World Meteorological Organization

Working together in weather, climate and water

# WMO Integrated Global Observing System

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# WMO Integrated Global Observing System

## Vision:

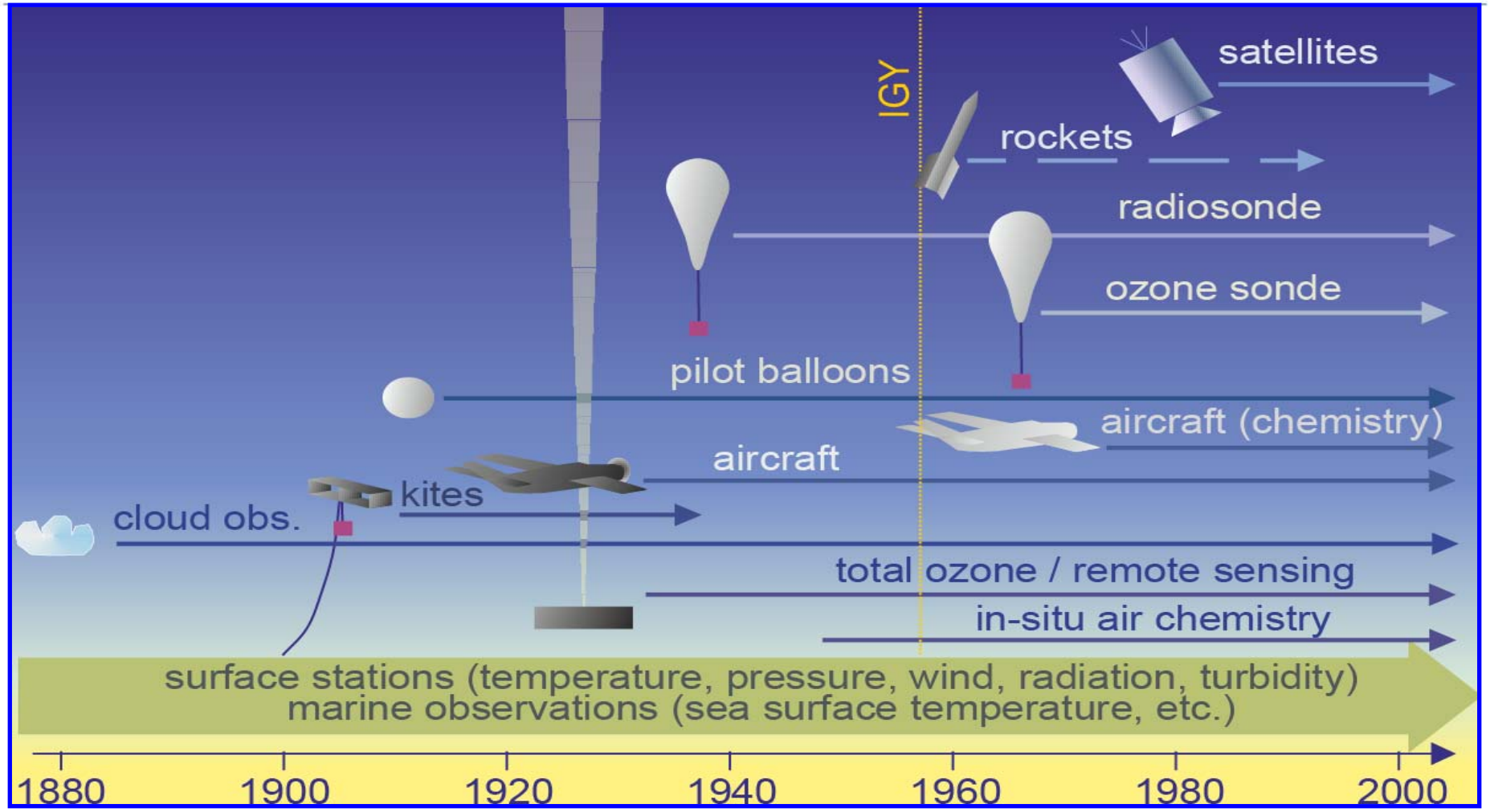
WIGOS will establish an integrated, comprehensive and coordinated observing system to satisfy in a cost-effective and sustained manner the evolving observing requirements of WMO Members and will enhance coordination of WMO observing systems with those of partner organizations for the benefit of society.

# WMO Integrated Global Observing System

The WMO Integrated Global Observing System (WIGOS) is an integrated, comprehensive, and coordinated system primarily comprising the surface-based and space-based observing components of the GOS, GAW, WHYCOS, and GCW, plus all WMO contributions to GCOS, GOOS and GTOS, to satisfy requirements of WMO and WMO co-sponsored Programmes. WIGOS will provide a framework for improved governance, management, integration and optimization of these observing systems.

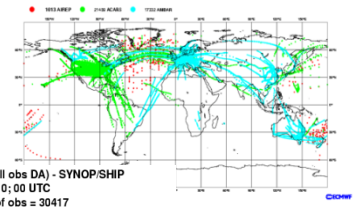
A challenge:

# The evolving observing systems

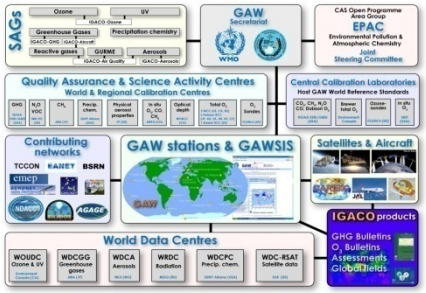


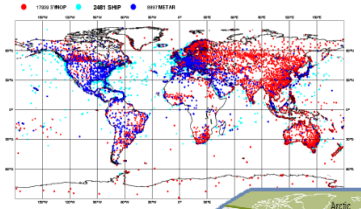
# WMO Integrated Global Observing System (WIGOS)

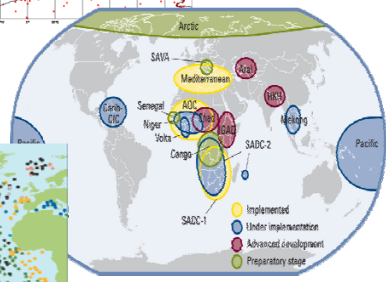
## Background: WMO Global Observing Systems

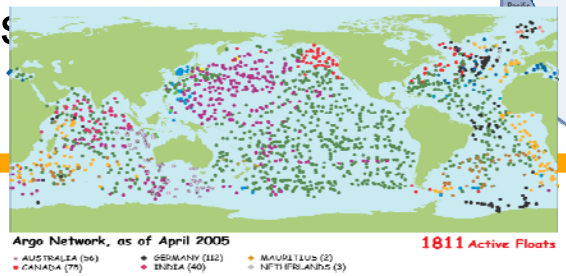




- Global Observing Systems (WWW/GOS)
  - RBSN, RBCN (>10,000 stations,1,000 upper-air)
  - AMDAR (39754/day)
  - Ship & Marine obs (30417/day)
  - Surface-based remote sensing
  - Meso-scale networks
- WMO Space Programme
- Global Atmospheric Watch (GAW)
- World Hydrological Cycle Observing System (WHYCOS)
- WMO Co-sponsored Observing Systems
  - GCOS, GOOS, GTOS



# WMO Integrated Global Observing System

Key actvity areas of WIGOS:

- Collaboration with WMO and co-sponsored observing systems
  - Cooperation between research and operational observing communities
  - WMO CIMO Testbeds and Lead Centres play a role in testing and standardization of new observation technology

- Design , planning and optimized Evolution
  - RRR process for improved design and planning
  - Optimizing the integrated network approach
  - Optimized network design to meet user requirements

- Integrated Observing System operation and maintenance
  - Sharing of operational expertise, pooling resources
  - Improvements to data quality through combing callibration efforts at national, regional and global level

# WMO Integrated Global Observing System

- Integrated Quality Management
  - Apply WMO QMF to the WIGOS observing components
  - Compliance of all WIGOS components with international standards, such as ISO 9001/9004 and ISO 17025 where appropriate
  - Ensuring, where possible, traceability to the International Systems of units (SI)

- Standardization, System Interoperability and Data compatibility
  - Areas of standardization:
    - Instruments and methods of observation and their Metadata,
    - WIS Information exchange
    - Data Management (data processing, Quality Control, monitoring and archival)
  - Practices and procedures to be documented in the WMO Technical Regulations

# WMO Integrated Global Observing System

## The WIGOS Information Resource (WIR)

- Provide single access point for WIGOS stakeholders *(Network decision makers, Implementers, Data users etc.)*
- Shall contain all relevant information on the status and evolution of WIGOS and its components
- To be fully operational from 2016

# WMO Integrated Global Observing System

## Observing System Capabilities Analysis and Review Tool OSCAR

- In support of the "Rolling Requirement Review" for the design and planning of observing systems:
  → Record and maintenance of user requirements
  → Comparison with actual or planned capabilities

- In support of the use of global observing systems
  → One-stop access to satellite, instrument, and ground-based network metadata for all users

# WMO Integrated Global Observing System

- Live demonstration of OSCAR

www.wmo.int/oscar

# WMO Integrated Global Observing System

## The WIGOS Framework Implementation Plan (WIP)

- Kea activity areas
  - Management of WIGOS implementation;
  - Collaboration with WMO and co-sponsored observing systems;
  - Design, planning and optimized evolution;
  - Integrated Observing System operation and maintenance;
  - Integrated Quality Management;
  - Standardization, system interoperability and data compatibility;
  - The WIGOS Operational Information Resource;
  - Data and metadata management, delivery and archival;
  - Capacity development;
  - Communication and outreach.


Merci
Thank you
شكرا
Gracias
Terima kasih
谢 谢
Спасибо