Supporting Information

Table S1 Data of longitude and latitude of each sampling point

Sampling points	Latitude and longitude	Samples ID		
		Dry period	Normal period	Wet period
S1	E119°55′，N32°45′	A1	B1	C1
S2	E119°56′，N32°42′	A2	B2	C2
S3	E119°57′，N32°41′	A3	B3	C3
S4	E119°58′，N32°38′	A4	B4	C4
S5	E119°60′，N32°37′	A5	B5	C5
S6	E119°50′，N32°45′	A6	B6	C6
S7	E119°52′，N32°41′	A7	B7	C7
S8	E119°53′，N32°36′	A8	B8	C8
S9	E119°55′，N32°34′	A9	B9	C9
S10	E119°59′，N32°35′	A10	B10	C10
S11	E119°62′，N32°36′	A11	B11	C11
S12	E119°65′，N32°36′	A12	B12	C12
S13	E119°68′，N32°35′	A13	B13	C13
S14	E119°70′，N32°33′	A14	B14	C14
S15	E119°71′，N32°31′	A15	B15	C15

Table S2 Statistics of the data for sequence reads, OTUs and gene alpha diversity indices among samples

Sample ID	Reads	OTUs	Chao1	ACE	Shannon	Simpson	Pielou
A01	39,240	2811	2868.864	3012.299	6.395	0.9918	0.805
A02	34,162	3656	5956.941	6279.981	7.086	0.9974	0.864
A03	30,223	3616	5103.004	5407.374	7.090	0.9966	0.865
A04	30,961	3356	3969.757	4080.503	7.040	0.9959	0.867
A05	42,874	4649	6901.725	7173.775	7.532	0.9980	0.892
A06	30,405	4491	6057.721	6425.295	7.584	0.9986	0.902
A07	33728	4706	7215.889	7578.311	7.456	0.9960	0.882
A08	35,753	4384	6663.555	6862.328	7.525	0.9987	0.897
A09	35,839	4878	7227.055	7748.145	7.503	0.9961	0.884
A10	34,444	4680	6675.194	7072.180	7.645	0.9987	0.905
A11	33,474	4200	5853.353	6120.966	7.497	0.9985	0.899
A12	32,425	5242	7563.282	7965.199	7.894	0.9992	0.922
A13	30,050	4638	5927.058	6313.916	7.731	0.9990	0.916
A14	40,049	5047	7625.035	7994.993	7.760	0.9989	0.910
A15	31,871	4523	6510.031	6926.467	7.600	0.9988	0.903
Mean	34,367	4325	6141.231	6464.116	7.422	0.9975	0.887
B01	58,330	4134	6940.776	7303.795	7.188	0.9975	0.863
B02	59,884	4411	7606.272	7885.642	7.338	0.9980	0.874
B03	64,401	4863	8033.846	8415.122	7.499	0.9982	0.883
B04	72,211	3861	6711.325	6942.472	7.069	0.9971	0.856
B05	63,734	4746	7992.407	8264.912	7.383	0.9973	0.872
B06	65,526	4809	8289.369	8467.012	7.462	0.9981	0.880
B07	71,638	4051	6814.162	7137.930	7.175	0.9976	0.864
B08	72,243	5101	8371.831	8616.480	7.688	0.9986	0.901
B09	56,395	4526	7622.173	7970.726	7.325	0.9972	0.870
B10	66,426	4891	8015.106	8571.270	7.430	0.9974	0.875
B11	63,214	5013	8048.870	8594.122	7.562	0.9982	0.888
B12	50,248	4687	7703.467	8021.680	7.504	0.9983	0.888
B13	45,505	4618	7061.023	7396.825	7.535	0.9985	0.893
B14	42,538	4281	6877.880	7022.011	7.360	0.9982	0.880
B15	66,577	4041	6215.653	6495.969	7.144	0.9970	0.860
Mean	61,258	4536	7486.944	7807.064	7.377	0.9978	0.876
C01	40,284	5651	9644.657	9974.901	7.849	0.9988	0.908
C02	36,859	4761	8064.261	8350.049	7.444	0.9973	0.879
C03	37,697	5211	8581.845	9012.396	7.727	0.9988	0.903
C04	34,324	5262	8580.956	8922.036	7.739	0.9987	0.903
C05	40,647	5085	8374.501	8626.275	7.663	0.9977	0.898
C06	41,595	5266	8210.776	8959.859	7.732	0.9987	0.902
C07	37,497	5518	9369.080	9683.620	7.808	0.9987	0.906
C08	36,004	4982	8427.243	8763.170	7.562	0.9979	0.888

C09	40,619	5401	8781.291	9292.672	7.795	0.9989	0.907
C10	37,223	4404	7332.078	7540.186	7.392	0.9982	0.881
C11	39,151	3861	6395.259	6698.417	6.978	0.9929	0.845
C12	33,155	4195	6623.062	6750.663	7.401	0.9983	0.887
C13	33,861	4931	7893.580	8211.506	7.680	0.9988	0.903
C14	38,059	4456	7316.035	7731.331	7.413	0.9980	0.882
C15	35,866	4810	7863.696	8168.221	7.589	0.9986	0.895
Mean	37,523	4920	8097.221	8445.687	7.585	0.9980	0.893

Table S3 β-diversity pattern indexes of microbial communities. (Group A represents samples collected in the dry period, Group B represents samples collected in the normal period, and Group C represents samples collected in the wet period)

Group	Samples	β_{SOR}	β_{SIM}	β_{NES}
Dry period	A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15	0.8517	0.8210	0.0217
Normal period	B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, B13, B14, B15	0.8119	0.7943	0.0175
Wet Period	C1, C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15	0.8210	0.7901	0.0213

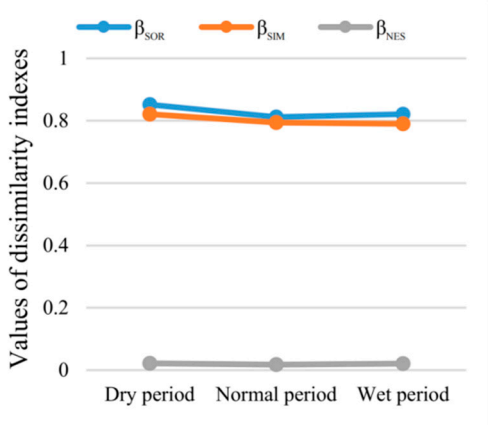


Figure S1 The *β*-diversity pattern indexes of microbial communities in different water periods