World Meteorological Organization

Weather • Climate • Water

Scientific information, technology, innovation and social responsibility

M. Jarraud

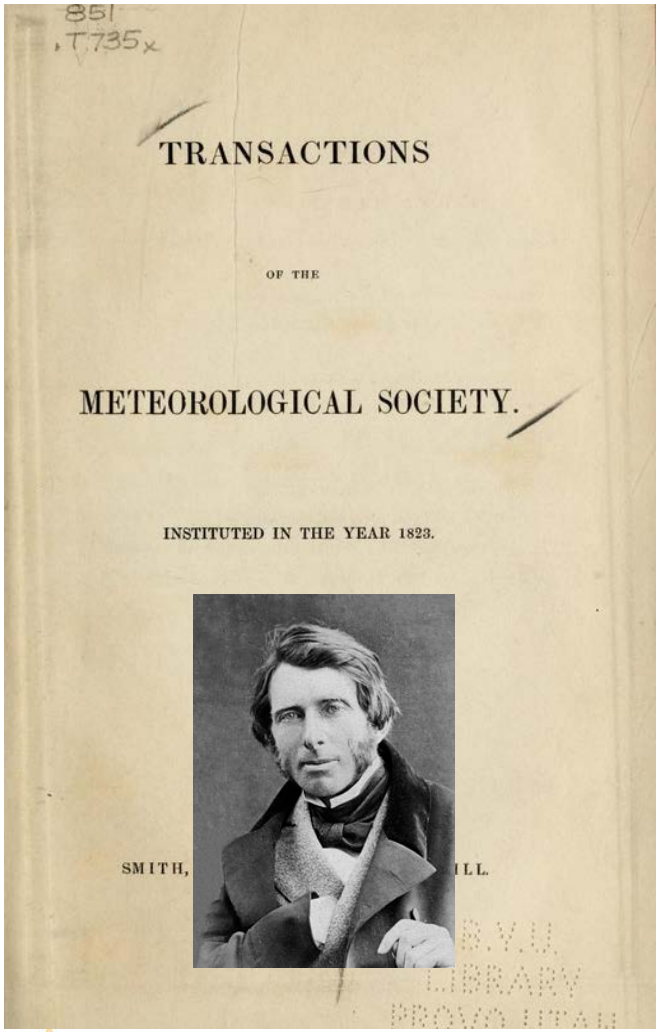
Secretary-General

World Meteorological Organization

CERN – 11 November 2015

Science, technology, innovation and social responsibility

Meteorology and systematic observations



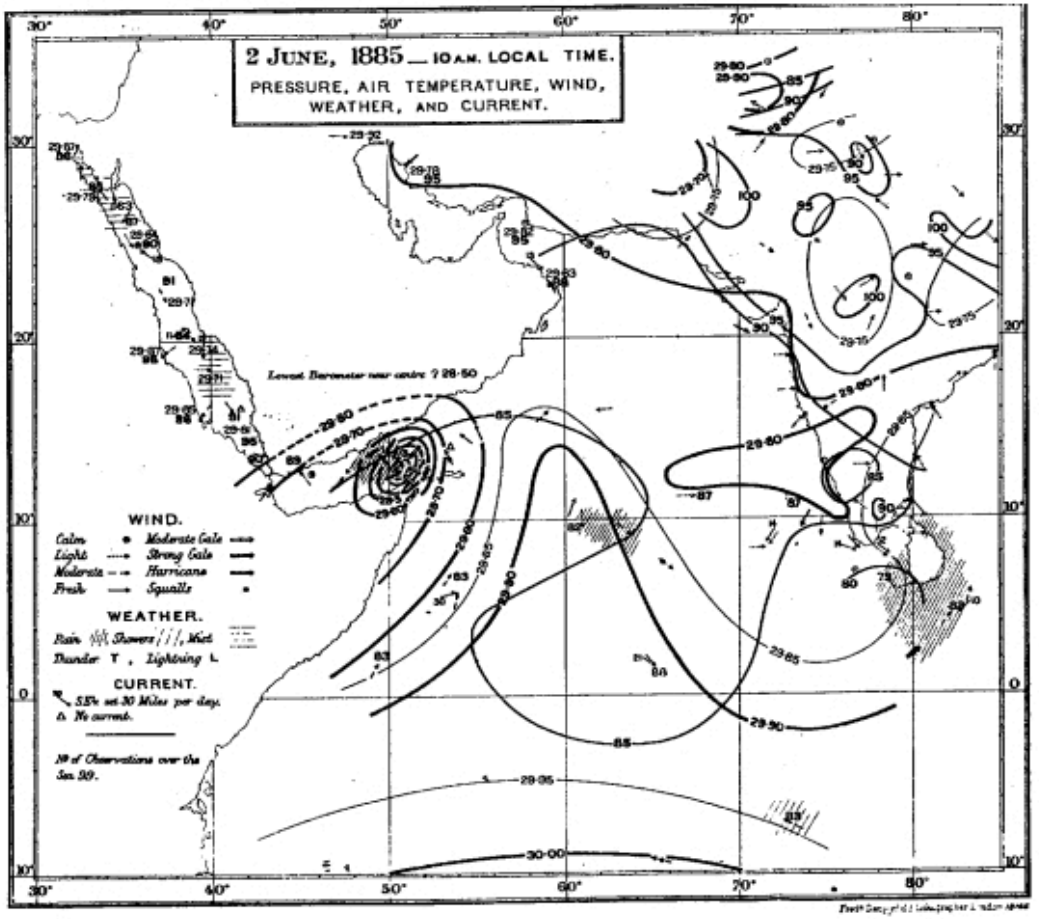
Remarks on the present state of meteorological science

by John Ruskin (1839)

"Meteorology desires to have at its command, at stated periods, perfect systems of methodical and simultaneous observations"

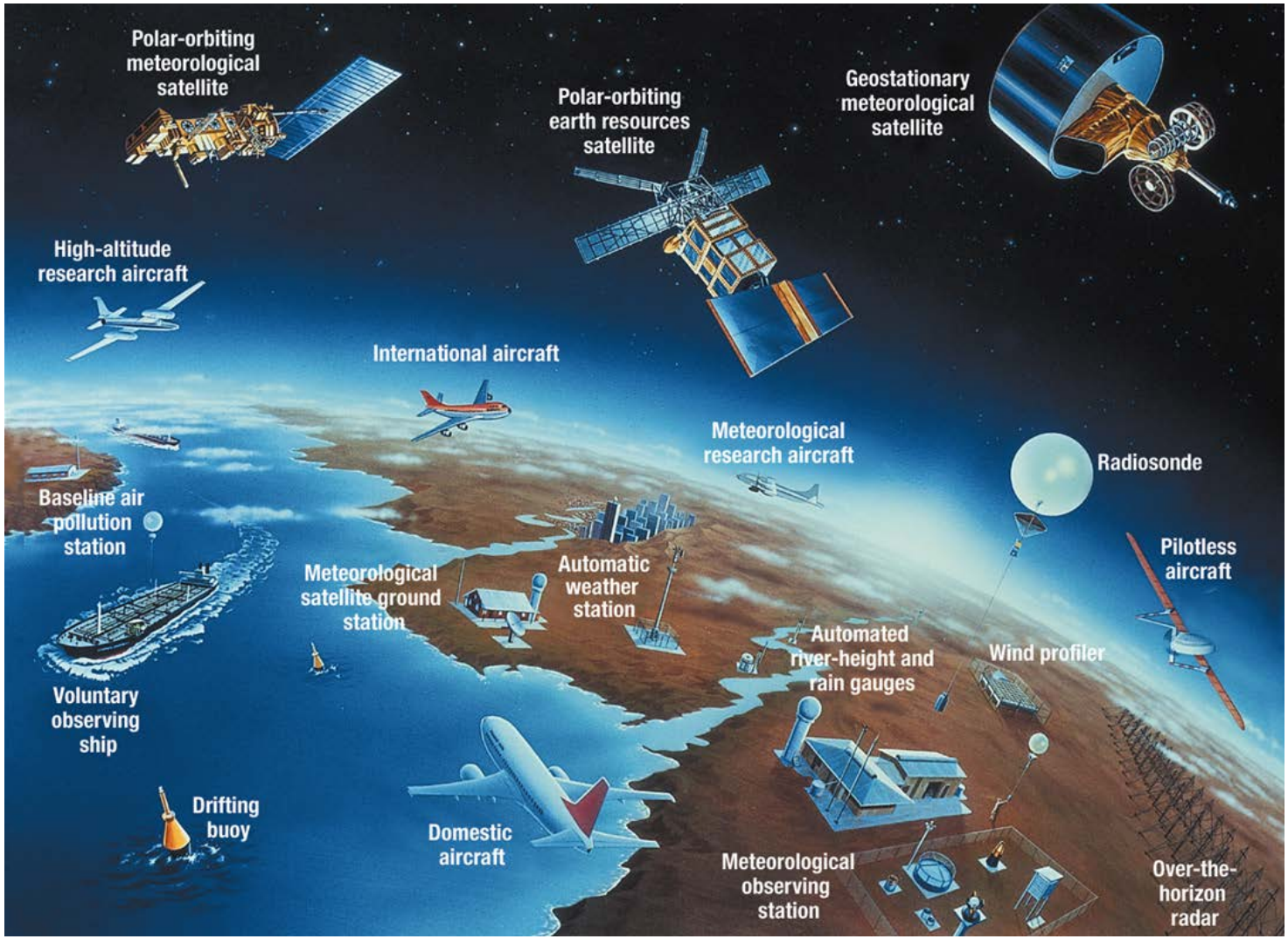
WMO and the *réseau mondial*

A telegraph operator in 1898

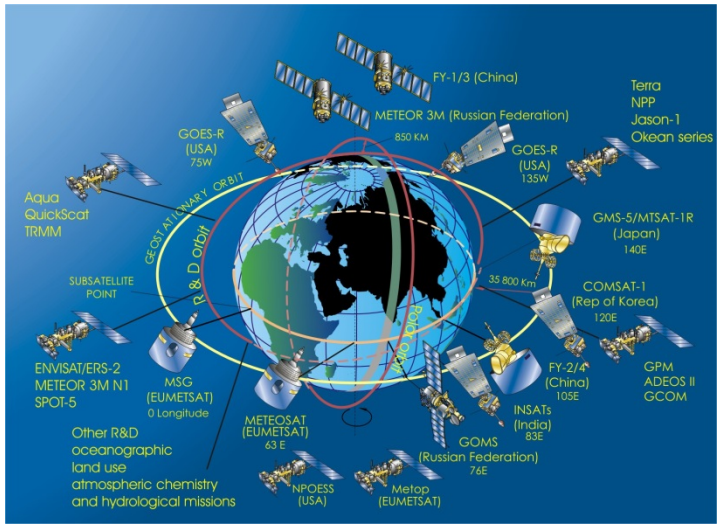


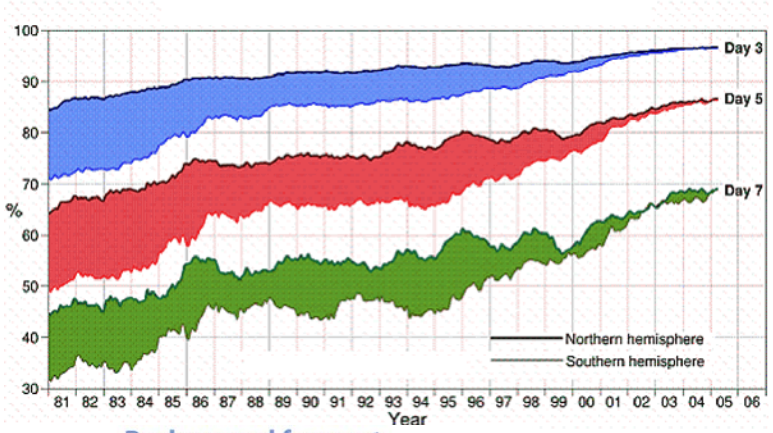
Synoptic map of a cyclone in the Gulf of Aden in May-June 1885

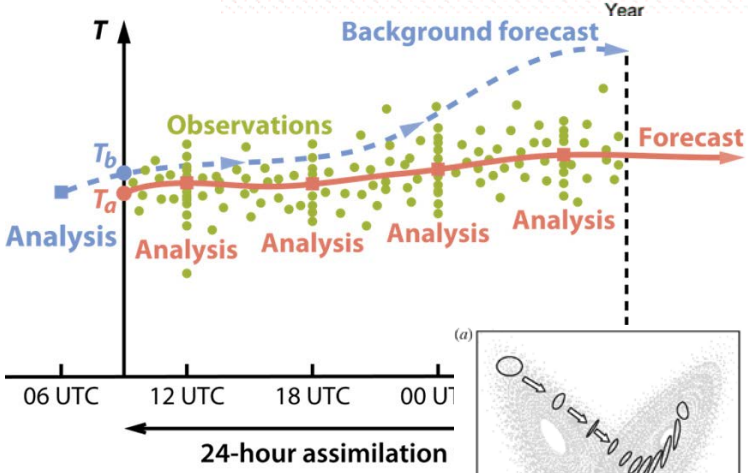
Global infrastructure for meteorological observations

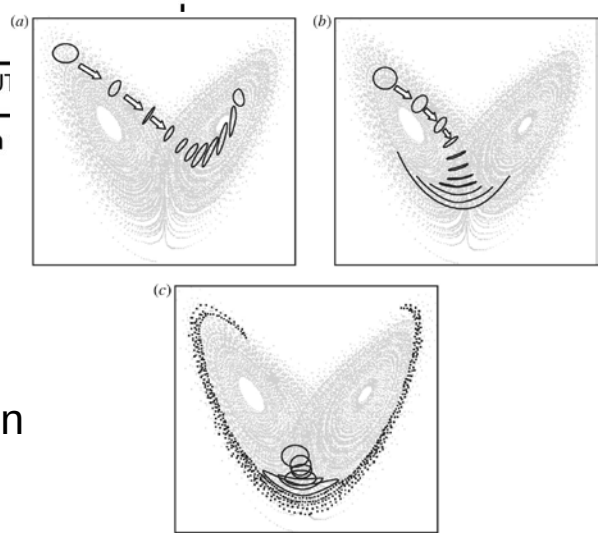


Meteorology is big science



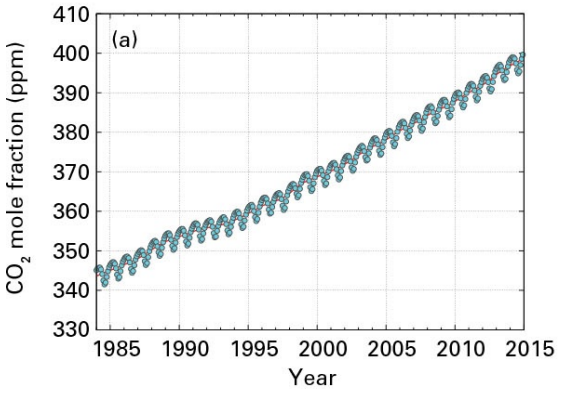


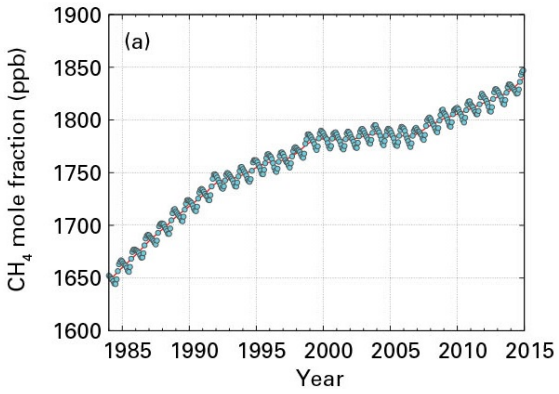


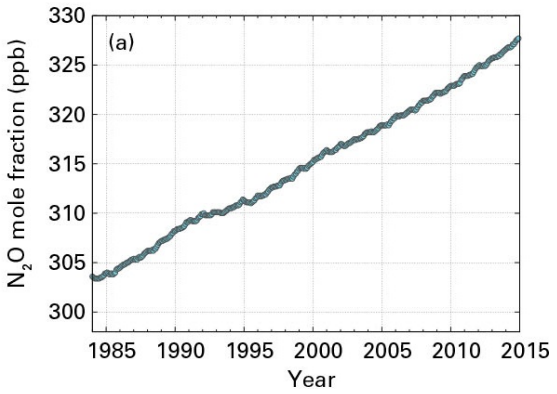


Tropical cyclone approaching Yemen on 10 November 2015

Greenhouse gas concentrations 2014







Carbon dioxide
CO_2

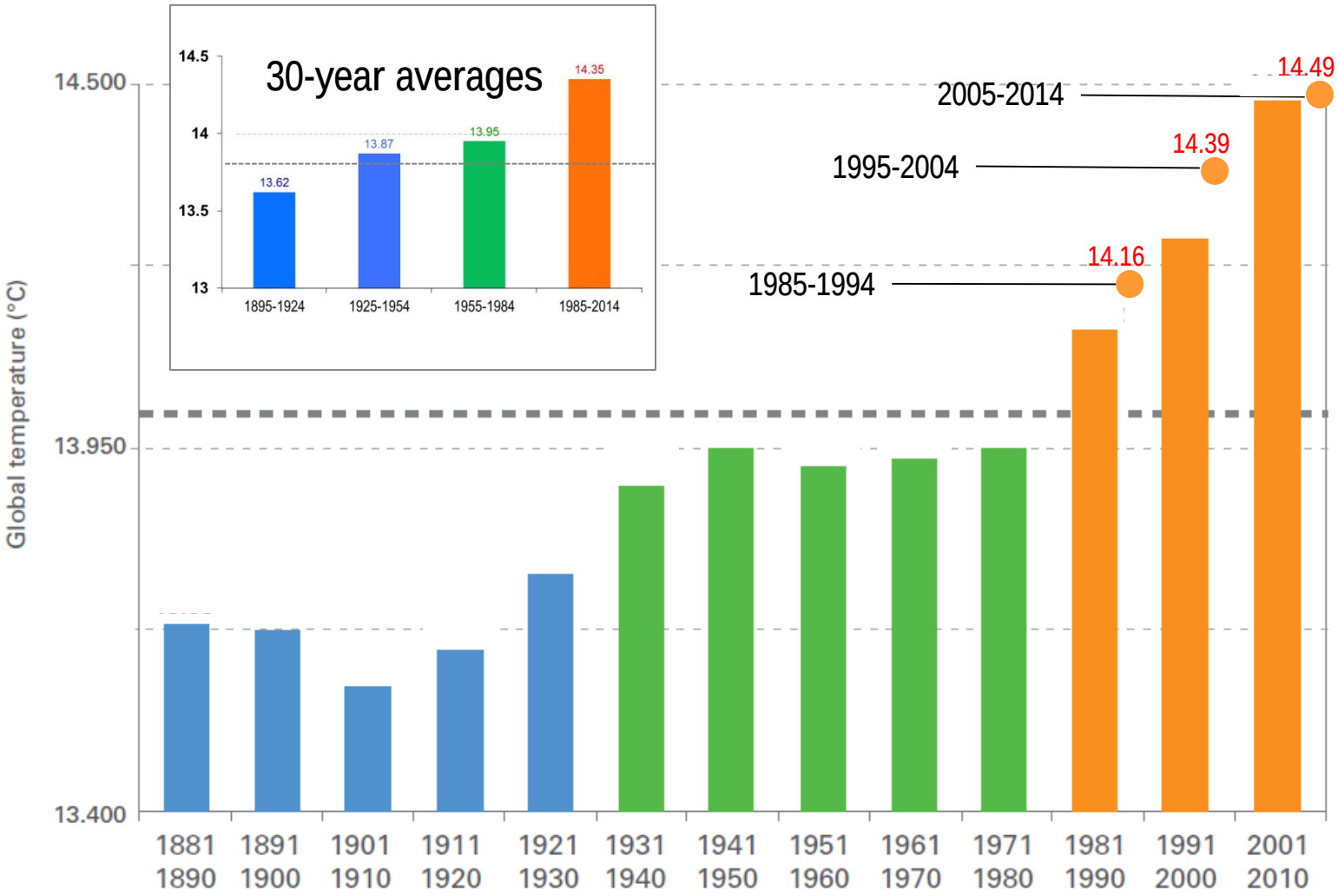
Methane
CH_4

Nitrous oxide
N_2O

In 2014 the amount of GHG in the atmosphere reached a new record high

WMO Greenhouse Gas Bulletin 2014

Decadal temperatures averages (°C)



Since modern records started, each period of 30 years has been warmer than the previous one

The development agenda 2030

Weather and climate information will provide an actionable tool for climate adaptation

Technology and Sustainable Development Goals

Strengthen the means of implementation and revitalize the global partnership for sustainable development

- International cooperation, knowledge sharing and improved coordination mechanisms
- Development, transfer, dissemination and diffusion of environmentally sound technologies
- Technology bank and science, technology and innovation capacity-building mechanism

The Global Framework for Climate Services a partnership

Successful adaptation will require substantially increased investment in climate services

Ethical principles: the case of climate change

Examples of ethical principles proposed by UNESCO/COMEST

- Solidarity of humankind
- Resilience
- Sustainability
  - Frugality
  - Renewable energy
  - Reforestation
- Precautionary principle
- The duty to share scientific knowledge
- Integrity of scientific research
  - Access to an adequate scientific knowledge base
  - Risk assessment
  - Integrity of climate science

Today, knowledge on climate change is much stronger and sounder than in 1992: ignorance or even uncertainty cannot longer be used as excuses for not acting

Weather reports for the future – happening now

www.wmo.int/media/content/weather-reports-future-0

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Thank you
Merci