### Outline of the 3<sup>rd</sup> Asian GAW Workshop on Greenhouse Gases

#### **Purpose**

- 1. Introduce the current status and future planning of Sulphur Hexafluoride (SF<sub>6</sub>) World Calibration Center (WCC), and to get an advice and support from the participants from various countries including SAG members. Dr. Jeongsoon Lee will talk about this right after me.
- 2. To share the data and analytical result of greenhouse gases, and to draw special attention to the increasing greenhouse gases in the Asian region.

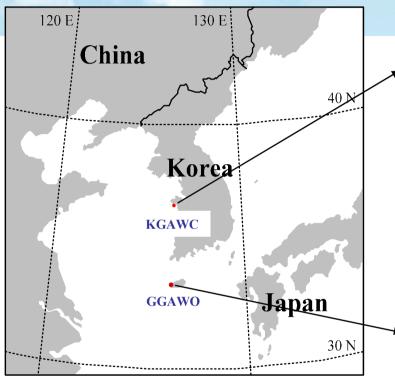
# Outline of the 3<sup>rd</sup> Asian GAW Workshop on Greenhouse Gases (continued)

- ☐ Discussion session: Agendas for strengthening the Workshop
- 1. establish asian GAW network on greenhouse gases
- 2. publish the 2<sup>nd</sup> "Asian GAW Greenhouse Gases Newsletter"
- 3. future direction and ways to developing the workshop

Any businesses related to Asian GAW workshop will be communicated with member countries, which is attended at least in this meeting, and also will be decided by close consultation with WMO secretariat (Dr. Oksana Tarasova)

- ☐ Field trip to the KGAWC (Korea Global Atmosphere Watch Center)
  - Friday after lunch and plan to arrive Seoul Garden Hotel around 19:30

#### Where is?







- ➤ Station Name : Anmyeon-do (KGAWC)
- ➤ Station Category: WMO Regional GAW Station (47132)
- Latitude/Longitude/Altitude: 36°32′N / 126°19′E / 45.7 m
- ➤ Station Name : Gosan (GGAWO)
- ➤ Station Category : Local Station for GAW





### History of GAW Activities in KMA



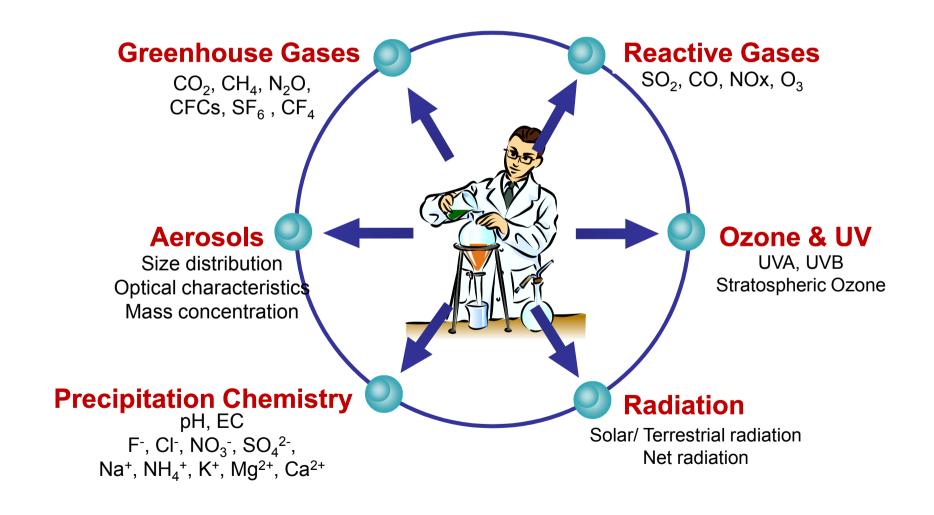
| 1987. 1.  | Establishment of a weather station at Mt. Sobaek                                                                                                                    | ••••  |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| 1996. 9.  | Beginning of background atmosphere watch station on Anmyeon                                                                                                         | ido   |
| 1998. 4.  | Continuous measurement of greenhouse gases and radiation (CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, CFC-11,12) <b>WMO/GAW station 47132 designation</b> | ••••  |
| 2003. 12. | Sampling from 40 m tower (about 86 m from the sea level)                                                                                                            | ••••  |
| 2007. 1.  | Beginning of continuous measurement of CFC-113 and SF <sub>6</sub><br>Aerosol sampling from the integrated inlet system                                             | ••••  |
| 2009. 1.  | Start operational measurement at GGAWO (Gosan Global Atmosphere Watch Observatory)                                                                                  | ••••  |
| 2010. 1.  | Operational measurement of CF <sub>4</sub>                                                                                                                          | 4 /48 |





#### Monitoring Areas in KGAWC





## Observation items of KGAWC (Anmyeondo)

|                            | No. | Parameter              | Period | 4                      | No. | Parameter                                     | Period |
|----------------------------|-----|------------------------|--------|------------------------|-----|-----------------------------------------------|--------|
| Greenhouse<br>Gases        | 1   | CO <sub>2</sub>        | 1999 ~ | Aerosols               | 20  | TSP mass concentration / 9 ions               | 2001 ~ |
|                            | 2   | CH <sub>4</sub>        | 1999 ~ |                        | 21  | PM <sub>10</sub> mass concentration / 9 ions  | 1997 ~ |
|                            | 3   | N <sub>2</sub> O       | 1999 ~ |                        | 22  | PM <sub>2.5</sub> mass concentration / 9 ions | 1999 ~ |
|                            | 4   | CFC-11                 | 1999 ~ |                        | 23  | β-ray PM <sub>10</sub> mass concentration     | 1999 ~ |
|                            | 5   | CFC-12                 | 1999 ~ |                        | 24  | Optical PM <sub>10</sub> mass concentration   | 2008 ~ |
|                            | 6   | CFC-113                | 2007 ~ |                        | 25  | Optical PM <sub>2.5</sub> mass concentration  | 2009 ~ |
|                            | 7   | SF <sub>6</sub>        | 2007 ~ |                        | 26  | Optical PM <sub>1.0</sub> mass concentration  | 2009 ~ |
|                            | 8   | CF <sub>4</sub>        | 2010 ~ |                        | 27  | Size distribution (0.3 $\sim$ 10 $\mu$ m)     | 2001 ~ |
| Reactive<br>Gases          | 9   | SO <sub>2</sub>        | 2004 ~ |                        | 28  | Size distribution (0.5 ~ 20 μm)               | 2006 ~ |
|                            | 10  | CO                     | 2004 ~ |                        | 29  | Size distribution (0.01 ~ 0.487 μm)           | 2005 ~ |
|                            | 11  | NOx                    | 2004 ~ |                        | 30  | Aerosol vertical profile                      | 2003 ~ |
|                            | 12  | Surface O₃             | 2004 ~ |                        | 31  | Aerosol Optical Depth                         | 1999 ~ |
| Radiation                  | 13  | Direct Solar Radiation | 1999 ~ |                        | 32  | Scattering coefficient                        | 2003 ~ |
|                            | 14  | Global Solar Radiation | 1999 ~ |                        | 33  | Black carbon concentration                    | 2003 ~ |
|                            | 15  | Terrestrial Radiation  | 1999 ~ |                        | 34  | Dustfall : 9 ions                             | 2004 ~ |
|                            | 16  | Net Radiation          | 1999 ~ | Stratospheric          | 35  | Stratospheric O₃ vertical profile             | 2002 ~ |
| Precipitation<br>Chemistry | 17  | 9 Ions                 | 1997 ~ | Ozone,<br>Ultra Violet | 36  | UV-B                                          | 1999 ~ |
|                            | 18  | Acidity (pH)           | 1997 ~ |                        | 37  | UV-A                                          | 2008 ~ |
|                            | 19  | Conductivity           | 1997 ~ | Total : 37 parameters  |     |                                               |        |





### Plan of GAW activity

