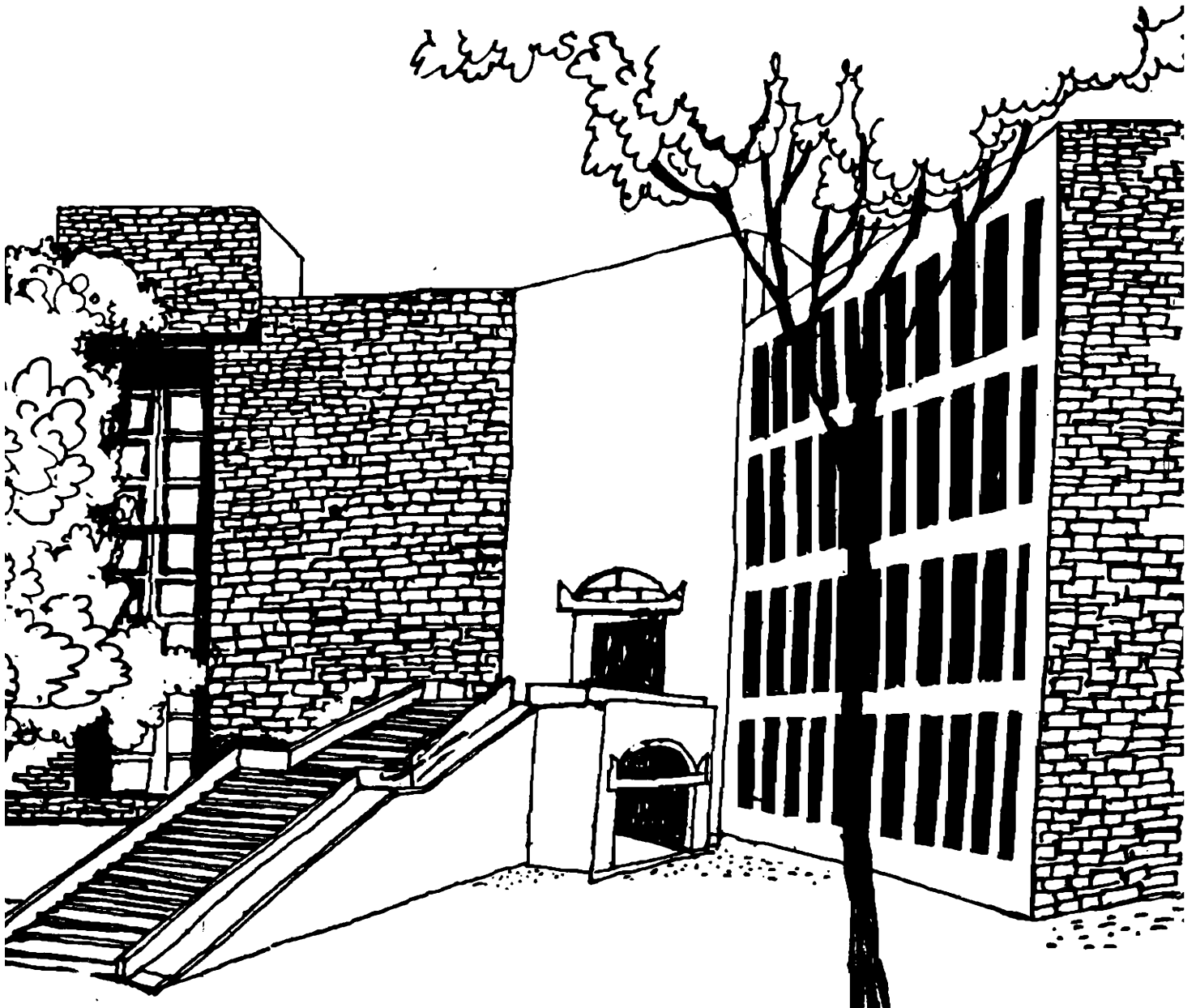




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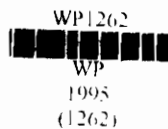


**FOURIER REPRESENTATION OF AMBIENT  
TEMPERATURE AND SOLAR RADIATION  
FOR EIGHTEEN STATIONS IN INDIA**

By

Girja Sharan  
M. Krishna Kumar

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# Fourier Representation of Ambient Temperature and Solar Radiation For Eighteen Stations in India

*Girja Sharan*

*M. Krishna Kumar*

## Introduction

Analytical expression for ambient temperature and solar radiation can be useful to those working on solar thermal appliances, green house design, crop growth models, etc. Mean hourly ambient temperature and solar radiation data for 18 stations in the country, is given in the 'Handbook of Solar Radiation Data for India'(1). Table-1 lists the stations. Data from these stations has been put through Fourier analysis to obtain analytical expressions, which are contained in this volume. It is hoped that design engineers will find them of some use.

## Ambient Air Temperatures

Equation-1 gives the Fourier series representation for ambient temperature.

$$T(t) = A_0 + \sum_{m=1}^n \left( A_m \cos\left(m \frac{\pi}{12} t\right) + B_m \sin\left(m \frac{\pi}{12} t\right) \right) \quad \dots(1)$$

where	T	ambient temperature (°C)
	t	time in hours, midnight being the origin
	A <sub>m</sub> , B <sub>m</sub>	Fourier coefficients
	n	number of harmonics

Tables-A1 to A18 of appendix give the first six harmonics for the Fourier series for each station. Data from Handbook and computed values (using equation-1) with one and three harmonics are shown in Figure-1 as illustration, for January month at Ahmedabad. Visual examination suggests that the representation with three harmonics is quite good and would normally be sufficient. The maximum absolute deviation using three harmonics is shown in the last column of respective tables. For instance the deviations varied from 1 % to 11 % for Ahmedabad. Inclusion of more terms will of course improve it further. That is why six terms are tabulated, in case needed.

**Table-1**  
**List of Stations**

Station	Latitude	Longitude	Elevation (m.a.s.l.)	Handbook Table Numbers	
				Radiation	Temperature
1. Ahmedabad	23°04' N	72°38' E	55	1-12	16
2. Bangalore	12°58' N	77°35' E	921	25-36	38
3. Bhavnagar	21°45' N	72°11' E	5	42-53	56
4. Bombay	19°07' N	72°51' E	14	64-75	78
5. Calcutta	22°39' N	88°27' E	6	87-98	103
6. Goa	15°29' N	73°49' E	55	112-123	127
7. Jodhpur	26°18' N	73°01' E	224	135-146	150
8. Kodaikanal	10°14' N	77°28' E	2339	159-170	173
9. Madras	13°00' N	80°11' E	16	177-188	192
10. Mangalore	12°55' N	74°53' E	102	201-212	214
11. Nagpur	21°06' N	79°03' E	310	218-229	233
12. Nandi Hills	13°22' N	77°41' E	1479	242-253	255
13. New Delhi	28°35' N	77°12' E	216	258-269	274
14. Port Blair	11°40' N	92°43' E	79	308-319	321
15. Pune	18°32' N	73°51' E	559	283-294	299
16. Shillong	25°34' N	91°53' E	1600	330-341	345
17. Trivandrum	08°29' N	76°57' E	64	353-364	369
18. Visakhapatnam	17°43' N	83°14' E	3	377-388	392

Figure-1

### Air Temperature - Ahmedabad (January)

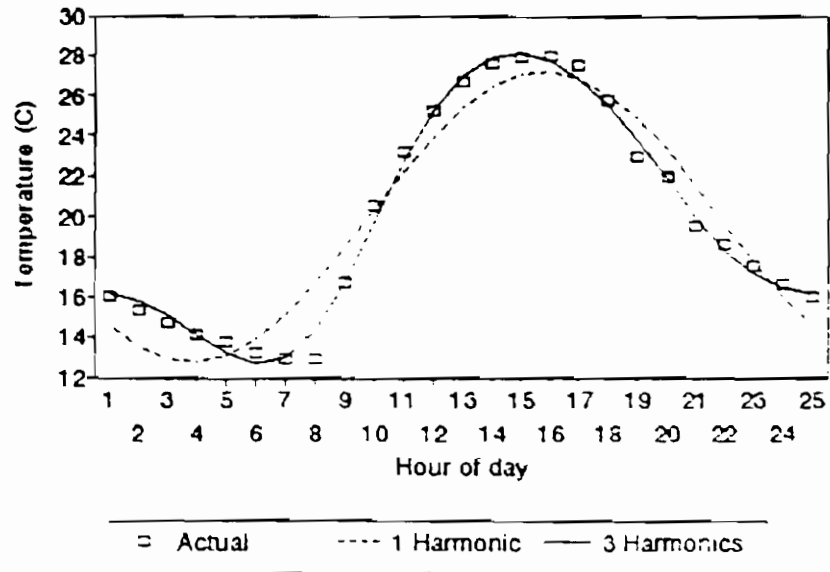
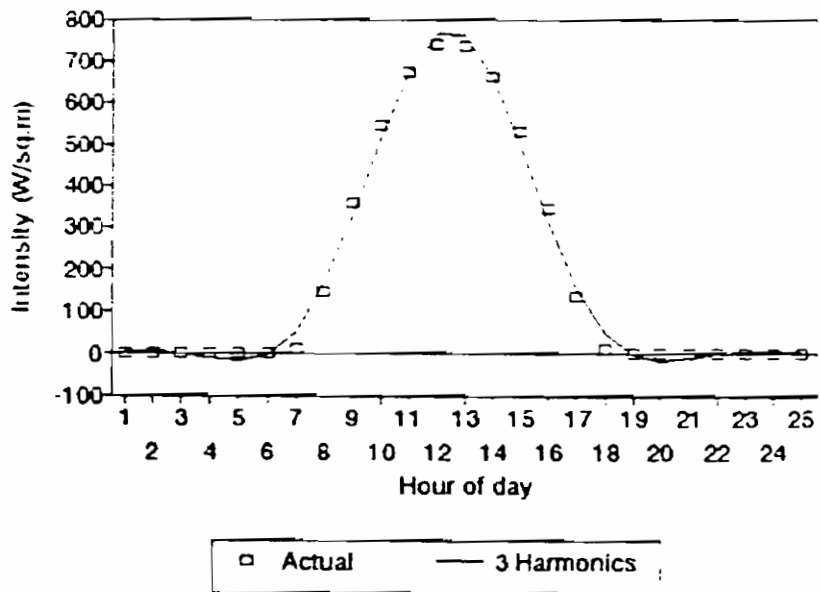


Figure-2

### Global Solar Radiation - Ahmedabad (January)



### Global Solar Radiation

The Handbook gives the mean hourly global, diffuse and direct solar radiation separately. Here only global radiation has been analysed. Equation-1 can again be used with left hand side replaced by radiation intensity ( $W/m^2$ ).

Appendix Tables-A19 to A36 give the first six harmonics for all the stations. Graph of global radiation using three harmonics is given in Figure-2 for January at Ahmedabad. Representation with three harmonics is quite good. The maximum absolute deviation varied from 4% to 16% for Ahmedabad with three harmonics. The corresponding values for each station are given in the last column of respective tables. Unlike temperature, the deviations in this case were computed for the time span from 8 am to 4 pm.

It may be mentioned that many a time interest lies only in day time values of temperature. It would be equally convenient to develop sine or cosine series in half interval ( $\pi$ ). Those dealing with green house modelling, crop growth etc. however, will be interested in night time temperatures as well. Expressions given here may be more convenient for them.

### References

1. Mani Anna. Handbook of Solar Radiation Data for India. Allied. 1980.
2. Hildebrand F.B. Introduction to Numerical Analysis. McGraw Hill. 1956.

## **Appendices**



Table-A1 Fourier Coefficients for Air Temperature Series Ahmedabad									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	20.01	-3.92	0.89	-0.44	0.23	0.07	-0.18	10.92
	B		-6.07	1.63	0.35	-0.48	0.20	0.08	
Feb	A	23.12	-3.97	0.98	-0.36	0.35	0.14	-0.27	9.75
	B		-6.70	1.67	0.60	-0.48	0.17	0.15	
Mar	A	27.37	-3.54	0.79	-0.40	0.20	0.17	-0.18	4.91
	B		-6.42	1.36	0.59	-0.44	-0.05	0.09	
Apr	A	31.55	-2.94	0.69	-0.30	0.16	0.13	-0.08	2.21
	B		-6.12	1.15	0.55	-0.31	-0.05	0.06	
May	A	33.77	-2.53	0.31	-0.08	0.11	0.13	-0.04	1.33
	B		-5.90	1.20	0.39	-0.14	-0.09	0.03	
Jun	A	31.83	-2.08	0.06	0.11	0.04	0.00	-0.08	0.85
	B		-3.74	1.07	0.20	-0.12	-0.08	0.06	
Jul	A	28.74	-1.24	0.08	0.04	0.00	0.01	-0.04	0.71
	B		-2.07	0.54	0.10	-0.12	-0.03	0.06	
Aug	A	28.03	-1.12	0.12	0.02	0.03	0.01	-0.03	0.66
	B		-2.07	0.50	0.06	-0.10	-0.03	0.04	
Sep	A	28.00	-1.76	0.34	0.00	0.04	0.01	-0.08	1.21
	B		-2.60	0.71	0.13	-0.17	-0.03	0.08	
Oct	A	27.69	-4.02	1.02	-0.13	0.03	0.07	-0.18	3.86
	B		-4.65	1.33	0.55	-0.51	0.01	0.19	
Nov	A	24.27	-4.73	1.27	-0.26	0.03	0.07	-0.17	7.31
	B		-5.31	1.48	0.48	-0.65	0.11	0.23	
Dec	A	21.03	-4.20	0.99	-0.26	0.20	0.00	-0.23	9.28
	B		-5.47	1.70	0.31	-0.58	0.08	0.16	

**Table-A2**  
**Fourier Coefficients for Air Temperature Series**  
**Bangalore**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	20.63	-3.30	0.87	-0.03	-0.02	0.03	-0.11	4.76
	B		-4.24	1.22	0.24	-0.49	0.06	0.13	
Feb	A	22.92	-2.83	0.64	-0.06	-0.06	0.06	-0.06	2.99
	B		-4.35	1.01	0.17	-0.30	-0.04	0.17	
Mar	A	25.67	-2.94	0.83	-0.13	-0.05	0.01	-0.07	2.50
	B		-4.58	1.10	0.36	-0.29	-0.03	0.08	
Apr	A	27.25	-3.03	0.82	-0.08	-0.10	0.02	-0.05	1.88
	B		-4.13	0.91	0.16	-0.27	0.01	0.06	
May	A	26.32	-2.87	0.66	-0.07	-0.07	0.06	-0.01	1.63
	B		-3.60	0.75	0.19	-0.15	-0.04	0.03	
Jun	A	23.50	-2.54	0.56	-0.02	-0.06	0.03	-0.01	1.53
	B		-2.45	0.67	0.06	-0.17	-0.03	0.05	
Jul	A	22.68	-1.98	0.50	-0.05	-0.03	0.01	-0.02	1.10
	B		-2.22	0.63	0.02	-0.13	-0.01	0.03	
Aug	A	22.55	-1.94	0.51	-0.04	-0.05	0.04	-0.04	1.31
	B		-2.20	0.64	-0.02	-0.14	-0.01	0.03	
Sep	A	22.85	-2.12	0.53	-0.05	-0.02	0.05	-0.01	1.06
	B		-2.32	0.65	0.04	-0.14	0.03	0.02	
Oct	A	22.57	-2.53	0.76	-0.10	-0.09	0.03	0.00	1.59
	B		-2.26	0.62	0.13	-0.23	0.03	0.02	
Nov	A	21.53	-2.39	0.75	-0.11	-0.08	0.06	-0.03	1.93
	B		-2.08	0.63	0.06	-0.18	0.02	0.06	
Dec	A	20.36	-2.77	0.80	-0.07	-0.04	0.02	-0.06	2.20
	B		-2.94	0.98	0.11	-0.25	0.09	0.08	

**Table-A3**  
**Fourier Coefficients for Air Temperature Series**  
**Bhavnagar**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	20.38	-1.89	0.73	-0.34	0.28	-0.09	-0.13	3.67
	B		-5.39	1.43	-0.22	-0.25	0.09	-0.02	
Feb	A	23.58	-2.19	0.98	-0.36	0.24	-0.06	-0.11	4.10
	B		-5.17	1.06	0.05	-0.44	0.06	0.05	
Mar	A	27.99	-2.37	0.98	-0.39	0.22	0.06	-0.11	3.51
	B		-5.30	1.07	0.17	-0.34	0.11	-0.04	
Apr	A	30.60	-2.22	1.07	-0.18	0.13	0.00	-0.02	1.32
	B		-4.37	0.88	0.25	-0.19	-0.05	0.08	
May	A	32.14	-2.56	0.96	-0.06	-0.12	0.11	-0.08	1.69
	B		-4.52	1.02	-0.15	-0.27	0.00	-0.01	
Jun	A	29.74	-2.05	0.50	-0.11	0.10	0.02	-0.05	2.14
	B		-2.26	0.67	0.08	-0.09	0.06	-0.05	
Jul	A	27.85	-1.52	0.46	-0.23	0.05	0.03	0.03	1.06
	B		-1.51	0.40	0.14	-0.11	0.08	0.02	
Aug	A	27.31	-1.46	0.42	-0.13	0.01	0.04	0.02	0.86
	B		-1.95	0.52	0.06	-0.05	-0.04	0.08	
Sep	A	27.37	-2.22	0.84	-0.17	0.05	0.07	-0.08	1.28
	B		-2.63	0.70	0.00	-0.14	-0.02	0.04	
Oct	A	29.63	-2.65	1.07	-0.32	0.08	-0.05	-0.02	2.54
	B		-4.00	0.69	0.25	-0.39	0.17	0.04	
Nov	A	26.93	-1.95	0.88	-0.28	0.05	0.06	-0.13	3.41
	B		-3.35	0.81	0.16	-0.37	0.09	0.06	
Dec	A	22.41	-2.24	1.10	-0.33	0.22	-0.08	-0.08	3.45
	B		-4.89	1.08	0.03	-0.35	0.15	-0.02	

Table-A4 Fourier Coefficients for Air Temperature Series Bombay									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	23.40	-3.65	1.38	-0.54	0.03	0.07	-0.12	5.86
	B		-3.90	0.83	0.04	-0.38	0.13	0.12	
Feb	A	24.55	-3.81	1.38	-0.65	0.05	0.09	-0.16	6.09
	B		-4.01	0.74	0.24	-0.48	0.14	0.10	
Mar	A	26.44	-3.17	1.18	-0.43	-0.02	0.07	-0.08	2.68
	B		-3.10	0.45	0.35	-0.40	0.03	0.12	
Apr	A	28.31	-2.58	0.99	-0.15	-0.10	0.07	0.00	2.87
	B		-2.34	0.14	0.40	-0.30	-0.03	0.12	
May	A	29.75	-1.95	0.70	0.00	-0.11	0.05	0.01	1.62
	B		-1.48	0.20	0.25	-0.16	-0.04	0.08	
Jun	A	28.71	-1.17	0.36	-0.01	-0.04	0.00	0.02	0.94
	B		-1.01	0.23	0.06	-0.04	-0.04	0.08	
Jul	A	27.26	-0.68	0.19	-0.02	-0.04	0.03	-0.02	0.65
	B		-0.57	0.11	0.01	-0.06	0.00	0.02	
Aug	A	26.80	-0.72	0.22	-0.06	0.03	0.01	0.00	0.46
	B		-0.59	0.18	0.06	-0.07	0.01	0.01	
Sep	A	26.87	-1.18	0.35	-0.07	-0.04	0.03	-0.03	1.14
	B		-1.14	0.29	0.05	-0.10	-0.04	0.08	
Oct	A	27.57	-2.64	0.84	-0.28	-0.08	0.05	-0.02	1.93
	B		-2.41	0.48	0.14	-0.24	0.05	0.13	
Nov	A	26.64	-3.55	1.21	-0.27	-0.17	0.05	0.04	2.93
	B		-3.21	0.74	0.11	-0.36	0.17	0.11	
Dec	A	24.68	-3.51	1.21	-0.39	-0.10	0.09	-0.06	3.44
	B		-3.43	0.74	0.00	-0.32	0.14	0.11	

Table-A5 Fourier Coefficients for Air Temperature Series Calcutta									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	18.43	-4.47	1.30	0.02	-0.28	0.11	-0.02	7.23
	B		-3.54	1.00	0.26	-0.45	0.05	0.19	
Feb	A	21.87	-4.69	1.34	0.09	-0.25	0.07	0.04	5.9
	B		-3.77	1.03	0.36	-0.51	0.03	0.18	
Mar	A	26.34	-4.58	1.23	0.14	-0.28	0.01	0.07	3.76
	B		-3.45	0.87	0.39	-0.37	-0.04	0.15	
Apr	A	29.43	-4.16	1.10	0.23	-0.22	-0.02	0.07	1.62
	B		-2.66	0.73	0.25	-0.17	-0.03	0.03	
May	A	30.24	-3.34	0.70	0.23	-0.10	-0.09	0.05	2.22
	B		-1.92	0.57	0.21	-0.17	-0.08	0.11	
Jun	A	29.46	-2.25	0.60	0.04	-0.07	-0.02	0.02	0.74
	B		-1.11	0.15	0.19	-0.01	-0.07	0.03	
Jul	A	28.42	-1.65	0.48	0.04	-0.08	0.01	0.03	0.63
	B		-0.91	0.04	0.12	-0.04	-0.04	0.02	
Aug	A	28.39	-1.56	0.53	-0.01	-0.08	0.02	0.04	0.88
	B		-0.84	0.09	0.09	-0.06	-0.06	0.04	
Sep	A	28.03	-1.66	0.58	-0.01	-0.12	0.02	0.03	0.95
	B		-0.70	0.00	0.17	-0.08	0.00	0.03	
Oct	A	26.78	-2.44	0.79	0.02	-0.23	0.06	0.02	1.33
	B		-1.23	0.23	0.16	-0.09	-0.02	0.05	
Nov	A	22.59	-4.00	1.30	0.09	-0.31	0.13	0.08	3.64
	B		-2.36	0.55	0.29	-0.24	0.01	0.11	
Dec	A	18.90	-4.53	1.42	0.01	-0.32	0.10	0.05	6.84
	B		-3.16	0.85	0.29	-0.42	0.09	0.14	

**Table-A6**  
**Fourier Coefficients for Air Temperature Series**  
**Goa**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	25.14	-2.66	1.27	-0.46	0.27	-0.08	-0.01	3.11
	B		-3.53	1.16	-0.21	-0.22	0.18	-0.08	
Feb	A	25.83	-2.61	1.32	-0.50	0.26	-0.09	-0.06	3.78
	B		-3.43	0.99	-0.06	-0.31	0.19	-0.09	
Mar	A	27.03	-2.10	1.06	-0.33	0.06	-0.02	-0.07	1.39
	B		-2.33	0.64	0.04	-0.27	0.15	-0.01	
Apr	A	28.44	-1.96	1.04	-0.32	0.11	0.02	-0.14	2.35
	B		-1.87	0.60	0.06	-0.33	0.13	-0.03	
May	A	28.95	-1.83	0.77	-0.10	-0.04	0.01	-0.01	1.13
	B		-1.30	0.34	0.08	-0.12	0.02	0.02	
Jun	A	27.12	-1.21	0.44	-0.03	-0.03	0.02	-0.01	0.51
	B		-0.94	0.32	0.04	-0.06	0.01	0.03	
Jul	A	26.22	-0.72	0.24	-0.04	0.03	0.00	0.00	0.31
	B		-0.55	0.22	-0.01	-0.03	0.01	0.02	
Aug	A	26.26	-1.10	0.36	-0.03	0.01	0.00	0.02	0.66
	B		-0.63	0.26	0.05	-0.11	0.04	0.04	
Sep	A	26.17	-1.29	0.55	-0.11	0.05	-0.01	-0.04	1.01
	B		-1.04	0.39	-0.03	-0.14	0.04	-0.03	
Oct	A	27.03	-2.04	0.88	-0.18	-0.02	0.06	-0.05	2.24
	B		-1.87	0.63	-0.09	-0.16	0.03	0.03	
Nov	A	26.57	-2.69	1.23	-0.36	0.10	0.01	-0.03	1.95
	B		-2.81	0.86	-0.11	-0.23	0.11	0.00	
Dec	A	25.69	-2.48	1.16	-0.28	0.13	-0.01	0.03	1.72
	B		-3.07	1.08	-0.28	-0.19	0.16	-0.07	

Table-A7 Fourier Coefficients for Air Temperature Series Jodhpur									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	17.12	-2.53	0.67	-0.29	0.27	-0.08	-0.03	3.69
	B		-5.19	1.82	-0.27	-0.06	0.02	-0.06	
Feb	A	20.64	-2.67	0.83	-0.40	0.42	-0.08	-0.09	5.13
	B		-5.84	1.71	0.05	-0.26	0.02	-0.05	
Mar	A	26.29	-2.89	0.98	-0.49	0.23	0.10	-0.12	4.03
	B		-5.35	1.38	0.26	-0.28	0.03	0.05	
Apr	A	31.37	-2.94	1.02	-0.50	0.09	0.15	-0.04	2.52
	B		-5.63	1.03	0.42	-0.25	-0.06	0.05	
May	A	34.50	-2.32	0.78	-0.34	-0.03	0.23	-0.03	4.02
	B		-5.43	0.90	0.42	-0.22	-0.07	0.15	
Jun	A	34.07	-1.08	0.32	-0.11	0.02	0.03	0.01	0.49
	B		-4.36	0.87	0.08	-0.05	0.01	0.00	
Jul	A	31.06	-1.17	0.15	-0.07	0.01	0.00	-0.03	0.49
	B		-2.89	0.65	0.07	-0.05	-0.02	0.01	
Aug	A	29.80	-1.21	0.23	-0.10	0.03	0.04	-0.05	0.50
	B		-2.66	0.64	0.03	-0.09	0.02	-0.01	
Sep	A	29.06	-1.97	0.51	-0.14	0.02	0.05	-0.06	1.15
	B		-3.28	0.80	0.11	-0.14	0.00	0.05	
Oct	A	27.92	-3.41	1.15	-0.39	0.20	0.02	-0.11	3.31
	B		-5.12	1.49	0.26	-0.38	0.07	0.08	
Nov	A	22.58	-3.42	1.15	-0.41	0.23	-0.18	-0.05	3.38
	B		-5.18	1.80	-0.01	-0.30	0.06	0.07	
Dec	A	18.46	-2.81	0.63	-0.24	0.22	-0.20	-0.03	2.53
	B		-5.12	1.92	-0.29	-0.14	0.05	0.15	

Table-A8 Fourier Coefficients for Air Temperature Series Kodaikanal									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	12.00	-2.75	0.95	-0.03	-0.11	0.04	-0.02	6.09
	B		-1.32	0.46	0.26	-0.29	-0.01	0.13	
Feb	A	12.58	-2.90	0.99	-0.04	-0.05	0.04	-0.03	5.78
	B		-1.69	0.55	0.26	-0.30	-0.02	0.13	
Mar	A	14.10	-2.92	1.00	-0.04	-0.07	0.05	-0.03	5.62
	B		-1.74	0.45	0.33	-0.29	-0.04	0.13	
Apr	A	15.04	-2.50	0.95	-0.11	-0.06	0.07	-0.01	3.72
	B		-1.26	0.19	0.28	-0.19	-0.03	0.13	
May	A	15.80	-2.11	0.81	-0.06	-0.06	0.04	-0.02	3.12
	B		-0.83	0.21	0.17	-0.16	-0.05	0.12	
Jun	A	14.85	-1.71	0.65	-0.04	-0.07	0.05	-0.03	2.58
	B		-0.58	0.20	0.11	-0.11	-0.01	0.10	
Jul	A	13.90	-1.39	0.55	-0.07	-0.02	0.00	0.00	1.15
	B		-0.59	0.23	0.06	-0.09	-0.01	0.04	
Aug	A	14.09	-1.55	0.63	-0.11	0.00	0.02	0.01	1.58
	B		-0.63	0.24	0.07	-0.11	-0.02	0.05	
Sep	A	14.13	-1.69	0.66	-0.07	-0.06	0.02	0.00	2.16
	B		-0.74	0.19	0.15	-0.17	0.01	0.05	
Oct	A	13.49	-1.50	0.60	-0.04	-0.09	0.04	-0.01	2.57
	B		-0.69	0.17	0.08	-0.09	-0.02	0.05	
Nov	A	12.64	-1.68	0.66	-0.02	-0.10	0.02	-0.01	2.34
	B		-0.74	0.24	0.13	-0.15	0.02	0.06	
Dec	A	12.10	-2.23	0.83	0.00	-0.14	0.04	0.01	4.30
	B		-0.99	0.32	0.14	-0.19	0.00	0.10	



**Table-A9**  
**Fourier Coefficients for Air Temperature Series**  
**Madras**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	24.60	-2.00	0.36	-0.15	-0.07	0.08	-0.03	1.90
	B		-1.87	0.29	0.13	-0.23	0.03	0.08	
Feb	A	25.63	-2.61	1.04	-0.16	-0.07	0.06	-0.05	1.90
	B		-2.39	0.51	0.14	-0.26	0.05	0.09	
Mar	A	27.73	-2.87	1.01	0.02	-0.12	-0.08	0.11	2.43
	B		-2.39	0.60	0.17	-0.35	0.07	0.18	
Apr	A	29.77	-2.73	1.12	-0.09	-0.11	0.01	0.02	1.28
	B		-1.87	0.49	0.05	-0.19	0.00	0.06	
May	A	31.56	-2.92	1.13	-0.04	-0.12	0.01	0.00	0.97
	B		-1.78	0.60	0.01	-0.13	-0.02	0.08	
Jun	A	30.88	-2.76	0.79	0.08	-0.11	0.03	0.00	0.85
	B		-1.89	0.34	-0.03	-0.14	-0.01	0.03	
Jul	A	29.62	-2.34	0.70	0.03	-0.08	0.00	-0.01	0.86
	B		-1.78	0.79	0.00	-0.12	0.01	0.04	
Aug	A	28.86	-2.29	0.53	0.07	-0.12	0.03	0.00	1.00
	B		-1.90	0.77	-0.01	-0.18	0.04	0.03	
Sep	A	28.70	-2.15	0.77	0.00	-0.12	0.02	0.00	1.06
	B		-1.78	0.60	-0.02	-0.12	0.03	0.03	
Oct	A	27.50	-1.87	0.72	-0.04	-0.13	0.04	0.05	0.97
	B		-1.44	0.29	0.08	-0.12	0.03	0.03	
Nov	A	25.54	-1.60	0.65	-0.05	-0.12	0.07	0.02	1.33
	B		-1.20	0.19	0.12	-0.08	0.01	0.06	
Dec	A	24.61	-1.83	0.69	-0.10	-0.12	0.08	0.02	1.81
	B		-1.44	0.22	0.16	-0.14	0.01	0.06	

**Table-A10**  
**Fourier Coefficients for Air Temperature Series**  
**Mangalore**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	26.25	-2.41	1.14	-0.30	0.03	0.04	-0.03	1.86
	B		-2.86	0.80	0.01	-0.26	0.09	0.06	
Feb	A	26.80	-2.37	1.16	-0.35	0.05	0.00	-0.08	1.76
	B		-2.68	0.72	0.12	-0.24	0.09	0.05	
Mar	A	28.00	-2.20	0.97	-0.29	-0.10	-0.02	-0.08	1.85
	B		-2.08	0.54	0.12	-0.23	0.02	0.08	
Apr	A	28.94	-2.02	0.92	-0.22	-0.02	0.05	-0.08	3.00
	B		-1.91	0.49	0.12	-0.27	0.06	0.08	
May	A	28.16	-1.59	0.60	-0.08	-0.06	0.03	0.01	1.06
	B		-1.45	0.28	0.11	-0.09	-0.04	0.06	
Jun	A	25.94	-0.90	0.31	-0.06	-0.04	0.00	0.00	0.55
	B		-1.02	0.19	0.10	-0.12	0.01	0.00	
Jul	A	25.38	-0.85	0.29	-0.06	-0.01	0.03	-0.03	0.41
	B		-0.66	0.18	0.01	-0.04	-0.01	0.02	
Aug	A	25.17	-0.95	0.28	-0.08	0.02	-0.02	-0.01	0.47
	B		-0.77	0.23	0.01	-0.06	-0.01	0.03	
Sep	A	25.33	-1.12	0.44	-0.09	-0.03	0.01	-0.03	0.59
	B		-1.12	0.36	-0.02	-0.08	-0.01	0.03	
Oct	A	25.97	-1.73	0.73	-0.12	-0.02	0.04	-0.01	1.17
	B		-1.34	0.44	0.02	-0.14	-0.01	0.03	
Nov	A	26.52	-2.33	1.04	-0.15	-0.07	0.06	-0.03	1.85
	B		-2.14	0.59	0.03	-0.22	0.04	0.08	
Dec	A	26.17	-2.47	1.11	-0.20	-0.06	0.06	-0.05	1.72
	B		-2.81	0.76	0.04	-0.25	0.01	0.09	

Table-A11 Fourier Coefficients for Air Temperature Series Nagpur									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	19.96	-4.09	1.11	-0.16	0.05	0.01	-0.08	6.22
	B		-4.80	1.50	0.41	-0.57	0.09	0.15	
Feb	A	23.43	-4.42	1.17	-0.17	0.07	0.10	-0.15	5.41
	B		-5.73	1.36	0.64	-0.63	-0.02	0.19	
Mar	A	27.48	-4.18	1.07	-0.15	0.01	0.17	-0.10	5.20
	B		-5.30	1.01	0.64	-0.52	-0.11	0.18	
Apr	A	31.92	-4.05	1.01	0.05	-0.12	0.11	0.02	3.54
	B		-4.76	0.69	0.66	-0.34	-0.20	0.15	
May	A	34.39	-3.53	0.76	0.09	-0.15	0.07	0.02	1.69
	B		-4.02	0.52	0.51	-0.12	-0.21	0.05	
Jun	A	31.02	-2.67	0.62	-0.01	-0.10	0.03	-0.02	0.91
	B		-2.55	0.64	0.10	-0.06	-0.06	0.00	
Jul	A	26.97	-1.47	0.30	-0.02	-0.04	0.01	-0.03	0.52
	B		-1.52	0.40	0.05	-0.02	-0.05	0.02	
Aug	A	26.37	-1.50	0.35	0.00	-0.02	0.00	0.00	0.76
	B		-1.41	0.35	0.10	-0.10	-0.02	0.03	
Sep	A	26.41	-2.15	0.63	-0.04	-0.05	0.01	-0.01	1.14
	B		-1.76	0.42	0.15	-0.14	-0.05	0.07	
Oct	A	25.44	-3.84	1.16	0.00	-0.14	0.03	0.01	3.67
	B		-3.20	0.76	0.42	-0.39	-0.01	0.15	
Nov	A	22.10	-4.75	1.52	-0.12	-0.16	0.08	-0.02	6.51
	B		-4.01	1.10	0.51	-0.56	0.05	0.18	
Dec	A	19.36	-4.46	1.33	-0.13	-0.07	0.02	-0.08	5.27
	B		-4.38	1.40	0.38	-0.56	0.14	0.13	

**Table-A12**  
**Fourier Coefficients for Air Temperature Series**  
**Nandi Hills**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	16.45	-2.12	0.28	-0.01	0.02	-0.04	0.00	2.29
	B		-3.04	0.99	0.00	-0.18	0.04	0.04	
Feb	A	18.79	-2.27	0.12	-0.10	0.01	-0.05	0.00	1.75
	B		-3.11	0.99	-0.04	-0.15	0.04	0.03	
Mar	A	21.70	-2.73	0.56	-0.12	-0.02	-0.01	0.02	1.73
	B		-3.57	0.97	0.06	-0.17	0.02	0.08	
Apr	A	23.60	-2.50	0.65	-0.01	0.03	0.00	-0.06	2.03
	B		-3.29	0.52	0.02	-0.19	-0.09	0.06	
May	A	22.94	-2.17	0.44	-0.04	-0.12	-0.05	0.07	2.45
	B		-3.09	0.67	-0.04	-0.14	0.11	0.08	
Jun	A	19.09	-1.51	0.17	0.00	0.01	-0.05	0.02	0.80
	B		-1.81	0.72	-0.12	-0.05	0.01	0.03	
Jul	A	18.37	-0.93	0.02	0.09	-0.02	0.01	0.00	0.88
	B		-1.70	0.63	-0.14	-0.01	-0.05	0.03	
Aug	A	18.10	-0.94	0.04	0.08	-0.05	-0.05	0.00	1.16
	B		-1.67	0.64	-0.20	0.00	-0.01	0.06	
Sep	A	18.86	-1.10	0.26	-0.03	-0.04	0.00	-0.01	0.67
	B		-1.94	0.53	-0.11	-0.05	0.02	0.02	
Oct	A	18.68	-1.34	0.44	0.01	-0.06	-0.02	0.02	0.93
	B		-1.56	0.54	-0.08	-0.06	0.00	0.03	
Nov	A	17.47	-1.06	0.33	-0.01	-0.07	0.03	0.02	1.43
	B		-1.35	0.44	-0.03	-0.06	0.01	0.01	
Dec	A	15.90	-1.39	0.33	0.03	-0.02	-0.01	0.00	1.19
	B		-2.12	0.72	-0.03	-0.09	0.03	0.04	

**Table-A13**  
**Fourier Coefficients for Air Temperature Series**  
**New Delhi**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	13.58	-2.83	0.69	-0.14	0.08	0.04	-0.18	10.91
	B		-4.24	1.38	0.17	-0.47	0.22	-0.07	
Feb	A	17.62	-2.97	0.78	-0.21	0.15	0.04	-0.13	6.99
	B		-4.75	1.30	0.16	-0.32	-0.01	0.15	
Mar	A	22.67	-3.35	0.87	-0.32	-0.02	0.00	-0.21	3.45
	B		-4.78	0.98	0.44	-0.40	-0.02	0.08	
Apr	A	29.00	-3.47	1.02	-0.12	0.00	0.15	-0.08	2.85
	B		-4.90	0.63	0.61	-0.35	-0.10	0.08	
May	A	32.66	-3.50	0.77	-0.10	-0.04	0.13	0.00	1.52
	B		-4.79	0.51	0.52	-0.19	-0.11	0.02	
Jun	A	34.17	-2.31	0.48	-0.07	-0.07	0.15	-0.03	1.56
	B		-3.56	0.43	0.38	-0.12	-0.12	0.07	
Jul	A	31.02	-1.41	0.32	-0.04	-0.01	0.04	-0.01	0.78
	B		-2.07	0.40	0.20	-0.04	-0.04	0.05	
Aug	A	29.25	-1.34	0.25	-0.04	0.01	0.00	-0.02	0.72
	B		-1.75	0.32	0.15	-0.06	-0.05	0.03	
Sep	A	28.54	-2.03	0.51	-0.05	-0.01	0.02	-0.04	1.12
	B		-2.36	0.55	0.21	-0.18	-0.02	0.08	
Oct	A	25.68	-3.32	0.80	-0.07	-0.10	0.07	-0.08	2.98
	B		-3.79	0.90	0.37	-0.37	-0.02	0.15	
Nov	A	19.80	-3.98	1.22	-0.20	0.03	0.03	-0.10	6.64
	B		-4.14	1.25	0.34	-0.51	0.14	0.16	
Dec	A	14.48	-3.30	0.96	-0.22	0.06	-0.04	-0.03	8.2
	B		-4.13	1.44	-0.02	-0.39	0.20	0.08	

Table-A14 Fourier Coefficients for Air Temperature Series Port Blair									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	26.06	-2.55	1.03	0.03	-0.28	0.07	0.06	1.69
	B		-0.85	0.03	0.10	-0.07	-0.03	0.03	
Feb	A	26.47	-3.09	1.12	0.10	-0.37	0.08	0.10	2.49
	B		-1.34	0.07	0.20	-0.13	-0.03	0.08	
Mar	A	27.06	-3.41	1.24	0.06	-0.39	0.15	0.09	2.47
	B		-1.50	-0.20	0.24	-0.07	-0.09	0.02	
Apr	A	28.27	-3.20	0.96	0.21	-0.35	-0.03	0.14	2.30
	B		-1.11	-0.41	0.29	0.00	-0.18	0.04	
May	A	27.26	-1.79	0.52	0.07	-0.13	-0.06	0.06	1.30
	B		-0.51	-0.13	0.12	0.01	-0.03	-0.02	
Jun	A	26.74	-1.31	0.33	0.05	-0.10	-0.05	0.01	1.04
	B		-0.39	-0.05	0.05	-0.02	-0.03	0.01	
Jul	A	26.42	-1.27	0.38	0.01	-0.08	0.01	0.04	0.62
	B		-0.32	-0.01	0.06	-0.01	-0.03	0.01	
Aug	A	26.26	-1.19	0.39	0.03	-0.10	0.01	0.02	0.65
	B		-0.34	-0.08	0.08	-0.04	-0.02	0.03	
Sep	A	25.87	-1.24	0.44	0.03	-0.09	0.00	0.03	0.58
	B		-0.31	-0.07	0.07	-0.01	-0.02	0.01	
Oct	A	26.13	-1.91	0.63	0.07	-0.21	-0.02	0.06	1.46
	B		-0.53	-0.16	0.12	-0.08	-0.06	0.00	
Nov	A	26.50	-2.17	0.82	0.07	-0.25	0.05	0.06	1.71
	B		-0.55	-0.18	0.11	0.01	-0.05	0.02	
Dec	A	26.03	-2.20	0.86	0.06	-0.30	0.09	0.07	1.39
	B		-0.53	-0.11	0.09	0.04	-0.07	0.05	

Table-A15 Fourier Coefficients for Air Temperature Series Pune									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	21.13	-4.04	1.06	-0.51	0.15	0.17	-0.20	9.18
	B		-6.71	1.54	0.34	-0.45	0.13	0.01	
Feb	A	23.28	-4.28	1.23	-0.65	0.22	0.23	-0.26	12.76
	B		-7.77	1.50	0.50	-0.58	0.18	0.03	
Mar	A	26.86	-4.10	1.28	-0.34	0.05	0.20	-0.25	5.58
	B		-6.97	1.14	0.52	-0.58	-0.05	0.18	
Apr	A	29.56	-4.08	1.43	-0.27	-0.09	0.17	-0.08	3.30
	B		-5.71	1.21	0.33	-0.41	0.02	0.07	
May	A	29.30	-3.37	1.02	-0.02	-0.12	0.07	0.00	2.36
	B		-4.05	1.14	0.20	-0.23	-0.06	0.11	
Jun	A	26.79	-2.58	0.69	-0.03	-0.03	0.02	0.03	0.81
	B		-2.11	0.70	0.15	-0.09	-0.04	0.00	
Jul	A	24.51	-1.47	0.45	-0.03	0.02	0.00	0.02	0.64
	B		-1.06	0.39	0.01	-0.07	-0.04	0.03	
Aug	A	24.01	-1.60	0.50	-0.04	-0.02	0.03	-0.01	1.00
	B		-1.12	0.44	0.06	-0.10	0.00	0.02	
Sep	A	24.28	-2.21	0.72	-0.05	-0.07	0.03	0.03	1.63
	B		-1.87	0.67	0.00	-0.14	0.01	0.05	
Oct	A	25.20	-3.47	1.07	-0.13	-0.12	0.10	-0.03	3.33
	B		-3.87	0.97	0.27	-0.32	0.04	0.13	
Nov	A	23.11	-3.85	1.09	-0.20	-0.03	0.06	-0.08	4.43
	B		-4.82	1.10	0.38	-0.51	0.04	0.13	
Dec	A	21.35	-4.01	1.12	-0.30	0.10	0.05	-0.14	6.60
	B		-5.43	1.47	0.28	-0.49	0.13	0.13	

**Table-A16**  
**Fourier Coefficients for Air Temperature Series**  
**Shillong**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	9.83	-2.89	1.13	-0.11	-0.26	0.12	0.05	9.09
	B		-1.17	0.08	0.24	-0.07	-0.03	0.08	
Feb	A	11.62	-3.14	1.18	0.05	-0.25	0.11	0.07	5.32
	B		-1.17	0.12	0.20	-0.17	-0.04	0.07	
Mar	A	15.32	-3.30	1.23	0.10	-0.27	0.02	0.09	3.80
	B		-1.04	-0.02	0.19	-0.13	-0.06	0.05	
Apr	A	18.23	-3.06	1.11	0.13	-0.25	-0.02	0.05	2.46
	B		-0.86	-0.05	0.18	-0.04	-0.06	0.00	
May	A	19.12	-2.30	0.67	0.16	-0.11	-0.02	0.00	0.97
	B		-0.71	0.01	0.11	-0.04	-0.05	0.03	
Jun	A	19.70	-1.54	0.43	0.09	-0.07	-0.04	0.02	0.70
	B		-0.59	0.03	0.10	-0.01	-0.02	0.03	
Jul	A	20.26	-1.68	0.54	0.04	-0.09	-0.01	0.07	1.67
	B		-0.60	0.11	0.02	-0.01	-0.03	0.03	
Aug	A	20.08	-1.72	0.61	0.03	-0.10	0.01	0.03	1.28
	B		-0.57	0.05	0.10	-0.03	-0.03	0.05	
Sep	A	19.34	-1.83	0.62	0.04	-0.12	-0.01	0.02	1.21
	B		-0.46	-0.11	0.14	-0.01	-0.05	0.05	
Oct	A	17.24	-2.12	0.65	0.11	-0.18	0.03	0.03	2.47
	B		-0.38	-0.17	0.22	0.02	-0.06	0.02	
Nov	A	13.72	-2.64	1.01	0.05	-0.28	0.08	0.05	4.29
	B		-0.66	-0.21	0.27	-0.03	-0.06	0.04	
Dec	A	10.96	-2.67	1.06	-0.07	-0.27	0.15	0.03	7.72
	B		-0.85	-0.02	0.25	-0.06	-0.09	0.09	



Table-A17 Fourier Coefficients for Air Temperature Series Trivandrum									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	26.64	-2.06	0.98	-0.30	0.05	0.02	-0.07	2.70
	B		-2.33	0.48	0.17	-0.30	0.10	0.05	
Feb	A	27.12	-1.99	1.01	-0.32	0.05	0.04	-0.09	2.87
	B		-2.27	0.50	0.19	-0.31	0.10	0.03	
Mar	A	28.09	-2.00	1.01	-0.34	0.00	0.07	-0.05	2.23
	B		-2.00	0.39	0.18	-0.26	0.12	0.04	
Apr	A	28.28	-2.02	0.86	-0.21	-0.01	0.08	-0.04	1.55
	B		-1.61	0.39	0.16	-0.19	0.05	0.03	
May	A	27.53	-1.63	0.61	-0.14	-0.02	0.03	-0.03	1.00
	B		-1.27	0.30	0.13	-0.15	0.01	0.05	
Jun	A	26.23	-1.34	0.42	-0.12	-0.02	0.00	-0.02	0.80
	B		-1.15	0.26	0.11	-0.12	0.03	0.04	
Jul	A	25.70	-1.25	0.44	-0.11	-0.01	0.00	-0.03	0.75
	B		-1.18	0.33	0.03	-0.12	0.00	0.03	
Aug	A	25.78	-1.34	0.48	-0.09	-0.02	0.03	-0.03	1.21
	B		-1.19	0.34	0.05	-0.14	0.05	0.05	
Sep	A	26.05	-1.61	0.62	-0.15	-0.02	0.03	-0.03	1.24
	B		-1.30	0.30	0.09	-0.14	0.04	0.03	
Oct	A	26.04	-1.70	0.72	-0.21	-0.02	0.05	-0.05	1.33
	B		-1.22	0.28	0.09	-0.13	0.03	0.03	
Nov	A	26.23	-1.74	0.76	-0.22	-0.03	0.06	-0.04	1.47
	B		-1.49	0.29	0.12	-0.19	0.03	0.07	
Dec	A	26.34	-2.02	0.95	-0.33	0.02	0.07	-0.12	1.98
	B		-1.88	0.28	0.19	-0.22	0.03	0.05	

**Table-A18**  
**Fourier Coefficients for Air Temperature Series**  
**Vishakhapatnam**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	23.25	-3.17	1.31	-0.24	-0.22	0.15	0.01	4.44
	B		-2.54	0.34	0.26	-0.28	-0.01	0.15	
Feb	A	25.09	-3.53	1.53	-0.32	-0.21	0.14	-0.03	4.11
	B		-2.96	0.44	0.33	-0.38	0.05	0.13	
Mar	A	27.65	-3.30	1.52	-0.25	-0.21	0.10	0.04	2.85
	B		-2.38	0.32	0.25	-0.27	0.03	0.10	
Apr	A	29.80	-2.99	1.36	-0.18	-0.20	0.12	0.02	1.65
	B		-1.55	0.19	0.17	-0.17	-0.01	0.05	
May	A	31.44	-2.31	1.15	-0.12	-0.20	0.07	0.04	1.18
	B		-1.31	0.19	0.12	-0.15	-0.02	0.03	
Jun	A	30.71	-2.18	0.77	-0.08	-0.12	0.06	-0.03	1.24
	B		-1.20	0.34	0.01	-0.05	-0.03	0.05	
Jul	A	28.67	-1.59	0.57	-0.03	-0.11	0.03	0.00	0.95
	B		-1.27	0.35	-0.01	-0.12	0.00	0.02	
Aug	A	28.61	-1.68	0.61	-0.07	-0.11	0.04	-0.02	1.49
	B		-1.18	0.25	0.02	-0.12	-0.07	0.05	
Sep	A	28.35	-1.86	0.71	-0.13	-0.10	0.05	-0.01	1.31
	B		-1.09	0.22	0.06	-0.09	-0.02	0.06	
Oct	A	27.40	-2.08	0.75	-0.01	-0.19	0.07	0.05	1.73
	B		-1.34	0.12	0.16	-0.13	-0.04	0.08	
Nov	A	25.37	-2.80	1.00	-0.05	-0.25	0.05	0.07	2.39
	B		-1.75	0.23	0.20	-0.14	-0.06	0.11	
Dec	A	23.38	-3.06	1.19	-0.17	-0.24	0.10	0.02	3.63
	B		-2.16	0.32	0.23	-0.22	-0.02	0.13	

Table-A19 Fourier Coefficients for Global Solar Radiation Series Ahmedabad									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	204.00	-338.23	181.47	-42.61	-17.21	14.71	1.42	12.31
	B		-41.58	44.65	-14.90	-10.61	10.81	1.58	
Feb	A	240.63	-392.23	197.26	-35.04	-23.92	13.02	4.58	9.22
	B		-48.16	48.42	-11.77	-14.29	9.54	4.67	
Mar	A	280.71	-448.12	207.39	-23.61	-28.71	8.56	7.25	7.48
	B		-54.54	50.50	-7.34	-16.09	5.54	7.17	
Apr	A	305.33	-476.38	201.47	-9.08	-29.33	2.20	3.17	6.34
	B		-57.02	47.79	-1.48	-15.88	0.53	3.00	
May	A	316.54	-485.23	191.02	-0.06	-26.46	-2.29	7.08	4.85
	B		-62.47	50.45	-0.85	-14.36	-1.55	6.50	
Jun	A	265.71	-405.17	156.52	0.90	-20.75	-1.65	3.75	3.99
	B		-55.21	45.48	-3.41	-9.81	-1.78	4.50	
Jul	A	201.42	-307.80	119.41	1.85	-18.12	-0.55	4.58	5.37
	B		-44.68	37.99	-4.22	-8.01	-0.59	3.75	
Aug	A	185.38	-287.54	117.54	-2.73	-17.17	0.91	3.58	5.31
	B		-45.99	40.92	-5.92	-9.38	0.55	5.17	
Sep	A	230.83	-364.81	162.70	-13.87	-23.04	5.32	4.42	6.64
	B		-49.01	44.06	-4.69	-14.94	4.43	6.08	
Oct	A	240.25	-388.49	189.53	-29.41	-23.54	9.85	5.83	9.11
	B		-47.73	46.29	-8.95	-15.08	8.26	5.33	
Nov	A	207.21	-342.21	181.09	-40.68	-17.42	13.32	2.25	8.60
	B		-39.12	40.72	-11.58	-11.55	9.81	2.33	
Dec	A	190.88	-318.26	174.50	-44.73	-13.92	14.03	0.53	15.88
	B		-38.45	42.04	-15.03	-9.38	10.78	0.67	

**Table-A20**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Bangalore**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	253.08	-410.80	203.77	-35.18	-22.92	11.19	3.50	6.97
	B		-53.98	52.93	-10.70	-17.46	10.02	6.17	
Feb	A	247.17	-403.15	204.54	-41.43	-16.04	4.67	11.58	7.43
	B		-50.59	51.48	-14.32	-12.20	8.43	3.53	
Mar	A	280.79	-452.69	218.37	-31.86	-27.71	10.61	7.42	8.07
	B		-48.37	44.32	-5.07	-18.55	10.30	2.33	
Apr	A	274.92	-443.41	214.44	-31.54	-29.04	15.56	0.67	6.66
	B		-42.67	39.31	-5.44	-12.77	4.79	4.17	
May	A	265.33	-422.86	195.30	-24.16	-23.50	6.47	5.67	7.13
	B		-45.65	40.22	-3.43	-13.57	3.77	3.33	
Jun	A	255.12	-401.79	176.35	-12.89	-23.87	1.53	3.25	10.48
	B		-46.79	39.54	0.14	-17.10	3.84	7.00	
Jul	A	181.92	-285.43	122.41	-3.66	-24.00	7.36	3.33	8.53
	B		-39.33	35.96	-5.92	-8.95	2.98	0.33	
Aug	A	184.42	-292.95	133.79	-14.37	-16.71	4.12	4.25	12.54
	B		-38.62	36.08	-7.67	-5.41	-3.17	3.92	
Sep	A	196.92	-316.53	152.25	-24.45	-16.29	8.72	-0.33	7.45
	B		-37.24	33.69	-4.02	-10.61	2.29	5.67	
Oct	A	214.58	-352.00	183.02	-41.20	-13.92	8.45	7.92	12.57
	B		-33.43	33.63	-10.24	-4.91	2.67	2.42	
Nov	A	187.04	-304.41	153.66	-31.28	-11.83	5.29	4.33	9.86
	B		-45.45	45.11	-10.16	-14.29	10.34	2.08	
Dec	A	185.88	-302.81	153.13	-30.56	-13.79	8.57	0.58	8.27
	B		-40.15	40.04	-10.24	-9.17	3.82	6.33	

Table-A21 Fourier Coefficients for Global Solar Radiation Series Bhavnagar									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	213.92	-352.13	183.66	-38.05	-20.33	13.87	3.17	9.07
	B		-42.34	44.51	-13.65	-10.97	9.12	3.67	
Feb	A	248.17	-402.51	198.52	-32.01	-25.00	11.35	6.25	8.31
	B		-46.65	45.48	-9.07	-14.58	7.80	5.75	
Mar	A	286.29	-454.85	206.60	-19.37	-29.79	6.26	9.42	7.50
	B		-51.91	46.61	-4.33	-15.52	3.25	8.33	
Apr	A	302.58	-470.94	196.67	-6.17	-29.62	0.87	9.08	5.58
	B		-50.08	40.35	0.93	-13.93	-1.37	7.42	
May	A	316.25	-484.54	189.31	1.44	-26.83	-3.40	7.92	4.70
	B		-51.72	38.48	4.45	-13.42	-3.92	7.25	
Jun	A	250.50	-377.93	137.34	10.74	-23.33	-3.16	6.33	5.58
	B		-42.83	29.01	7.36	-13.13	-2.47	4.83	
Jul	A	191.75	-292.16	111.38	4.46	-19.50	1.33	3.17	5.74
	B		-24.63	12.61	11.37	-12.12	-1.64	3.67	
Aug	A	179.21	-278.37	115.63	-3.48	-18.08	2.89	2.33	6.92
	B		-24.89	15.75	8.24	-11.84	-1.23	6.42	
Sep	A	227.17	-359.83	161.89	-14.82	-22.42	4.28	6.33	7.99
	B		-33.69	25.45	6.24	-17.46	4.04	5.83	
Oct	A	245.88	-396.34	190.75	-26.65	-25.92	10.51	5.33	8.62
	B		-44.66	42.28	-6.91	-13.86	5.45	6.92	
Nov	A	216.96	-355.51	182.32	-35.28	-20.96	12.59	4.17	8.74
	B		-43.89	45.76	-13.79	-10.90	8.53	3.92	
Dec	A	199.08	-329.21	174.69	-38.87	-18.08	13.96	2.17	9.75
	B		-40.65	43.47	-14.21	-10.54	10.19	2.17	

Table-A22 Fourier Coefficients for Global Solar Radiation Series Bombay									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	209.33	-342.60	175.12	-33.88	-19.71	12.15	3.08	9.74
	B		-51.30	54.82	-18.97	-10.32	9.75	3.42	
Feb	A	240.50	-388.68	189.37	-29.35	-23.33	9.83	5.58	8.25
	B		-61.22	62.97	-18.74	-13.57	9.34	4.92	
Mar	A	267.79	-426.38	195.96	-21.50	-25.87	6.01	7.83	7.42
	B		-66.12	64.35	-15.93	-14.51	6.79	6.53	
Apr	A	290.71	-455.87	197.70	-14.59	-25.00	1.91	6.92	5.64
	B		-74.85	70.68	-15.31	-14.43	4.15	6.33	
May	A	299.12	-462.91	192.17	-12.63	-18.33	-2.45	4.42	4.64
	B		-78.79	70.59	-11.56	-15.59	4.22	3.17	
Jun	A	213.17	-328.57	133.66	-5.44	-16.04	0.42	2.50	4.50
	B		-54.08	47.87	-7.53	-9.89	1.76	2.83	
Jul	A	170.25	-264.30	111.21	-8.42	-10.62	-0.85	2.53	4.57
	B		-43.49	39.37	-7.25	-7.58	1.32	2.53	
Aug	A	163.92	-258.19	115.25	-13.55	-10.54	0.77	3.33	5.45
	B		-36.68	32.99	-5.33	-7.00	0.03	4.67	
Sep	A	203.46	-321.48	143.07	-11.19	-22.42	7.22	2.58	8.21
	B		-60.41	62.39	-22.29	-4.76	2.73	3.67	
Oct	A	225.04	-360.99	170.51	-20.96	-25.33	11.16	3.33	9.17
	B		-59.73	61.80	-20.45	-8.95	6.04	4.92	
Nov	A	209.50	-342.66	174.90	-33.96	-19.29	12.16	2.17	8.12
	B		-46.24	47.91	-14.11	-11.62	9.04	3.83	
Dec	A	199.92	-329.35	172.87	-38.06	-16.42	12.03	2.17	11.12
	B		-45.98	49.05	-16.43	-10.54	10.05	2.67	

**Table-A23**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Calcutta**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	175.54	-292.46	160.14	-41.40	-11.83	12.17	0.33	15.28
	B		-40.01	44.86	-18.27	-7.07	10.47	-0.75	
Feb	A	209.25	-343.59	178.51	-38.69	-15.67	10.19	3.42	7.97
	B		-46.55	49.06	-15.74	-10.97	10.29	1.58	
Mar	A	241.63	-388.53	186.19	-27.51	-22.04	8.62	4.42	7.07
	B		-52.37	51.45	-12.42	-12.49	6.86	4.33	
Apr	A	263.42	-415.52	184.45	-16.46	-23.50	3.12	6.92	6.41
	B		-51.90	47.19	-6.96	-13.13	4.03	4.25	
May	A	270.50	-418.53	171.96	-5.97	-23.00	0.52	4.92	4.64
	B		-52.21	43.91	-2.97	-12.12	0.73	4.08	
Jun	A	208.53	-319.38	128.21	-6.34	-10.58	-4.27	3.92	4.59
	B		-31.92	20.50	7.92	-11.11	-1.93	3.92	
Jul	A	191.75	-293.60	115.38	-2.05	-13.71	-1.76	3.33	6.34
	B		-26.36	14.30	11.70	-13.21	-0.79	4.17	
Aug	A	185.92	-290.69	125.74	-11.66	-11.75	-1.41	5.17	5.75
	B		-25.47	16.52	7.77	-12.41	1.11	2.67	
Sep	A	185.67	-296.09	137.81	-18.33	-14.87	3.69	3.75	6.10
	B		-23.78	16.94	6.16	-13.06	2.00	5.08	
Oct	A	188.29	-305.15	150.40	-24.90	-17.92	8.58	3.50	9.58
	B		-31.89	28.37	-0.30	-15.73	8.10	3.75	
Nov	A	181.96	-300.93	160.20	-37.08	-14.58	11.90	1.25	11.79
	B		-37.88	40.28	-12.78	-10.39	10.41	0.67	
Dec	A	169.63	-283.45	156.93	-42.25	-10.37	11.67	0.25	15.42
	B		-38.25	43.26	-18.17	-6.28	9.89	-0.50	

Table-A24									
Fourier Coefficients for Global Solar Radiation Series									
Goa									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	236.67	-384.90	191.89	-32.76	-23.58	11.95	5.00	8.98
	B		-49.30	49.46	-12.01	-14.29	9.16	5.17	
Feb	A	265.33	-427.56	205.53	-28.62	-27.62	10.67	6.83	8.60
	B		-56.41	55.78	-13.30	-14.36	7.19	7.17	
Mar	A	280.71	-448.39	208.94	-25.76	-25.75	5.66	9.33	7.80
	B		-62.51	61.77	-16.49	-11.40	4.25	7.08	
Apr	A	287.33	-453.31	202.18	-21.08	-20.87	-0.91	10.33	6.44
	B		-68.28	65.47	-16.16	-10.90	2.62	5.50	
May	A	280.04	-435.60	183.37	-12.91	-18.25	-3.71	7.33	6.56
	B		-69.63	64.79	-14.75	-9.53	0.71	4.08	
Jun	A	198.46	-308.28	129.41	-8.31	-13.87	-1.61	5.50	4.60
	B		-43.77	38.93	-6.40	-7.29	-0.31	3.92	
Jul	A	165.33	-259.61	114.23	-11.63	-11.79	1.17	3.25	5.95
	B		-31.41	26.47	-1.24	-8.59	1.00	3.75	
Aug	A	201.04	-317.64	142.72	-15.74	-15.33	1.63	5.17	5.53
	B		-43.36	40.44	-7.17	-9.81	2.99	3.08	
Sep	A	226.04	-358.88	163.63	-18.13	-20.08	3.91	6.33	9.95
	B		-55.89	55.52	-16.62	-6.35	0.04	8.08	
Oct	A	236.17	-379.81	181.95	-26.42	-22.33	8.86	4.75	8.87
	B		-55.22	55.93	-16.90	-8.95	4.12	6.58	
Nov	A	231.33	-375.02	184.68	-29.66	-23.33	11.08	4.50	9.24
	B		-46.98	46.21	-9.81	-14.43	8.15	5.83	
Dec	A	223.29	-364.53	184.53	-34.11	-21.37	12.05	4.08	9.72
	B		-45.26	45.20	-10.13	-14.79	9.99	4.33	



**Table-A25**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Jodhpur**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	195.21	-324.65	176.18	-43.10	-15.96	15.07	0.17	15.29
	B		-41.52	45.45	-16.56	-9.31	10.57	1.42	
Feb	A	231.13	-377.25	190.84	-34.74	-23.58	13.93	4.25	9.33
	B		-46.67	47.15	-12.21	-12.99	9.28	4.17	
Mar	A	270.58	-431.99	200.24	-22.05	-28.62	8.29	8.25	7.94
	B		-49.97	45.85	-5.92	-15.37	5.02	7.25	
Apr	A	298.50	-465.80	197.12	-8.94	-28.79	2.29	7.92	6.27
	B		-52.28	43.25	-0.71	-14.07	-0.96	8.25	
May	A	313.04	-478.56	185.68	3.07	-27.71	-1.97	7.25	5.11
	B		-55.73	43.18	1.67	-12.92	-3.01	6.50	
Jun	A	292.29	-443.03	167.19	2.56	-20.33	-4.49	6.17	4.04
	B		-56.65	43.06	1.36	-11.11	-2.94	3.75	
Jul	A	247.54	-375.95	142.91	2.04	-18.37	-2.80	4.83	4.36
	B		-50.10	38.75	0.37	-9.31	-3.82	5.58	
Aug	A	229.83	-354.50	143.35	-2.55	-20.67	0.21	5.67	6.09
	B		-47.62	39.25	-1.43	-11.40	-0.62	6.00	
Sep	A	253.00	-400.18	179.02	-15.20	-26.46	6.64	6.25	7.55
	B		-48.27	42.68	-3.64	-14.94	3.91	6.53	
Oct	A	242.67	-391.15	189.97	-29.68	-25.29	13.12	6.00	8.77
	B		-48.73	46.22	-9.96	-11.91	7.16	4.00	
Nov	A	202.88	-335.10	177.08	-38.73	-18.87	14.51	1.83	10.53
	B		-41.54	43.97	-13.66	-11.33	10.32	2.58	
Dec	A	183.38	-306.52	169.41	-44.03	-14.37	15.81	-1.33	22.78
	B		-39.66	44.44	-17.59	-8.30	11.52	-0.42	

Table-A26 Fourier Coefficients for Global Solar Radiation Series Kodaikanal									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	257.21	-416.05	203.55	-32.59	-24.04	9.90	6.42	7.95
	B		-32.98	26.07	5.28	-18.40	4.93	7.83	
Feb	A	275.58	-443.70	213.95	-33.74	-22.12	6.55	7.50	7.83
	B		-24.62	12.59	16.65	-21.58	1.77	10.33	
Mar	A	285.00	-456.02	215.45	-32.84	-18.29	0.54	10.67	8.70
	B		-13.01	-4.52	29.77	-25.48	0.30	10.67	
Apr	A	263.63	-423.27	203.85	-36.64	-12.21	-1.43	10.75	10.75
	B		11.38	-32.16	42.26	-24.32	-2.04	9.17	
May	A	242.83	-385.24	176.66	-23.86	-15.46	0.79	6.75	9.30
	B		2.59	-21.94	36.23	-22.44	-1.59	7.58	
Jun	A	211.38	-330.70	141.47	-7.44	-20.96	2.45	6.08	9.34
	B		-0.97	-15.94	30.65	-20.28	-0.09	5.00	
Jul	A	188.50	-297.54	132.67	-12.37	-17.75	5.20	1.42	6.81
	B		0.45	-15.11	26.91	-17.03	-1.17	5.42	
Aug	A	193.37	-307.77	142.26	-18.28	-15.92	4.32	3.83	8.92
	B		6.48	-23.07	32.95	-19.92	-1.16	7.42	
Sep	A	196.25	-313.47	145.73	-16.59	-20.79	7.21	4.17	11.91
	B		10.39	-27.39	35.59	-21.15	-1.47	9.33	
Oct	A	184.38	-296.59	141.00	-16.61	-23.42	11.48	2.00	11.91
	B		-3.40	-8.22	22.86	-20.50	4.75	4.75	
Nov	A	192.17	-310.94	151.78	-22.47	-21.67	11.36	2.50	7.82
	B		-18.63	12.01	8.58	-15.16	3.97	5.50	
Dec	A	210.17	-340.68	167.99	-27.72	-20.33	9.88	3.92	7.54
	B		-28.90	23.74	3.26	-16.02	5.98	4.92	

**Table-A27**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Madras**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	218.17	-351.84	169.07	-21.94	-25.87	11.28	5.42	11.75
	B		-52.18	53.28	-15.40	-11.19	6.27	7.08	
Feb	A	262.12	-419.96	197.03	-22.90	-28.58	9.09	8.00	9.63
	B		-64.16	64.95	-18.76	-12.27	6.15	7.58	
Mar	A	286.58	-454.77	205.88	-19.47	-28.71	5.81	8.50	6.85
	B		-67.28	64.64	-14.14	-15.08	5.24	7.67	
Apr	A	287.71	-450.99	193.83	-9.81	-29.58	3.17	8.83	6.58
	B		-66.79	62.42	-12.57	-12.85	1.77	7.75	
May	A	272.04	-425.69	182.19	-9.65	-26.92	3.70	5.92	5.92
	B		-55.31	48.97	-5.63	-13.86	2.34	6.00	
Jun	A	243.04	-383.02	170.82	-18.90	-17.21	1.83	4.50	4.90
	B		-40.78	33.59	-0.23	-11.62	0.39	5.25	
Jul	A	225.29	-356.12	161.05	-20.19	-14.67	1.47	4.17	4.62
	B		-37.31	30.65	0.14	-11.11	0.51	5.08	
Aug	A	232.42	-369.54	170.69	-23.36	-16.17	3.13	4.08	5.86
	B		-40.11	34.13	-0.79	-13.57	3.39	4.42	
Sep	A	238.21	-379.57	175.60	-21.66	-20.37	4.23	6.42	7.65
	B		-45.65	40.83	-3.73	-14.65	4.13	6.50	
Oct	A	201.88	-322.82	149.97	-15.33	-23.87	8.00	5.92	8.67
	B		-37.92	34.74	-3.49	-14.07	6.31	4.17	
Nov	A	180.83	-291.54	140.16	-18.81	-20.42	8.73	4.50	10.63
	B		-37.65	36.44	-7.03	-11.55	5.72	4.83	
Dec	A	177.29	-286.81	139.64	-19.80	-21.00	10.90	2.33	9.77
	B		-37.29	35.60	-5.18	-14.43	8.26	4.25	

**Table-A28**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Mangalore**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	221.88	-362.29	184.08	-35.45	-20.50	13.67	1.08	11.51
	B		-57.27	60.03	-19.11	-13.13	12.16	1.83	
Feb	A	251.17	-407.19	201.16	-33.77	-24.54	13.65	2.25	8.86
	B		-64.30	66.60	-21.04	-12.49	9.36	4.92	
Mar	A	266.08	-428.60	206.29	-30.12	-26.17	11.01	5.25	9.91
	B		-67.56	70.34	-24.20	-8.37	4.31	8.25	
Apr	A	267.92	-426.72	196.91	-23.29	-24.25	5.32	8.50	9.64
	B		-69.83	71.88	-25.58	-4.33	-0.44	9.17	
May	A	234.92	-370.34	164.74	-16.14	-20.00	3.83	5.08	7.75
	B		-64.28	64.21	-21.25	-3.75	-1.33	6.92	
Jun	A	161.67	-255.52	114.69	-11.61	-14.71	4.20	2.25	8.90
	B		-33.70	30.57	-5.23	-5.99	-1.12	5.75	
Jul	A	127.75	-204.82	98.46	-17.62	-7.58	3.83	-0.08	8.19
	B		-27.41	26.23	-7.32	-1.73	-2.61	5.08	
Aug	A	169.33	-271.83	130.86	-22.91	-10.33	3.59	2.50	6.22
	B		-41.08	39.80	-9.96	-7.36	2.47	4.33	
Sep	A	206.12	-331.30	159.06	-24.59	-18.33	9.22	0.83	8.73
	B		-55.73	57.76	-20.69	-4.33	1.24	6.58	
Oct	A	205.63	-334.91	168.47	-30.56	-21.17	15.62	-2.33	9.70
	B		-52.36	56.12	-21.54	-5.34	5.10	3.75	
Nov	A	215.04	-351.33	179.30	-36.10	-18.04	12.29	1.33	11.46
	B		-51.64	52.24	-13.54	-14.51	10.89	2.92	
Dec	A	211.33	-347.03	180.76	-39.96	-16.08	12.59	0.75	13.14
	B		-55.12	58.48	-20.09	-10.68	10.27	2.92	

**Table-A29**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Nagpur**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	204.13	-337.00	177.91	-39.23	-17.79	12.99	2.83	8.80
	B		-41.73	44.61	-14.83	-10.03	9.52	2.58	
Feb	A	236.33	-384.85	192.90	-34.03	-22.75	11.48	5.33	8.52
	B		-45.82	46.03	-11.44	-12.70	7.84	5.17	
Mar	A	262.63	-421.34	199.59	-26.75	-25.08	8.07	6.50	7.26
	B		-48.51	45.85	-8.10	-13.42	4.89	6.42	
Apr	A	281.96	-445.07	198.49	-19.59	-22.67	1.52	7.58	5.53
	B		-43.31	35.99	-0.53	-11.69	-1.92	8.83	
May	A	286.25	-445.76	188.84	-12.38	-20.87	-1.25	7.00	4.78
	B		-40.02	29.38	4.68	-11.62	-3.58	7.83	
Jun	A	234.75	-364.81	154.02	-11.47	-15.83	-0.33	4.08	4.70
	B		-30.13	20.62	5.65	-9.81	-1.70	3.92	
Jul	A	182.83	-282.53	114.71	-1.05	-19.42	3.59	2.00	6.63
	B		-29.59	23.03	1.46	-8.52	-0.18	3.50	
Aug	A	173.13	-269.71	113.01	-3.23	-19.17	4.39	1.42	5.87
	B		-27.36	20.76	3.46	-10.83	1.07	4.00	
Sep	A	213.00	-340.03	158.36	-19.95	-19.21	5.35	4.83	7.32
	B		-30.94	25.45	1.43	-12.05	1.67	6.33	
Oct	A	233.54	-377.41	183.58	-27.65	-23.50	9.55	6.08	8.68
	B		-42.41	40.28	-6.41	-14.15	6.58	5.83	
Nov	A	213.46	-350.29	180.78	-36.32	-19.58	11.95	4.33	9.33
	B		-41.85	43.10	-11.90	-11.69	8.59	4.25	
Dec	A	194.33	-321.82	171.95	-39.98	-15.83	12.60	2.33	8.99
	B		-40.88	44.30	-15.63	-9.24	9.79	1.67	

Table-A30 Fourier Coefficients for Global Solar Radiation Series Nandi Hills									
	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	265.42	-427.54	205.41	-28.78	-27.54	11.25	6.08	7.83
	B		-63.61	64.87	-19.18	-12.77	8.22	5.42	
Feb	A	260.92	-419.76	200.60	-27.05	-27.67	11.62	4.83	9.76
	B		-69.70	71.86	-22.45	-12.85	8.37	6.33	
Mar	A	312.21	-497.60	229.25	-25.21	-29.83	5.22	11.25	6.80
	B		-64.47	60.48	-10.10	-17.90	5.99	8.33	
Apr	A	305.33	-488.35	228.52	-28.41	-29.37	9.13	6.00	6.67
	B		-45.94	38.39	1.75	-18.84	3.71	9.17	
May	A	301.21	-474.47	207.46	-11.67	-34.62	9.02	3.75	6.17
	B		-51.28	45.32	-5.11	-12.05	0.49	5.00	
Jun	A	261.13	-414.61	188.09	-18.13	-25.96	5.00	8.58	10.08
	B		-39.58	39.51	-14.96	3.54	-8.02	7.17	
Jul	A	204.79	-326.66	151.58	-18.36	-19.42	6.27	4.58	9.88
	B		-39.86	37.35	-6.55	-11.11	6.56	-0.67	
Aug	A	215.63	-345.97	165.23	-26.05	-16.17	6.73	-0.50	6.82
	B		-50.15	49.73	-13.52	-9.24	4.43	3.92	
Sep	A	200.54	-321.50	150.36	-14.80	-26.75	11.65	3.08	9.91
	B		-25.11	21.21	1.22	-11.98	4.27	4.33	
Oct	A	236.00	-379.79	182.05	-26.07	-22.17	6.99	7.17	9.64
	B		-45.06	40.77	-2.64	-18.62	8.02	6.83	
Nov	A	144.42	-237.30	122.53	-23.30	-16.00	10.16	3.25	9.35
	B		-28.87	34.08	-17.52	-0.29	6.03	-3.42	
Dec	A	183.50	-296.44	145.78	-27.51	-10.54	3.49	2.75	4.97
	B		-46.70	46.26	-11.78	-10.18	4.61	4.92	

**Table-A31**  
**Fourier Coefficients for Global Solar Radiation Series**  
**New Delhi**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	164.46	-275.54	154.03	-42.79	-9.62	12.18	-0.67	20.79
	B		-36.08	40.67	-16.75	-6.42	9.61	-0.42	
Feb	A	206.21	-338.26	174.62	-35.73	-18.21	12.11	2.33	8.05
	B		-43.72	45.29	-13.06	-11.76	9.59	2.75	
Mar	A	254.29	-406.08	188.89	-22.43	-25.04	7.52	6.17	7.52
	B		-49.89	46.06	-6.55	-14.65	4.68	7.08	
Apr	A	288.58	-448.56	187.23	-7.54	-26.46	1.64	6.67	6.01
	B		-52.70	42.72	0.38	-14.51	-0.62	7.33	
May	A	303.08	-461.69	177.61	1.42	-23.04	-3.39	6.42	4.14
	B		-52.16	38.87	3.03	-11.47	-3.57	5.42	
Jun	A	269.58	-406.91	151.46	2.56	-17.96	2.18	2.42	3.61
	B		-48.62	35.10	2.79	-8.16	-4.74	3.75	
Jul	A	223.75	-337.08	124.80	1.43	-12.67	-3.84	3.08	4.92
	B		-42.08	27.67	7.84	-11.55	-2.86	4.08	
Aug	A	209.92	-322.14	127.82	-1.65	-16.37	-1.66	4.08	5.20
	B		-43.65	34.62	0.82	-11.19	-1.46	6.25	
Sep	A	231.17	-365.14	162.88	-14.91	-21.08	3.41	5.75	6.23
	B		-45.19	40.02	-3.82	-12.99	2.71	5.92	
Oct	A	221.83	-360.03	178.16	-29.39	-22.33	11.21	4.25	8.15
	B		-44.33	44.07	-10.33	-12.70	7.94	4.08	
Nov	A	187.04	-310.71	168.11	-41.20	-14.37	13.27	0.83	13.11
	B		-39.95	43.59	-15.78	-9.02	10.49	0.42	
Dec	A	159.38	-268.30	152.55	-44.59	-8.50	12.88	-1.75	27.39
	B		-34.61	39.72	-17.30	-5.63	9.90	-1.17	

**Table-A32**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Port Blair**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	203.46	-335.05	175.81	-39.10	-15.96	11.95	1.58	10.16
	B		-46.44	49.57	-16.87	-10.03	9.62	2.67	
Feb	A	238.04	-390.01	200.69	-41.19	-19.62	12.06	4.00	7.16
	B		-50.79	53.20	-16.74	-11.91	10.89	1.25	
Mar	A	255.29	-414.99	207.62	-38.88	-19.50	8.04	7.00	8.34
	B		-51.07	50.30	-10.88	-15.73	10.12	3.58	
Apr	A	248.83	-404.18	203.31	-43.31	-9.83	0.16	9.50	9.82
	B		-35.55	29.78	2.09	-16.74	4.91	7.50	
May	A	171.83	-277.48	136.20	-25.34	-10.17	2.68	4.50	7.28
	B		-25.16	21.74	-0.58	-9.24	2.65	3.33	
Jun	A	141.79	-226.55	106.47	-15.18	-11.71	4.32	2.42	6.88
	B		-25.96	22.59	-1.07	-9.17	3.29	2.17	
Jul	A	152.75	-245.01	117.60	-20.68	-7.92	0.47	5.50	6.86
	B		-27.20	23.73	-1.56	-8.52	2.08	3.00	
Aug	A	149.17	-240.82	117.99	-21.18	-10.67	4.83	2.33	6.91
	B		-24.64	21.28	-0.64	-8.66	1.65	4.83	
Sep	A	163.67	-265.80	132.71	-24.92	-12.50	6.17	2.50	5.65
	B		-25.89	23.48	-2.28	-8.80	2.88	3.33	
Oct	A	176.54	-290.00	151.46	-34.83	-10.29	6.12	4.83	8.63
	B		-28.87	27.13	-3.28	-11.62	6.54	2.92	
Nov	A	172.46	-285.39	152.66	-36.94	-11.46	8.93	3.50	9.71
	B		-32.22	33.88	-10.49	-8.44	7.94	1.08	
Dec	A	181.00	-299.77	160.57	-38.30	-13.87	12.22	0.75	10.77
	B		-37.76	41.10	-15.16	-7.43	8.55	0.92	



**Table-A33**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Pune**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	221.17	-363.57	189.30	-40.41	-18.37	12.54	2.83	7.90
	B		-47.73	50.26	-15.86	-11.62	10.27	2.83	
Feb	A	257.83	-417.68	205.43	-33.39	-25.17	12.11	4.67	8.28
	B		-54.51	54.12	-12.60	-15.59	9.52	5.33	
Mar	A	284.54	-455.09	213.40	-27.69	-26.29	8.20	6.17	7.13
	B		-54.18	49.67	-6.67	-15.66	4.12	3.42	
Apr	A	297.21	-468.70	208.76	-21.04	-24.00	3.47	6.25	5.80
	B		-51.80	42.86	-0.25	-15.01	-0.18	8.33	
May	A	301.58	-467.92	195.39	-11.17	-23.04	0.19	6.00	5.41
	B		-50.61	38.04	3.69	-12.49	-4.83	3.67	
Jun	A	243.63	-375.60	152.60	-5.53	-18.50	-0.92	5.00	4.93
	B		-41.26	30.39	4.71	-13.28	-0.28	3.53	
Jul	A	189.04	-293.65	123.77	-9.24	-12.17	-1.17	4.08	5.40
	B		-35.24	28.26	0.26	-9.24	-0.17	4.00	
Aug	A	188.88	-296.15	128.50	-9.16	-18.17	4.42	2.33	5.82
	B		-33.81	28.35	-0.86	-10.25	2.92	1.08	
Sep	A	219.04	-349.40	162.56	-20.92	-19.25	6.04	3.67	6.08
	B		-38.28	33.92	-3.03	-11.69	3.33	3.92	
Oct	A	234.92	-381.44	189.72	-33.59	-20.87	10.69	3.83	7.59
	B		-42.19	40.39	-7.13	-13.50	6.95	4.67	
Nov	A	217.13	-356.31	184.41	-38.54	-18.25	12.30	2.33	7.97
	B		-45.66	47.37	-13.91	-11.84	9.71	2.75	
Dec	A	205.50	-339.36	179.83	-41.39	-15.62	12.09	2.08	10.15
	B		-45.07	48.29	-16.36	-10.46	10.41	2.08	

**Table-A34**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Shillong**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	167.08	-282.59	163.18	-49.39	-9.21	15.61	-2.67	15.5
	B		-14.30	13.16	0.21	-9.74	7.19	0.50	
Feb	A	210.96	-348.79	185.42	-42.55	-17.33	13.99	1.67	7.62
	B		-23.77	21.34	-0.12	-12.41	6.25	3.75	
Mar	A	235.38	-379.54	183.93	-29.26	-19.75	6.22	7.33	9.63
	B		-21.37	12.76	11.11	-17.03	2.92	7.25	
Apr	A	236.00	-366.13	151.09	-3.52	-23.79	2.69	4.50	7.79
	B		-28.62	14.25	17.34	-20.71	2.24	5.00	
May	A	217.04	-325.84	115.50	11.25	-18.83	-5.24	7.25	7.52
	B		-26.88	8.81	21.66	-18.48	-2.47	6.67	
Jun	A	169.58	-251.68	85.47	8.81	-11.37	-3.93	1.75	3.72
	B		-30.71	20.00	4.99	-5.85	-5.01	4.08	
Jul	A	177.08	-267.80	99.24	4.74	-15.37	-0.55	2.08	5.58
	B		-33.24	25.76	-0.65	-4.11	-4.46	4.25	
Aug	A	176.54	-274.39	114.16	-3.19	-18.75	3.82	1.75	5.67
	B		-22.34	16.40	2.27	-5.63	-2.90	5.00	
Sep	A	159.92	-253.73	115.12	-11.48	-16.04	4.43	3.75	7.48
	B		-3.15	-7.49	18.74	-12.92	-1.92	6.75	
Oct	A	167.00	-273.38	140.49	-29.25	-12.96	8.36	1.75	11.76
	B		-5.29	-4.69	19.94	-20.57	6.69	3.92	
Nov	A	164.25	-275.55	154.51	-42.57	-11.33	14.36	-1.50	14.18
	B		-11.42	7.79	6.24	-13.86	8.45	0.50	
Dec	A	170.92	-289.83	168.96	-52.75	-8.17	15.64	-2.58	19.44
	B		-19.88	20.86	-5.42	-7.94	7.66	0.42	

**Table-A35**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Trivandrum**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	247.13	-397.49	189.37	-23.88	-28.83	13.37	3.33	9.53
	B		-50.12	48.98	-11.30	-11.84	4.38	7.58	
Feb	A	264.38	-423.10	197.69	-22.16	-29.92	11.22	5.75	10.57
	B		-53.26	51.99	-13.14	-9.09	0.42	10.17	
Mar	A	277.46	-441.16	200.48	-16.96	-33.92	12.60	4.42	10.81
	B		-54.39	52.72	-14.11	-6.06	-3.60	12.50	
Apr	A	256.04	-406.16	183.06	-14.17	-33.00	15.57	-1.33	11.00
	B		-44.87	43.07	-12.68	-0.72	-7.77	11.58	
May	A	229.63	-360.45	155.53	-7.07	-27.08	7.08	4.17	10.71
	B		-48.13	46.39	-13.80	-1.30	-6.77	10.58	
Jun	A	219.04	-343.35	148.04	-8.60	-22.08	3.74	4.83	9.14
	B		-47.98	44.80	-10.21	-5.77	-3.19	9.08	
Jul	A	209.71	-329.75	144.11	-10.06	-21.08	4.55	3.67	6.45
	B		-46.11	43.13	-9.04	-8.37	1.36	4.58	
Aug	A	232.58	-366.92	161.95	-11.18	-25.75	6.80	4.33	9.03
	B		-52.41	51.86	-16.01	-4.04	-2.12	8.00	
Sep	A	245.46	-390.25	178.16	-17.96	-25.71	8.18	4.50	9.47
	B		-52.46	52.32	-16.82	-3.10	-3.24	8.92	
Oct	A	218.04	-351.33	169.77	-26.26	-20.04	9.29	2.50	10.03
	B		-38.57	37.75	-10.88	-2.96	-4.28	10.42	
Nov	A	205.50	-330.76	158.11	-20.31	-24.71	13.08	1.08	11.11
	B		-40.40	39.43	-9.60	-7.87	1.27	7.75	
Dec	A	212.75	-342.34	163.32	-20.49	-25.67	12.85	1.83	10.67
	B		-44.13	43.09	-9.79	-10.68	3.91	7.17	

**Table-A36**  
**Fourier Coefficients for Global Solar Radiation Series**  
**Vishakhapatnam**

	n	0	1	2	3	4	5	6	Max abs dev (%)
Jan	A	223.37	-365.93	187.55	-36.41	-21.17	12.64	4.08	9.32
	B		-50.78	53.35	-16.46	-12.99	11.36	3.00	
Feb	A	252.88	-409.70	201.20	-31.62	-25.96	12.03	5.42	8.36
	B		-55.07	55.69	-14.77	-14.07	9.19	5.00	
Mar	A	270.54	-433.91	204.97	-26.20	-27.33	8.89	7.33	7.68
	B		-54.02	52.49	-11.91	-12.70	5.22	6.25	
Apr	A	276.25	-440.30	203.83	-24.62	-25.50	7.30	6.17	6.50
	B		-46.70	45.10	-12.26	-5.34	-0.17	4.50	
May	A	276.33	-433.92	188.89	-13.31	-26.25	3.70	7.08	5.27
	B		-51.15	47.34	-9.65	-9.38	3.02	1.92	
Jun	A	214.92	-334.70	141.52	-8.46	-17.96	1.56	3.67	4.91
	B		-43.24	38.96	-7.36	-6.28	-0.43	3.17	
Jul	A	194.13	-301.74	126.22	-6.00	-16.42	-0.06	5.17	5.41
	B		-43.91	39.80	-7.23	-7.65	0.65	3.42	
Aug	A	203.08	-317.96	136.29	-7.07	-20.58	2.67	5.75	7.10
	B		-43.93	39.93	-6.32	-9.96	2.17	4.25	
Sep	A	215.08	-342.46	157.01	-15.78	-23.29	7.16	5.17	8.14
	B		-46.53	45.98	-12.64	-7.72	2.86	4.67	
Oct	A	218.08	-350.75	167.37	-22.48	-22.25	7.48	6.58	8.90
	B		-49.45	49.06	-11.80	-12.99	7.41	5.08	
Nov	A	214.00	-348.99	175.78	-31.42	-21.21	11.54	4.17	8.40
	B		-46.13	47.11	-12.61	-12.92	9.53	3.50	
Dec	A	210.83	-346.01	178.53	-35.61	-19.83	12.27	4.08	10.07
	B		-47.74	49.93	-14.61	-13.71	11.99	2.58	