



METEOROLOGY PANEL 

GANIS2 Meteorology Session

The migration towards seamless service provision - the foreseen role of local, regional and global MET information providers

Presented by Dennis Hart



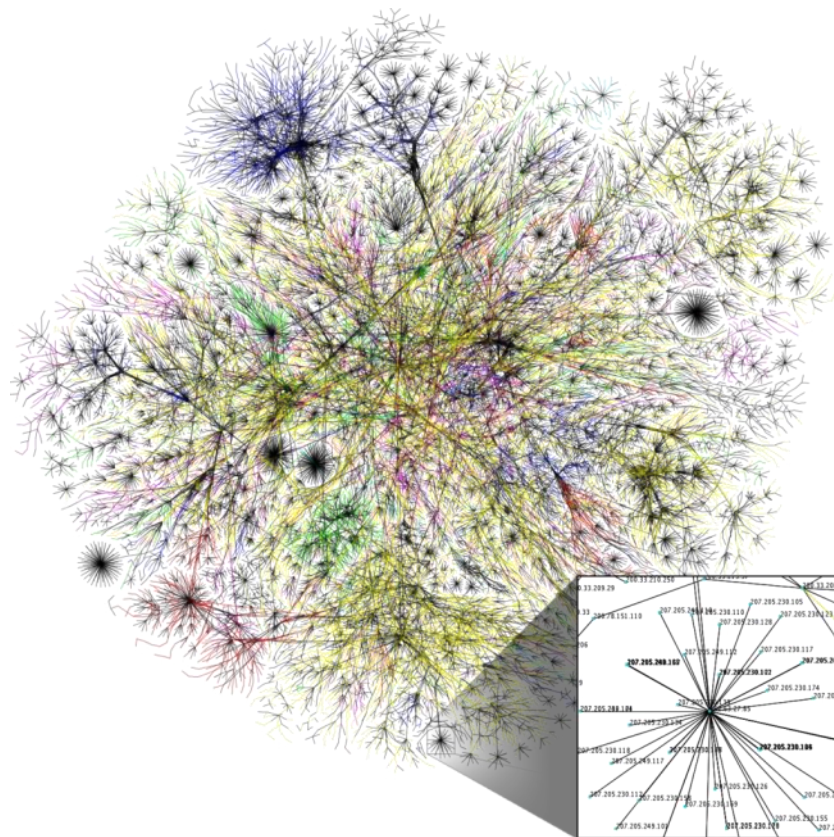
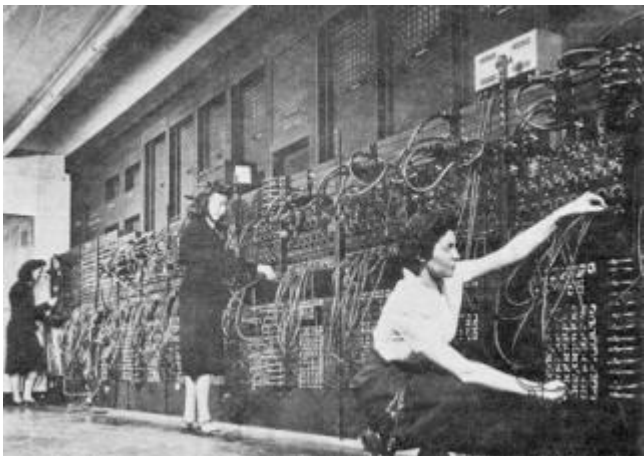


- Meteorology is >200 years old
- Aviation Meteorology is >100 years old
- Standards and Recommended Practices relating to meteorology were first adopted by the Council on 16 April 1948 (Annex 3)
- Core principles laid down on ‘who does what’ in Aviation Meteorology largely unchanged since the 50-ties





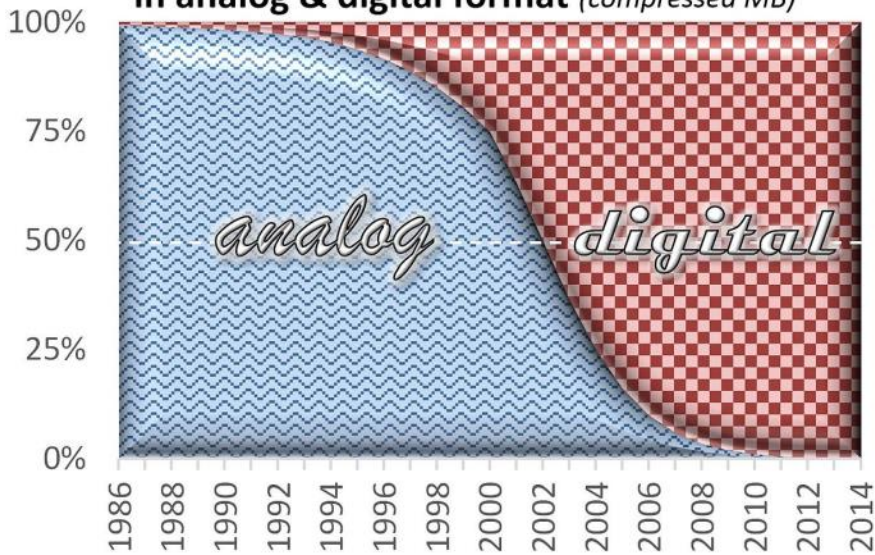
Evolution in communication





Evolution in digital data storage

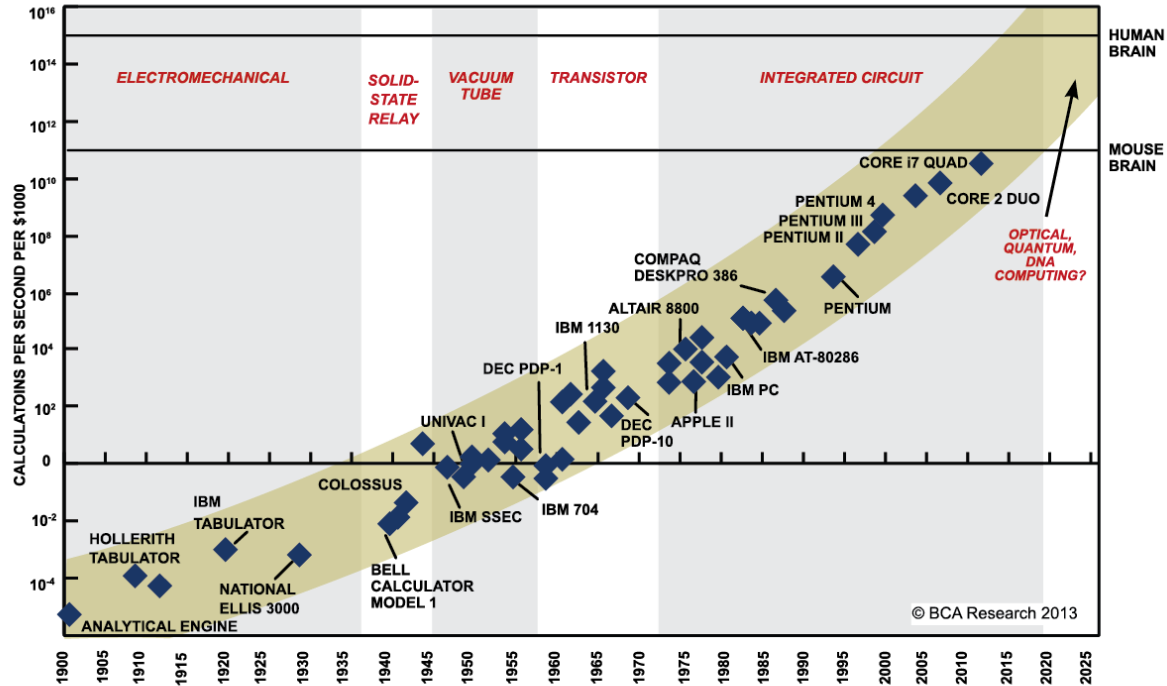
**World's technological capacity to store information
in analog & digital format (*compressed MB*)**



Hilbert, M., & López, P. (2011). The World's Technological Capacity to Store, Communicate, and Compute Information. *Science*, 332(6025), 60–65. www.martinhilbert.net/worldinfocapacity.html



Evolution in computing power

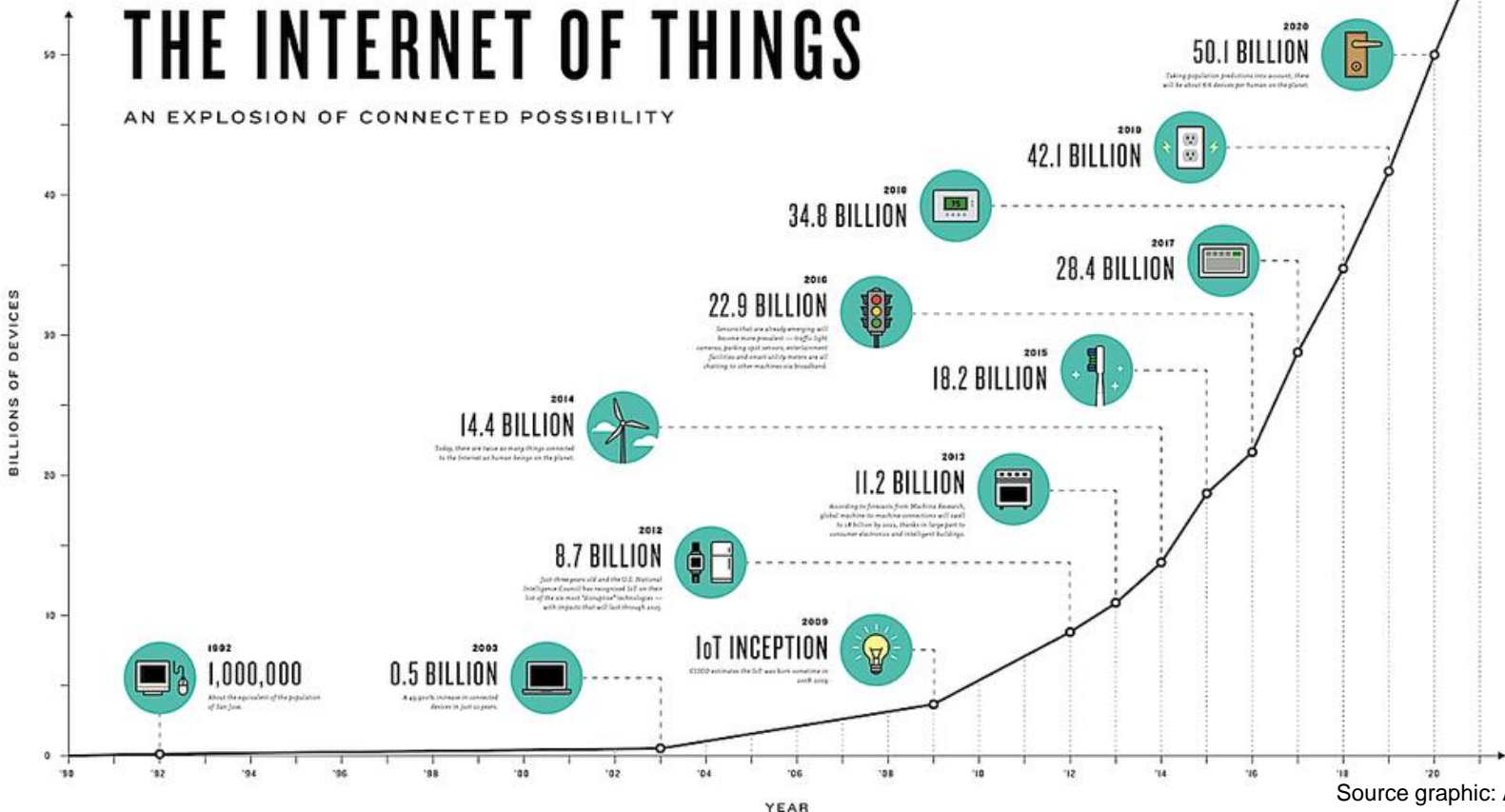


SOURCE: RAY KURZWEIL, "THE SINGULARITY IS NEAR: WHEN HUMANS TRANSCEND BIOLOGY", P.67, THE VIKING PRESS, 2006. DATAPPOINTS BETWEEN 2000 AND 2012 REPRESENT BCA ESTIMATES.



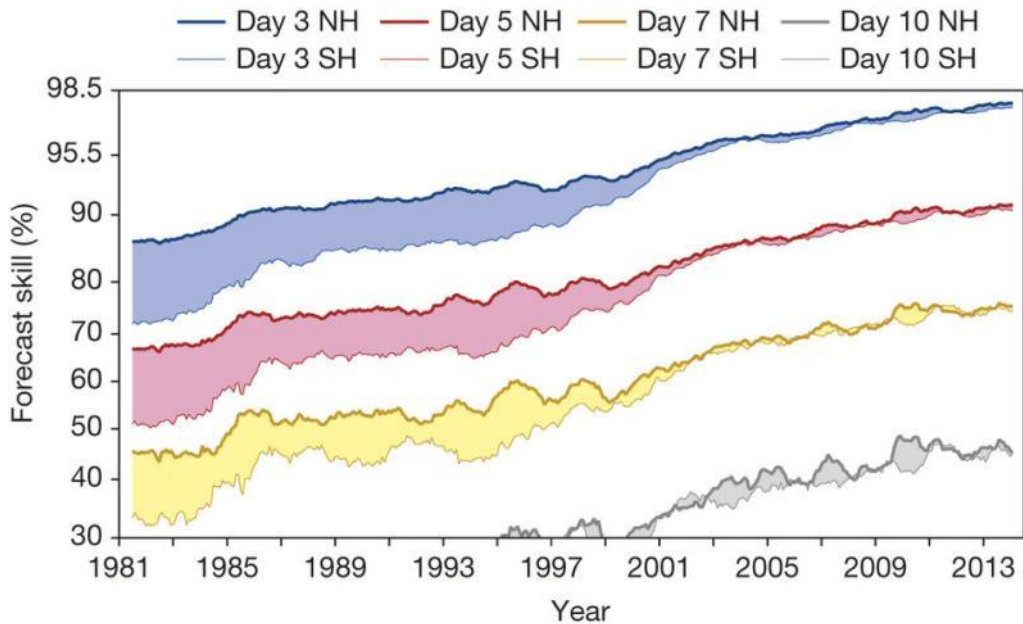
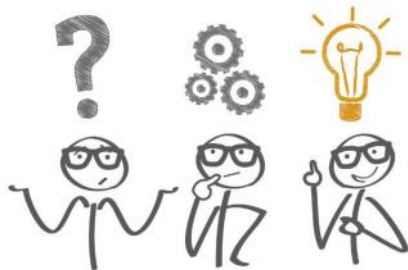
THE INTERNET OF THINGS

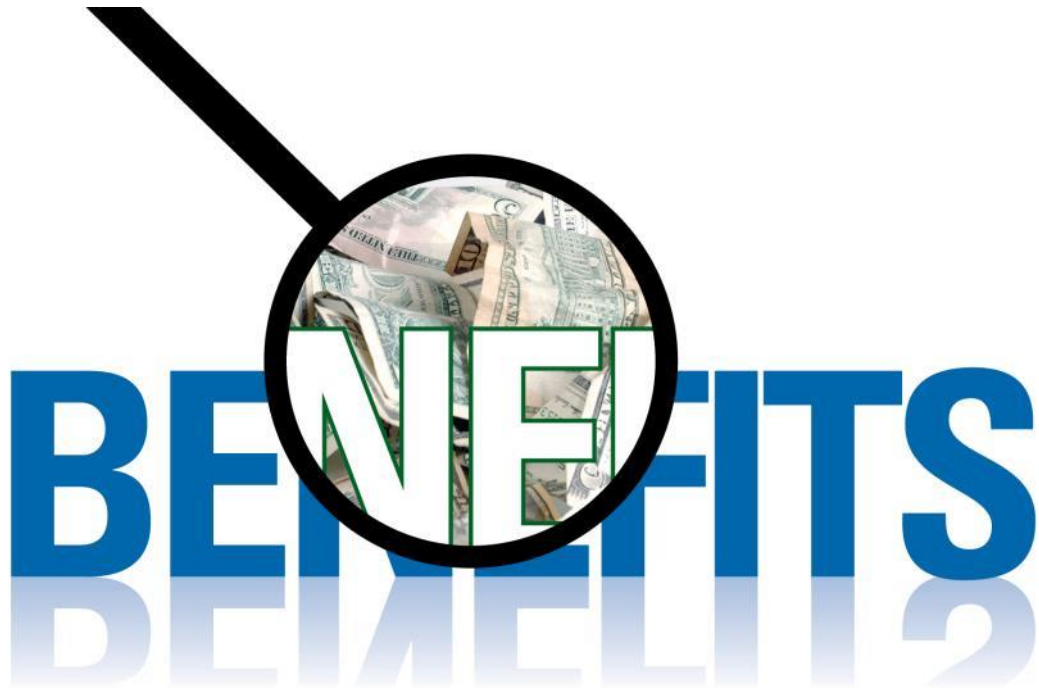
AN EXPLOSION OF CONNECTED POSSIBILITY





Evolution in MET science and capabilities





- To overcome current shortcomings
- To support the future needs of aviation
- To improve cost-effectiveness of service provision



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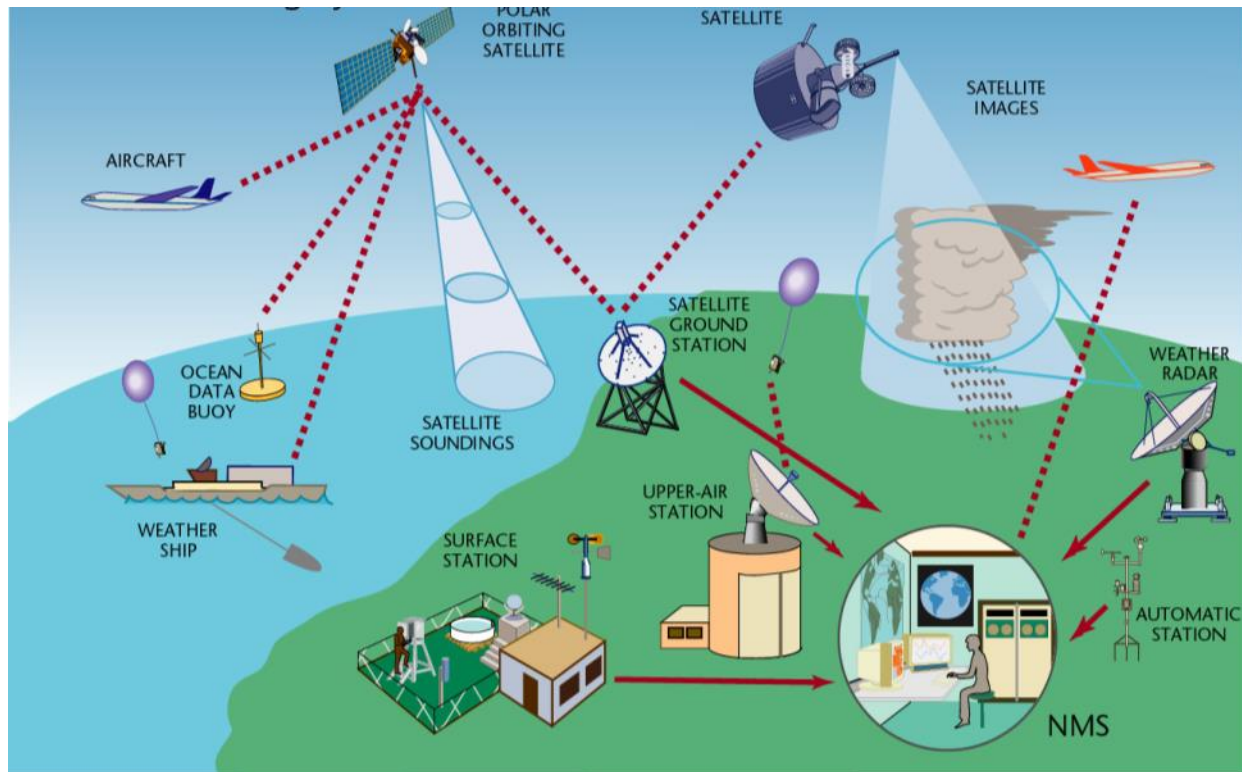


- Further development of ‘phenomena-based’ service provision
or so-called
borderless service provision
- Evolving roles and responsibilities of local, regional and global MET information providers



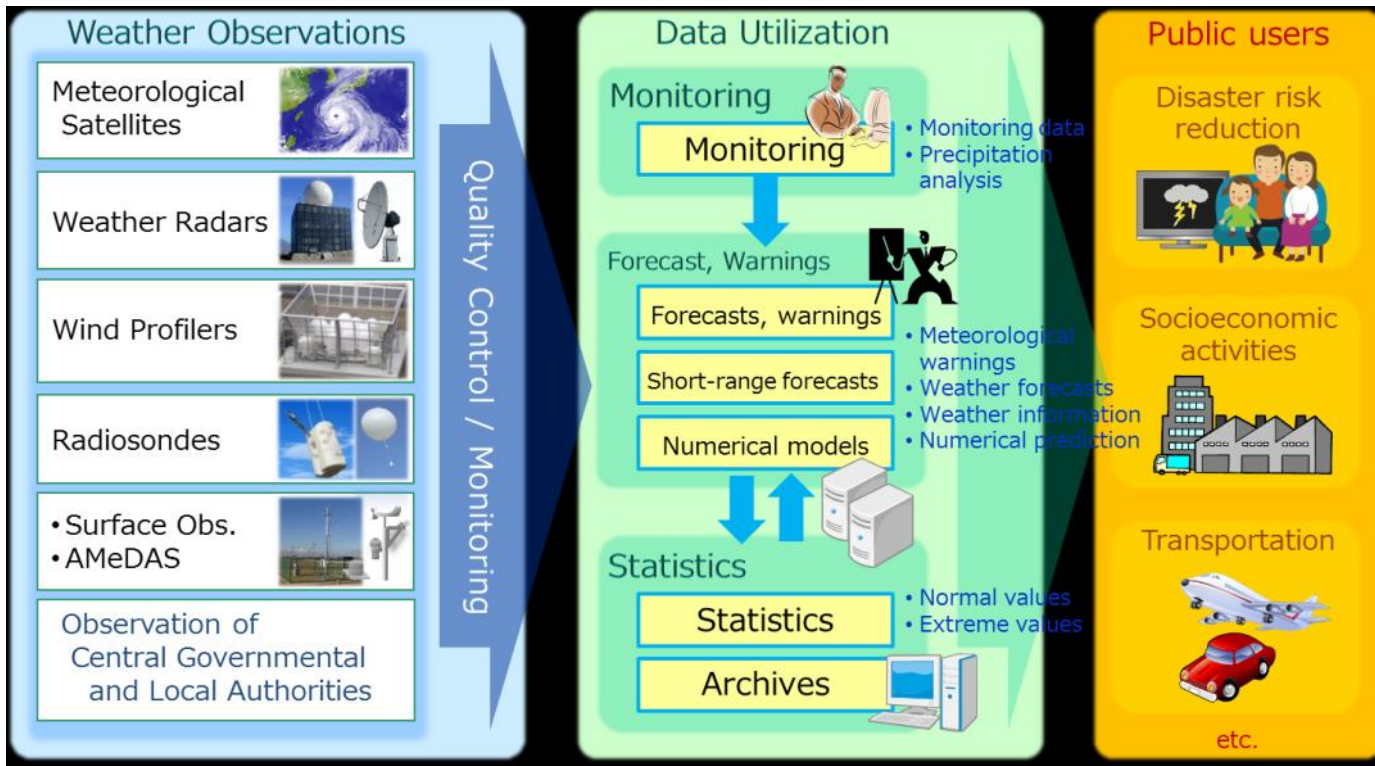


Traditional set-up MET service provider



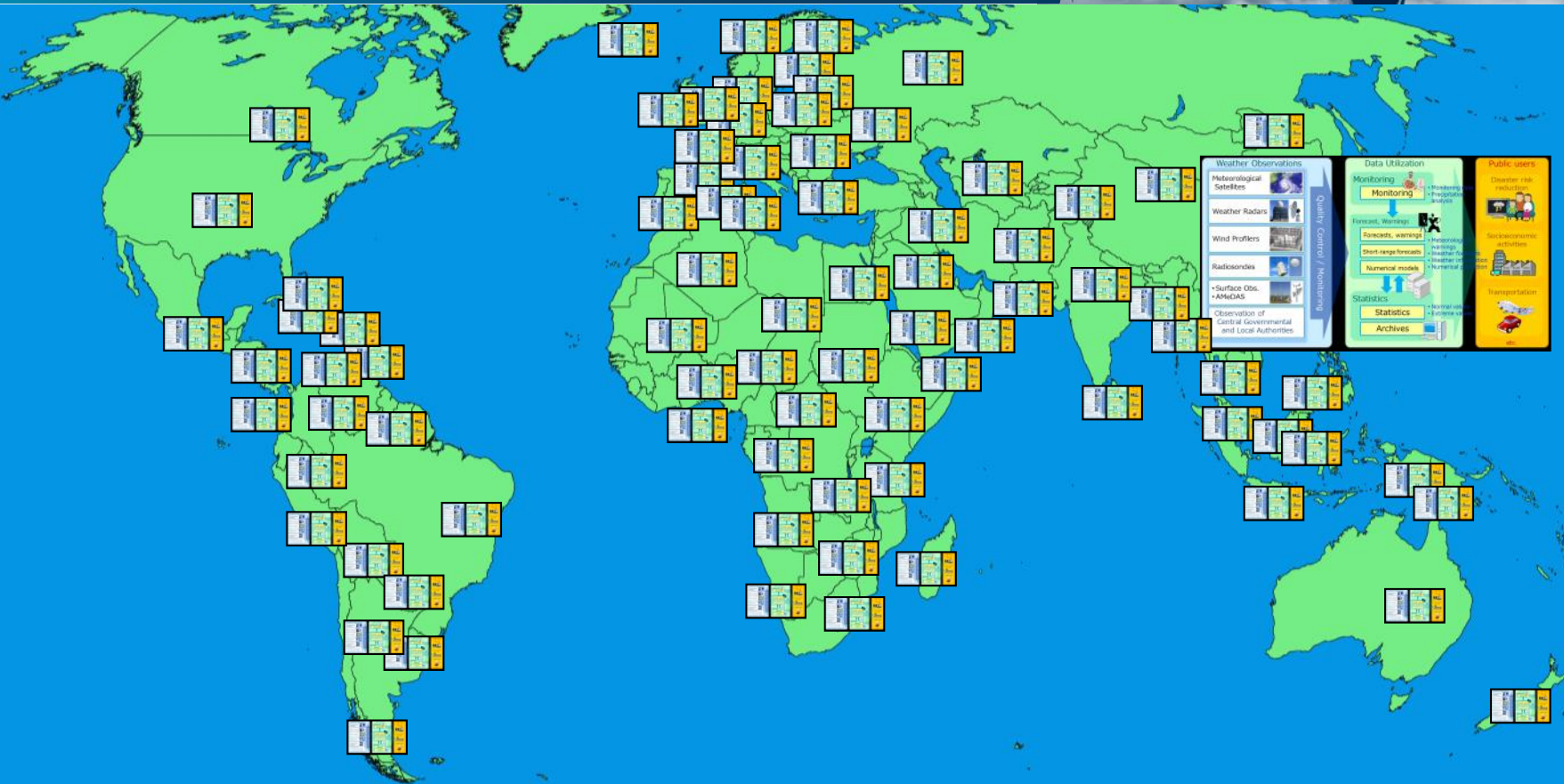


A typical national set-up of MET service provision



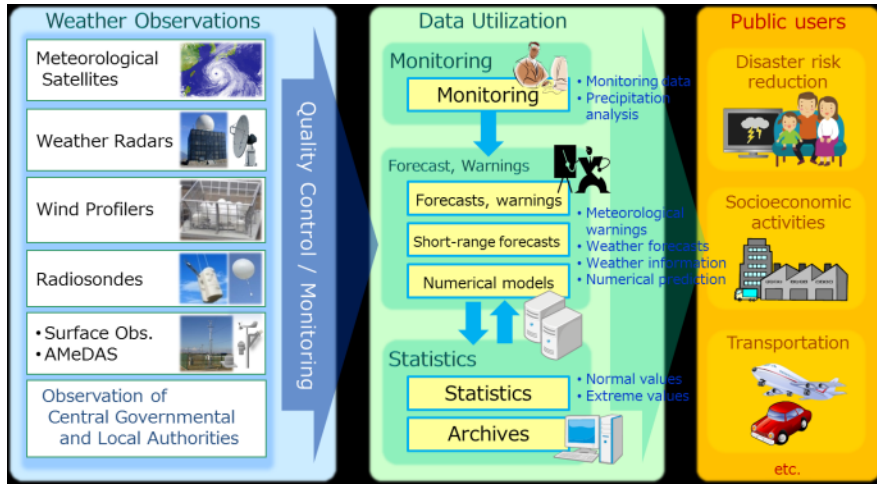


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- ICAO Annex 3 'functions'
 - Aeronautical Meteorological Station
 - Aerodrome Meteorological Office
 - Meteorological Watch Office





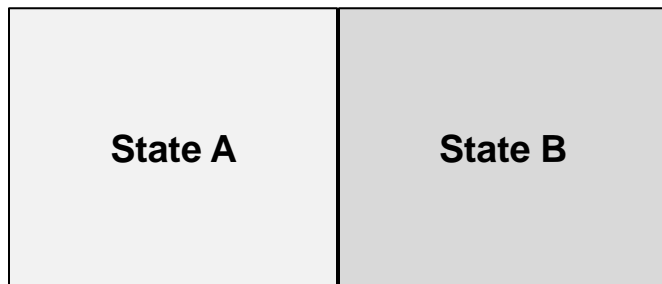
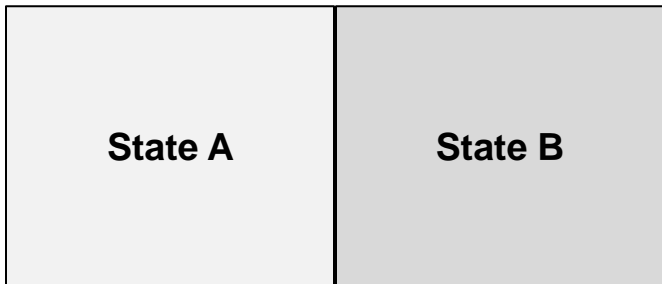
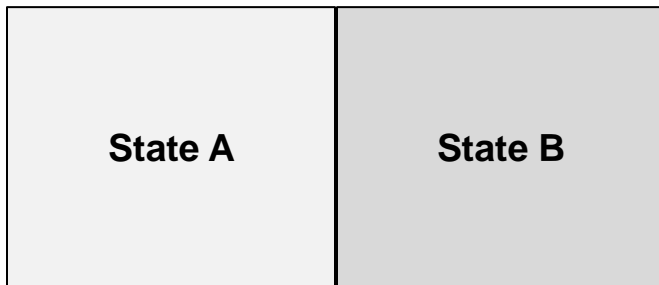
- ICAO Annex 3 'functions' State / FIR / Aerodrome based

**BUT WEATHER CANNOT BE BOTHERED
BY
STATE / FIR / AERODROME BORDERS**



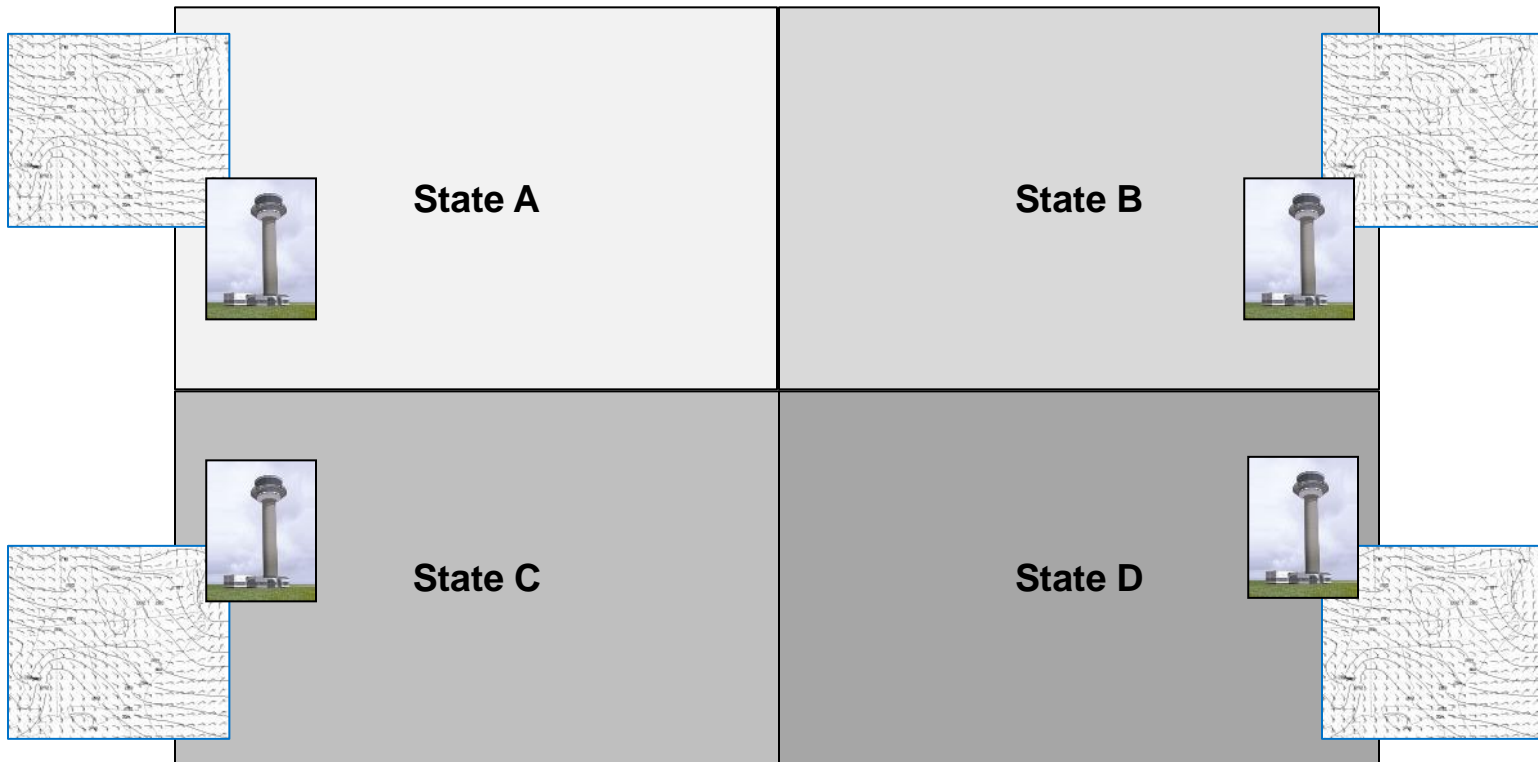


'Weather crossing borders'





‘One consolidated source sometimes better than individual best sources’





'Seamless and harmonised prevails over piecemeal information'

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SIGMET
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 070M WOTFR

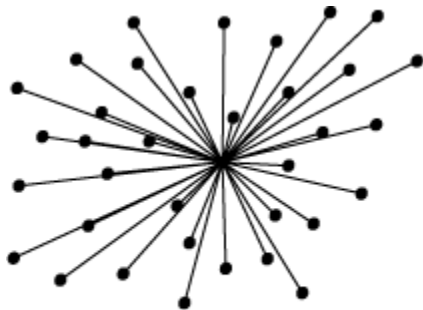
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 070M WOTFR

- TAFs for departure/arrival/alternate destinations
- MET for airport operators
- MET for local ATC
- MET for enroute phase
- MET Advisories
- SIGMET
- Etc.



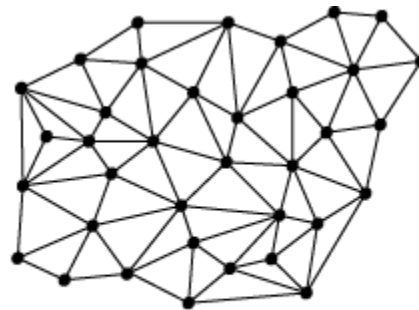
MET Service Provider and Consumer Community discussing the best model for future service provision



centralised



decentralised



distributed



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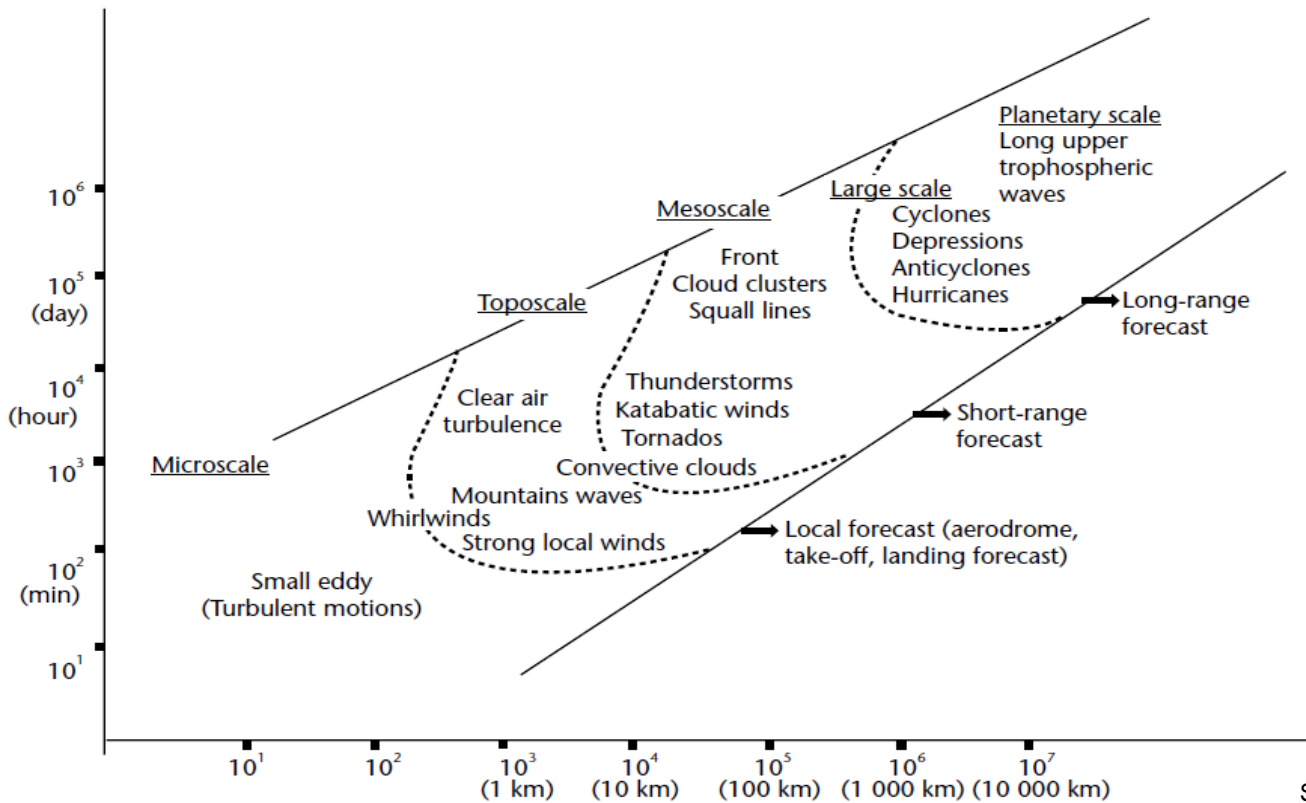
Not excluding any option!



Such as Consolidation

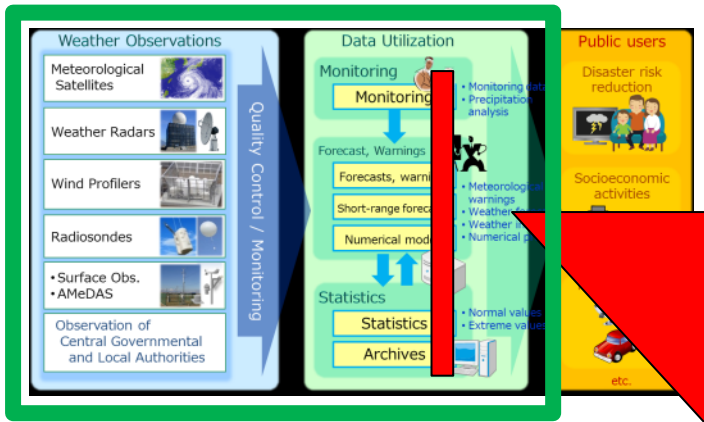


Understanding the intrinsic limitations of predictability





Understanding that Core MET facilities are required



- Direct functions or parts thereof that contribute to aviation could go
- Core MET infrastructure is still required
- Fair share of Core MET infrastructure should be cost-recoverable through aviation



Recap

Evolution in communication

Evolution in MET science and capabilities

'One consolidated source sometimes better than individual best sources'

Evolution in computing power

'Weather crossing borders'

'Seamless and harmonised prevails over piecemeal information'

- IATA for operational enhanced coordination
- IEST for airport operations
- IEST for en-route phase
- IEST for Airborne
- ICAO/ICAO
- Etc.

Carefully consider the role and responsibilities of MET Service Providers:

- To overcome current shortcomings
- To support the future needs of aviation
- To improve cost-effectiveness of service provision

A typical national set-up of MET service provision



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Thank you!

