

# WMO SPACE PROGRAMME WIS & GODEX-NWP

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WORLD  
METEOROLOGICAL  
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2nd Global Observation Data Exchange  
for NWP Meeting

New-Delhi, India  
28 November 2018

# 2030 Agenda for Sustainable Development



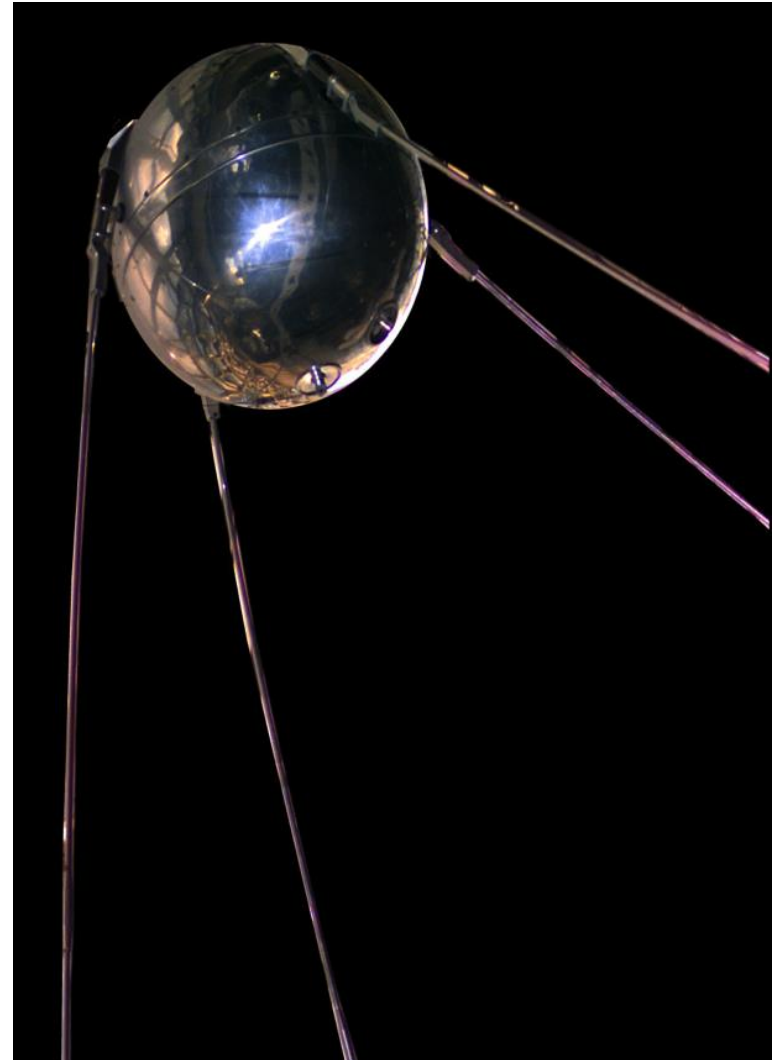
- WMO contributes to 12 of the 17 SDGs and is the co-custodian of SDG 13 on Climate Action

<https://public.wmo.int/en/our-mandate/what-we-do/wmo-contributing-sustainable-development-goals-sdgs>



# United Nations and Outer Space

- Launch of Sputnik in 1957 - beginning of space activities
- It raises many questions:
  - How can we prevent the extension of the cold war arms race into outer space?
  - Who should define rules and regulations for activities in outer space?
  - How can we assure that space activities benefit all humankind?
- UN Member States decide to establish the *Committee on the Peaceful Uses of Outer Space (UNCOPUOS)*



# Establishment of UNCOPUOS

- **1958 UN General Assembly resolution 1348(XIII). Question of the peaceful uses of outer space**
- **1959: UN General Assembly resolution 1472 (XIV). International Co-operation in the peaceful uses of outer space**
  - Established a Committee on the Peaceful Uses of Outer Space (COPUOS) with 24 members and tasked it to:
    - a) Review international co-operation and study space-related activities that could be undertaken under United Nations auspices
    - b) Study legal problems which may arise from the exploration of outer space
- **WMO, as a specialized UN agency, is invited to participate in the sessions of the UN Committee on the Peaceful Uses of Outer Space**



See [http://www.unoosa.org/pdf/gares/ARES\\_13\\_1348E.pdf](http://www.unoosa.org/pdf/gares/ARES_13_1348E.pdf) and [http://www.unoosa.org/pdf/gares/ARES\\_14\\_1472E.pdf](http://www.unoosa.org/pdf/gares/ARES_14_1472E.pdf)

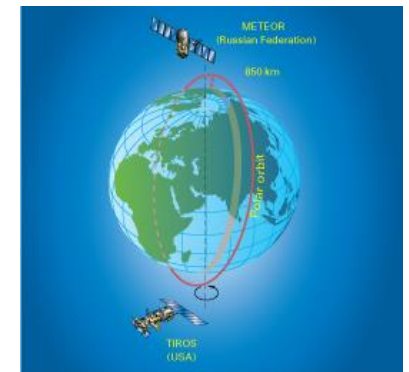


# Origin of the World Weather Watch

- In 1961, UNGA Resolution 1721 (XVI) C requests WMO to report to COPUOS on how it could utilize space technology in its work
- In response to this request, WMO prepares the proposal for the **World Weather Watch (WWW)**, which is subsequently endorsed by UNGA Resolution 1963 (XVIII) III in 1963
- Implementation of WWW from 1967



TIROS-I – First weather satellite image



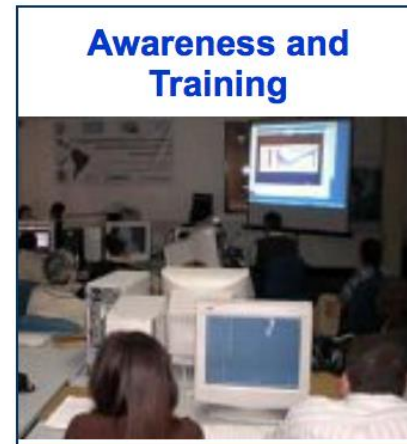
1961 Space-based Global Observing System (GOS)

See <https://public.wmo.int/en/bulletin/global-satellite-observing-system-success-story>



# WMO Space Programme

- Established by Resolution 5 (Cg-XIV) of the 14<sup>th</sup> WMO Congress in 2003
- Promote availability and utilization of satellite data and products for weather, climate, water and related applications.
- Coordinate environmental satellite matters and activities throughout all WMO Programmes.
- 16<sup>th</sup> WMO Congress in 2011 confirmed four main components:



See [http://www.wmo.int/pages/prog/sat/index\\_en.php](http://www.wmo.int/pages/prog/sat/index_en.php)



# Space Programme Website



WORLD  
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WEATHER CLIMATE WATER

Please visit our public website:  
<http://public.wmo.int>

Home

## WMO Space Programme



Programmes > Space > Home

## WMO Space Programme

The Space Programme's objective is to promote availability and utilization of satellite data and products for weather, climate, water and related applications to WMO Members.

It coordinates environmental satellite matters and activities throughout all [WMO Programmes](#) and gives guidance on the potential of remote-sensing techniques in meteorology, hydrology and related disciplines.

### Quick Access

- [OSCAR/Requirements \(Observing Requirements Database\)](#) 
- [OSCAR/Space \(Satellite & Instrument Database\)](#) 
- [Satellite Status list](#)
- [Satellite User Readiness Navigator \(SATURN\)](#)
- [Product Access Guide \(PAG\)](#)
- [Virtual Laboratory for Education and Training in Satellite Meteorology \(VLAB\)](#) 
- [Working Documents for Meetings](#)

### Upcoming Meetings and Events

|                         |   |
|-------------------------|---|
| 06/10/18 to<br>11/10/18 | <a href="#">9th Asia-Oceania Meteorological Satellite Users' Conference (AOMSUC-9)</a>  |
| 08/10/18 to<br>12/10/18 | <a href="#">WMO SCOPE-Nowcasting Initiative - Intercomparison of Satellite-based Volcanic Ash Retrieval Algorithms Workshop</a> |
| 23/10/18 to<br>25/10/18 | <a href="#">Third DBNet Coordination Meeting (DBNet-CG-3)</a>   |

[Go to Meetings and Events](#)

### Latest News and Announcements

|            |   |
|------------|---|
| 15/06/2018 | <a href="#">GEONETCast Americas User Group Webinars</a>                       |
| 29/05/2018 | <a href="#">Ninth Asia Oceania Meteorological Satellite User's Conference</a> |
| 03/03/2018 | <a href="#">What is in the Calendar in March?</a>                             |

[Go to News and Announcements](#)

### Programme Overview

- [Home](#)
- [Activities and objectives](#)
- [Structure and Governance](#)
- [News and External Announcements](#)
- [Calendar of Events](#)
- [Contact Information](#)

[⇒ Space-based GOS](#)

[⇒ Data access & use](#)

[⇒ Awareness & Training](#)

[⇒ Space Weather](#)

[Regional Activities](#)

[Information Resources](#)

[Partners](#)

[CGMS](#) 

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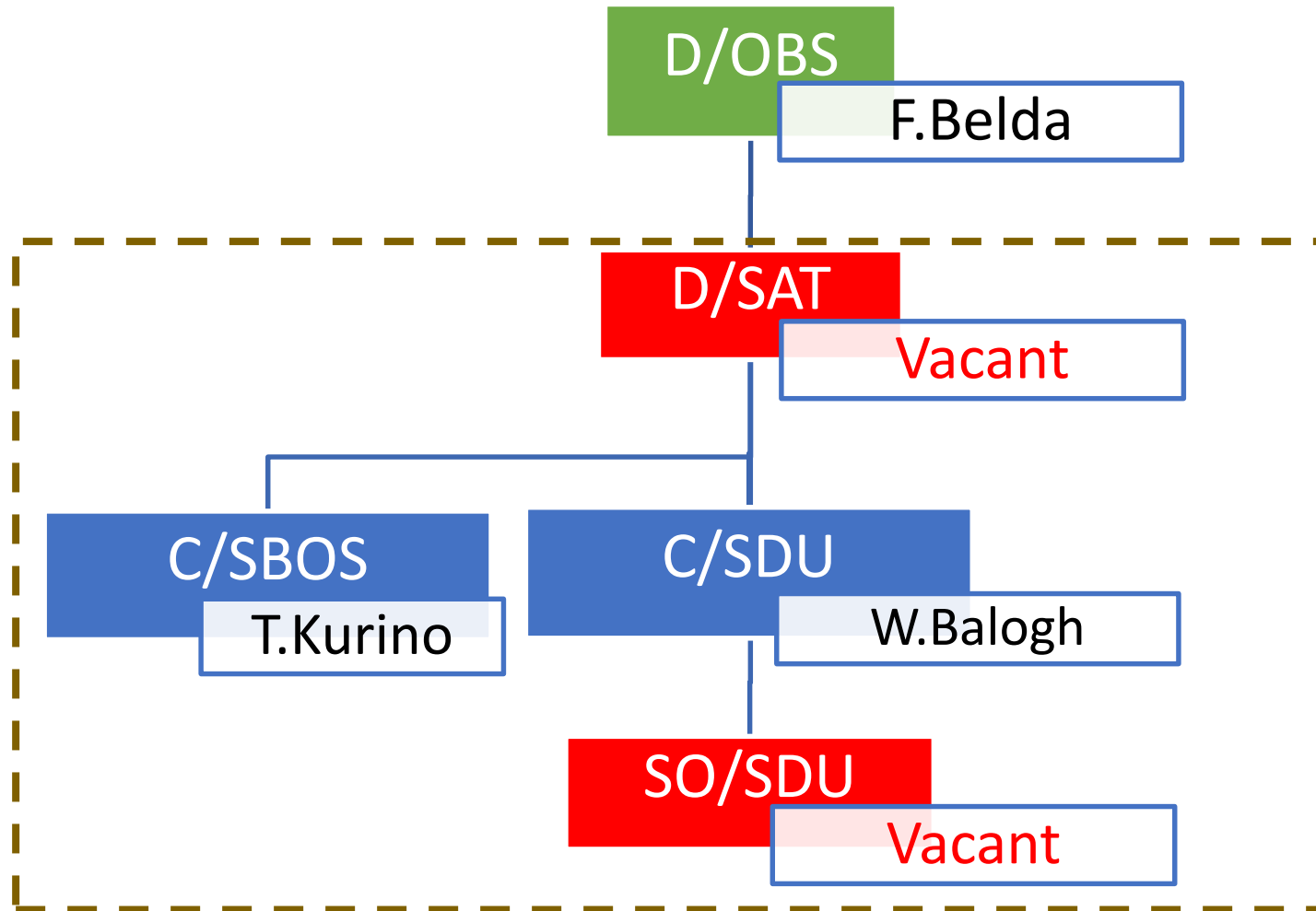
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[Click here to search with Google](#)

See [http://www.wmo.int/pages/prog/sat/index\\_en.php](http://www.wmo.int/pages/prog/sat/index_en.php)



# WMO Space Programme Office



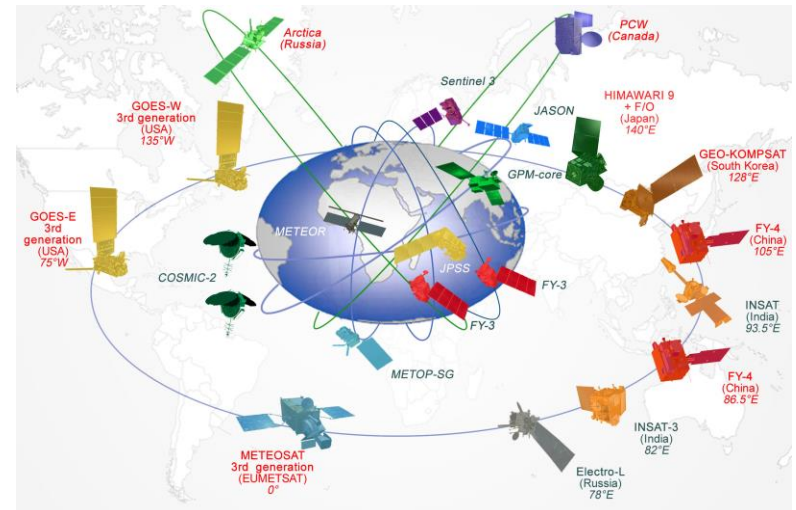
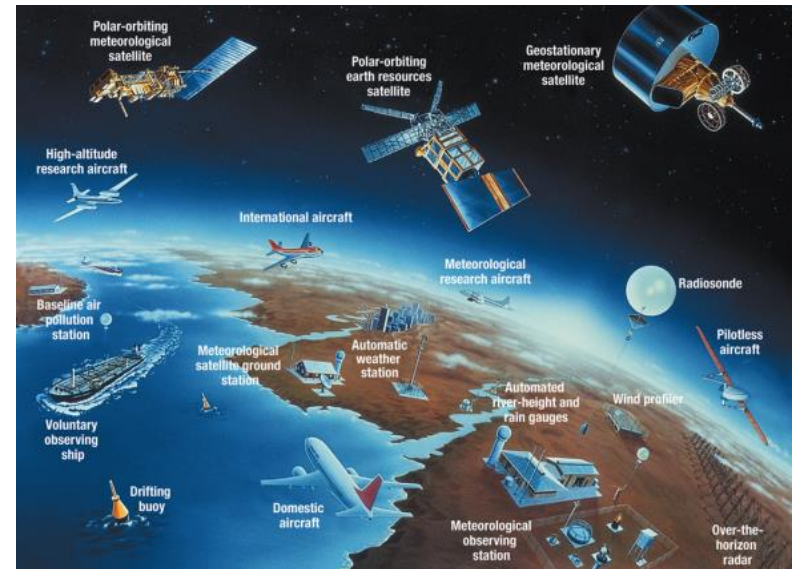


# WMO Space Programme Value Chain

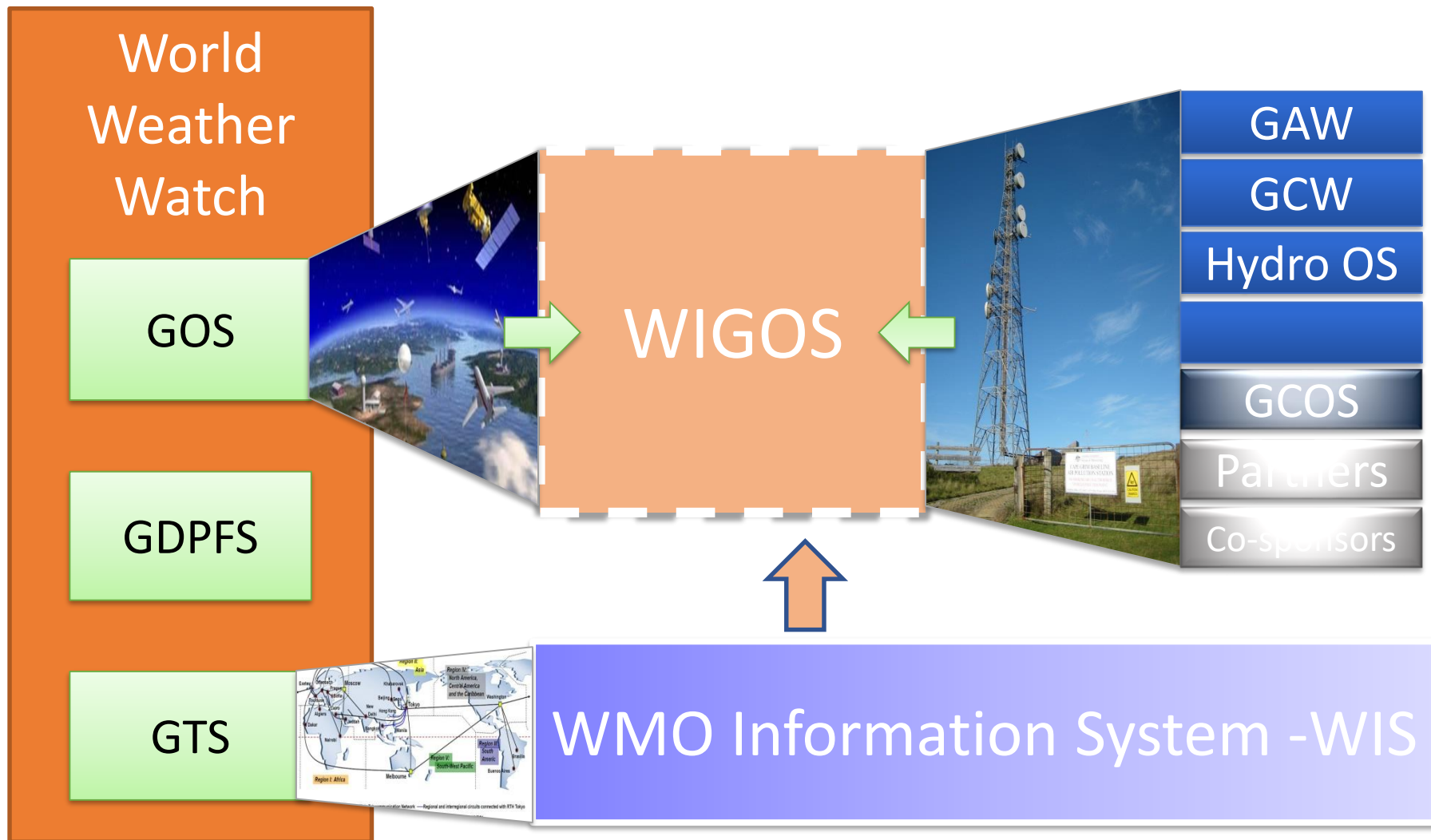


# WMO Integrated Global Observing System

- World Weather Watch (WWW), established in 1963.
- Need to upgrade observation system in response to societal changes, addressing weather, water, climate and environmental issues:
  - WMO Integrated Global Observing System (WIGOS)
  - WMO Information System (WIS)
- A common regulatory and management framework.



# WMO Integrated Global Observing System



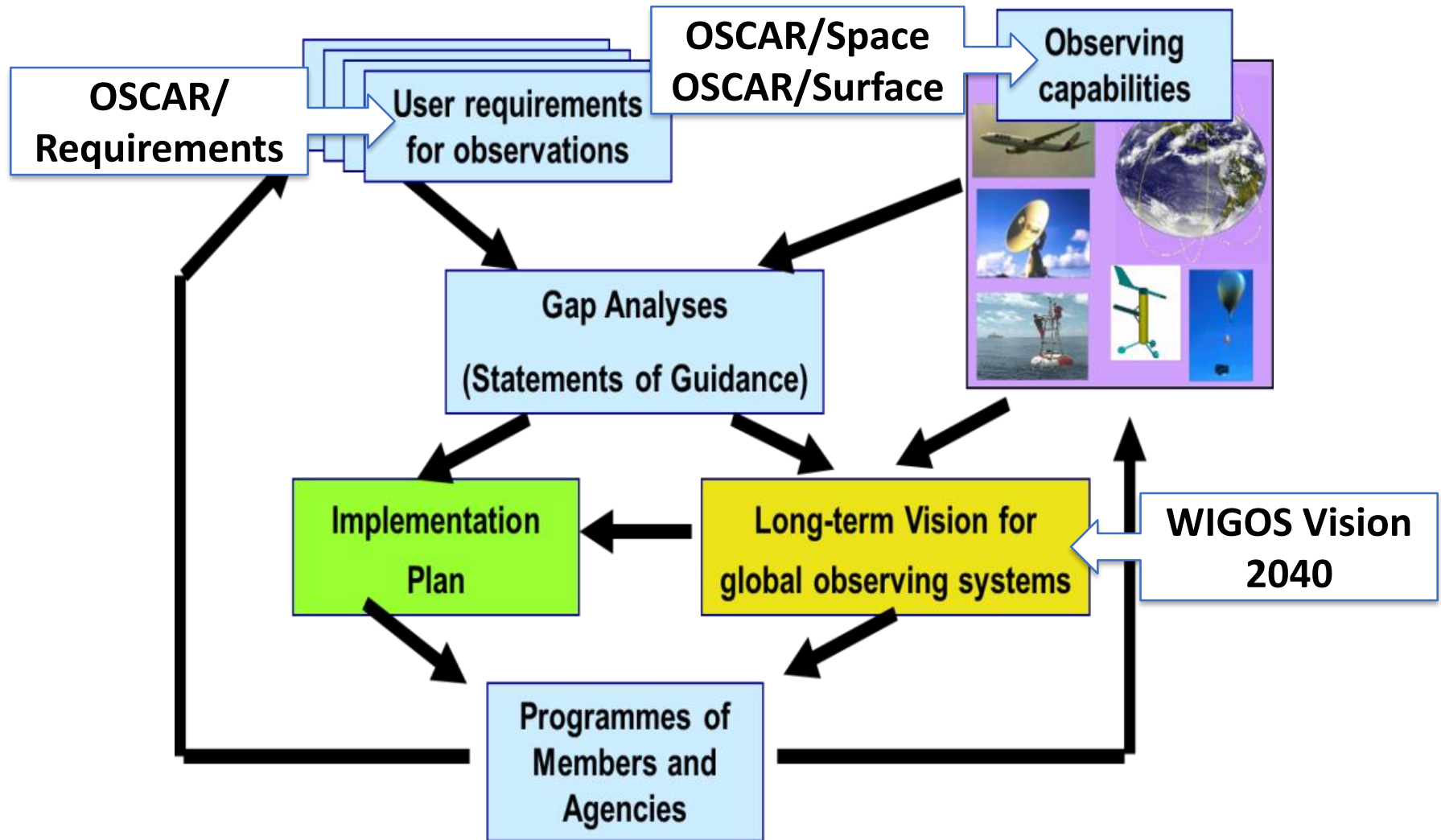
# WMO Application Areas

|     |  |
|-----|--|
| 1)  | Global numerical weather prediction            |
| 2)  | High-resolution numerical weather prediction   |
| 3)  | Nowcasting and very short range forecasting    |
| 4)  | Seasonal and inter-annual forecasting          |
| 5)  | Aeronautical meteorology                       |
| 6)  | Forecasting atmospheric composition            |
| 7)  | Monitoring atmospheric composition             |
| 8)  | Atmospheric composition for urban applications |
| 9)  | Ocean applications                             |
| 10) | Agricultural meteorology                       |
| 11) | Hydrology                                      |
| 12) | Climate monitoring                             |
| 13) | Space weather                                  |
| 14) | Climate science                                |
| n/a | Climate applications (through GCOS)            |

See <http://www.wmo.int/pages/prog/www/OSY/GOS-RRR.html>



# Rolling Review of Requirements



# WIS and GODEX-NWP

- The WMO Information System (WIS) provides the link between Observing systems and NWP:
  - Mechanisms to register the existence of data and products and how to get them (WIS Metadata Catalogues)
  - Means for data distribution, including satellite based dissemination mechanisms as well as satellite data collections systems (ADM, IGDDS, DCS, etc.)
  - Terrestrial back channel for distributing satellite data (DBNet)
  - The WIS branch coordinates the radio frequency issues associated with remote sensing (RFC)



# WIS and GODEX-NWP

- NWP centres should have good access to either a Regional Telecommunication Hub (RTH) of the Global Telecommunication System (GTS) or to one of the Global Information System Centres (GISCs).
- When new data exchange requirements are identified, data providers can contact a GISC directly to see whether that requirement could be accommodated by WIS.
- WMO looks forward to receiving quantified requirements from GODEX-NWP.

See [https://www.wmo.int/pages/prog/www/WIS/index\\_en.html](https://www.wmo.int/pages/prog/www/WIS/index_en.html)



# Strategic Plan 2020-2023

## WMO STRATEGIC PLAN AT A GLANCE

### Vision 2030

*By 2030, a world where all nations, especially the most vulnerable, are more resilient to the socioeconomic impact of extreme weather, climate, water and other environmental events, and empowered to boost their sustainable development through the best possible services, whether over land, at sea or in the air*

### Overarching Priorities

Enhancing preparedness for, and reducing losses of life and property from hydrometeorological extremes

Supporting climate-smart decision making to build resilience and adaptation to climate risk

Enhancing socioeconomic value of weather, climate, hydrological and related environmental services

### Core Values

- Accountability for Results and Transparency
- Collaboration and Partnership
- Inclusiveness and Diversity

### Long-Term Goals

**1** Better serve societal needs:  
Delivering authoritative, accessible, user-oriented and fit-for-purpose information and services

**2** Enhance Earth system observations and predictions:  
Strengthening the technical foundation for the future

**3** Advance targeted research:  
Leveraging leadership in science to improve understanding of the Earth system for enhanced services

**4** Close the capacity gap:  
Enhancing service delivery capacity of developing countries to ensure availability of essential information and services

**5** Strategic realignment of WMO structure and programmes:  
Effective policy- and decision-making and implementation

### Strategic Objectives

#### 2020-2023 focus

- 1.1 Strengthen national multi-hazard early warning systems** and extend reach to better enable effective response to the associated risks
- 1.2 Broaden the provision of policy- and decision-supporting climate information and services**
- 1.3 Further develop services** in support of **sustainable water management**
- 1.4 Enhance and innovate the provision of value-added, decision-supporting weather information and services**

- 2.1 Optimize the acquisition of observation data** through the WMO Integrated Global Observing System
- 2.2 Improve and increase access to, exchange and management of current and past observation data and derived products** through the WMO Information System
- 2.3 Enable access and use of numerical analysis and prediction products** at all temporal and spatial scales from the WMO Global Data Processing and Forecast System

- 3.1 Advance scientific knowledge of the Earth system**
- 3.2 Enhance the science-to-service value chain** ensuring scientific and technological advances **improve predictive capabilities**
- 3.3 Advance policy-relevant science**

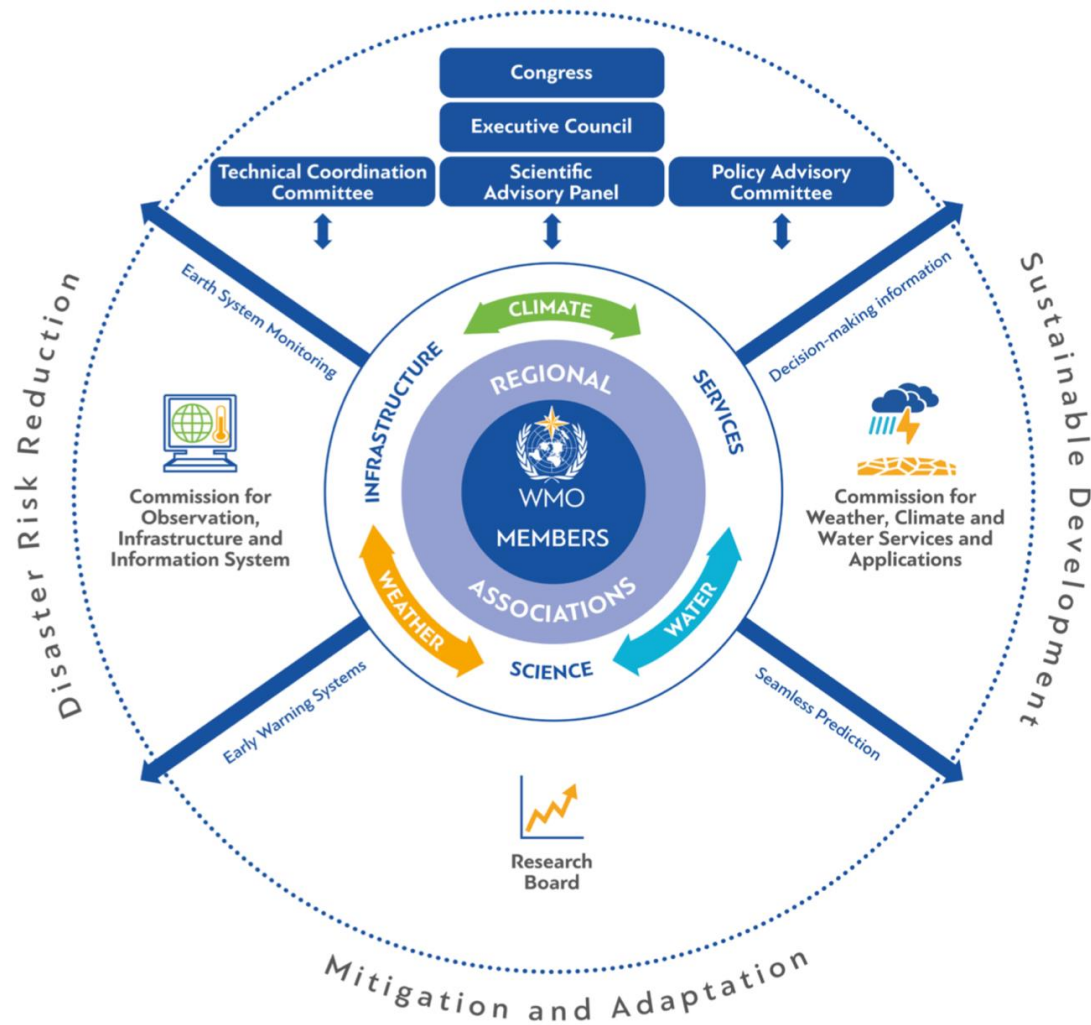
- 4.1 Address the needs of developing countries** to enable them to provide and utilize essential weather, climate, hydrological and related environmental services
- 4.2 Develop and sustain core competencies and expertise**
- 4.3 Scale-up effective partnerships for investment** in sustainable and cost-efficient infrastructure and service delivery

- 5.1 Optimize WMO constituent body structure** for more effective decision-making
- 5.2 Streamline WMO programmes**
- 5.3 Advance equal and effective participation of women and men** in governance, scientific cooperation and decision-making





# Proposed New WMO Structure



See <https://public.wmo.int/en/governance-reform>



# Thank you

**WMO Space Programme**

[http://www.wmo.int/pages/prog/sat/index\\_en.php](http://www.wmo.int/pages/prog/sat/index_en.php)



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