Supplemental Material

Ozone deposition measurements over wheat fields in the North China Plain: variability and related factors of deposition flux and velocity

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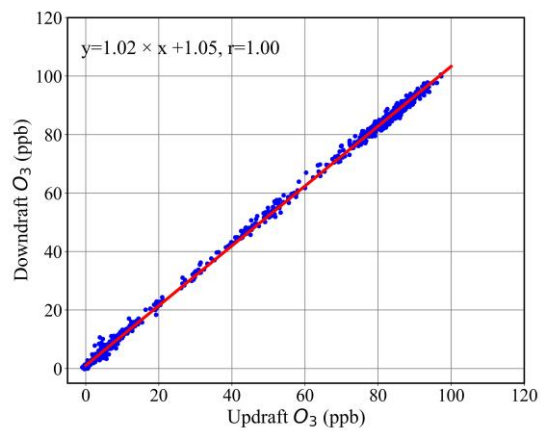
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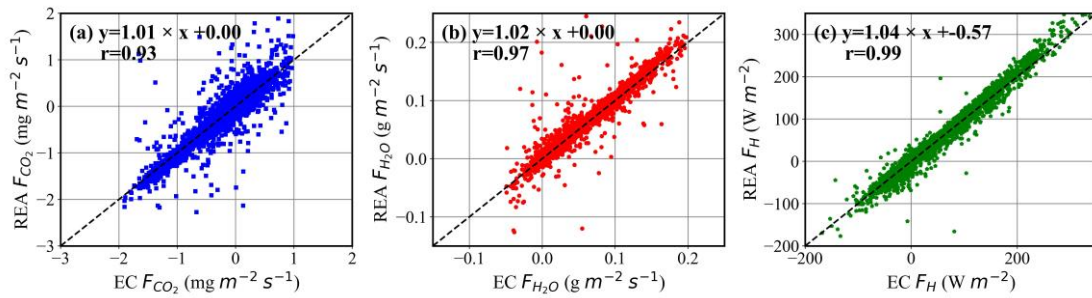
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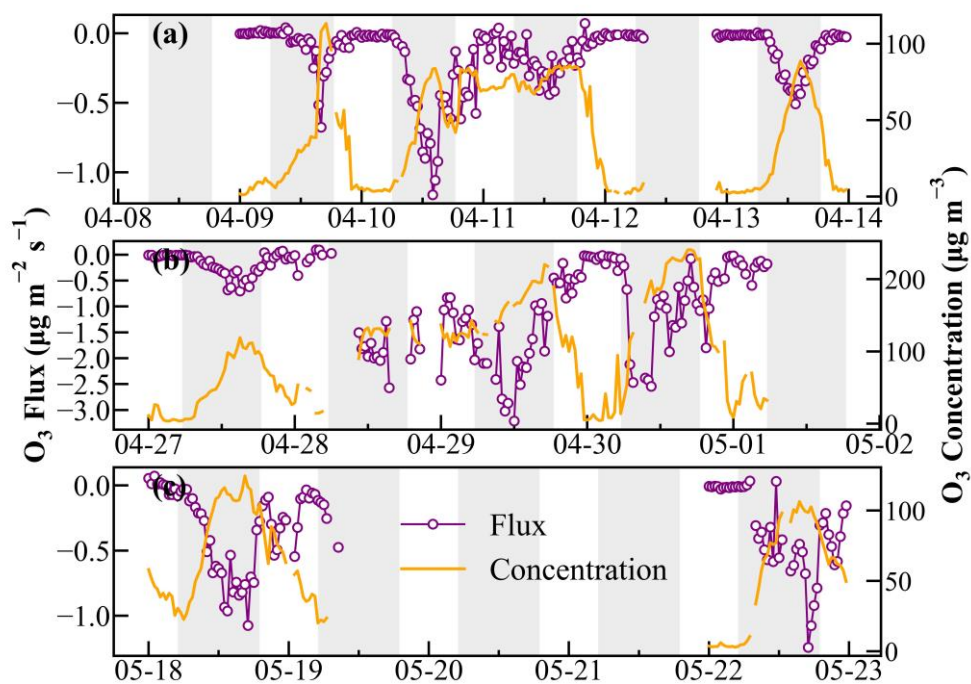
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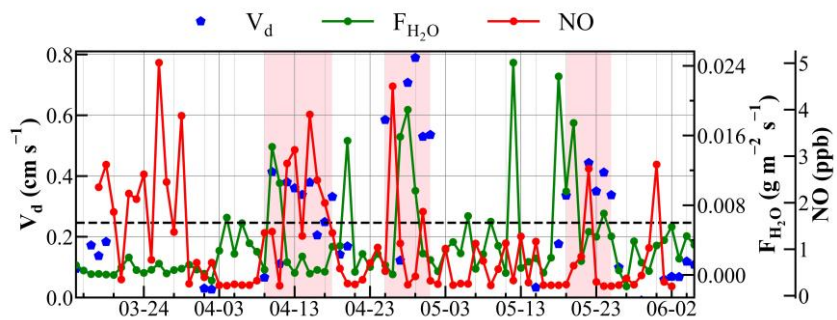
55   **Figure S5: Variations of nighttime averaged O₃ deposition velocity (Vd, blue circle lines), H₂O flux (F_{H_2O}, green lines) and NO concentration (red lines) during 18 March-2 June.**

Table S1: Summary of observed O₃ deposition velocity (Vd) in recent years.

Surface type	Date	Metrics	V_d (cm s^{-1})	Site	Method	References
Wheat	2016.3.16-5.30	Mean	0.39	Nanjing, China	EC	(Xu et al., 2018)
	2012.3.7-6.7	Day Mean	0.42	Yucheng, China	EC	(Zhu et al., 2015)
		Night Mean	0.14			
Maize	2011.8.9-9.28	Day mean	0.29	Yucheng, China	EC	(Zhu et al., 2014)
		Night mean	0.09			
	2002 summer	Mean	0.5	Grignon, France	EC	(Lamaud et al., 2009)
Potato	2006 summer	Mean	0.66	Scotland, England	EC	(Coyle et al., 2009)
Grassland	May 2000	Mean	0.22±0.22	Braunschweig, Germany	EC	(Mészáros et al., 2009)
	May 2001- Nov. 2004	Median	0.48±0.37	Scotland, England	FG/EC	(Coyle, 2005)
Moorland	1995-1998	Mean, at 0-40 ppb	0.75	Auchencorth Moss, Scotland	FG/EC	(Fowler et al., 2001)
	1995-1998	Mean, at 40-80 ppb	0.4			
Forest	2000-2009	Range	0.11-0.42	Hyytiälä, Finland	EC	(Rannik et al., 2012)
	1993-2000	Median	0.30	Massachusetts, America	EC	(Wu et al., 2015)
			0.35		FG [c]	
			0.35		FG [d]	
			0.62		FG [e]	
Soil	2001.4.30-5.31	Mean	0.21±0.21	La Crau, France	EC	(Stella et al., 2019)
	2008-2010 [a]		0.29±0.33	Lamasquere, France		
	2007.10.19-2008.3.4		0.26±0.20	La Cape Sud, France		
	2011.3.17-5.5		0.36±0.28	Lusignan, France		
	2014.3.24-4.14		0.61±0.48	Turro, Italy		
Sea	2006-2008	Range	0.01-0.24	Gulf of Mexico	EC	(Bariteau et al., 2010)
	2006-2008	Range	0.009-	− [b]	EC	(Helmig et al.,

	0.034		2012)

EC represents eddy covariance (EC) method, and FG refers flux-gradient (FG) approach.

60 [a] The specific observation periods includes 2008.4.24-5.26, 2008.11.20-12.18, 2009.11.14-2010.5.12 and 2010.9.29-11.9.

[b] The seas includes The Gulf of Mexico, Eastern Pacific Ocean, Western Atlantic Ocean and Southern Ocean.

[c] Modified micrometeorological gradient method.

[d] Modified Bowen ratio gradient method.

[e] Aerodynamic gradient method.

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Table S2: Winter wheat phenology at GC during 2022-2023.

Stage	Sowing	Emergence	Three-leaf	Tillering	Dormancy	Greening	Standing
Date	2022.10.18	2022.10.28	2022.11.19		2022.11.29	2023.03.02	2023.03.21
Stage	Elongation	Booting	Heading	Flowering	Milk-ripe	Ripening	Harvest
Date	2023.04.01	2023.04.15	2023.04.27	2023.05.05	2023.05.25	2023.06.11	2023.06.18

70 **Table S3: The relationships of O$_3$ deposition velocity (V$_d$) and friction velocity (u$_*$), soil volumetric water content (soil VWC) at different ranges of LAI.**

		Slope	Intercept	Std. Err.	p-value	r	n
V$_d$ ~ u$_*$	LAI<1	0.84	0.09	0.32	0.00	0.39	158
	1≤LAI<2	1.13	0.04	0.67	0.00	0.45	48
	2≤LAI<3	2.36	0.01	0.40	0.00	0.57	282
	LAI≥3	1.91	0.15	0.49	0.00	0.42	285
V$_d$ ~ soil VWC	LAI>3.0	4.42	-1.23	1.01	0.00	0.46	285
	LAI>3.5	7.25	-2.30	2.02	0.00	0.46	186
	LAI>4.0	8.44	-2.86	2.40	0.00	0.52	132
	LAI>4.5	15.32	-5.86	5.61	0.00	0.67	39

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