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Supplement of

Testing the validity of regional detail in global analyses of sea surface temperature – the case of Chinese coastal waters

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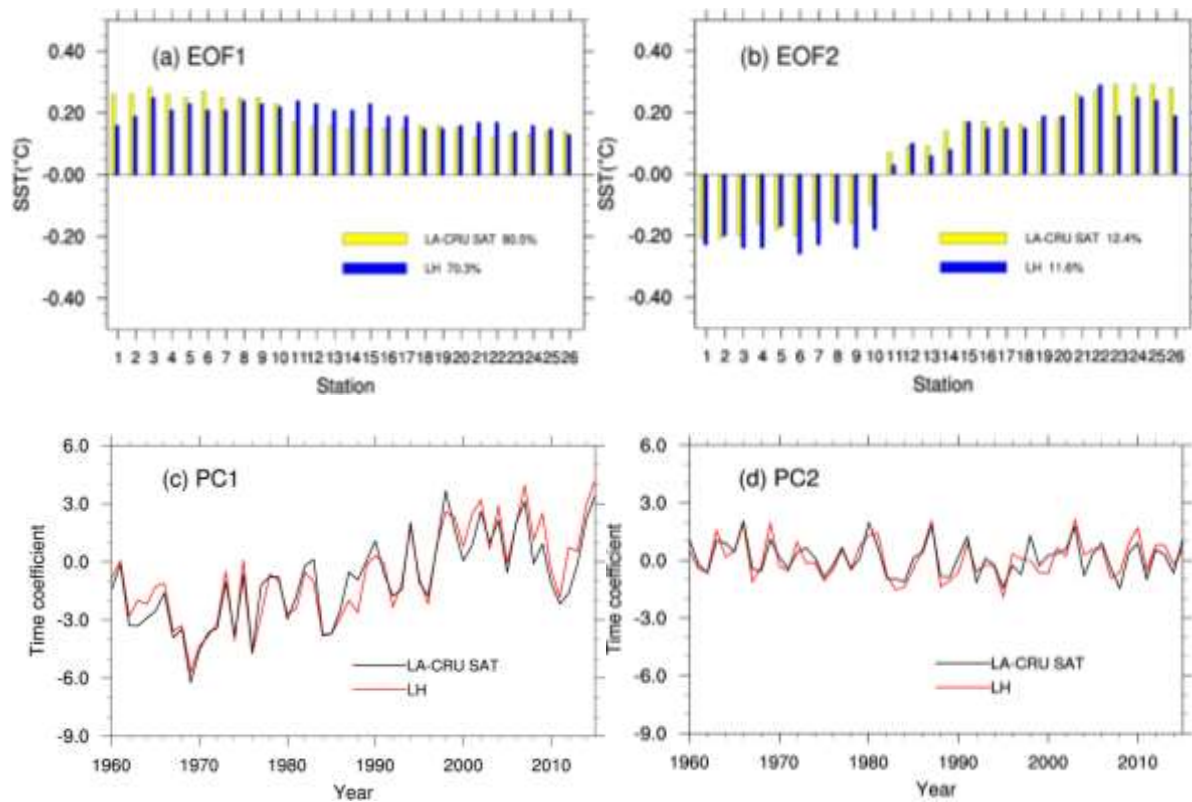


Fig. S1. Comparison of the EOF1 and EOF2 derived from the LH data set of local SST at 26 sites (blue bars; red lines), and derived from the CRU SAT at the same sites (yellow bars; black lines). Top: EOF spatial patterns, bottom: principal components (time coefficients).

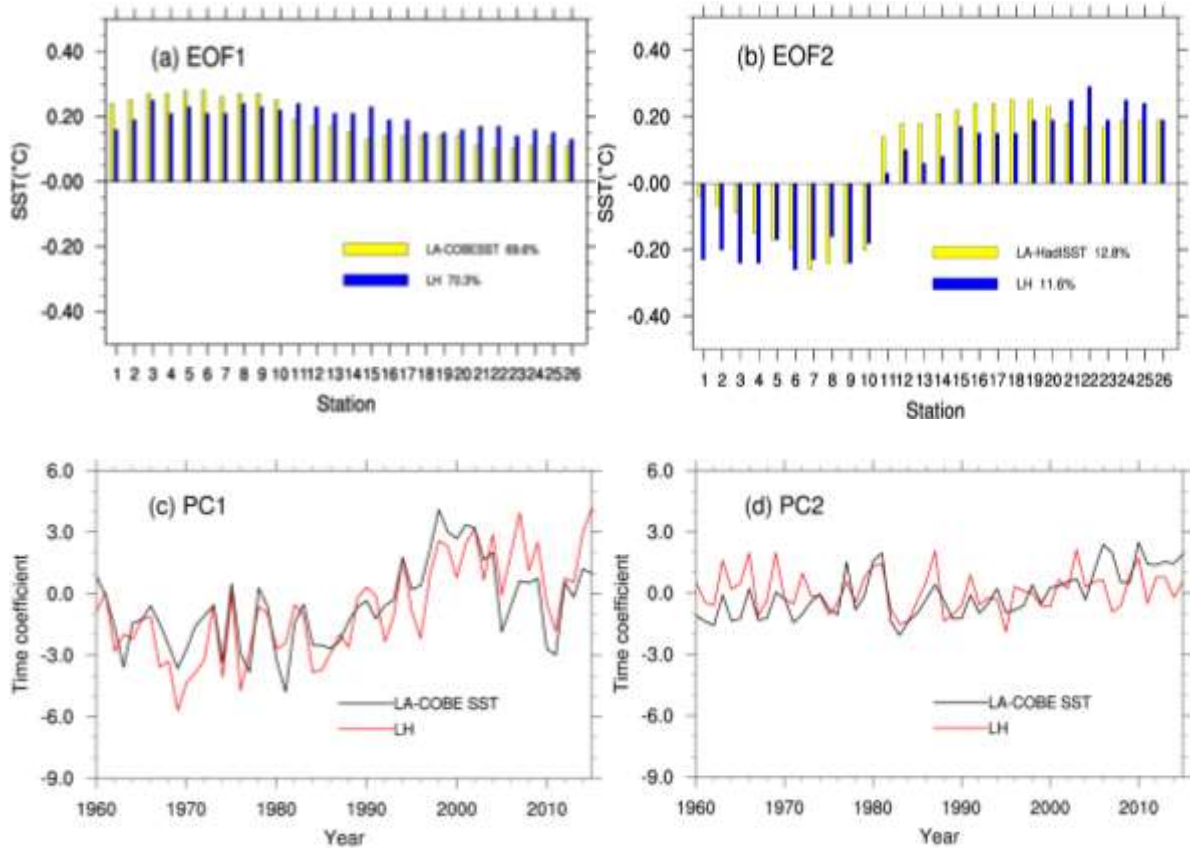


Fig. S2. Comparison of the EOF1 and EOF2 derived from the LH data set of local SST at 26 sites (blue bars; red lines), and derived from the localized analysis data LA-COBE SST (yellow bars; black lines). Top: EOF spatial patterns, bottom: principal components (time coefficients).

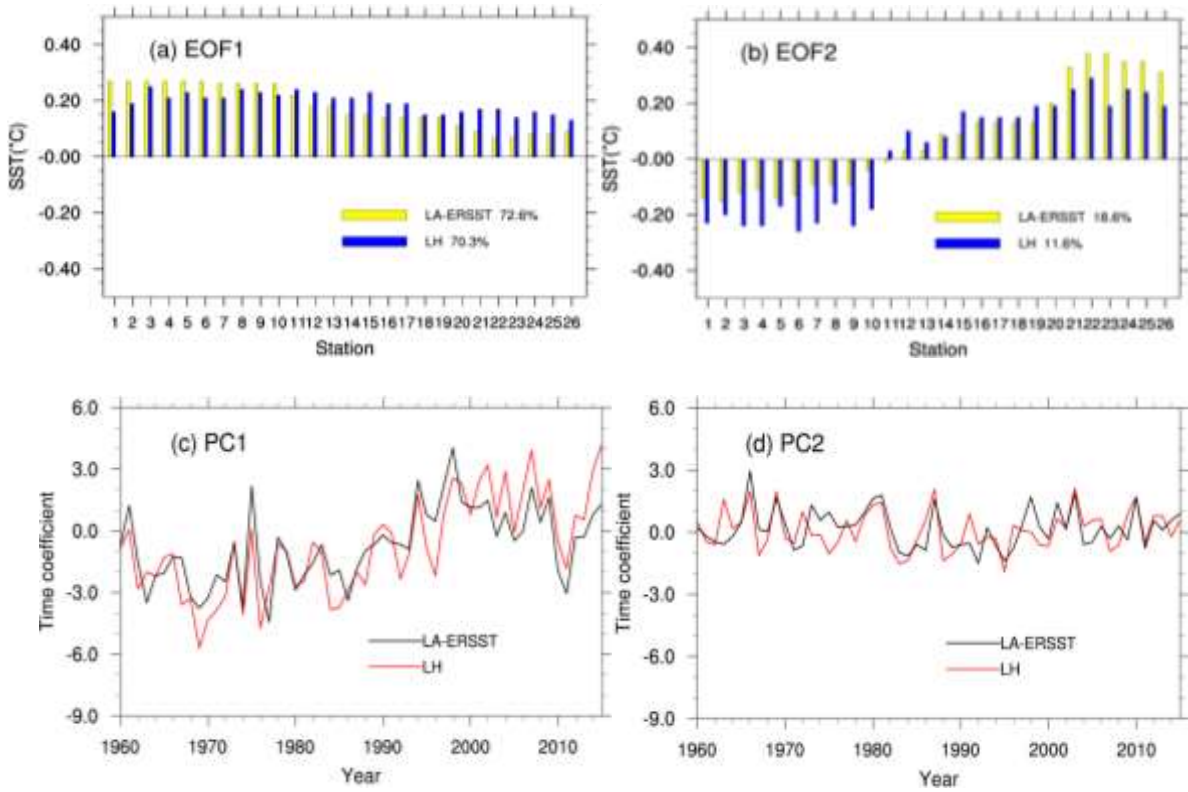


Fig. S3. Comparison of the EOF1 and EOF2 derived from the LH data set of local SST at 26 sites (blue bars; red lines), and derived from the localized analysis data LA-ERSST (yellow bars; black lines). Top: EOF spatial patterns, bottom: principal components (time coefficients).

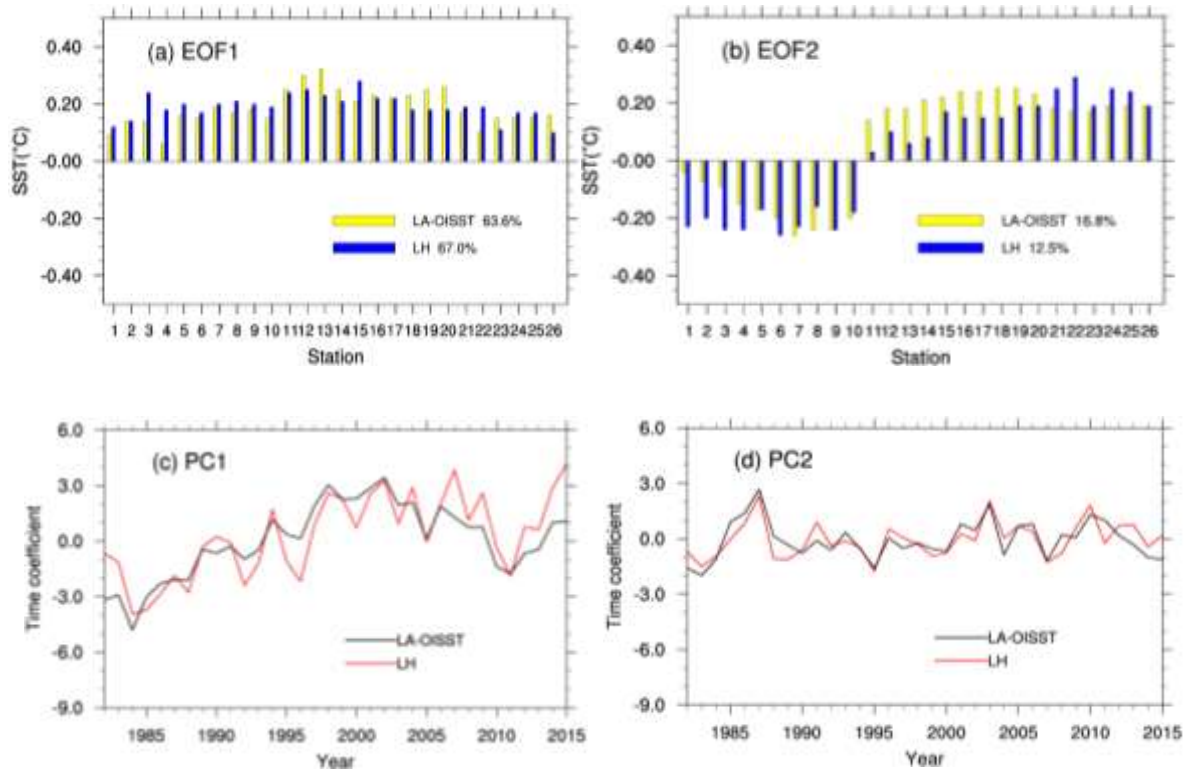


Fig. S4. Comparison of the EOF1 and EOF2 derived from the LH data set of local SST at 26 sites (blue bars; red lines), and derived from the localized analysis data LA-OISST (yellow bars; black lines). Top: EOF spatial patterns, bottom: principal components (time coefficients).

Table S1. Statistics of the time series of the localized SST-analysis (LA-COBE SST) data series at the 26 station, as well as the differences (Diff) between the pairs of time series. The correlation coefficients between LH and LA-COBE SST are also calculated (the 90% confidence level is 0.22, without considering serial correlation). Red numbers indicate that the correlation coefficients do not exceed the 90% confidence level.

No	Mean LA-COBE SST	Diff	Std-dev LA-COBE SST	Diff	Trend (°C/10yrs)	Diff	Corr
1	11.13	0.38	0.52	0.01	0.17	0.00	0.60
2	11.99	0.22	0.54	0.04	0.16	0.10	0.56
3	12.23	-0.69	0.56	0.14	0.14	0.15	0.74
4	12.70	-1.34	0.59	0.00	0.10	0.11	0.59
5	12.75	0.61	0.60	-0.01	0.10	0.12	0.64
6	12.98	-0.33	0.61	-0.03	0.07	0.10	0.66
7	13.98	-1.89	0.61	-0.02	0.01	0.13	0.68
8	13.83	0.54	0.62	0.03	0.04	0.13	0.72
9	13.83	-0.07	0.62	0.01	0.03	0.19	0.55
10	15.14	-0.29	0.57	0.00	0.03	0.18	0.55
11	19.09	-1.68	0.45	0.20	0.18	0.08	0.77
12	20.94	-3.27	0.43	0.22	0.19	0.05	0.81
13	20.94	-2.74	0.43	0.13	0.19	-0.02	0.78
14	23.25	-3.53	0.38	0.22	0.20	0.01	0.82
15	23.29	-3.30	0.41	0.11	0.20	-0.01	0.79
16	23.29	-1.75	0.41	0.10	0.20	-0.03	0.85
17	22.90	-3.69	0.40	0.14	0.19	0.00	0.78
18	23.33	-2.49	0.41	0.04	0.21	-0.08	0.68
19	23.33	-2.31	0.41	0.02	0.21	-0.08	0.77
20	24.49	-2.06	0.40	0.04	0.18	-0.03	0.81
21	24.95	-1.34	0.33	0.17	0.11	0.07	0.80
22	24.53	-0.93	0.34	0.21	0.10	0.08	0.78
23	24.53	1.26	0.34	0.09	0.10	0.07	0.73
24	25.34	-0.88	0.35	0.14	0.12	0.04	0.77
25	25.34	-0.34	0.35	0.13	0.12	0.04	0.85
26	26.25	-0.45	0.36	0.08	0.13	0.05	0.68

Table S2. Statistics of the time series of the localized SST-analysis (LA-ERSST) data series at the 26 station, as well as the differences (Diff) between the pairs of time series. The correlation coefficients between LH and LA-ERISST are also calculated (the 90% confidence level is 0.22, without considering serial correlation). Red numbers indicate that the correlation coefficients do not exceed the 90% confidence level.

No	Mean LA-ERSST	Diff	Std-dev LA-ERSST	Diff	Trend (°C/10yrs)	Diff	Corr
1	12.26	-0.76	0.53	0.00	0.16	0.01	0.69
2	12.06	0.15	0.55	0.03	0.17	0.09	0.70
3	12.68	-1.14	0.54	0.17	0.17	0.12	0.82
4	13.59	-2.23	0.52	0.07	0.16	0.05	0.78
5	12.65	0.71	0.54	0.05	0.16	0.06	0.77
6	13.16	-0.51	0.52	0.06	0.16	0.01	0.79
7	14.62	-2.53	0.50	0.09	0.14	0.00	0.76
8	14.62	-0.25	0.50	0.14	0.14	0.03	0.85
9	14.62	-0.86	0.50	0.12	0.14	0.08	0.78
10	15.92	-1.06	0.50	0.07	0.12	0.09	0.81
11	18.68	-1.27	0.46	0.19	0.10	0.16	0.65
12	21.18	-3.51	0.37	0.28	0.12	0.12	0.70
13	21.18	-2.98	0.37	0.19	0.12	0.05	0.71
14	24.37	-4.39	0.32	0.20	0.12	0.09	0.69
15	24.37	-2.83	0.32	0.19	0.11	0.08	0.75
16	23.02	-3.80	0.33	0.22	0.11	0.06	0.77
17	23.02	-3.30	0.33	0.28	0.12	0.07	0.71
18	24.37	-3.53	0.32	0.13	0.11	0.02	0.63
19	24.37	-3.35	0.32	0.12	0.11	0.02	0.65
20	25.44	-3.01	0.31	0.13	0.09	0.06	0.67
21	25.28	-1.66	0.35	0.14	0.04	0.14	0.56
22	25.23	-1.63	0.41	0.15	0.02	0.18	0.49
23	25.23	0.56	0.41	0.03	0.03	0.17	0.37
24	25.81	-1.35	0.37	0.12	0.01	0.16	0.54
25	25.81	-0.81	0.37	0.11	0.01	0.16	0.66
26	25.96	-0.16	0.34	0.10	0.05	0.13	0.47