



Evolution of the Global Weather Enterprise

Alan Thorpe

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GWE: producing weather information

**Public sector:
NMHSs**

Government
funding

Markets &
regulations

**Academic sector:
universities**

**Private sector:
companies**

Development
agencies & banks

Private
capital



Building a 2030 Vision

Initial state	Earth system
Probability	Scalability

Bauer, Thorpe and Brunet, Nature, 2015

Delivering the Vision

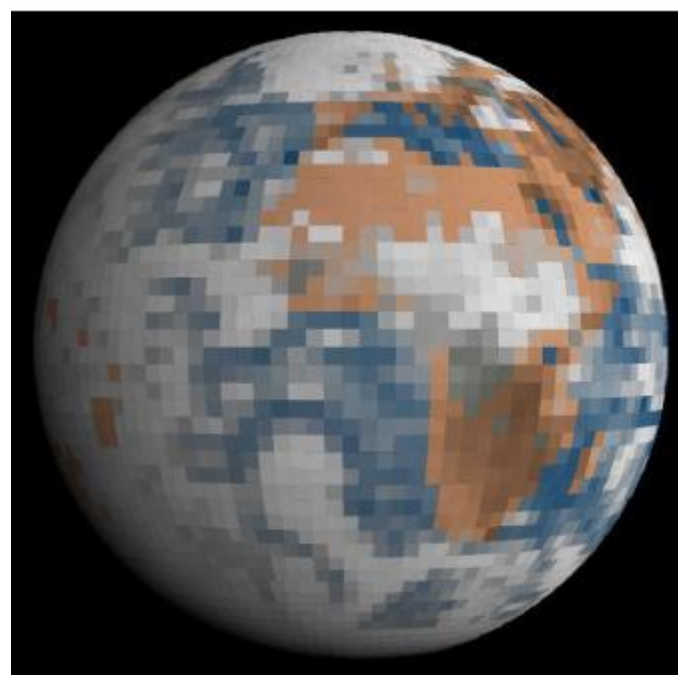
- By mobilising resources for **global (and regional) NWP** with high resolution, delivered to those who need it
- By satisfying the increasing need for more **observations**
- By noting: growth of **private sector** capabilities and **NMHSs** are under funding pressures



Thorpe and Rogers, BAMS, 2018

1979

~ 0.02 million daily active reports
~ 14 data sources

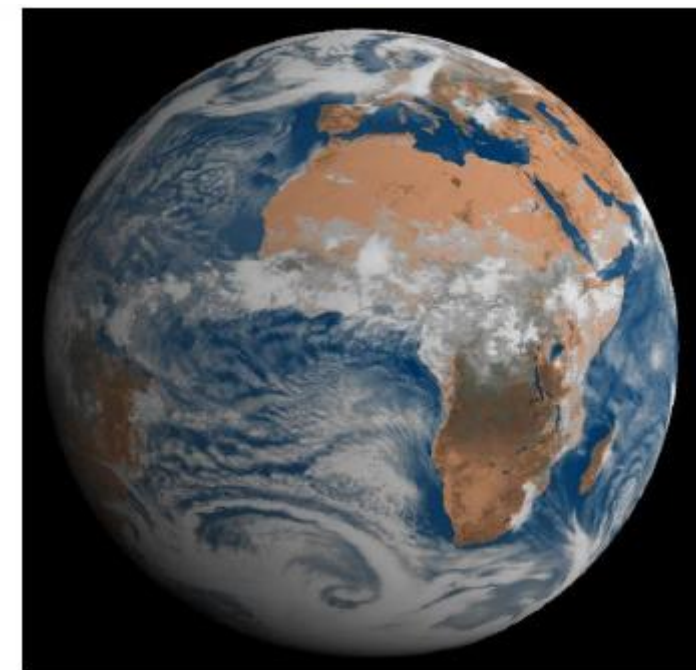


SYNOP - land
Aircraft
Satellites
PILOT
TEMP
SYNOP - ship
Buoys



2019

~ 50 million daily active reports
~ 90 data sources



SYNOP - land
Aircraft
Satellites
Dropsondes
PILOT
TEMP
MWR
ALT
O3
SCAT
AMV
IR
GEO
GPSRO
Buoy - drifting
SYNOP - ship
Profiler/RADAR wind
GPS
Buoy - moored

Private sector capabilities



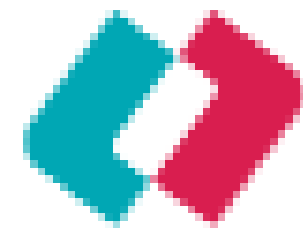


> 5000/day GPS-RO temperature profiles

Forecasting services

Global reach. Hyper local availability

MeteoGroup, trusted partner of hundreds of government agencies, thousands of companies, and millions of consumers.



MeteoGroup

The global weather authority

Weather Forecasts

For any location worldwide with hourly updates and up to 15 days ahead.

So what's the problem?

- **restricted data access and sharing**
- **insufficient quality assurance**
- **competition between the sectors**
- **overlapping roles and responsibilities**
- **fragile sustainability of weather, climate and water services**

Evidence base <https://www.gfdrr.org/en/power-of-partnership>



**Comparative country analyses for:
UK, Germany, Israel, USA, Ghana,
Myanmar, Japan, Indonesia**

**Eleven recommendations for
improved PPE**

Possible Answers

National strategies *to maximise the socio-economic benefits of the enterprise; national regulators*

Dialogue *leading to enhanced multi-sectoral co-operation and co-production*

Business models *benefitting all sectors*

Maximise sharing *of research, modelling, observations and weather predictions; all public data freely available*

International dialogue

Global Weather Enterprise Forum: an open dialogue between the *public, private and academic sectors* in the global weather enterprise and testing new ways to improve the delivery and sustainability of weather, climate and water services www.gweforum.org

Open Consultative Platform: a mechanism for engagement in WMO processes for all those who wish to contribute from all sectors ppe-openplatform.wmo.int

Take home messages

The future:

Ongoing science and technology innovations
Increased demand for weather and climate forecasts
Global weather enterprise growth



Requires:

Increased dialogue and co-operation between the sectors
Evolution and strengthening of the roles of public, private and academic sectors