



Correction to: Important drivers of East African monsoon variability and improving rainy season onset prediction

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Correction to: Natural Hazards (2024) 120:429–445

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This is regarding our earlier publication (Roy, Mliwa and Troccoli 2023a), where we used El Niño Southern Oscillation (ENSO) and Indian Ocean Dipole (IOD) data.

In the manuscript, Data and Methodology part (2nd para), we did not include the **date of access of data** and would like to mention the access date as follows:

Data Niño3.4: https://psl.noaa.gov/gcos_wgsp/Timeseries/Data/nino34.long.anom.data, accessed 30/09/22.

Data IOD. https://psl.noaa.gov/gcos_wgsp/Timeseries/Data/dmi.had.long.data, accessed 30/09/22.

This is because the data of ENSO as represented by Nino3.4 index¹, though did not change, but the data of IOD has changed. A poster was presented at European Geosciences Union (EGU) 2023 conference on 25th April (Roy, Troccoli, Mliwa 2023b) describing the main findings of this paper and now we find that IOD data was changed on 26th April 2023. Both the old IOD data² and new IOD data³ are mentioned here for verification. Based on the new data, IOD phases have changed in many months and that is likely to affect our results. Hence, we would like to **add the date of access** in the correction of this paper including two sets of IOD data (the used data of IOD in this paper is in the Appendix, also in the Supplementary file). A subsequent follow-up paper (Roy and Troccoli, 2024), however took additional attention and mentioned the date of access of IOD data as on 30/09/22.

¹ Data Niño3.4: https://psl.noaa.gov/gcos_wgsp/Timeseries/Data/nino34.long.anom.data, accessed 30/09/22.

² Data IOD: https://psl.noaa.gov/gcos_wgsp/Timeseries/Data/dmi.had.long.data, accessed 30/09/22. [see the used data in the Appendix and in the Supplementary file].

³ Data IOD: https://psl.noaa.gov/gcos_wgsp/Timeseries/Data/dmi.had.long.data, accessed 13/01/24.

The original article can be found online at <https://doi.org/10.1007/s11069-023-06223-3>.

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Appendix: The used IOD Data Link: https://psl.noaa.gov/gcos_wgsp/Timeseries/Data/dmi.had.long.data, accessed on 30.09.22 (valid till 25th April 2023)

[illegible]

Table 1 (continued)

1946	0.133	0.066	-0.126	-0.482	0.377	-0.217	-0.062	0.277	0.034	-0.018	0.097	-0.18
1947	-0.222	0.109	0.1	-0.111	0.184	0.047	-0.536	-0.547	-0.864	-0.664	-0.196	-0.196
1948	-0.232	-0.075	0.125	-0.028	-0.005	0.173	-0.171	-0.35	-0.542	-0.133	-0.256	-0.437
1949	0.093	0.257	-0.021	0.241	-0.011	0.104	0.088	0.123	0.016	0.035	-0.272	-0.261
1950	0.022	-0.474	-0.592	-0.399	-0.229	-0.38	-0.251	-0.107	-0.525	-0.431	-0.104	0.043
1951	0.321	0.291	0.359	-0.438	-0.059	-0.076	-0.123	0.236	0.101	-0.008	0.246	-0.003
1952	-0.004	0.16	0.226	0.149	-0.069	0.134	-0.333	-0.351	-0.501	-0.386	-0.047	0.039
1953	0.37	0.365	0.288	0.021	0.396	0	-0.081	-0.119	-0.134	-0.153	-0.013	-0.049
1954	-0.273	-0.191	-0.062	0.066	-0.471	-0.391	-0.758	-0.519	-0.612	-0.676	-0.327	0.017
1955	0.016	-0.073	0.119	0.031	-0.616	-0.273	-0.342	-0.317	-0.632	-0.571	-0.146	-0.231
1956	-0.036	0.059	0.099	-0.224	-0.491	-0.712	-0.986	-0.66	-0.697	-0.512	-0.393	-0.081
1957	-0.371	-0.484	-0.097	-0.225	-0.247	-0.351	-0.392	-0.154	-0.277	-0.363	-0.359	-0.18
1958	-0.331	-0.154	-0.274	-0.272	-0.417	-0.741	-0.966	-1.148	-1.197	-0.807	-0.551	-0.569
1959	0.038	-0.452	-0.424	-0.281	-0.662	-0.632	-0.57	-0.8	-0.733	-0.427	-0.451	-0.287
1960	-0.171	0.036	-0.333	-0.67	-0.659	-0.567	-0.638	-0.472	-0.476	-0.747	-0.688	-0.572
1961	-0.079	0	-0.022	-0.537	-0.358	0.108	0.727	0.888	0.66	0.616	0.446	0.381
1962	0.577	0.624	0.457	0.056	-0.305	-0.344	-0.371	-0.191	-0.08	-0.168	-0.09	-0.001
1963	0.394	0.475	0.301	0.014	-0.244	-0.134	0.308	0.585	0.187	0.591	0.442	0.011
1964	-0.396	-0.612	-0.212	-0.149	-0.44	-0.23	-0.732	-0.571	-0.875	-0.868	-0.161	-0.113
1965	-0.266	-0.367	-0.086	-0.21	-0.46	-0.374	-0.376	-0.135	-0.091	0.177	-0.102	-0.22
1966	-0.167	-0.083	-0.241	-0.36	-0.343	-0.005	0.092	0.241	0.208	-0.145	-0.237	-0.167
1967	-0.171	0.007	0.348	-0.187	-0.086	0.158	0.236	0.243	0.251	0.318	0.146	0.123
1968	0.279	0.413	0.254	0.149	-0.044	0.205	-0.425	-0.343	-0.628	-0.372	-0.331	-0.144
1969	-0.097	-0.085	0.16	0.025	-0.086	-0.512	-0.31	-0.238	-0.142	-0.04	0.119	-0.016
1970	0.363	0.405	0.168	0.294	0.262	-0.272	-0.473	-0.238	-0.494	-0.478	-0.184	-0.166
1971	0.264	0.093	0.308	0.315	0.006	-0.123	-0.257	-0.435	-0.64	-0.469	0.141	0.284
1972	0.209	-0.136	0.131	0.207	0.237	0.853	0.805	0.623	0.469	0.487	0.794	0.547
1973	0.108	0.002	0.099	-0.041	0.164	-0.111	-0.399	-0.494	-0.667	-0.289	-0.034	0.117
1974	0.344	0.236	0.349	0.022	-0.159	0.087	-0.152	-0.385	-0.555	-0.686	-0.428	-0.291
1975	-0.301	-0.17	-0.364	0.163	0.146	0.169	0.058	-0.232	-0.751	-0.896	-0.205	-0.1
1976	0.07	0.157	0.12	0.197	0.076	0.483	0.69	0.219	-0.102	-0.072	-0.058	0.098
1977	0.063	-0.181	0.274	0.046	-0.261	0.019	-0.074	-0.148	-0.153	0.404	-0.004	0.049
1978	-0.574	-0.45	-0.482	-0.139	-0.453	-0.061	-0.01	-0.112	-0.155	-0.343	-0.335	-0.19
1979	0.382	-0.078	0.066	-0.132	-0.364	0.222	-0.218	-0.114	-0.174	-0.154	-0.128	-0.032
1980	-0.093	-0.12	-0.317	-0.02	0.014	-0.268	-0.564	-0.71	-0.639	-0.498	-0.294	-0.413
1981	-0.136	0.056	0.127	0.168	0.062	-0.126	-0.463	-0.516	-0.651	-0.447	-0.204	0.05
1982	0.209	0.246	0.154	0.194	0.302	0.369	0.362	0.369	0.548	0.783	0.407	-0.093
1983	-0.416	-0.507	-0.652	-0.481	0.021	0.484	0.621	0.457	0.037	-0.128	-0.22	-0.031
1984	-0.158	-0.069	-0.022	0.125	-0.225	-0.243	-0.269	-0.385	-0.502	-0.494	-0.295	-0.209
1985	-0.401	-0.547	-0.441	-0.125	-0.143	-0.516	-0.307	-0.346	-0.132	-0.339	0.197	-0.348
1986	-0.047	-0.056	-0.1	-0.211	-0.074	-0.165	-0.449	-0.288	-0.036	0.111	-0.12	-0.205
1987	-0.015	0.121	-0.037	-0.081	0.244	0.223	0.304	0.409	0.499	0.414	0.072	0.222
1988	0.418	-0.074	-0.212	-0.053	-0.434	-0.158	-0.053	-0.177	-0.288	-0.365	-0.06	0.226
1989	-0.215	0.035	-0.219	-0.405	-0.515	-0.666	-0.35	-0.209	-0.119	-0.253	-0.215	-0.097
1990	-0.033	-0.209	-0.043	-0.31	-0.269	-0.455	-0.149	-0.279	-0.077	-0.186	0.029	0.073
1991	0.131	-0.017	0.063	0.364	0.459	0.376	0.366	0.17	0.205	0.129	0.164	0.153
1992	-0.256	-0.309	-0.571	-0.478	-0.47	-0.747	-0.382	-0.656	-0.727	-0.467	-0.276	-0.247
1993	-0.131	0.115	-0.195	-0.106	0.053	0.006	-0.055	-0.193	-0.064	0.004	-0.026	-0.136
1994	0.09	-0.066	0.302	0.426	0.624	0.546	0.654	0.923	0.635	0.867	0.41	0.332
1995	0.205	0.243	0.05	-0.146	-0.172	0.036	-0.073	-0.032	-0.074	-0.207	-0.171	0.16
1996	0.045	0.047	0.015	-0.293	-0.186	-0.281	-0.546	-0.568	-0.606	-0.949	-0.674	-0.344
1997	-0.045	0.159	0.143	0.129	0.105	0.195	0.544	0.746	0.877	1.033	1.402	0.932
1998	0.59	0.502	0.045	0.122	0.219	0.261	-0.288	-0.467	-0.39	-0.584	-0.53	-0.266
1999	-0.065	0.042	0.202	0.073	-0.106	-0.032	0.208	0.135	0.056	-0.03	0.007	-0.079
2000	-0.06	0.071	0.24	0.217	0.192	0.091	0.174	0.243	0.01	0.017	-0.183	-0.178
2001	-0.366	0.063	0.09	0.212	0.217	0.241	-0.043	-0.189	-0.117	-0.291	-0.122	0.019
2002	-0.077	-0.018	0.108	-0.277	-0.249	-0.076	-0.164	-0.096	0.392	0.565	0.22	-0.088
2003	-0.174	0.097	0.061	-0.024	-0.084	0.252	0.228	0.22	0.045	-0.084	-0.036	0.258
2004	0.109	0.194	0.177	-0.005	-0.485	-0.27	-0.204	-0.02	0	0.155	-0.03	-0.063
2005	-0.058	-0.48	-0.332	0.16	0.046	-0.062	-0.287	-0.233	-0.428	-0.276	-0.149	-0.23
2006	-0.07	-0.225	-0.126	0.06	-0.128	0.055	0.137	0.341	0.534	0.736	0.624	0.241
2007	0.29	0.23	0.216	0.175	0.349	0.144	0.141	0.349	0.341	0.227	0.1	-0.157
2008	0.18	0.008	0.197	-0.078	0.258	0.329	0.343	0.237	0.192	0.188	-0.005	0.016
2009	0.097	0.243	0.2	0.201	0.336	0.214	-0.095	0.008	0.003	0.147	0.056	0.23
2010	0.359	0.103	0.558	0.445	0.05	-0.026	0.096	0.051	-0.162	-0.277	-0.372	-0.142
2011	0.257	0.322	0.467	0.229	-0.01	0.169	0.319	0.457	0.308	0.516	0.459	-0.059
2012	0.111	0.002	0.126	-0.196	-0.29	0.115	0.643	0.764	0.559	0.27	0.024	0.337
2013	0.001	0.269	0.183	-0.222	-0.426	-0.383	-0.083	-0.082	-0.204	-0.009	0.323	0.21
2014	-0.036	-0.009	-0.051	0.017	-0.012	0.086	-0.266	-0.26	-0.039	0.3	0.133	0.116
2015	-0.034	-0.265	-0.141	0.067	0.32	0.41	0.322	0.68	0.4	0.642	0.47	0.341
2016	0.331	-0.03	0.091	0.222	-0.034	-0.329	-0.661	-0.332	-0.331	-0.212	-0.259	-0.241
2017	-0.02	0.181	0.457	0.574	0.616	0.537	0.617	0.461	0.14	0.175	0.412	0.179
2018	-0.135	0.295	-0.02	-0.008	0.202	0.269	0.15	0.234	0.71	0.844	0.623	0.379
2019	0.452	0.496	0.325	0.333	0.619	0.719	0.693	0.548	0.999	1.123	0.958	0.312
2020	0.238	0.134	0.119	0.064	0.378	0.568	0.417	-0.07	-0.084	0.233	0.143	0.1
2021	0.116	0.323	0.367	0.325	0.089	0.112	-0.132	0.014	0.048	0.068	0.192	-0.05
2022	0.009	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999

Table 1 (continued)

DMI HadISST1.1

Created Fri Mar 25 08:39:11 MDT 2022

using SST anomaly 10S:10N, 50E-70E minus 10S:0, 90E-110E area averaged

Timeseries output created at NOAA PSL

<https://psl.noaa.gov/data/timeseries/DMI>

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11069-024-06551-y>.

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