THE GAP between MODELERS and END-USERS

Pep Moreno
vortexfdc.com
Est. 2005 (15 years)
Staff 20 (10 MODELERS)
2007: WRF remotely, on-demand
~10,000 END-USERS
2016: WRF-LES commercial
2019: MPAS wind
THE GAP between MODELERS and END-USERS

HOW < WHAT
MPAS
WHAT < HOW
WRF-LES
MPAS
the new WRF?

Acknowledgements: Alex Montornés, Marta Gil
How < What

Unstructured Voronoi Mesh

Cool!
SEAMLESS MODELING CHAIN

COOL?
HOW < WHAT

10 km-res.
Validated at 20 sites
0 end-users

COOL
WHAT < HOW

WRF-LES

“probably the most measurement-like set of synthetic wind time series that atmospheric modeling can achieve today”

Acknowledgements: Alex Montornés, Domingo Muñoz-Esparza
LES* IS MORE!
*LARGE EDDY SIMULATIONS BY VORTEX

WHAT < HOW

1 full-year delivered in 5 days

4 Hz samples, 3” gusts, 10’ means + STD (TI)

100 m-res. heights: 50-300 m

COOL?

WindEnergy Hamburg 2016
LES* IS MORE!
*LARGE EDDY SIMULATIONS BY VORTEX

Validated at 200+ sites
1200+ ‘end-users’

COOL!

WindEnergy Hamburg 2016
LES* IS MORE!
*LARGE EDDY SIMULATIONS BY VORTEX

WHAT < HOW

NetCDF n-D BLOCK

5,000 wind+ time-series

~10 Gb

HOW TO USE IT?

WindEnergy Hamburg 2016
LES* IS MORE!

LARGE EDDY SIMULATIONS BY VORTEX

WHAT < HOW

WindEnergy Hamburg 2016
CONCLUSIONS

WHAT we, modelers, offer to end-users is more relevant than how we produce it.

Even relevant model results become useless if end-users don’t know HOW to process them.