (U.S. DHI)

Instrument and Traceability

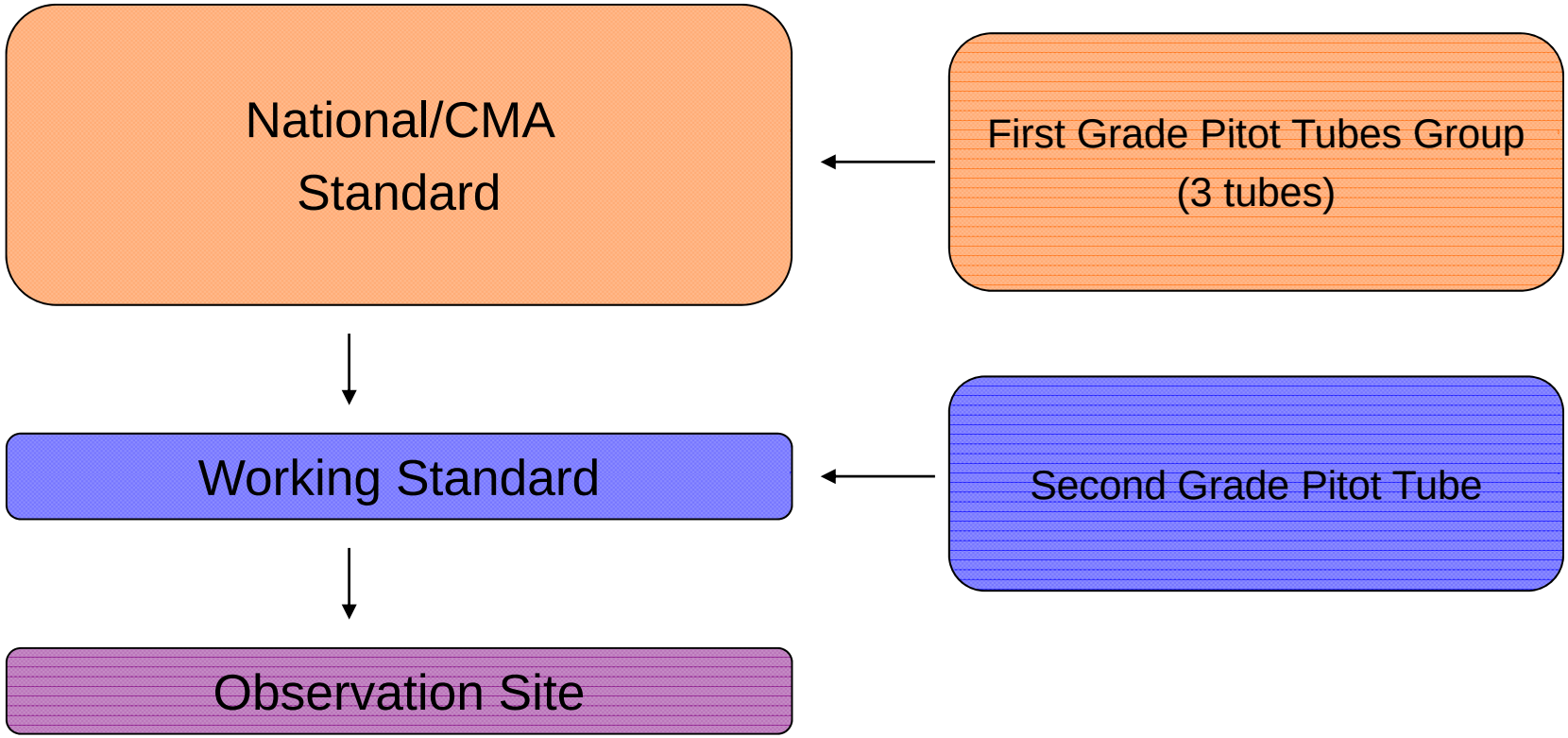
Pressure

Model 745-16B High Accuracy Barometric Standard
(U.S. Paroscientific)

Ruska 2465 Gas Piston Pressure Gauge (U.S. GE)

Instrument and Traceability

Wind Velocity



Instrument and Traceability

Wind Velocity

0.8-meter wind tunnel with two test sections & its control system

Instrument and Traceability

Wind Velocity

Very low speed wind tunnel

HDF-500 wind tunnel

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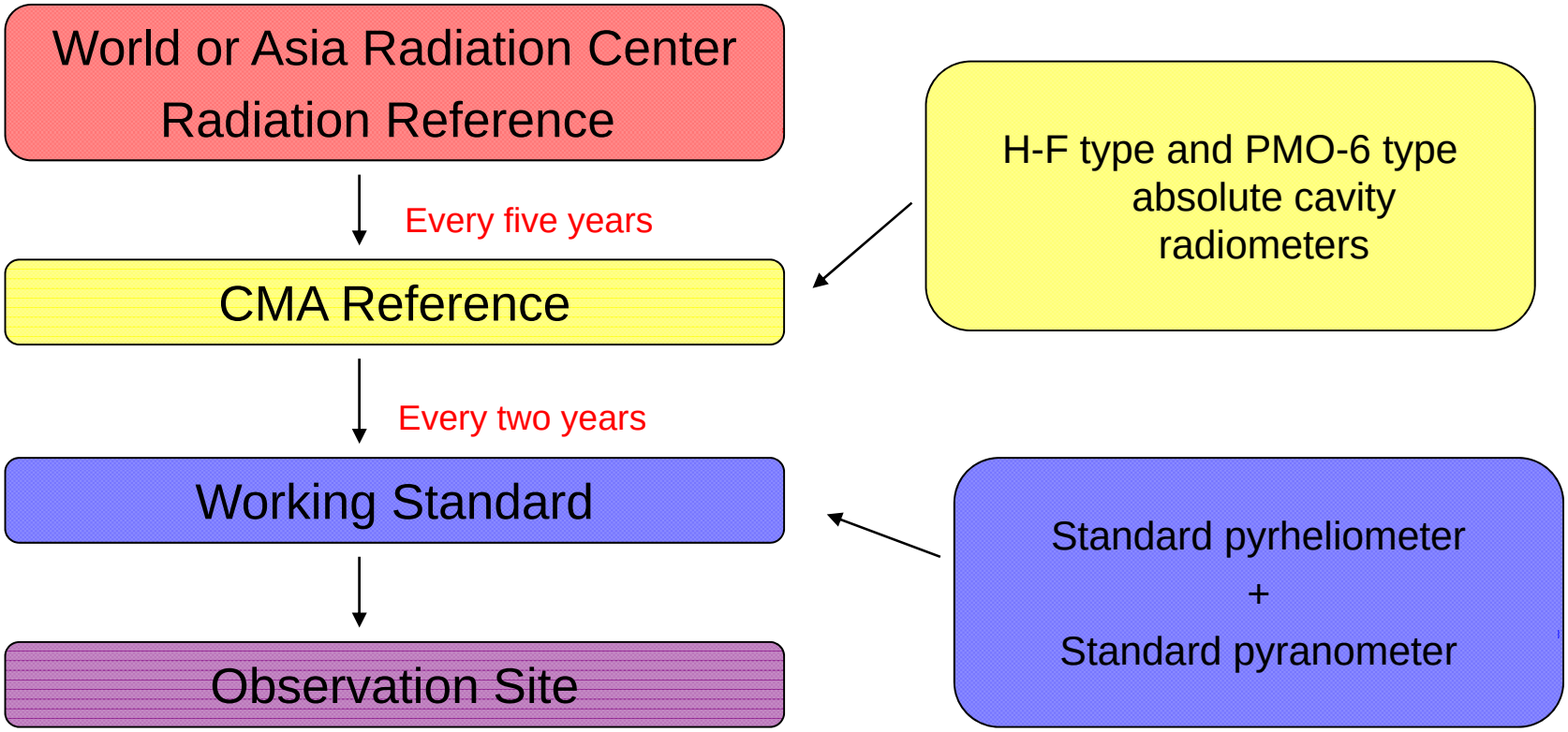
Instrument and Traceability

Radiation



Instrument and Traceability

Radiation

AHF Absolute Cavity Radiometer

Solar Radiation Standard Instruments

Pyrheliometer

Actinometer

Instrument and Traceability

Radiation

CMP22 Phyrometer

CG4 pyrgeometer

Ultraviolet radiomoter

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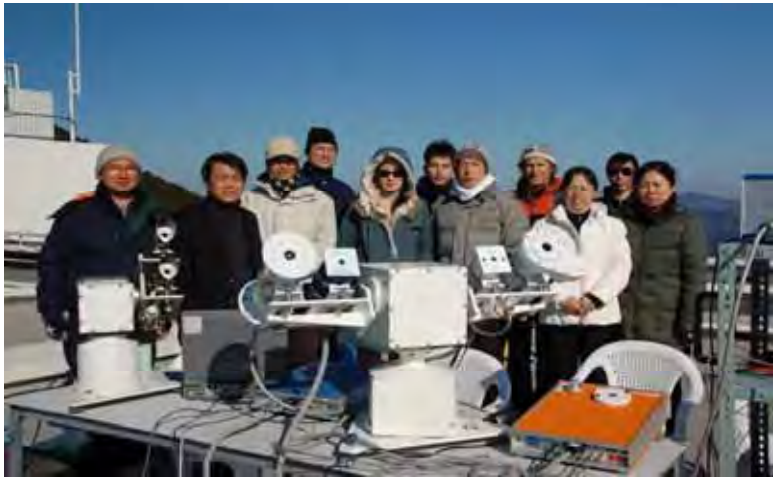
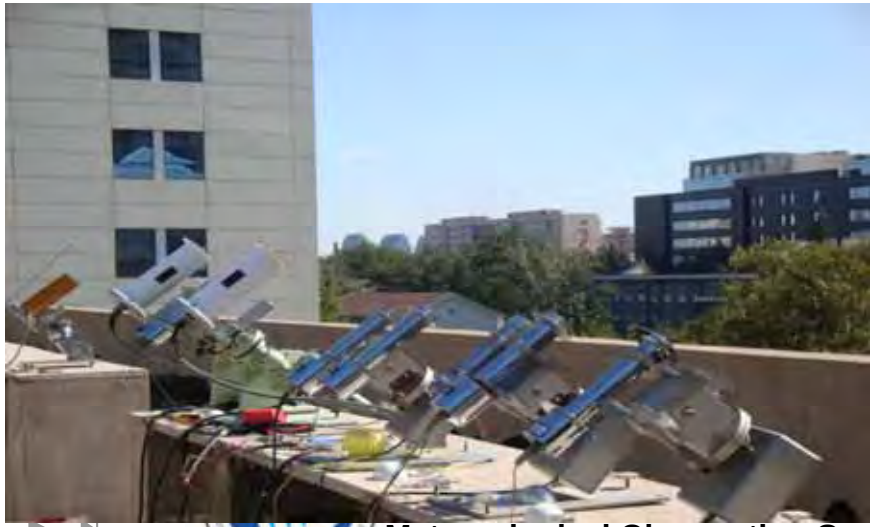
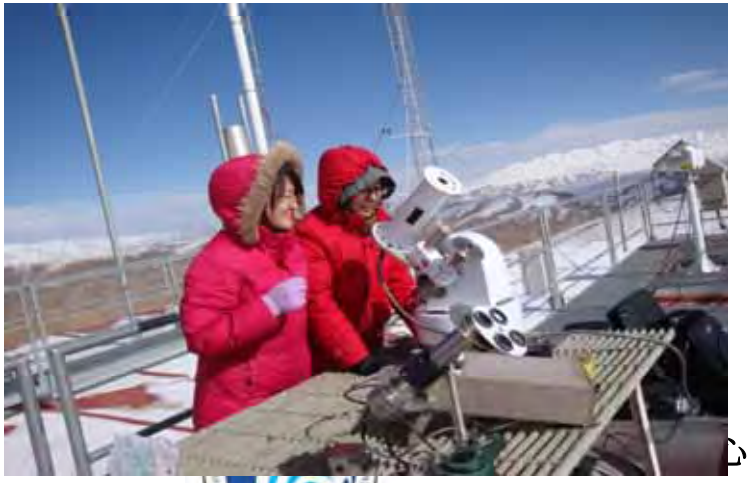
Comparison



Calibration



Calibration



Station construction, training, technical interchange

New type of sun simulation

UV and PAR Calibration

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Outdoor experiments for UV and PAR

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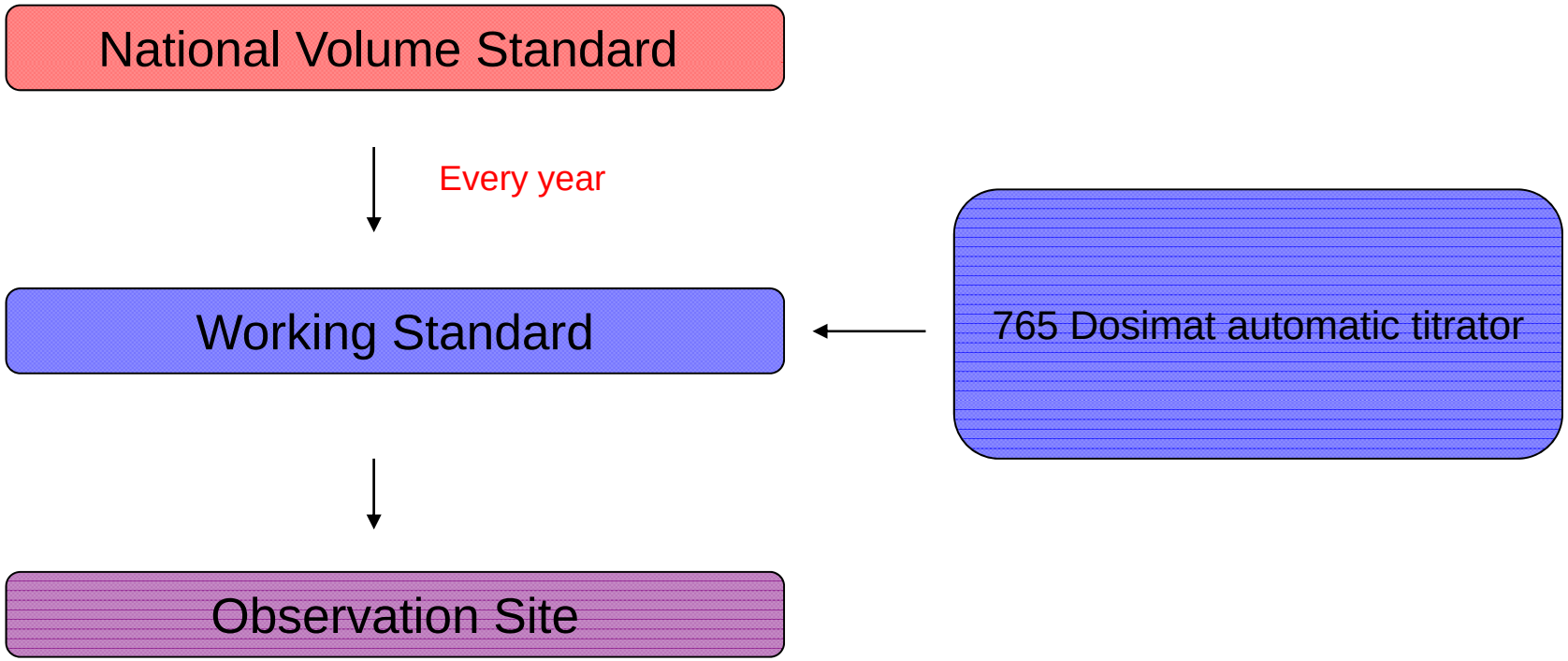
Instrument and Traceability

Precipitation



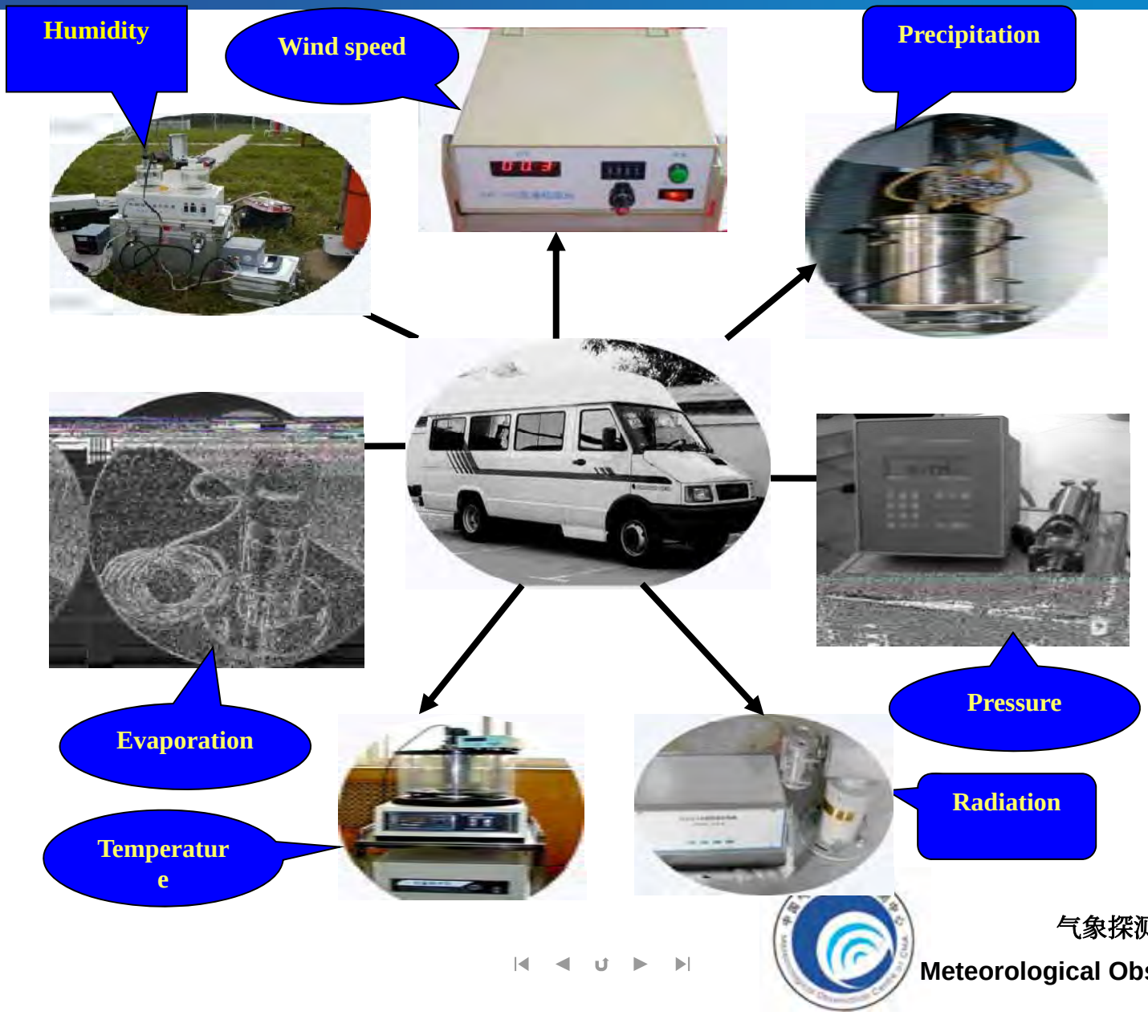
Instrument and Traceability

Precipitation

765 Dosimat automatic titrator

JJS3 Precipitation Calibration System

AWS In-situ Calibration System



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Publications of RIC-Beijing

WMO RIC-Beijing edited and published two **World Meteorological Instrument Catalogues** in 2000 and 2002, which were delivered to the Meteorological Services of more than 180 WMO Members for reference.

RIC-Beijing Website

World meteorological instrument catalogue

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Chinese Instruments Delegation to Vietnam

Instruments comparison with Vietnam (Aug., 2009)

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The 8th WMO Intercomparision of Radiosonde Systems (July, 2010)

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Recent Visiting

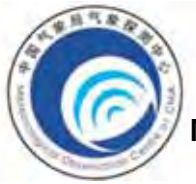
- February 2 – March 4,2010: 2 experts from Japan Meteorological Agency visited RIC-Beijing

- May 9 -17, 2010: Meteorological and Hydrological Delegation of DPRK visit RIC-Beijing and had Standard instrument intercomparision.

Future plan

- Attend the activities of CIMO, WMO more actively;
- Further cooperation with RIC-Tsukuba;
- As WMO RIC, intercomparison with the members of RA Ⅱ
- Welcome all of you visit Meteorological Observation Center, CMA

Thank you for your attention!



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