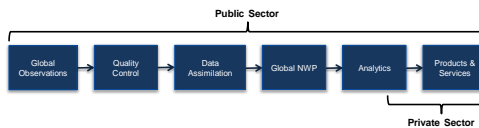


Environmental Data Paradigm
Foundational Weather Data that Drives the Enterprise

Neil Jacobs
neil.jacobs@panasonic.aero

Value chain of the Weather Enterprise (WE)

Fair Weather Report (2003) defines the WE as:

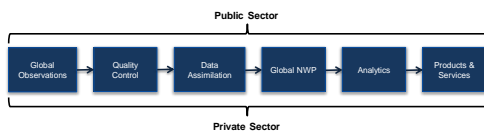


Public Sector: Creates the output

Private Sector: Repackages (aka. "value-add") this output into consumer products and services

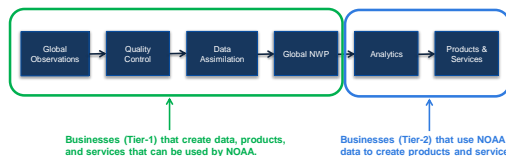
Value chain of the Weather Enterprise (WE)

However, 15 years later...



Value chain of the Weather Enterprise (WE)

Private Sector can be subdivided into two areas:



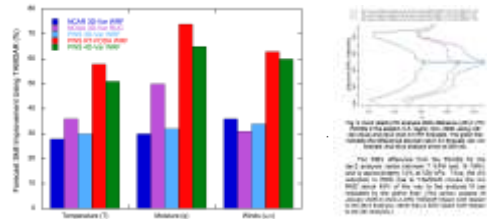
UAV/UAS TAMDAR Edge

- Ice presence
- Median and peak turbulence (EDR)
- Static/dynamic pressure and P altitude
- Air temperature (Mach corrected)
- Additional sensing possible (VA)
- Variable sampling rate
- Space: 18 in internal
- Weight: 14oz (0.4kg)
- Power: 8.4W





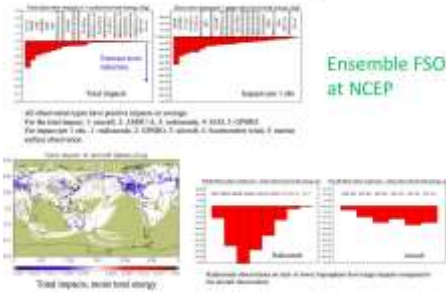
NOAA / FAA 4-Year TAMDAR Study Results



Montger, W. R., D. D. Benjamin, B. D. Janowiak, T. W. Schlatter, T. L. Smith, E. J. Stebbins. 2010. Evaluation of Regional Aircraft Observations Using TAMDAR. Paper Proceedings 28-29-30.
Benjamin, S. G., B. D. Janowiak, W. R. Montger, S. R. Schemm, B. E. Schwartz, T. W. Schlatter. 2010. Real-time Short-Range Forecast Impact from Aircraft, Profiler, Radiosonde, WAC, GPRO, METAR, and Mesonet Observations via the RUC Hourly Assimilation Cycle. Mon. Wea. Rev. 138, 1319-1343.
*After corrections collected in:
Montger, W. R., D. D. Benjamin, and A. K. Anderson. 2014. Correction of Flux Valve-Based Heading for Improvement of Aircraft Wind Observations. J. Atmos. Oceanic Technol. 31, 1733-1747.

Global NWP Data Impacts

Slide credit: Daryl Kleist (EMC/UMD)



History of NOAA TAMDAR data contracts

- 2005-2009: TAMDAR data provided for free* to NOAA/NWS for impact studies and evaluation
- 2009-2012: Funded contract to supply TAMDAR data through the NOAA AMDAR data program
- 2013-2014: No contract (data lapse) -- NOAA budget cuts, sequestration, CR, etc.
- 2015-Present: Funded contract to supply TAMDAR data through the National Mesonet Program

How did we arrive at our pricing model?

Why impose data redistribution restrictions?

Comments on cost-sharing model

Comments on WMO Res-40

Value chain of the Weather Enterprise (WE)

"Free and open" sounds great, but...

If Tier-2 businesses have "free" access to widgets sold to NOAA by Tier-1 businesses, this eliminates the market opportunity for Tier-1 businesses to sell those same widgets to Tier-2 businesses.

Tier-1 businesses will simply build that lost revenue into the price NOAA pays.

Result: Taxpayers get less data for the same \$, or have to pay more \$ for the same data.

Essentially, "free and open" (depending on widget source) has the *potential* to stifle WE economic growth.

To create a win-win public-private ~~partnership~~ sustainable business relationship, these unintended consequences must be considered.



Thank You