Committee on Earth Observation Satellites

3.2: Working Groups Showcase

WGClimate: Use Case Exercise

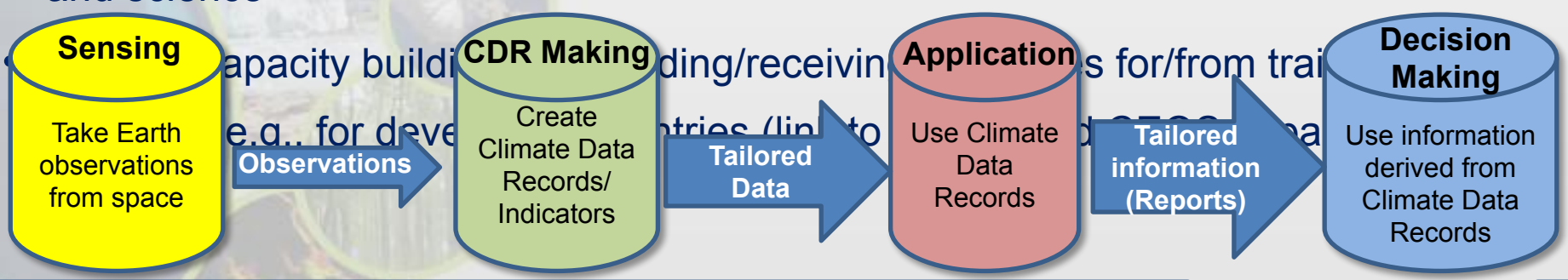
Wenying Su (NASA)
Jörg Schulz (EUMETSAT)
Werner Balogh, Guangxin He (WMO)

Use Cases for Climate Data Records

- WGClimate#12 in May 2020 decided to start a new routine activity on collecting use cases for climate data records.
- Use Case gathering tool, developed by WMO Space Programme Office, has been integrated into climate “Use Cases” web page (https://climatemonitoring.info/use-cases), which was opened on July 27, 2020 for submission with widespread distribution on social media.
- Use cases will be published on the web and selected use cases will become part of a special report issued by WMO in 2021/22.

Use Cases for Climate Data Records: Major Objectives

- Demonstrate the value of climate data records for decision/policy making, e.g., usage of satellite data in a use case with UNFCCC Parties to support the Global Stocktakes
- Understand the application needs to provide feedbacks towards quality improvements for the ECV requirements defined by GCOS
- Validate the top-down architecture for climate monitoring from space with a down-top approach ensuring traceability from usage to space-based observing system
- Optimize the use of climate data records in applications relevant for climate services and science



Two Use Cases Received

- **Coastal Risk Information Service (C_RISe)**
  - Satellite-derived sea-level record, ocean surface wind speed/direction, currents and wave height are used to provide coastal risk information service for countries on the east coast of Africa.
  - Information on sea level rise and storm surge helps reducing the social and economic impact of coastal inundation and extreme weather through coastal zone management, infrastructure protection and development, operational planning, fishery support, etc.
- **Parametric insurance for agricultural communities using weather and climate information**
  - Satellite-derived precipitation, temperature, land cover, soil moisture, and leaf area index are used to provide real-time risk assessment profiles for insurance policies that are designed to protect individual farmers and agribusinesses against drought, flood, excess rainfall, heatwave, hail, cyclone, etc.