



VORTEX

VORTEX TECHNICAL SEMINAR 8th OCTOBER 2026

PARK HYATT CHENNAI

AGENDA

Time	Topic	Chennai
3.30 - 3.35	Welcome & Multiverse	Dhanaji
3.35 - 4.00	Vortex Technology	Pau Casso
4.00 - 4.20	Vortex Products & Interface	Dhanaji
4.20 - 4.40	TIMES & Remodelling	Pau Casso
4.40 - 5.15	Hybrid Modelling Approach	Michael Pram
5.15 - 5.30	Power Forecast for Wind & Solar Assets	Dhanaji
5.30 - 5.45	Tea Break	
5.45 - 6.10	Seasonal forecast from Nebbo-Weather	Dhanaji
6.10 - 6.40	FARM Evolution: 20 sq. km to 10000 sq. km	Pau Casso
6.40 - 7.10	Why Climate insights Matter	Dhanaji
7.10 - 7.15	India Wind Map	Dhanaji
7.15	Q& A and Networking	

Choosing COMFORT over unknown UNCERTAINTY

Choosing high resolutions

Over coarse reanalysis data

Choosing exact coordinates

Over nearby node points

Choosing sophisticated model output

Over approximations

Choosing best long-term reference

Over wrong data

Choosing time

Over money (which is renewable in nature)

Choosing UNCERTAINTY over unknown COMFORT

Choosing high resolutions

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Over money (which is renewable in nature)



EVERY TIME
YOU STEP OUTSIDE YOUR
COMFORT ZONE,
**YOUR
COMFORT ZONE
EXPANDS.**

Welcome to the Vortex Multiverse,
uniting four expert brands to deliver
precise meteorological insights for
renewable energy and
environmental solutions.

Join the Vortex Multiverse to analyse past conditions, monitor the present, or project the future. With our four expert companies working together, you'll make informed decisions and succeed in the renewable energy and environmental sectors.

We are more than data providers.
Experience the benefits of a unified
data-driven strategy.



Past

-40 YEARS

Trusted partner in historical wind data for wind resource assessment, providing insights spanning the past 40 years up to the present.



Short-term

+14 DAYS

Delivering the most accurate short-term power production forecasts for wind and solar farms, globally.



Seasonal

+6 MONTHS

Seasonal monthly weather forecasts to strategise in advance for O&M, wind asset performance and energy trading.



Projections

100 YEARS

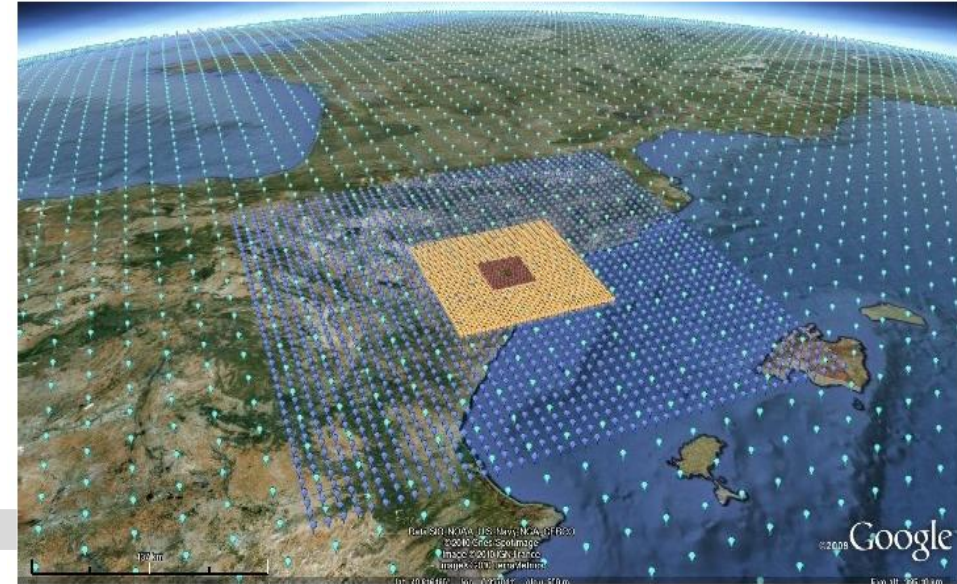
Historical data and climate projections for risk assessment, resilience, and sustainability compliance.



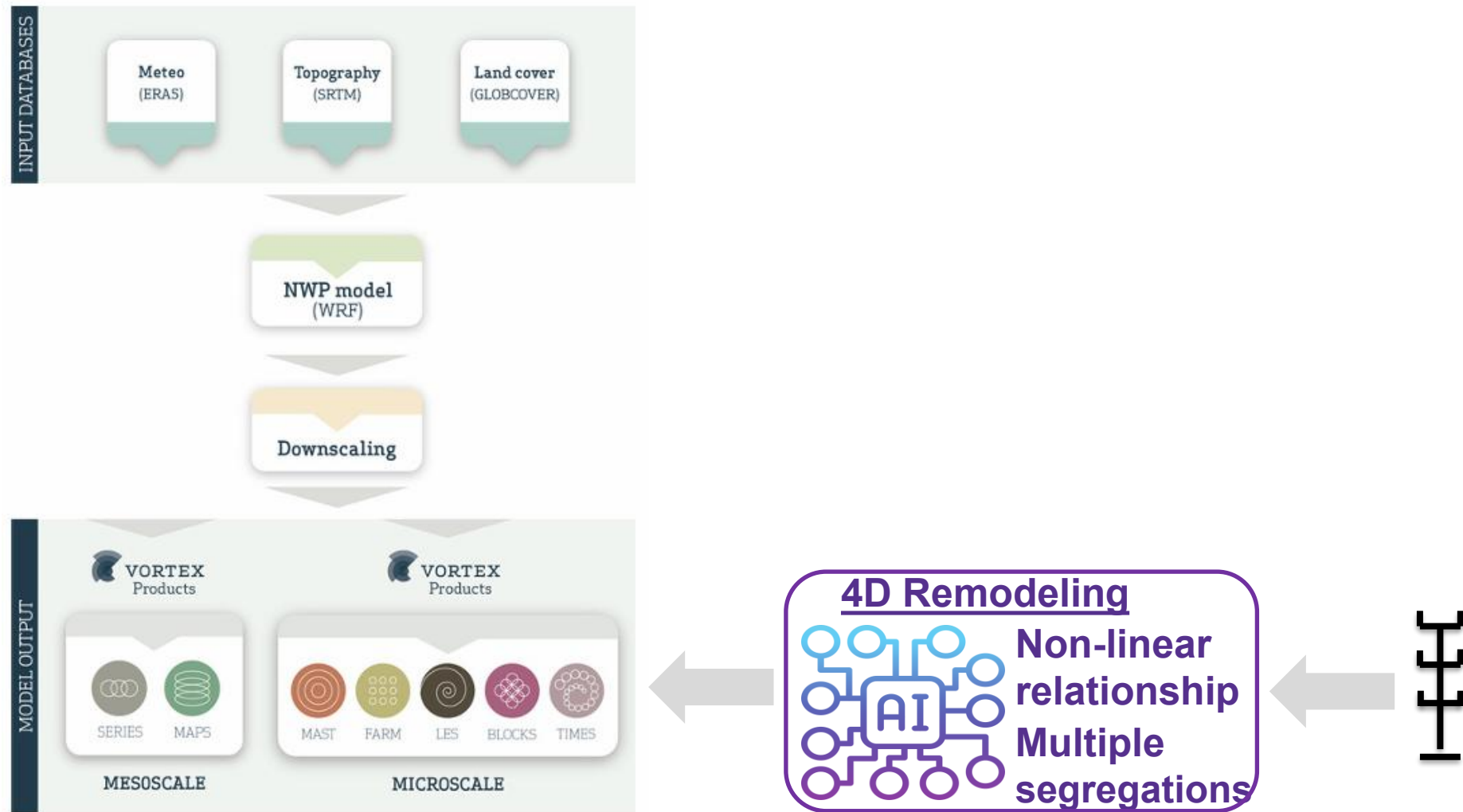
AGENDA

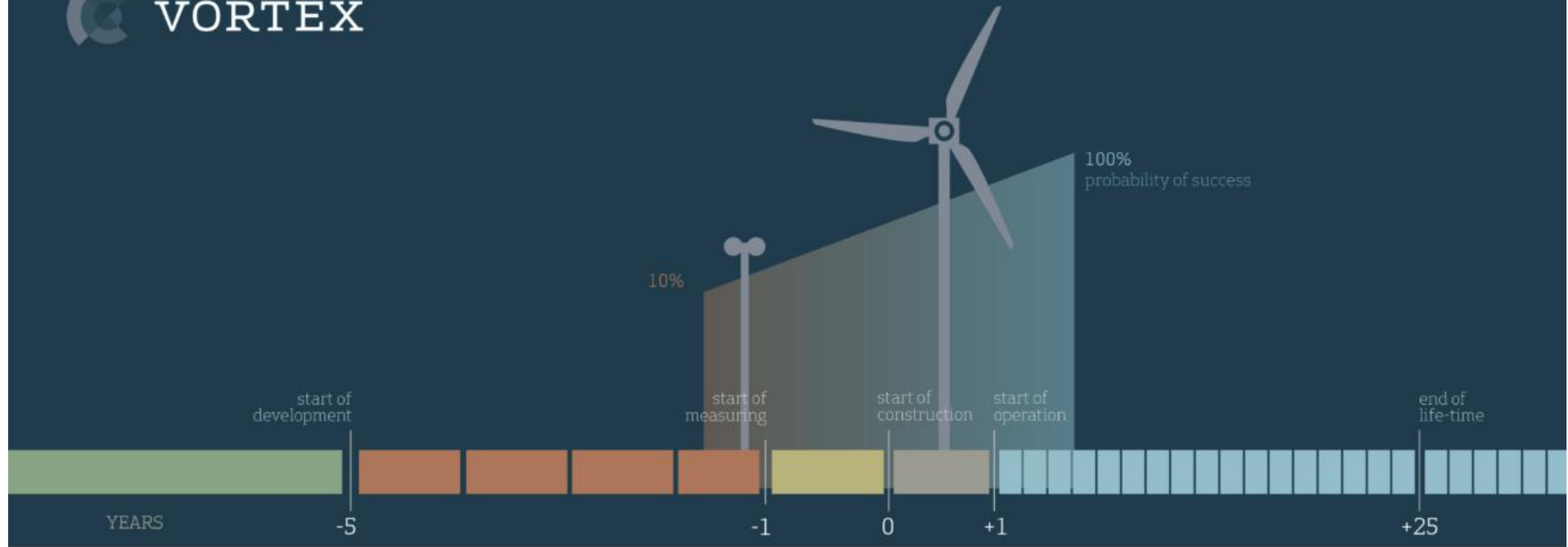
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Vortex Methodology



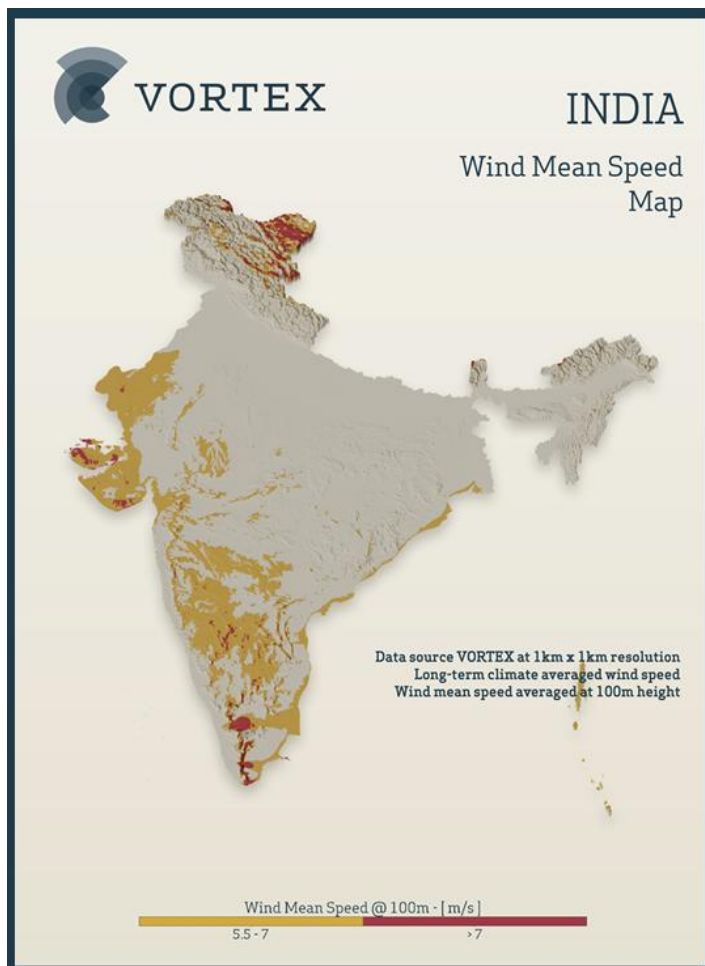
Vortex Methodology





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KMZ/TIFF map layers

Wind Speed/Temperature/Density

3 km – 400000 sq. km

1 km – 40000 sq. km

Region/state/country

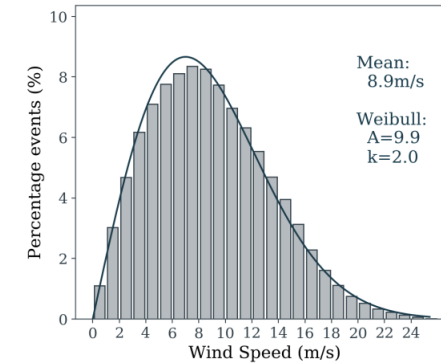
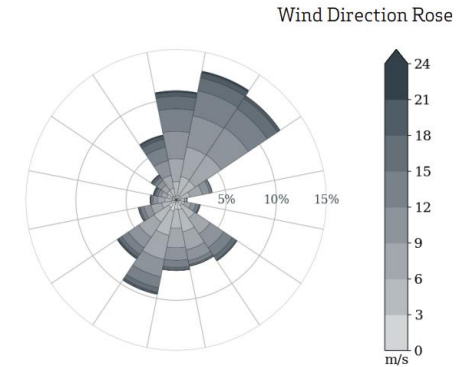
TAB output at grid points (**Optional**)

A & k parameters (**Optional**)

Bin/Sector Occurrence Table

deg → m/s ↓	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	202.5	225.0	247.5	270.0	292.5	315.0	337.5	%
0-1	2.4	3.5	3.3	2.1	4.2	1.9	5.5	10.9	9.5	10.7	11.2	4.9	6.1	9.1	7.8	3.1	1.1
1-2	11.4	14.8	11.8	8.8	10.5	7.8	20.3	30.2	27.3	34.1	26.4	14.7	11.5	12.9	13.8	9.2	3.0
2-3	21.3	24.9	25.1	16.0	14.6	10.5	30.6	45.6	41.8	53.2	40.9	21.8	17.1	14.6	16.5	15.8	4.7
3-4	30.5	40.9	38.4	24.9	16.2	16.3	39.6	58.4	51.7	67.0	50.7	25.9	20.5	17.1	21.0	21.4	6.2
4-5	41.3	54.8	54.6	34.2	14.7	18.4	44.1	66.9	58.1	75.5	50.3	27.8	21.9	15.7	19.1	24.8	7.1
5-6	52.0	67.9	65.5	36.6	12.0	20.1	51.2	70.3	58.5	73.1	53.2	33.3	22.2	15.0	19.2	29.3	7.8
6-7	61.0	78.8	76.5	37.1	8.9	17.4	55.4	57.5	59.9	74.0	55.2	35.7	23.0	16.2	19.8	34.4	8.1
7-8	66.5	90.3	96.1	36.8	6.9	19.2	53.6	53.0	57.2	75.4	53.1	29.7	21.3	15.5	18.5	38.8	8.4
8-9	73.3	93.1	100.8	34.8	4.9	19.0	55.9	49.2	53.0	64.5	50.2	29.4	17.8	16.1	20.1	41.0	8.3
9-10	78.9	94.6	101.6	28.9	2.3	17.2	53.0	39.9	42.7	57.9	43.6	26.8	17.1	11.7	17.7	43.4	7.7
10-11	78.8	96.0	95.9	22.1	1.4	14.4	47.2	31.2	35.3	53.6	37.9	18.9	12.0	8.5	15.0	42.5	7.0
11-12	80.8	87.8	88.1	14.9	0.8	12.4	42.7	25.6	31.3	43.4	29.2	17.5	11.7	8.2	14.3	45.2	6.3
12-13	73.0	81.5	75.8	11.2	0.0	12.0	37.6	16.3	26.5	38.9	27.2	12.8	7.3	7.9	12.3	45.1	5.5
13-14	64.4	74.9	65.8	6.3	0.0	9.7	28.3	11.0	21.0	32.1	24.0	10.6	5.9	7.3	10.8	38.1	4.7
14-15	57.4	65.1	56.0	4.3	0.0	6.4	24.4	7.9	14.6	26.4	17.7	9.0	4.5	6.0	10.1	36.3	4.0
15-16	46.4	51.0	45.8	3.0	0.0	4.1	19.6	6.8	11.4	18.7	14.3	7.1	3.8	5.1	8.1	30.0	3.1
16-17	37.7	36.6	37.9	0.0	0.0	3.0	13.0	4.3	6.6	13.1	10.6	4.0	2.3	4.0	5.1	22.7	2.3
17-18	27.0	27.2	23.3	0.0	0.0	1.9	8.5	3.4	3.5	9.5	6.7	3.5	1.2	3.8	4.4	18.2	1.6
18-19	16.3	22.5	13.5	0.0	0.0	1.5	4.6	1.3	2.6	7.3	5.3	2.5	0.8	3.4	3.7	12.6	1.1
19-20	10.9	14.6	7.9	0.0	0.0	1.7	2.6	0.0	2.4	4.6	4.0	1.6	0.0	2.9	3.4	9.9	0.8
20-21	7.6	9.3	5.1	0.0	0.0	0.0	2.2	0.0	2.1	4.6	3.3	1.0	0.0	1.7	1.9	6.2	0.5
21-22	6.6	6.9	2.6	0.0	0.0	0.0	0.9	0.0	0.0	1.9	3.0	0.0	0.0	1.7	1.6	3.9	0.3
22-23	4.0	3.9	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.8	2.5	0.0	0.0	1.1	1.2	4.1	0.2
23-24	2.9	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.9	1.4	1.8	0.1
24-25	1.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.8	1.3	1.1	0.1
25-26	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
26-27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%	10.9	13.1	12.5	3.7	1.1	2.5	7.3	6.7	7.0	9.6	7.1	3.9	2.6	2.4	3.1	6.6	

Table 1: Occurrences are expressed in hours per year. Rows and Columns totals are expressed in percentages.



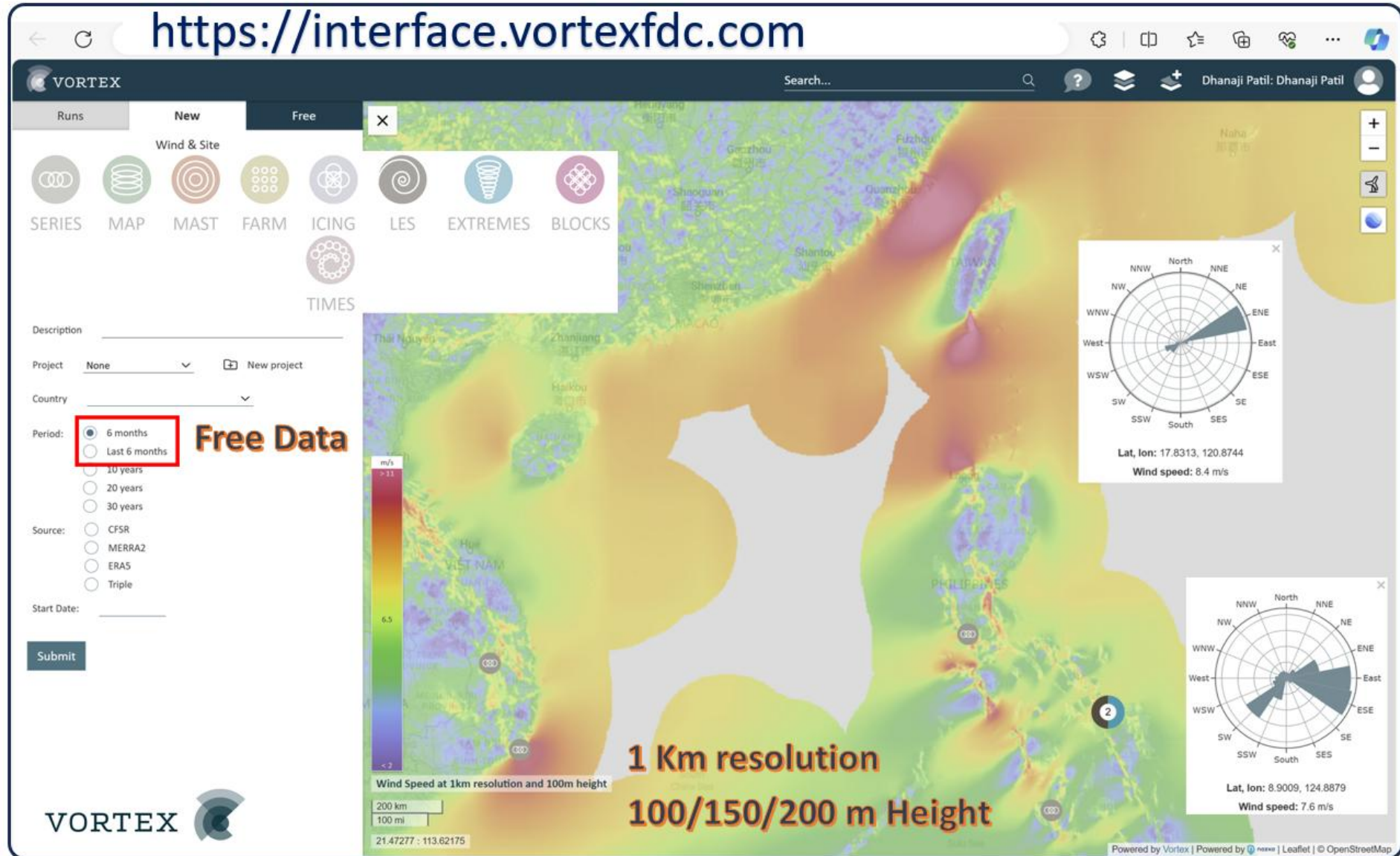
100 m resolution

YYYYMMDD	HHMM	M(m/s)	D(deg)	T(C)	De(kg/m3)	PRE(hPa)	RiNumber	RH(%)
20090101	800	8.9	334	-8	1.33	1008.4	0.57	67.1
20090101	900	7.9	335	-8	1.33	1008.5	0.46	71
20090101	1000	6.4	336	-7	1.32	1008.3	0.2	77.2
20090101	1100	6.1	344	-5.4	1.31	1008.2	-1.23	76.4
20090101	1200	6.2	358	-4.6	1.31	1008.1	-3.17	70.8
20090101	1300	6	359	-3.9	1.3	1007.9	-4.2	66.7
20090101	1400	5.7	355	-3.4	1.3	1007.8	-4.45	64.4
20090101	1500	5.3	353	-3.1	1.3	1007.7	-2.44	62.2
20090101	1600	5.1	352	-3.1	1.3	1007.7	0.69	62.7
20090101	1700	5.3	348	-3.3	1.3	1007.7	0.52	63

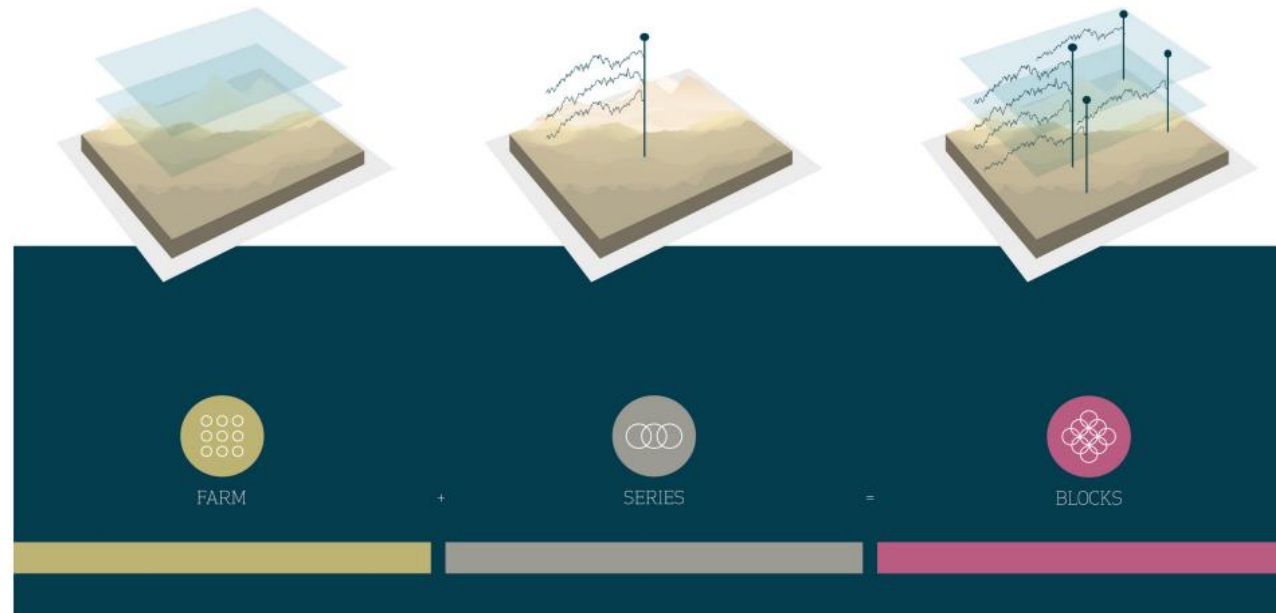
3 km resolution

6 months free download for validation purpose

SERIES



- WRG
- KMZ, ESRI ASCI, ESRI TIFF Layers

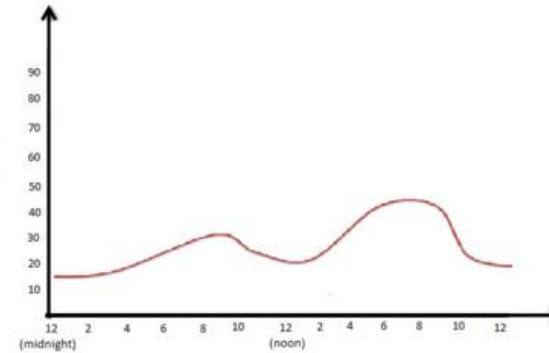
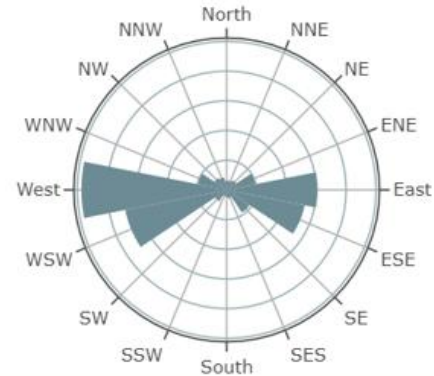


+ TIME SERIES

- WRG
- KMZ, ESRI ASCI, ESRI TIFF Layers
- TAB files

100 m resolution

Customized FILTERS for WRG files



Sector Wise

Peak Energy Demand



SEASONAL

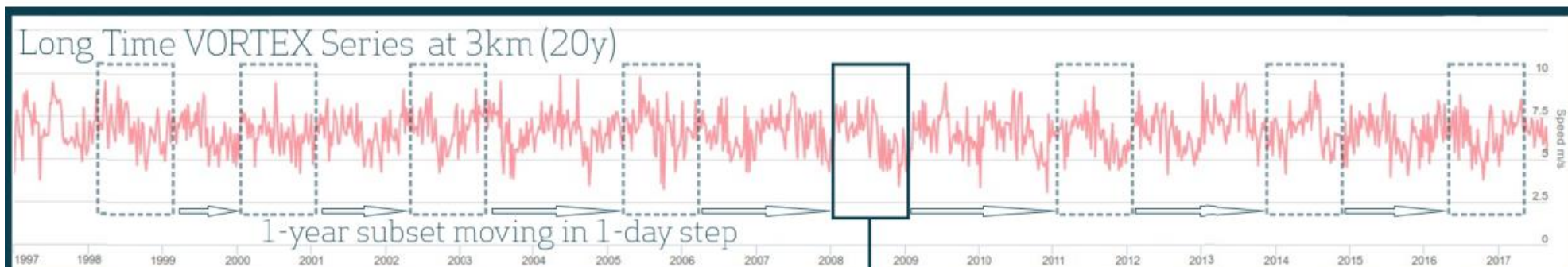


Day and Night



Meteorological Conditions

Long Term Year



- ☐ Mean Speed
- ☐ Weighted mean squared error
- ☐ Seasonal mean wind speeds
- ☐ Sector wise wind distributions

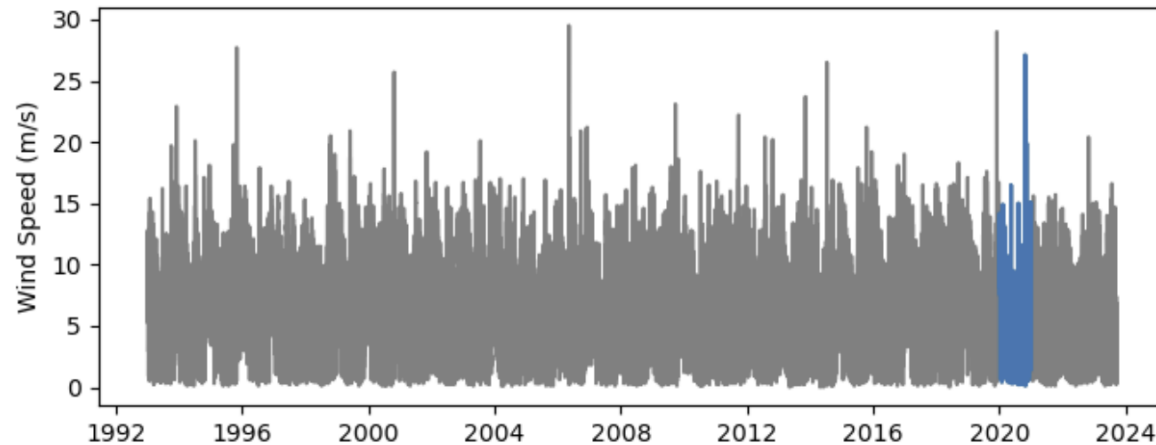
Year	Month	Day	Hour	Minute	Speed non-calibrated [m/s]	Direction non-calibrated Deg	Temperature Deg Cel	Density [Kg/m³]	TI [%]	L [m]
2012	1	1	0	0	6.383	48.9	10.23	0.92	-999	-94
2012	1	1	0	30	6.852	53.7	10.44	0.919	-999	-63
2012	1	1	1	0	7.983	50.8	10.67	0.918	-999	-164
2012	1	1	1	30	8.903	48.5	11.2	0.916	-999	-475
2012	1	1	2	0	9.196	47.9	11.42	0.916	-999	-1065
2012	1	1	2	30	9.461	46.6	11.4	0.915	-999	4369
2012	1	1	3	0	9.619	45.9	11.33	0.915	-999	2194
2012	1	1	3	30	9.689	45.2	11.27	0.916	-999	2194
2012	1	1	4	0	9.429	45.4	11.12	0.916	-999	858
2012	1	1	4	30	9.126	45.9	10.93	0.917	-999	403
2012	1	1	5	0	8.338	46.5	10.79	0.917	-999	127
2012	1	1	5	30	7.673	48.2	10.67	0.918	-999	16
2012	1	1	6	0	7.082	54	10.52	0.918	-999	102
2012	1	1	6	30	8.012	52.5	10.67	0.918	-999	43

Temporal 30 min

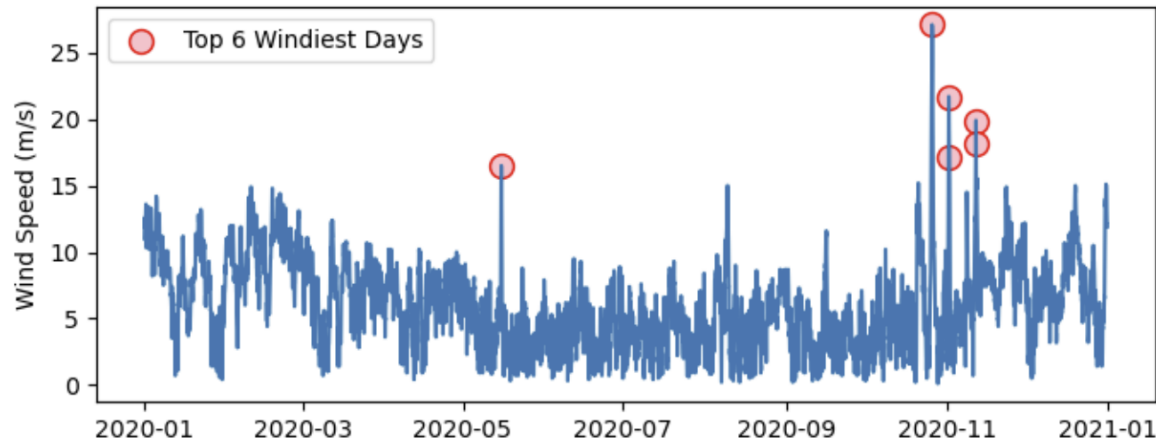
Spatial 100 mtr

Calibrated

Each grid point



30 Years



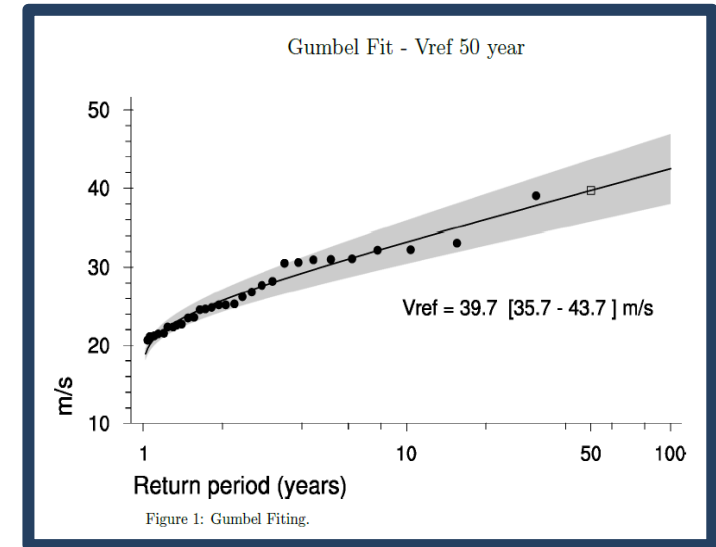
6 Windiest days
per year

Calibrated 180 days (LES)
10-minute time series data

100 m resolution

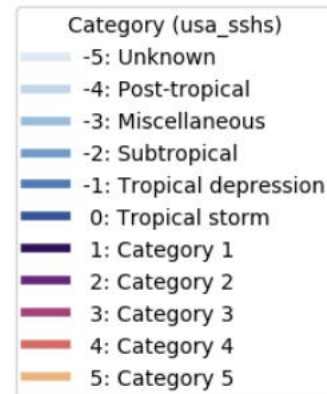
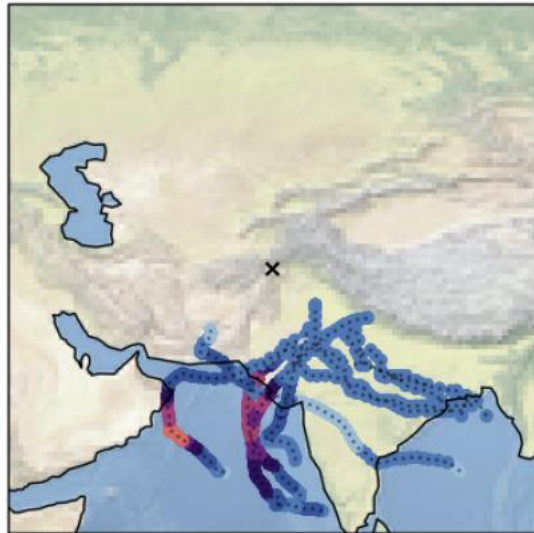
Calibrated 180 days (LES)
10-minute time series data

Yearly Period	Max Wind Speed (m/s)
1990-03-01 - 1991-02-28	21.2
1991-03-01 - 1992-02-29	22.3
1992-03-01 - 1993-02-28	23.5
1993-03-01 - 1994-02-28	30.6
1994-03-01 - 1995-02-28	25.2
1995-03-01 - 1996-02-29	22.3
1996-03-01 - 1997-02-28	39.0
1997-03-01 - 1998-02-28	24.6
1998-03-01 - 1999-02-28	30.5
1999-03-01 - 2000-02-29	33.1
2000-03-01 - 2001-02-28	21.6
2001-03-01 - 2002-02-28	22.7
2002-03-01 - 2003-02-28	20.7
2003-03-01 - 2004-02-29	27.7
2004-03-01 - 2005-02-28	28.2
2005-03-01 - 2006-02-28	25.3
2006-03-01 - 2007-02-28	30.9
2007-03-01 - 2008-02-29	24.8
2008-03-01 - 2009-02-28	26.2
2009-03-01 - 2010-02-28	22.6
2010-03-01 - 2011-02-28	21.1
2011-03-01 - 2012-02-29	31.0
2012-03-01 - 2013-02-28	31.1
2013-03-01 - 2014-02-28	21.5
2014-03-01 - 2015-02-28	24.6
2015-03-01 - 2016-02-29	26.8
2016-03-01 - 2017-02-28	32.2
2017-03-01 - 2018-02-28	23.6
2018-03-01 - 2019-02-28	25.2
2019-03-01 - 2020-02-29	32.2
Vref50	39.7



100 m resolution

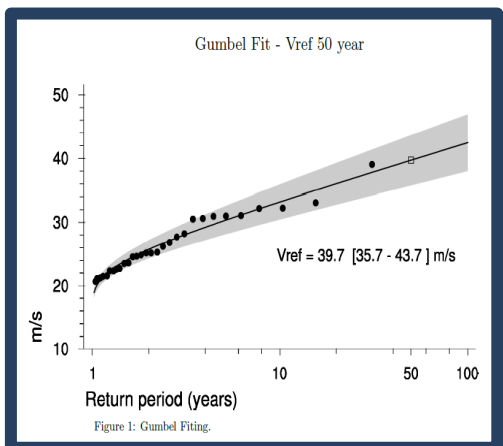
Hurricanes Report



1. Very fast: Storms for which the closest event to the site has a reported speed (by any of the agencies) higher than 30m/s.
2. Very close: Storms for which the closest event to the site is located within 50km.
3. Very dangerous: Storms for which the closest event to the site is located within 100km and the reported wind speed (by any of the agencies) exceeds 25m/s.
4. Higher Category: Storms for which the closest event to the site is given a category 3, 4 or 5 by the US agencies.

Calibrated 180 days (LES)
10-minute time series data

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1990-03-01 - 1991-02-28	21.2
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1996-03-01 - 1997-02-28	39.0
1997-03-01 - 1998-02-28	24.6
1998-03-01 - 1999-02-28	30.5
1999-03-01 - 2000-02-29	33.1
2000-03-01 - 2001-02-28	21.6
2001-03-01 - 2002-02-28	22.7
2002-03-01 - 2003-02-28	20.7
2003-03-01 - 2004-02-29	27.7
2004-03-01 - 2005-02-28	28.2
2005-03-01 - 2006-02-28	25.3
2006-03-01 - 2007-02-28	30.9
2007-03-01 - 2008-02-29	24.8
2008-03-01 - 2009-02-28	26.2
2009-03-01 - 2010-02-28	22.6
2010-03-01 - 2011-02-28	21.1
2011-03-01 - 2012-02-29	31.0
2012-03-01 - 2013-02-28	31.1
2013-03-01 - 2014-02-28	21.5
2014-03-01 - 2015-02-28	24.6
2015-03-01 - 2016-02-29	26.8
2016-03-01 - 2017-02-28	32.2
2017-03-01 - 2018-02-28	23.6
2018-03-01 - 2019-02-28	25.2
2019-03-01 - 2020-02-29	32.2
Vref50	39.7



YYYYMMDD	HHMM	M(m/s)	D(deg)	SD(m/s)	DSD(deg)	Gust3s(m/s)	T(C)	PRE(hPa)	RiNumber	VertM(m/s)
20171101	0530	5.12	27.6	0.18	4.7	5.77	27.4	1000.6	4.90	-0.03
20171101	0540	5.49	25.1	0.29	2.8	6.39	27.4	1000.7	3.56	-0.07
20171101	0550	5.48	23.6	0.39	6.6	6.55	27.3	1000.8	1.06	0.18
20171101	0600	5.39	23.7	0.32	4.3	6.16	26.1	1001.0	2.03	0.23
20171101	0610	5.22	23.8	0.22	3.0	6.04	26.9	1001.0	3.26	0.21
20171101	0620	5.10	23.5	0.21	2.8	5.83	25.9	1001.2	4.64	0.32
20171101	0630	5.10	26.1	0.67	5.1	5.94	26.4	1001.3	18.33	-0.08
20171101	0640	5.42	31.8	0.25	4.9	6.01	26.5	1001.3	11.46	-0.08
20171101	0650	5.52	27.8	0.26	4.9	6.33	26.1	1001.5	3.29	-0.09
20171101	0700	5.66	29.1	0.25	4.5	6.25	26.8	1001.5	11.81	0.16
20171101	0710	5.87	27.4	0.39	5.0	7.09	26.1	1001.7	25.35	-0.04
20171101	0720	6.04	30.3	0.24	4.8	7.14	27.1	1001.8	2.03	0.12
20171101	0730	6.04	30.9	0.64	4.2	6.95	27.0	1001.9	30.00	0.14
20171101	0740	6.13	37.6	0.20	2.4	7.02	27.2	1002.0	11.64	-0.15
20171101	0750	5.91	33.5	0.27	2.7	6.77	26.2	1002.2	9.33	-0.25
20171101	0800	6.05	32.8	0.30	4.2	6.88	26.4	1002.3	5.84	0.05
20171101	0810	6.09	37.0	0.20	4.8	6.53	27.0	1002.4	7.31	0.03
20171101	0820	5.92	34.3	0.47	7.0	7.07	26.1	1002.6	3.93	-0.10
20171101	0830	6.22	37.6	0.18	3.5	6.79	26.5	1002.6	19.06	-0.08
20171101	0840	6.15	36.4	0.25	4.2	6.74	26.5	1002.8	12.55	-0.12
20171101	0850	6.08	36.8	0.25	4.0	6.74	26.2	1002.9	5.90	0.34
20171101	0900	6.18	42.6	0.20	3.0	6.82	26.9	1002.9	3.30	-0.04
20171101	0910	6.17	39.7	0.29	2.9	6.88	27.2	1003.0	19.91	-0.18
20171101	0920	5.92	43.2	0.25	4.6	6.43	27.2	1003.0	4.64	0.24
20171101	0930	5.94	41.6	0.33	3.8	6.66	26.6	1003.1	5.97	0.03
20171101	0940	5.98	42.5	0.43	5.3	7.68	26.9	1003.2	3.52	0.32
20171101	0950	5.93	50.0	0.26	5.1	6.83	27.6	1003.1	2.74	0.00
20171101	1000	5.89	50.5	0.30	4.2	6.58	27.5	1003.1	0.61	-0.18

YYYYMMDD	HHMM	M(m/s)	D(deg)	SD(m/s)	DSD(deg)	Gust3s(m/s)	T(C)	PRE(hPa)	RiNumber	VertM(m/s)
20171101	0530	5.12	27.6	0.18	4.7	5.77	27.4	1000.6	4.90	-0.03
20171101	0540	5.49	25.1	0.29	2.8	6.39	27.4	1000.7	3.56	-0.07
20171101	0550	5.48	23.6	0.39	6.6	6.55	27.3	1000.8	1.06	0.18
20171101	0600	5.39	23.7	0.32	4.3	6.16	26.1	1001.0	2.03	0.23
20171101	0610	5.22	23.8	0.22	3.0	6.04	26.9	1001.0	3.26	0.21
20171101	0620	5.10	23.5	0.21	2.8	5.83	25.9	1001.2	4.64	0.32
20171101	0630	5.10	26.1	0.67	5.1	5.94	26.4	1001.3	18.33	-0.08
20171101	0640	5.42	31.8	0.25	4.9	6.01	26.5	1001.3	11.46	-0.08
20171101	0650	5.52	27.8	0.26	4.9	6.33	26.1	1001.5	3.29	-0.09
20171101	0700	5.66	29.1	0.25	4.5	6.25	26.8	1001.5	11.81	0.16
20171101	0710	5.87	27.4	0.39	5.0	7.09	26.1	1001.7	25.35	-0.04
20171101	0720	6.04	30.3	0.24	4.8	7.14	27.1	1001.8	2.03	0.12
20171101	0730	6.04	30.9	0.64	4.2	6.95	27.0	1001.9	30.00	0.14
20171101	0740	6.13	37.6	0.20	2.4	7.02	27.2	1002.0	11.64	-0.15
20171101	0750	5.91	33.5	0.27	2.7	6.77	26.2	1002.2	9.33	-0.25
20171101	0800	6.05	32.8	0.30	4.2	6.88	26.4	1002.3	5.84	0.05
20171101	0810	6.09	37.0	0.20	4.8	6.53	27.0	1002.4	7.31	0.03
20171101	0820	5.92	34.3	0.47	7.0	7.07	26.1	1002.6	3.93	-0.10
20171101	0830	6.22	37.6	0.18	3.5	6.79	26.5	1002.6	19.06	-0.08
20171101	0840	6.15	36.4	0.25	4.2	6.74	26.5	1002.8	12.55	-0.12
20171101	0850	6.08	36.8	0.25	4.0	6.74	26.2	1002.9	5.90	0.34
20171101	0900	6.18	42.6	0.20	3.0	6.82	26.9	1002.9	3.30	-0.04
20171101	0910	6.17	39.7	0.29	2.9	6.88	27.2	1003.0	19.91	-0.18
20171101	0920	5.92	43.2	0.25	4.6	6.43	27.2	1003.0	4.64	0.24
20171101	0930	5.94	41.6	0.33	3.8	6.66	26.6	1003.1	5.97	0.03
20171101	0940	5.98	42.5	0.43	5.3	7.68	26.9	1003.2	3.52	0.32
20171101	0950	5.93	50.0	0.26	5.1	6.83	27.6	1003.1	2.74	0.00
20171101	1000	5.89	50.5	0.30	4.2	6.58	27.5	1003.1	0.61	-0.18

Complex region

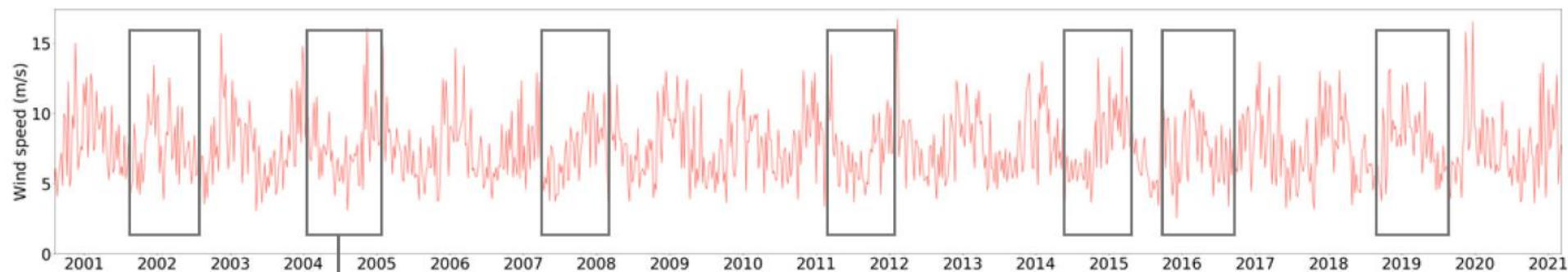
Offshore

Gust and TI important

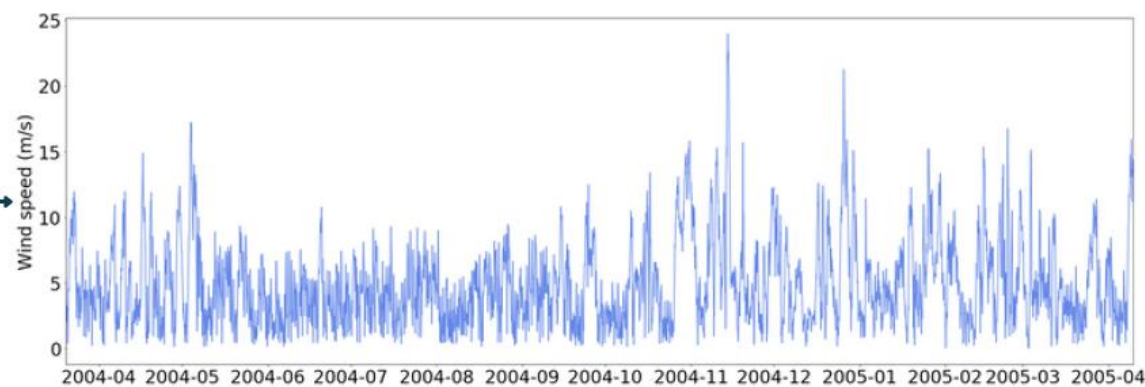
WTG/FARM performance

Mast/lidar data gap filling

Long Time Vortex Series (20y)



One-year period for
running:
LES / BLOCKS



AGENDA

Time	Topic	Chennai
3.30 - 3.35	Welcome & Multiverse	Dhanaji
3.35 - 4.00	Vortex Technology	Pau Casso
4.00 - 4.20	Vortex Products & Interface	Dhanaji
4.20 - 4.40	TIMES & Remodelling	Pau Casso
4.40 - 5.15	Hybrid Modelling Approach	Michael Pram
5.15 - 5.30	Power Forecast for Wind & Solar Assets	Dhanaji
5.30 - 5.45	Tea Break	
5.45 - 6.10	Seasonal forecast from Nebbo-Weather	Dhanaji
6.10 - 6.40	FARM Evolution: 20 sq. km to 10000 sq. km	Pau Casso
6.40 - 7.10	Why Climate insights Matter	Dhanaji
7.10 - 7.15	India Wind Map	Dhanaji
7.15	Q& A and Networking	

Wind Power Development in India

ROW – right of the way

Curtailment in solar
(Demand diurnal curve)

Market mechanism – time shift
(Smart meters)

Transmission bottle necks – location shift
long gestation period (plan to reality)

BESS – time shift

Wind Power Development in India

ROW – right of the way

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Air conditioner load

EV load (decentralized –to grid)

Data Centers (US citizen stand)

Industrial growth

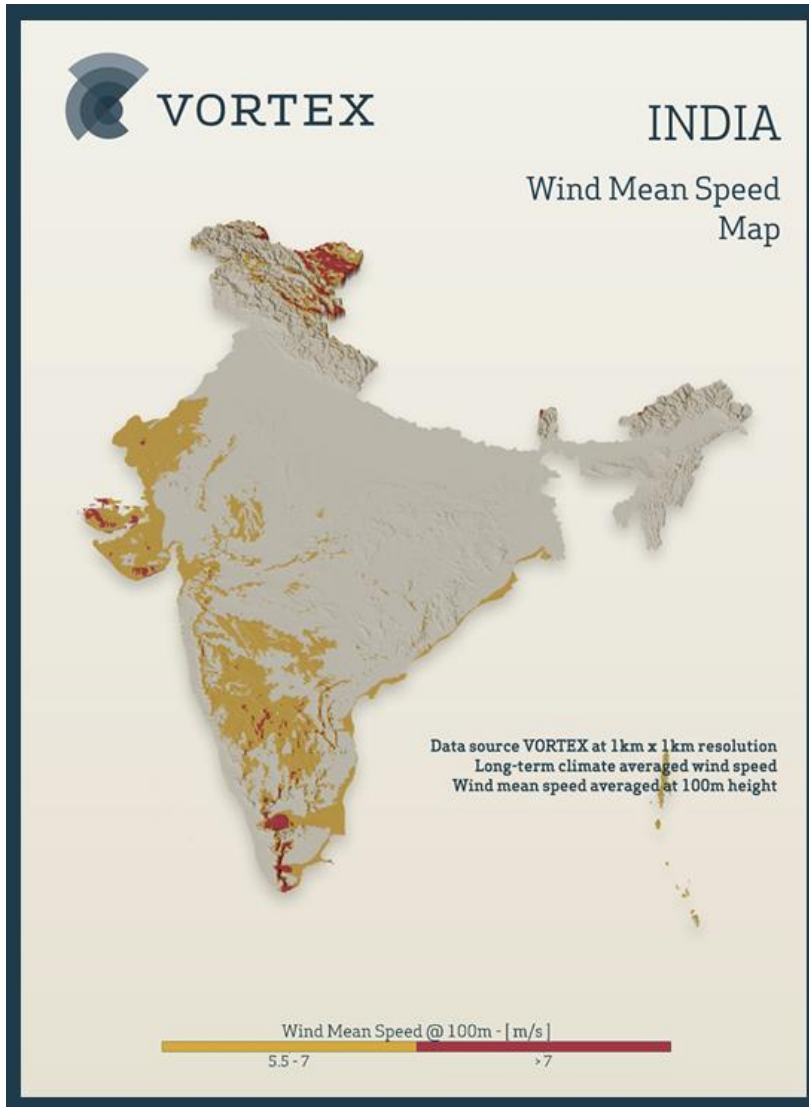
Cooking transition from gas to electric

Different war fronts – Energy dependency

Wind Power Development in India

Installed Capacity	550 GW	Air conditioner load
Solar installed capacity	160 GW	EV load (decentralized –to grid)
Wind installed capacity	60 GW	Data Centers (US citizen stand)
Peak demand reached	270 GWh	Industrial growth
		Cooking transition from gas to electric
		Different war fronts – Energy dependency

India wind map



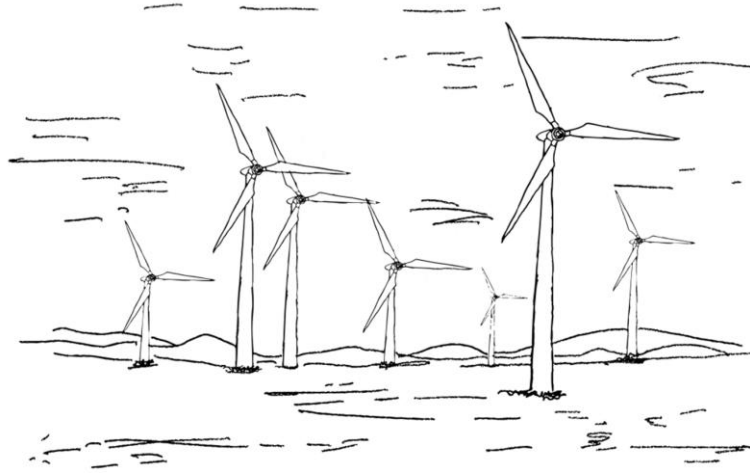
Energy demand will grow

Energy mix demands more wind

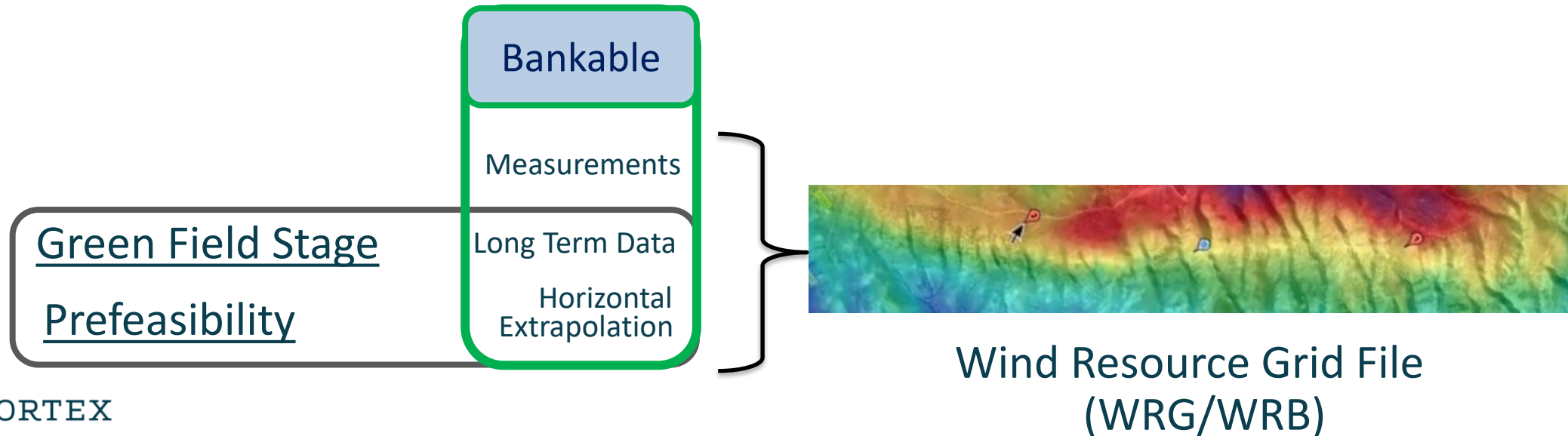
Technology available for low wind

Is data Bankable

EYA/AEP
estimates

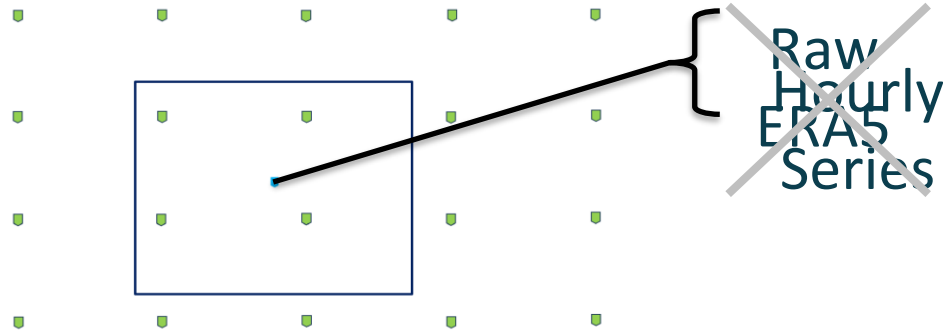
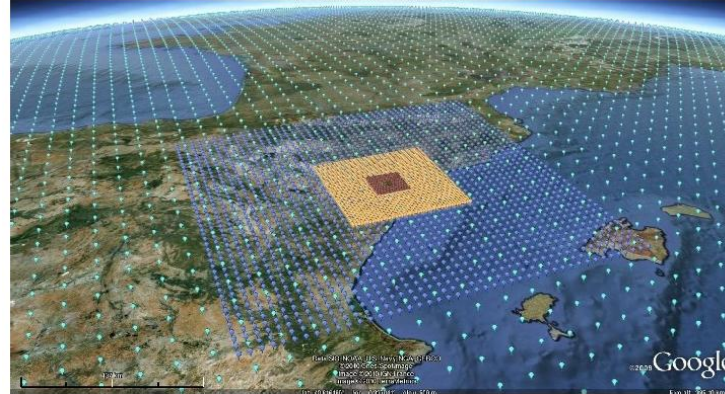


Generation



Pre-feasibility – We just have reanalysis data

FARM
BLOCKS



Approach 1

SERIES (3 Km)
TIMES (300 m)
LES (100 m)

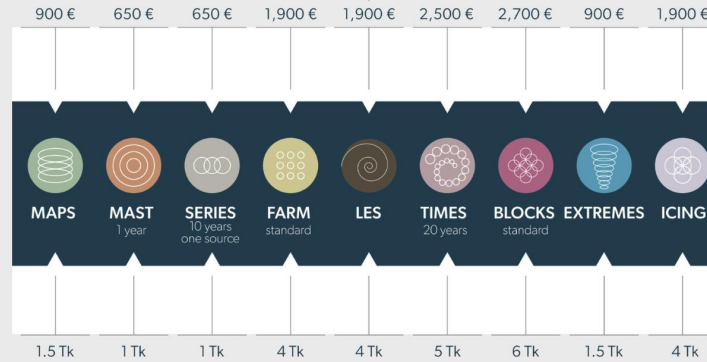
Pay Per Run

Occasional purchases using a credit card



Pay Per Run

Occasional purchases using a credit card



Tokens

Package			Subscription	
Tokens do not expire			New tokens loaded monthly**	
Package price *	Price per Token *		Price per Token	Monthly subscription
4,500 €	450 €/Tk	10 Tk	210 €/Tk	2,100 €/month
8,440 €	422 €/Tk	20 Tk	200 €/Tk	4,000 €/month
11,520 €	384 €/Tk	30 Tk	197 €/Tk	5,900 €/month

Product	<i>Tokens</i>	Delivery time	Area	Resolution	Output
MAP	1.5	1.5 days	400,000 Sq. Km	3 Km	KMZ, ESRI TIFF, ESRI ASCI
MAP	1.5	1.5 days	40,000 Sq. Km	1 Km	KMZ, ESRI TIFF, ESRI ASCI
EXTREMES	1.5	2.5 days	Single Point	100 m	180 days LES data+30 years gust table + 50 year return period Gumbel fit
MAST 1y.	1	1 days	Single Point	100 m	PDF Report + TAB file
MAST 20y.	1.5	1.5 days	Single Point	100 m	PDF Report + TAB file
SERIES 10y./1source	1	1 Day	Single Point	3 km	Hourly Time Series Data
SERIES 20y./1source	2	3 Days	Single Point	3 Km	Hourly Time Series Data
SERIES 10y./3source	2	3 Days	Single Point	3 Km	Hourly Time Series Data
SERIES 20y./3source	4	6 Days	Single Point	3 Km	Hourly Time Series Data
SERIES 30y./1source	2.5	3 Days	Single Point	3 Km	Hourly Time Series Data
FARM std.	4	4 days	500 sq. km	100 m	WRG File
FARM large	7	7 days	1500 sq. km	100 m	WRG File
FARM extra Large	15	8-11 days	4000 sq. km	100 m	WRG File
FARM 300 Large	7	7 days	15000 sq. km	300 m	WRG File (for offshore areas)
FARM 300 extra Large	15	8-11 days	40000 sq. km	300 m	WRG File (for offshore areas)
BLOCKS std.	6	5 days	500 sq. km	100 m	WRG File + TIME SERIES
BLOCKS large	9	7 days	1500 sq. km	100 m	WRG File + TIME SERIES
BLOCKS 300m Large	17	8-11 days	15000 sq. km	300 m	WRG File + TIME SERIES (for offshore area)
LES	4	4 days	Single Point	100 m	10 minute time series incl turbulence, 3 second gust
TIMES 10y	4.5	3 days	Single Point	300 m	10 minute time series inclusive turbulence
TIMES 20y	5	4 days	Single Point	300 m	
TIMES 30y	6	5 days	Single Point	300 m	

Wind Power Development in India
