

Climate Change & ICTs: Resourcing Space-Based Observations

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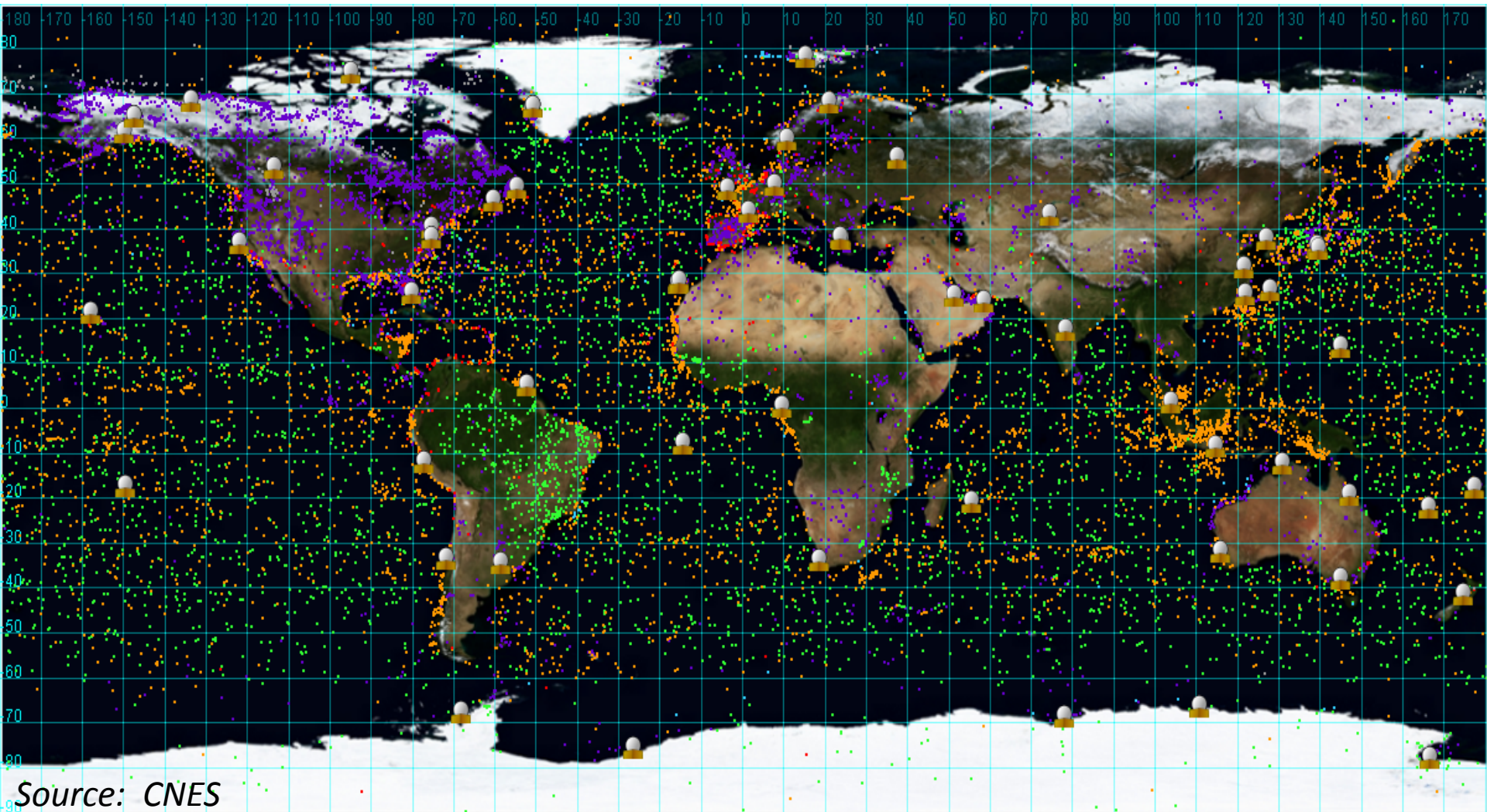
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Distribution of the ARGOS (data collection) platforms



Source: CNES



INTERNATIONAL CHARTER SPACE AND MAJOR DISASTERS

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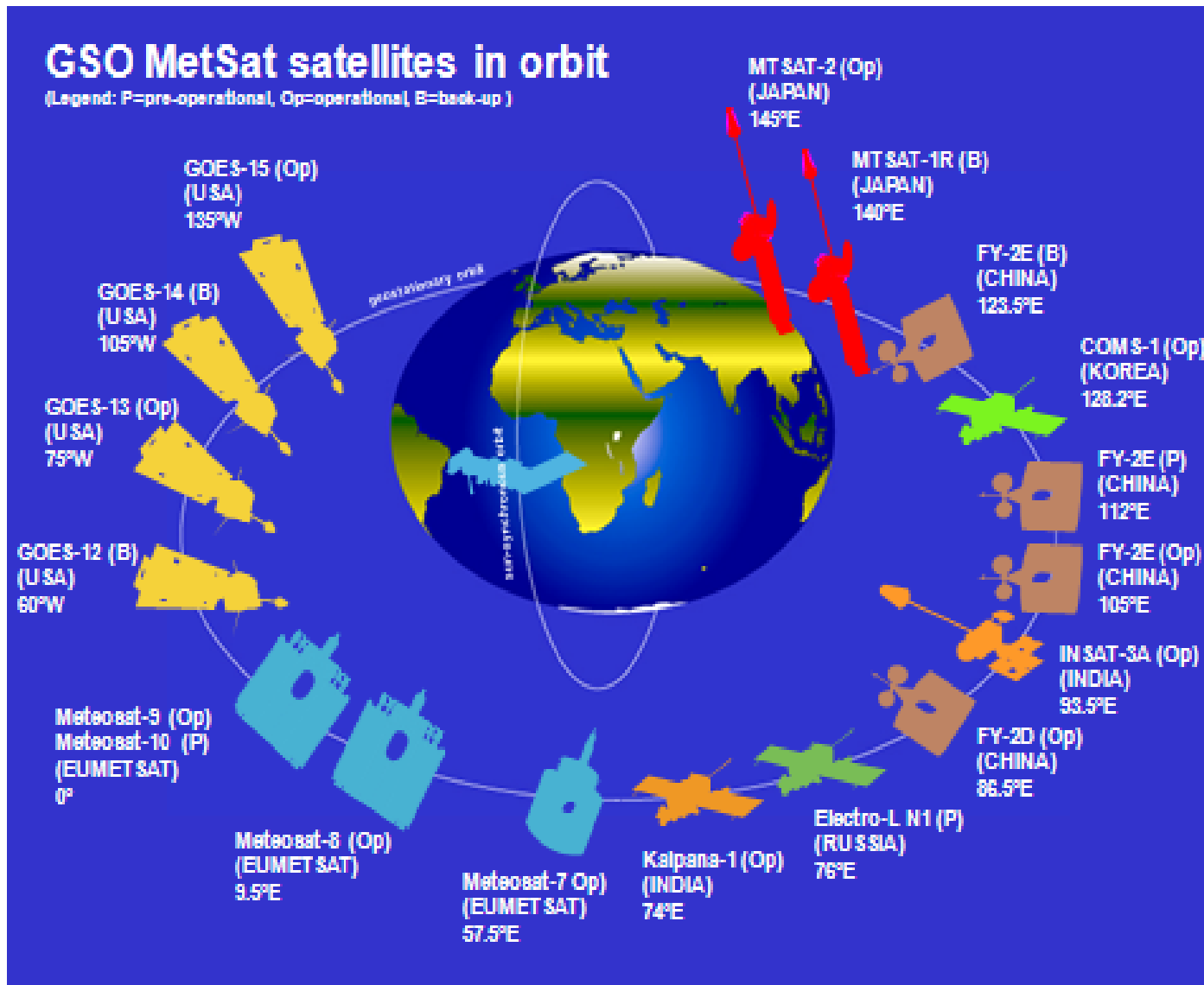
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Activation	Date	Description
Flood in England	27 November 2012	There has been widespread flooding across a number of regions within England during the last 5 days and the event is still ongoing. Over 900 properties have been flooded and two deaths have been reported.
Guatemala	08 November	At least 52 people have been killed after a 7.4 magnitude tremor hit Guatemala, San Marcos region, on Wednesday. Several people have been injured and thousands are left

Current global constellation of geostationary meteorological satellites

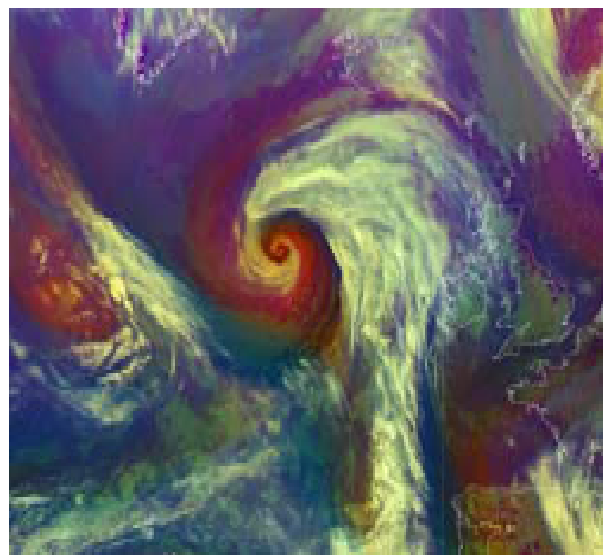


Source:

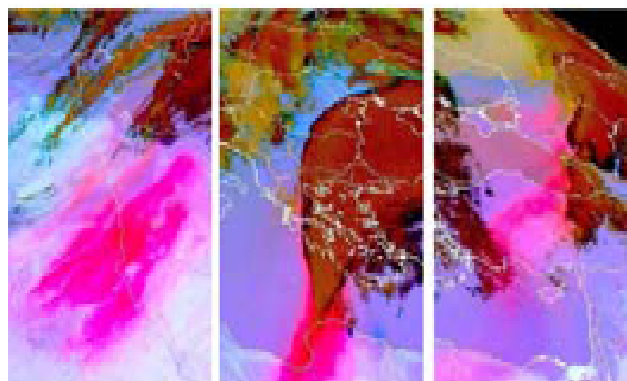


Applications of MetSat data

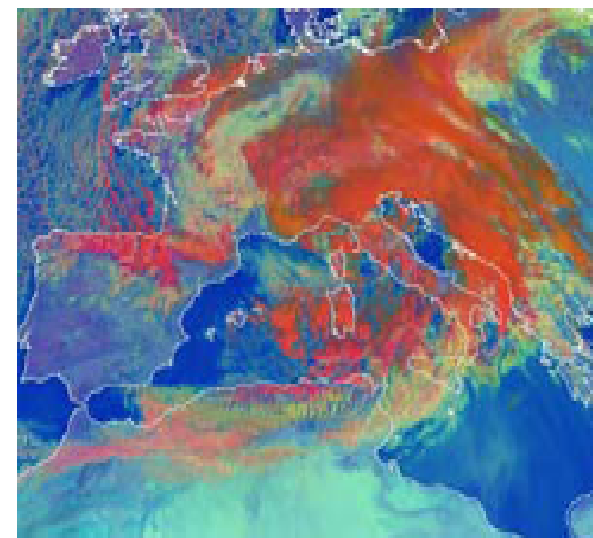
Image of processed data from a GSO meteorological satellite



Cyclonic storm over the North Atlantic
(Meteosat-9 Airmass RGB, 19/05/08 12:00
UTC)



Major dust outbreak from Northern Africa
towards Greece, Turkey, Russia and Kazakhstan
(Meteosat-9, Dust RGB, 22/03/08 - 24/03/08)



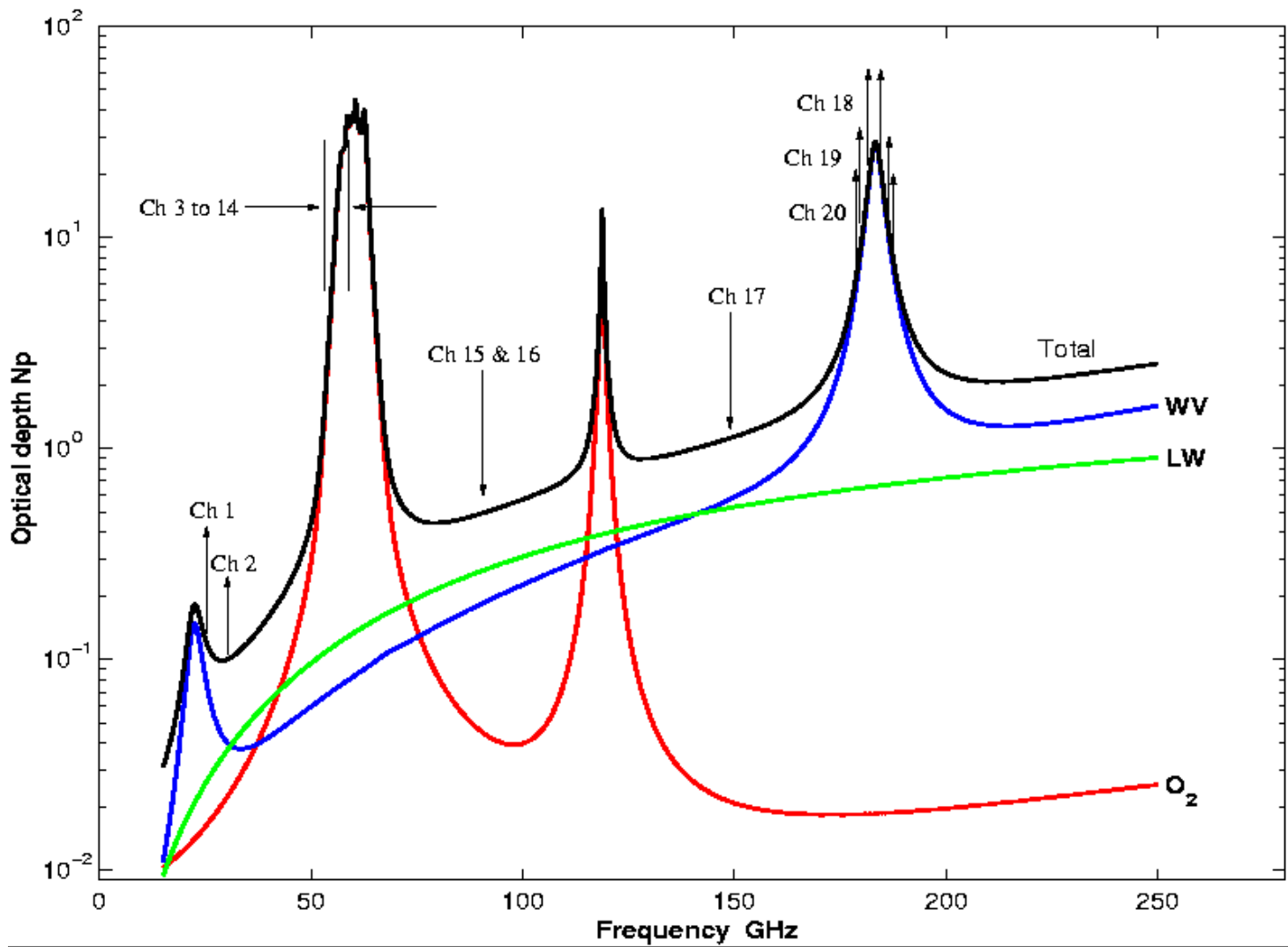
Strong mistral and Genoa cyclone with
heavy precipitation over southern Alps
(Meteosat-8 RGB: VIS0.8, IR3.9r, IR10.8,
20/03/07 09:00 UTC)

Meteo-02-2

Source:



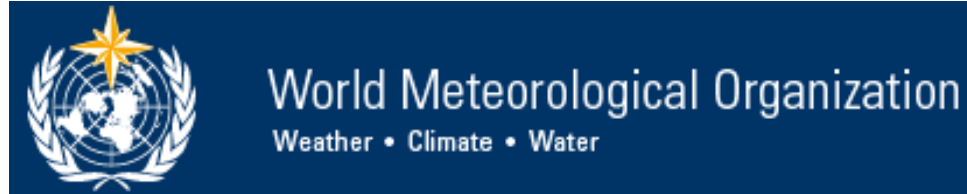
Microwave spectrum used by MetSats



Frequency bands mostly used by observation satellites

Telemetry/Telecommand and Ranging	GSO/NGSO GSO/NGSO	current/future current/future	2025 – 2110 MHz 2200 – 2290 MHz
Instrument raw data downlink	GSO NGSO GSO/NGSO GSO GSO/NGSO	current/future current/future current/future future future	1675 – 1710 MHz 7750 – 7900 MHz 8025 – 8400 MHz 18.0 – 18.3 GHz (R1, R3) 25.5 – 27 GHz
Low rate direct dissemination to user stations	NGSO GSO	current/future current/future	137 – 138 MHz 1675 – 1710 MHz
High rate direct dissemination to user stations	GSO/NGSO NGSO NGSO	current/future current/future future	1675 – 1710 MHz 7750 – 7900 MHz 25.5 – 27 GHz
Data Collection Systems	GSO/NGSO NGSO	current/future current/future	401 – 403 MHz 400.15 – 401 MHz, 460 – 470 MHz
Search and Rescue	GSO/NGSO GSO/NGSO	current/future current/future	406 – 406.1 MHz 1544 – 1545 MHz

Spectrum & Orbit Resources



The ITU and the WMO coordinate activities to secure the necessary frequency spectrum and satellite orbital resources for space-based observation to provide essential data of climate change for making informed decisions on prevention, mitigation and adaptation strategies.