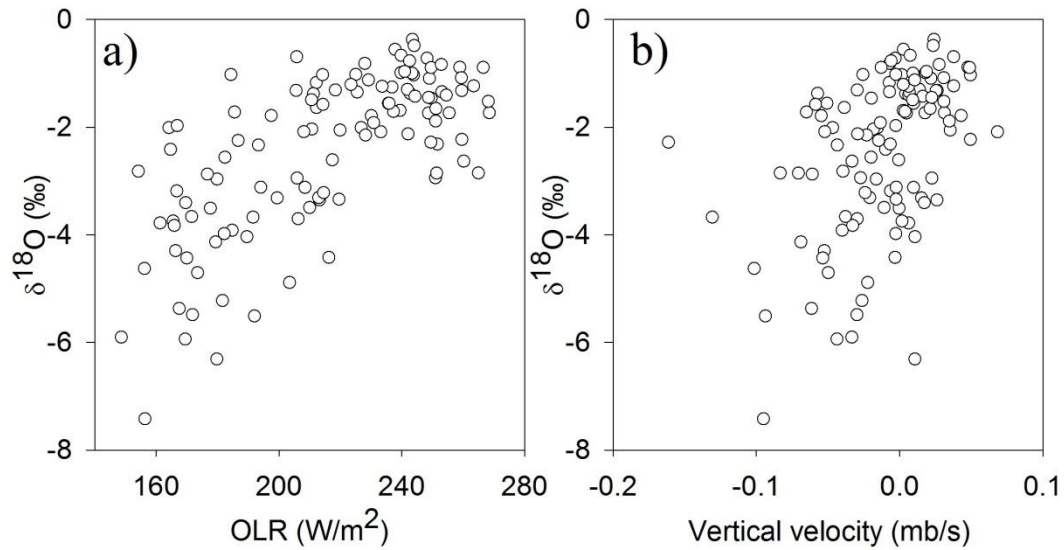


## **Supplementary Information**

# **$^{18}\text{O}$ depletion in monsoon rain relates to large scale organized convection rather than the amount of rainfall**

P R Lekshmy\*, M Midhun, R Ramesh and R A Jani

Geosciences Division, Physical Research Laboratory, Ahmedabad – 380009, India



**Supplementary Figure 1.** (a) Average OLR(67.5° E – 75° E and 5°N – 12.5°N grid box) versus  $\delta^{18}\text{O}$  of rain and (b) average vertical wind velocity (MERRA, average of 300 hPa to 600 hPa pressure levels and 75°E – 77.5°E, 7.5°N – 12.5°N grid box) versus  $\delta^{18}\text{O}$  of rain for June 1<sup>st</sup> to October 12<sup>th</sup>.

	TVM	PND	IDK	EKM	TCR	PKD	NBR	KKD	WYD
TVM	1.00	0.65	0.37	-0.20	0.03	-0.18	0.23	0.20	0.07
PND	0.87	1.00	0.16	-0.01	0.08	0.10	-0.07	-0.12	0.10
IDK	0.86	0.87	1.00	-0.22	0.10	0.19	0.15	<b>0.36</b>	<b>0.29</b>
EKM	0.76	0.75	0.67	1.00	0.08	<b>0.28</b>	-0.16	-0.05	0.05
TCR	0.70	0.83	0.80	0.83	1.00	<b>0.22</b>	0.05	0.02	0.13
PKD	0.62	0.68	0.70	0.86	0.75	1.00	<b>0.34</b>	<b>0.22</b>	0.08
NBR	0.64	0.36	0.55	0.78	0.46	0.71	1.00	-0.03	0.18
KKD	0.72	0.74	0.81	0.79	0.89	0.76	0.53	1.00	<b>0.26</b>
WYD	0.62	0.64	0.78	0.66	0.78	0.74	0.51	0.89	1.00

**Supplementary Table 1.** Cross correlation between the amount of rainfall at different stations (upper right triangle); and between rain  $\delta^{18}\text{O}$  at different stations (lower left triangle). Bold font numbers represent statistically significant correlation at  $P = 0.05$ .

	TVM	PND	IDK	EKM	TCR	PKD	NBR	KKD	WYD
TVM	53								
PND	37	67							
IDK	36	53	80						
EKM	26	32	40	54					
TCR	35	49	57	35	82				
PKD	34	45	60	41	58	84			
NBR	28	33	48	35	43	50	65		
KKD	30	38	47	31	51	56	41	74	
WYD	38	49	63	40	63	66	51	61	95

**Supplementary Table 2** Number of rain common events at different stations.