



รายการอ้างอิง

ภาษาไทย

จงกลนี อยู่สบาย. 2536. พายุฟ้าคะนองในประเทศไทย. กรมอุตุนิยมวิทยา.

บำรุง สรค์คานนท์. 2529. อุตุนิยมวิทยาทั่วไป. กรมอุตุนิยมวิทยา.

ภาษาอังกฤษ

Ajayi, G. O. and Barbaliscia, F. 1989. Characteristic of the 0°C isotherm and rain height at locations in Italy and Nigeria. URSI Comm. F. Open Symposium, La Londe les Maures (France).

Allnutt, J. E. 1989. Satellite-to-Ground Radiowave Propagation. London: Peter Peregrinus.

Brussard, G. 1985. Radiometer A useful prediction tool ?. ESA publication SP-1071.

Byers, H. R. , and Braham, R. R. The thunderstorm. Washington, D. C. : U.S. Government Printing Office, 1949.

Crane, R. K. 1976. Radar detection of thunderstorm hazards for air traffic control, vol. I, storm cell detection. Proj. Rept. ATC-67, vol I., Lincoln Laboratory, M.I.T., Lexington, MA.

_____. 1977. Prediction of the effects of rain on satellite communication systems. Proc. IEEE 65(3): 456-474.

_____. 1978. A global model for rain attenuation prediction. paper presented at Electronic and Aerospace Systems Convention, Arlington, Va.

_____. 1980. Prediction of attenuation by rain. IEEE Trans. Comm. COM-28(9): 1717-1733.

Crutcher, H. L. 1971. Selected meridional cross sections in height, temperature and dew points for the northern hemisphere. NAVAIR 50-1C-59. National Climate Centre, Asheville, NC, United States.

Diversitel Communications Inc. 1991. Propagation measurement system. Ontario, Canada.

Dutton, E. J. , Dougherty, H. T. , and Martin, R. F. , Jr. 1974. Prediction of European rainfall and link performance coefficients at 8 to 30 GHz. Inst. Telecommun. Sci. , US Dep. Commerce.

Fedi, F. 1979. Attenuation due to rain on a terrestrial path. Alta Frequenza 66: 167-184.

_____. 1981. A simple method for predicting attenuation statistics on terrestrial and Earth-space paths. Report 1B1081. Fondazione Ugo Bordoni.

- Flock, W. L. 1983. Propagation effects on satellite systems at frequencies below 10 GHz. NASA reference publication 1108.
- Goldhirsh, J. , and Katz , I. 1979. Useful experimental results for earth-satellite rain attenuation modeling. IEEE Trans. Antennas Propag. AP-27(3): 413-415.
- Gunn, R. , and Kinzer, G. D. 1949. The terminal velocities of fall for water droplets in stagnant air. J. Meteorology 6: 243-248.
- Hansson, L. 1990. New concept used to predict slant path rain attenuation statistics. IEE Proc., Vol., 137, Pt. H, No. 2: 89-93.
- International Radio Consultative Committee(CCIR) 1978. Report 563-1, Inst. Telecommun. Union, Geneva.
- _____. 1990a. Radiometeorological data. Report 563-4, Inst. Telecommun. Union, Geneva.
- _____. 1990b. Propagation data and prediction methods required for earth-space telecommunication systems. Report 564-4, Inst. Telecommun. Union, Geneva.
- _____. 1990c. Radio emission from natural sources in the frequency range above about 50 MHz. Report 720-2, Inst. Telecommun. Union, Geneva.
- _____. 1990d. Attenuation by hydrometeors, in particular precipitation, and other atmospheric particles. Report 721-3, Inst. Telecommun. Union, Geneva.
- _____. 1990e. Data banks to support evaluation of prediction methods. Report 1144, Inst. Telecommun. Union, Geneva.
- _____. 1992a. Characteristics of precipitation for propagation modelling. Rec. 837, Series RPN, Inst. Telecommun. Union, Geneva.
- _____. 1992b. Propagation data and prediction methods required for the design of earth-space telecommunications systems. Draft to Rec. 618-1, Doc. 5/BL/23-E, Inst. Telecommun. Union, Geneva.
- Ippolito, L. J. 1981. Radio propagation for space communications system. Proc. IEEE 69(6): 697-727.
- Ito, S. 1989. Dependence of the 0°C isotherm height on temperature at ground level in rain. Trans. Inst. Elec. Inf. Comm. Engrs. (Japan) E 72, 2: 98-100.

- Joss, J. , Thams J. C. , and Waldvogel A. 1968. The variation of raindrop size distributions at Locarno. Proc. Int. Conf. Cloud Phys. : 369-373.
- Katz, I. , Arnold A. , Goldhirsh, J. , Konrad, T. G. , Vann W. L. , Dobson, E. B. , and Rowland, J. R. 1975. Rep. CR-2592. NASA Goddard Space Flight Center Contractor, John Hopkins Univ., Applied Physics Lab., Laurel, MD.
- Lane, S. O. , and Stutzman W. L. 1980a. Spatial rain rate distribution modeling for earth-space link propagation calculations. paper presented at URSI/IEEE AP-S International Symposium, Quebec.
- _____. 1980b, A Gaussian rain cell model for prediction of rain effects on millimeter wave propagation. Rep. SATCOM-80-3 under NASA contract NAS5-22577, Va. Polytech. Inst. and State Univ. , Electr. Eng. Dep. , Blacksburg, Va.
- Laws, J. O. , and Parsons D. A. 1943. The relation of raindrop size to intensity. Eos Trans. AGU 24: 452-460.
- Leitao, M. J. , Watson, P. A. , and Brussaard, G. 1984. Report No. 352, University of Bradford, UK.
- Lin, S. H. 1979. Empirical rain attenuation model for earth-space paths. IEEE Trans. Commun. COM-27(5): 812-817.
- Maggiore, D. 1981. Computed transmission through rain in the 1-400 GHz frequency range for spherical and elliptical drops and any polarization. Alta Frequenza , Vol. L, 5: 262-273.
- Marshall, J. S. , and Palmer W. M. 1948. The distribution of raindrops with size. J. Meteorol. 5: 165-166.
- Misme, P. , and Waldtenfel P. 1980. A model for attenuation by precipitation on a microwave earth-space link. Radio Sci. 15(3): 655-665.
- Moupfouma, F. 1987. More about rainfall rates and their prediction for radio systems engineering. IEE Proc. H, Vol. 134, No. 6:527-537.
- Mueller, E. A. , and Sims, A. L. 1975. Statistics of high radar reflectivity gradients. Preprints, 16 th Radar Meteorol. Conf., Amer. Meteorol. Soc., Boston, MA. April: 401-403.
- Nowland, W. L. , Olsen, R. L. , and Shkarofsky, I . P. 1977. Theoretical relationship between rain depolarization and attenuation. Electron. Lett. 13: 676-678.
- Olsen, R. L. , Rogers, D. V. , and Hodge D. B. 1978. The aR^b relation in the calculation of rain attenuation. IEEE Trans. Antennas Propag. AP-26(2): 319-329.

- Pruppacher, H. R. , and Pitter R. L. 1971. A semi-empirical determination of the shape of cloud and raindrops. J. Atmos. Sci. 28: 86-94.
- Ray, P. S. 1972. Broadband complex refractive indices of ice and water. Appl. Opt. Vol. II: 1836-1844.
- Rice, P. L. , and Holmberg, N. R. 1973. Cumulative time statistics of surface point rainfall rates. IEEE Trans. Commun. COM-21: 1131-1136.
- Riehl, H. 1954. Tropical Meteorology. McGraw-hill Publishing Company LTD, New York: 168-171.
- Rogers, D. V. , and Olsen, R. L. 1976. Calculation of radiowave attenuation due to rain at frequencies up to 1000 GHz. CRC Report No. 1299 Dept. of Communications(Canada), Commun. Rersearch Centre, Ottawa.
- _____. 1983. Multiple scattering in coherent radiowave propagation through rain. Comsat Tech. Rev. 13: 385-402.
- Stutzman, W. L. , and Dishman, W. K. 1982. A simple model for the estimation of rain-induced attenuation along earth-space paths at millimeter wavelengths. Radio Sci. 17: 1465-1476.
- Twersky, V. 1962a. On Scattering of Waves by Random Distributions. I. Free-space Formalism. J. Math. Phys. 3: 724-734.
- _____. 1962b. On a General Class of Scattering Problems. J. Math. Phys. 3: 716-723.
- _____. 1962c. On Scattering of Waves by Random Distributions. II. Two-space Scatterer Formalism. J. Math. Phys. 3: 724-734.
- _____. 1964. On Propagation in Random Media of Discrete Scatterers. Proceedings of the Symposium in Applied Physics and Engineering , edited by R. Bellman, pp. 84-116, American Mathematical Society, Providence, R.I.
- Ulaby, F. T. 1976. Passive Microwave Remote Sensing of the Earth's surface. IEEE Trans. Antennas Propag. Jan.: 112-115.



ภาคผนวก

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

ภาคผนวก ก

ขนาดเส้นผ่าศูนย์กลางเฉลี่ยของเซลล์ในในแต่ละระดับฝน



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Average rain cell diameter (km) for Strong rain (25.1 - 50.0 mm/h)							Page 1/1
August 1992 - October 1993							Bangkok
1.17	2.14	2.53	3.03	3.32	3.95	4.98	
1.35	2.14	2.53	3.03	3.39	4.01	4.98	
1.35	2.14	2.53	3.03	3.45	4.01	4.98	
1.59	2.14	2.53	3.1	3.45	4.01	5.02	
1.66	2.19	2.53	3.1	3.45	4.01	5.06	
1.66	2.25	2.62	3.1	3.45	4.01	5.07	
1.66	2.25	2.62	3.1	3.45	4.06	5.11	
1.66	2.25	2.62	3.1	3.45	4.06	5.11	
1.66	2.25	2.7	3.17	3.45	4.06	5.16	
1.66	2.25	2.7	3.18	3.45	4.06	5.24	
1.73	2.25	2.71	3.18	3.45	4.17	5.24	
1.79	2.25	2.71	3.18	3.45	4.17	5.29	
1.85	2.25	2.71	3.18	3.45	4.17	5.5	
1.91	2.3	2.71	3.18	3.45	4.23	5.5	
1.91	2.3	2.71	3.18	3.52	4.27	5.74	
1.91	2.34	2.71	3.18	3.58	4.27	5.86	
1.91	2.35	2.71	3.18	3.58	4.28	6.06	
1.91	2.35	2.71	3.18	3.58	4.28	6.06	
1.91	2.35	2.71	3.18	3.58	4.28	6.13	
1.91	2.35	2.71	3.31	3.58	4.28	6.24	
1.91	2.35	2.71	3.31	3.58	4.34	6.28	
1.91	2.35	2.71	3.31	3.58	4.34	6.35	
1.91	2.35	2.71	3.31	3.58	4.38	4.38	
1.91	2.35	2.71	3.31	3.61	4.39	4.39	
1.91	2.35	2.79	3.31	3.65	4.39	4.39	
1.91	2.35	2.79	3.31	3.65	4.39	4.39	
1.91	2.35	2.83	3.31	3.65	4.48	4.48	
1.91	2.35	2.87	3.31	3.65	4.49	4.49	
1.91	2.35	2.87	3.31	3.71	4.49	4.49	
1.91	2.35	2.87	3.31	3.71	4.49	4.49	
1.91	2.35	2.87	3.31	3.71	4.49	4.49	
2.03	2.35	2.87	3.32	3.71	4.5	4.5	
2.03	2.44	2.87	3.32	3.71	4.59	4.59	
2.03	2.44	2.87	3.32	3.71	4.59	4.59	
2.09	2.44	2.91	3.32	3.77	4.64	4.64	
2.14	2.53	2.95	3.32	3.77	4.64	4.64	
2.14	2.53	2.95	3.32	3.82	4.64	4.64	
2.14	2.53	2.99	3.32	3.82	4.69	4.69	
2.14	2.53	3.03	3.32	3.83	4.74	4.74	
2.14	2.53	3.03	3.32	3.83	4.74	4.74	
2.14	2.53	3.03	3.32	3.83	4.79	4.79	
2.14	2.53	3.03	3.32	3.83	4.79	4.79	
2.14	2.53	3.03	3.32	3.83	4.79	4.79	
2.14	2.53	3.03	3.32	3.83	4.88	4.88	
2.14	2.53	3.03	3.32	3.83	4.88	4.88	
2.14	2.53	3.03	3.32	3.83	4.88	4.88	
2.14	2.53	3.03	3.32	3.89	4.88	4.88	
2.14	2.53	3.03	3.32	3.95	4.88	4.88	
2.14	2.53	3.03	3.32	3.95	4.88	4.88	

Average rain cell diameter (km) for Moderate rain (5.1 - 25.0 mm/h)								Page 6/8
August 1992 - October 1993								Bangkok
4.06	4.17	4.28	4.39	4.49	4.59	4.69	4.83	4.98
4.06	4.17	4.28	4.39	4.49	4.59	4.69	4.83	4.98
4.06	4.17	4.28	4.39	4.49	4.59	4.69	4.83	4.98
4.06	4.17	4.28	4.39	4.49	4.59	4.69	4.83	5
4.06	4.17	4.28	4.39	4.49	4.59	4.69	4.83	5.02
4.09	4.17	4.28	4.39	4.49	4.59	4.69	4.83	5.02
4.12	4.17	4.28	4.39	4.49	4.59	4.69	4.88	5.02
4.12	4.17	4.28	4.39	4.49	4.59	4.69	4.88	5.02
4.12	4.17	4.28	4.39	4.49	4.59	4.69	4.88	5.02
4.12	4.17	4.28	4.39	4.49	4.59	4.69	4.88	5.02
4.12	4.17	4.28	4.39	4.49	4.59	4.69	4.88	5.06
4.12	4.17	4.28	4.39	4.49	4.59	4.69	4.88	5.06
4.12	4.17	4.28	4.39	4.49	4.59	4.69	4.88	5.06
4.12	4.2	4.28	4.39	4.49	4.59	4.69	4.88	5.06
4.12	4.2	4.28	4.39	4.49	4.59	4.74	4.88	5.06
4.12	4.2	4.28	4.39	4.49	4.59	4.74	4.88	5.06
4.12	4.22	4.28	4.39	4.49	4.59	4.74	4.88	5.06
4.12	4.23	4.28	4.39	4.49	4.59	4.74	4.88	5.06
4.12	4.23	4.28	4.39	4.49	4.59	4.74	4.88	5.06
4.15	4.23	4.28	4.39	4.49	4.59	4.74	4.88	5.07
4.17	4.23	4.34	4.39	4.49	4.59	4.74	4.88	5.07
4.17	4.23	4.34	4.39	4.49	4.59	4.74	4.88	5.07
4.17	4.23	4.34	4.39	4.49	4.59	4.74	4.88	5.07
4.17	4.23	4.34	4.41	4.52	4.64	4.74	4.88	5.07
4.17	4.23	4.34	4.44	4.54	4.64	4.76	4.88	5.07
4.17	4.23	4.34	4.44	4.54	4.64	4.79	4.91	5.07
4.17	4.23	4.34	4.44	4.54	4.64	4.79	4.93	5.07
4.17	4.23	4.34	4.44	4.54	4.64	4.79	4.93	5.07
4.17	4.23	4.34	4.44	4.54	4.64	4.79	4.93	5.07
4.17	4.23	4.34	4.44	4.54	4.64	4.79	4.93	5.07
4.17	4.27	4.34	4.44	4.54	4.64	4.79	4.93	5.07
4.17	4.27	4.34	4.44	4.54	4.64	4.79	4.93	5.07
4.17	4.27	4.34	4.44	4.54	4.64	4.79	4.93	5.07
4.17	4.27	4.34	4.44	4.54	4.64	4.79	4.93	5.07
4.17	4.27	4.36	4.44	4.54	4.64	4.79	4.93	5.07
4.17	4.27	4.39	4.44	4.54	4.64	4.79	4.98	5.11
4.17	4.27	4.39	4.44	4.54	4.68	4.79	4.98	5.11
4.17	4.28	4.39	4.49	4.54	4.68	4.79	4.98	5.11
4.17	4.28	4.39	4.49	4.59	4.68	4.79	4.98	5.11
4.17	4.28	4.39	4.49	4.59	4.69	4.79	4.98	5.11
4.17	4.28	4.39	4.49	4.59	4.69	4.79	4.98	5.11
4.17	4.28	4.39	4.49	4.59	4.69	4.79	4.98	5.11
4.17	4.28	4.39	4.49	4.59	4.69	4.79	4.98	5.11
4.17	4.28	4.39	4.49	4.59	4.69	4.79	4.98	5.16
4.17	4.28	4.39	4.49	4.59	4.69	4.79	4.98	5.16
4.17	4.28	4.39	4.49	4.59	4.69	4.81	4.98	5.16
4.17	4.28	4.39	4.49	4.59	4.69	4.83	4.98	5.16
4.17	4.28	4.39	4.49	4.59	4.69	4.83	4.98	5.16

Average rain cell diameter (km) for Moderate rain (5.1 - 25.0 mm/h)									Page 7/8
August 1992 - October 1993									Bangkok
5.16	5.37	5.5	5.73	5.94	6.21	6.56	6.9	7.35	
5.16	5.37	5.5	5.74	5.94	6.21	6.56	6.9	7.35	
5.16	5.37	5.5	5.74	5.94	6.21	6.56	6.9	7.35	
5.16	5.37	5.5	5.74	5.98	6.23	6.6	6.97	7.39	
5.16	5.37	5.5	5.74	5.98	6.24	6.62	6.97	7.39	
5.16	5.37	5.5	5.74	5.98	6.24	6.62	6.97	7.39	
5.16	5.4	5.54	5.74	5.98	6.28	6.62	6.97	7.4	
5.16	5.41	5.54	5.74	5.98	6.28	6.63	7	7.4	
5.16	5.41	5.54	5.74	5.98	6.28	6.63	7.02	7.4	
5.16	5.41	5.54	5.74	5.98	6.28	6.63	7.04	7.42	
5.2	5.41	5.54	5.74	5.98	6.28	6.63	7.04	7.42	
5.2	5.41	5.54	5.74	5.98	6.28	6.63	7.04	7.42	
5.2	5.41	5.54	5.78	5.98	6.28	6.63	7.04	7.42	
5.2	5.41	5.58	5.78	5.98	6.28	6.63	7.04	7.48	
5.24	5.41	5.58	5.78	6.02	6.28	6.63	7.04	7.51	
5.24	5.41	5.58	5.78	6.02	6.31	6.67	7.04	7.51	
5.24	5.41	5.58	5.78	6.04	6.31	6.67	7.1	7.53	
5.24	5.41	5.58	5.82	6.04	6.31	6.67	7.1	7.54	
5.24	5.41	5.58	5.82	6.04	6.34	6.7	7.1	7.54	
5.24	5.42	5.58	5.82	6.04	6.34	6.7	7.13	7.54	
5.24	5.42	5.58	5.82	6.06	6.34	6.7	7.13	7.54	
5.24	5.42	5.58	5.82	6.06	6.34	6.7	7.13	7.6	
5.24	5.42	5.58	5.82	6.06	6.34	6.7	7.13	7.6	
5.24	5.42	5.58	5.82	6.06	6.35	6.74	7.13	7.6	
5.24	5.42	5.58	5.82	6.06	6.35	6.74	7.15	7.61	
5.29	5.42	5.62	5.82	6.06	6.35	6.74	7.15	7.63	
5.29	5.42	5.62	5.82	6.06	6.35	6.74	7.15	7.65	
5.29	5.42	5.62	5.82	6.06	6.39	6.74	7.16	7.66	
5.29	5.42	5.62	5.82	6.06	6.42	6.74	7.16	7.66	
5.29	5.42	5.62	5.82	6.06	6.42	6.77	7.16	7.66	
5.29	5.42	5.66	5.82	6.06	6.42	6.77	7.16	7.69	
5.33	5.42	5.66	5.84	6.06	6.42	6.8	7.16	7.69	
5.33	5.42	5.66	5.86	6.06	6.42	6.8	7.16	7.71	
5.33	5.42	5.66	5.86	6.06	6.42	6.8	7.23	7.72	
5.33	5.42	5.66	5.86	6.09	6.42	6.84	7.23	7.72	
5.33	5.42	5.66	5.9	6.09	6.42	6.84	7.23	7.72	
5.33	5.42	5.66	5.9	6.09	6.46	6.84	7.23	7.75	
5.33	5.46	5.66	5.9	6.13	6.46	6.84	7.26	7.78	
5.33	5.46	5.66	5.9	6.13	6.49	6.84	7.29	7.84	
5.33	5.46	5.66	5.9	6.13	6.49	6.87	7.29	7.84	
5.33	5.46	5.66	5.9	6.13	6.49	6.87	7.29	7.87	
5.33	5.46	5.67	5.9	6.13	6.49	6.87	7.29	7.88	
5.33	5.46	5.7	5.9	6.13	6.49	6.89	7.31	7.88	
5.33	5.46	5.7	5.9	6.13	6.49	6.89	7.32	7.9	
5.33	5.46	5.7	5.9	6.13	6.51	6.89	7.32	7.9	
5.33	5.5	5.73	5.9	6.17	6.53	6.89	7.35	7.9	
5.33	5.5	5.73	5.9	6.17	6.53	6.9	7.35	7.91	
5.33	5.5	5.73	5.9	6.21	6.56	6.9	7.35	7.92	
5.33	5.5	5.73	5.94	6.21	6.56	6.9	7.35	7.98	
5.37	5.5	5.73	5.94	6.21	6.56	6.9	7.35	8.01	

Average rain cell diameter (km) for Moderate rain (5.1 - 25.0 mm/h)			Page 8/8
August 1992 - October 1993			Bangkok
8.01	9.23	11.94	
8.04	9.31	12.04	
8.07	9.33	12.09	
8.1	9.36	12.24	
8.11	9.38	12.54	
8.11	9.43	12.59	
8.11	9.43	12.74	
8.15	9.43	13	
8.18	9.45	13.11	
8.18	9.55	13.38	
8.18	9.6	13.54	
8.18	9.6		
8.21	9.67		
8.24	9.67		
8.24	9.69		
8.26	9.75		
8.29	9.76		
8.29	9.89		
8.29	9.93		
8.33	9.93		
8.33	9.93		
8.33	9.93		
8.33	9.93		
8.35	9.95		
8.37	9.95		
8.4	10.11		
8.4	10.12		
8.46	10.13		
8.48	10.18		
8.55	10.25		
8.56	10.27		
8.62	10.29		
8.66	10.36		
8.67	10.38		
8.67	10.44		
8.7	10.47		
8.72	10.51		
8.72	10.58		
8.76	10.58		
8.78	10.75		
8.86	10.81		
8.97	10.87		
8.97	10.98		
8.98	11.15		
8.98	11.17		
9.08	11.17		
9.13	11.21		
9.17	11.39		
9.17	11.39		
9.21	11.63		

Average rain cell diameter (km) for Weak rain (0.1 - 5.0 mm/h)								Page 2/5
August 1992 - October 1993								Bangkok
2.35	2.44	2.53	2.62	2.71	2.79	2.87	2.99	3.03
2.35	2.44	2.53	2.62	2.71	2.79	2.87	3.02	3.03
2.35	2.44	2.53	2.62	2.71	2.79	2.87	3.02	3.03
2.35	2.44	2.53	2.62	2.71	2.79	2.87	3.02	3.03
2.35	2.44	2.53	2.62	2.71	2.79	2.87	3.03	3.03
2.35	2.44	2.53	2.62	2.71	2.79	2.87	3.03	3.03
2.35	2.44	2.53	2.62	2.71	2.79	2.87	3.03	3.03
2.35	2.44	2.53	2.67	2.71	2.79	2.87	3.03	3.03
2.35	2.44	2.53	2.7	2.71	2.79	2.87	3.03	3.07
2.35	2.44	2.53	2.7	2.71	2.79	2.87	3.03	3.1
2.35	2.44	2.53	2.7	2.71	2.79	2.87	3.03	3.1
2.35	2.44	2.58	2.7	2.71	2.79	2.87	3.03	3.1
2.35	2.44	2.58	2.7	2.71	2.79	2.87	3.03	3.1
2.35	2.44	2.58	2.7	2.71	2.79	2.87	3.03	3.1
2.35	2.44	2.58	2.7	2.71	2.79	2.87	3.03	3.1
2.35	2.44	2.58	2.7	2.71	2.79	2.87	3.03	3.1
2.35	2.44	2.58	2.71	2.71	2.79	2.87	3.03	3.1
2.35	2.44	2.58	2.71	2.71	2.79	2.87	3.03	3.1
2.35	2.49	2.62	2.71	2.71	2.79	2.87	3.03	3.1
2.35	2.49	2.62	2.71	2.71	2.79	2.87	3.03	3.1
2.35	2.49	2.62	2.71	2.71	2.79	2.87	3.03	3.1
2.35	2.53	2.62	2.71	2.71	2.79	2.87	3.03	3.1
2.35	2.53	2.62	2.71	2.71	2.79	2.87	3.03	3.1
2.35	2.53	2.62	2.71	2.71	2.79	2.87	3.03	3.1
2.35	2.53	2.62	2.71	2.71	2.79	2.87	3.03	3.1
2.35	2.53	2.62	2.71	2.75	2.83	2.91	3.03	3.1
2.35	2.53	2.62	2.71	2.75	2.83	2.91	3.03	3.1
2.35	2.53	2.62	2.71	2.75	2.83	2.91	3.03	3.1
2.39	2.53	2.62	2.71	2.75	2.87	2.91	3.03	3.1
2.39	2.53	2.62	2.71	2.75	2.87	2.91	3.03	3.1
2.39	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.1
2.39	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.1
2.39	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.1
2.39	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.14
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.14
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.14
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.95	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.99	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.99	3.03	3.18
2.44	2.53	2.62	2.71	2.79	2.87	2.99	3.03	3.18

Average rain cell diameter (km) for Weak rain (0.1 - 5.0 mm/h)								Page 3/5
August 1992 - October 1993								Bangkok
3.18	3.32	3.39	3.52	3.61	3.77	3.89	4.12	4.31
3.18	3.32	3.39	3.52	3.65	3.77	3.95	4.12	4.31
3.18	3.32	3.39	3.52	3.65	3.77	3.95	4.12	4.31
3.18	3.32	3.39	3.52	3.65	3.77	3.95	4.15	4.34
3.18	3.32	3.42	3.52	3.65	3.8	3.95	4.17	4.34
3.18	3.32	3.45	3.52	3.65	3.82	3.95	4.17	4.34
3.18	3.32	3.45	3.52	3.65	3.83	3.95	4.17	4.34
3.18	3.32	3.45	3.52	3.65	3.83	3.95	4.17	4.34
3.18	3.32	3.45	3.52	3.65	3.83	3.95	4.17	4.34
3.18	3.32	3.45	3.55	3.65	3.83	3.95	4.17	4.34
3.18	3.32	3.45	3.58	3.65	3.83	3.95	4.17	4.39
3.18	3.32	3.45	3.58	3.71	3.83	3.95	4.17	4.39
3.21	3.32	3.45	3.58	3.71	3.83	3.95	4.17	4.39
3.21	3.32	3.45	3.58	3.71	3.83	3.95	4.17	4.39
3.25	3.32	3.45	3.58	3.71	3.83	3.95	4.17	4.39
3.25	3.32	3.45	3.58	3.71	3.83	3.95	4.17	4.39
3.25	3.32	3.45	3.58	3.71	3.83	3.95	4.17	4.39
3.25	3.32	3.45	3.58	3.71	3.83	3.95	4.2	4.39
3.25	3.32	3.45	3.58	3.71	3.83	3.95	4.2	4.39
3.25	3.32	3.45	3.58	3.71	3.83	3.95	4.22	4.39
3.25	3.32	3.45	3.58	3.71	3.83	3.98	4.22	4.39
3.25	3.32	3.45	3.58	3.71	3.83	4.01	4.23	4.39
3.25	3.32	3.45	3.58	3.71	3.83	4.01	4.23	4.39
3.25	3.32	3.45	3.58	3.71	3.83	4.01	4.23	4.39
3.25	3.32	3.45	3.58	3.71	3.83	4.01	4.23	4.39
3.25	3.32	3.45	3.58	3.71	3.83	4.01	4.23	4.39
3.25	3.32	3.45	3.58	3.71	3.83	4.01	4.23	4.44
3.25	3.32	3.45	3.58	3.71	3.83	4.01	4.23	4.44
3.25	3.32	3.45	3.58	3.71	3.83	4.01	4.23	4.44
3.25	3.32	3.45	3.58	3.71	3.83	4.01	4.23	4.44
3.25	3.35	3.45	3.58	3.71	3.83	4.06	4.23	4.44
3.25	3.35	3.45	3.58	3.71	3.83	4.06	4.27	4.44
3.25	3.35	3.45	3.58	3.71	3.83	4.06	4.27	4.44
3.25	3.39	3.45	3.58	3.71	3.83	4.06	4.28	4.44
3.25	3.39	3.45	3.58	3.71	3.86	4.06	4.28	4.44
3.25	3.39	3.45	3.58	3.71	3.89	4.06	4.28	4.44
3.25	3.39	3.45	3.58	3.71	3.89	4.06	4.28	4.44
3.28	3.39	3.45	3.58	3.74	3.89	4.06	4.28	4.48
3.28	3.39	3.45	3.58	3.74	3.89	4.06	4.28	4.49
3.28	3.39	3.49	3.58	3.77	3.89	4.06	4.28	4.49
3.28	3.39	3.49	3.58	3.77	3.89	4.06	4.28	4.49
3.31	3.39	3.49	3.58	3.77	3.89	4.06	4.28	4.49
3.32	3.39	3.52	3.58	3.77	3.89	4.06	4.28	4.49
3.32	3.39	3.52	3.58	3.77	3.89	4.06	4.28	4.49
3.32	3.39	3.52	3.58	3.77	3.89	4.09	4.28	4.49
3.32	3.39	3.52	3.58	3.77	3.89	4.12	4.28	4.49
3.32	3.39	3.52	3.58	3.77	3.89	4.12	4.28	4.49
3.32	3.39	3.52	3.58	3.77	3.89	4.12	4.28	4.49
3.32	3.39	3.52	3.61	3.77	3.89	4.12	4.28	4.52

Average rain cell diameter (km) for Weak rain (0.1 - 5.0 mm/h)								Page 4/5
August 1992 - October 1993								Bangkok
4.54	4.83	5.07	5.37	5.74	6.34	7.04	7.65	8.76
4.54	4.83	5.07	5.37	5.74	6.34	7.04	7.66	8.78
4.54	4.83	5.07	5.37	5.74	6.34	7.04	7.66	8.8
4.54	4.83	5.07	5.37	5.74	6.35	7.07	7.66	8.83
4.54	4.83	5.07	5.41	5.74	6.39	7.1	7.75	8.83
4.58	4.83	5.09	5.41	5.76	6.42	7.1	7.78	8.86
4.59	4.83	5.11	5.41	5.78	6.42	7.1	7.78	8.88
4.59	4.88	5.11	5.41	5.82	6.49	7.1	7.78	8.9
4.59	4.88	5.11	5.42	5.82	6.49	7.1	7.81	8.93
4.59	4.88	5.16	5.42	5.82	6.5	7.1	7.84	8.97
4.59	4.88	5.16	5.42	5.82	6.53	7.1	7.84	8.97
4.59	4.88	5.16	5.42	5.82	6.56	7.1	7.87	8.98
4.59	4.88	5.16	5.42	5.82	6.56	7.1	7.92	9.06
4.59	4.88	5.16	5.42	5.82	6.62	7.13	7.95	9.08
4.59	4.93	5.16	5.42	5.82	6.62	7.13	7.95	9.13
4.59	4.93	5.2	5.42	5.82	6.62	7.15	8	9.16
4.59	4.93	5.2	5.42	5.86	6.62	7.15	8.01	9.18
4.59	4.93	5.2	5.42	5.86	6.63	7.16	8.01	9.21
4.59	4.93	5.2	5.42	5.86	6.63	7.16	8.04	9.27
4.59	4.93	5.2	5.46	5.9	6.63	7.23	8.07	9.36
4.64	4.98	5.2	5.46	5.9	6.63	7.23	8.11	9.36
4.64	4.98	5.24	5.46	5.9	6.67	7.26	8.12	9.45
4.67	4.98	5.24	5.46	5.94	6.67	7.29	8.12	9.48
4.68	4.98	5.24	5.5	5.94	6.7	7.29	8.12	9.48
4.69	4.98	5.24	5.5	5.98	6.7	7.29	8.12	9.56
4.69	4.98	5.24	5.5	6.06	6.7	7.29	8.12	9.56
4.69	4.98	5.24	5.5	6.06	6.7	7.29	8.15	9.67
4.69	4.98	5.24	5.5	6.09	6.74	7.29	8.18	9.69
4.69	4.98	5.24	5.5	6.09	6.77	7.32	8.18	9.72
4.69	4.98	5.24	5.54	6.09	6.77	7.32	8.18	9.76
4.69	4.98	5.24	5.54	6.13	6.77	7.35	8.24	9.79
4.69	4.98	5.24	5.57	6.13	6.77	7.35	8.32	9.81
4.69	4.98	5.24	5.58	6.13	6.8	7.35	8.32	9.81
4.69	4.98	5.24	5.58	6.13	6.8	7.35	8.33	9.86
4.69	5	5.29	5.58	6.17	6.84	7.39	8.33	9.9
4.69	5.02	5.29	5.58	6.17	6.84	7.4	8.35	9.93
4.69	5.02	5.29	5.58	6.17	6.84	7.4	8.35	9.97
4.74	5.02	5.29	5.58	6.17	6.84	7.42	8.4	10
4.76	5.02	5.33	5.58	6.21	6.84	7.42	8.4	10.04
4.79	5.02	5.33	5.66	6.21	6.84	7.42	8.4	10.06
4.79	5.06	5.33	5.66	6.21	6.84	7.48	8.46	10.18
4.79	5.06	5.33	5.66	6.21	6.85	7.48	8.46	10.18
4.79	5.06	5.33	5.66	6.24	6.87	7.48	8.51	10.22
4.79	5.06	5.33	5.7	6.28	6.87	7.51	8.51	10.27
4.79	5.06	5.33	5.7	6.28	6.9	7.53	8.55	10.29
4.79	5.07	5.33	5.73	6.28	6.9	7.53	8.56	10.36
4.79	5.07	5.33	5.73	6.28	6.97	7.54	8.67	10.47
4.81	5.07	5.33	5.74	6.31	6.97	7.54	8.67	10.47
4.83	5.07	5.35	5.74	6.31	7.04	7.6	8.72	10.53
4.83	5.07	5.37	5.74	6.31	7.04	7.6	8.76	10.58

Average rain cell diameter (km) for Weak rain (0.1 - 5.0 mm/h)		Page 5/5
August 1992 - October 1993		Bangkok
10.64	13.38	
10.64	13.43	
10.66	13.52	
10.7	13.64	
10.79	13.65	
10.83	13.78	
10.87	13.85	
10.9	13.96	
10.9	14.05	
10.92	14.15	
10.96	14.24	
10.98	14.34	
10.98	14.4	
11	14.43	
11	14.5	
11.15	14.56	
11.21	14.56	
11.31	14.62	
11.45	15.76	
11.47	15.76	
11.47	15.94	
11.47	15.99	
11.49	15.99	
11.53	16.61	
11.55	16.66	
11.59	16.99	
11.63	17.68	
11.67	19.49	
11.78		
11.84		
11.92		
11.98		
12.04		
12.19		
12.22		
12.22		
12.24		
12.24		
12.34		
12.41		
12.54		
12.54		
12.56		
12.68		
12.86		
12.88		
13.02		
13.04		
13.08		
13.3		



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

ภาคผนวก ข

ความสูงระดับเยือกแข็งในแต่ละจังหวัดตั้งแต่ปี 1990 ถึง 1993



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	January 1990		February 1990		March 1990		April 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4732	4785	5039	4900	4871	5000	4950	5120
2	4628	4806	4807	4900	5124	4690	5030	4830
3	4727	4670	4680	4620	4377	4610	4850	4890
4	4699	4600	4728	4520	4383	4870	4880	4850
5	4743	4549	4666	4565	4739	4860	4500	4720
6	4656	4759	4763	5220	4992	4280	4490	4550
7	4812	4812	4530	4550	4585	4690	4450	4700
8	4865	4807	4583	4680	4146	4720	4500	4700
9	4718	4757	4667	4620	4281	4500	4420	5100
10	4624	4768	4517	4730	4420	4510	4710	4450
11	4568	4605	4802	4870	4469	4660	5820	5450
12	4317	4620	4530	4620	4455	4680	5650	5680
13	5316	5140	4717	4380	4423	4500	5660	5140
14	5366	4910	4649	4516	4405	4570	5630	5310
15	5142	4990	4303	4645	4597	4420		5180
16	5025	4950	4614	4700	4330	4450	4960	5040
17	4953	4820	4750	4626	4417	4310	5000	4820
18	4911	5120	4723	4800	4430	4450	4850	4600
19	5543	5847	4563	4380	4514	4640	5050	5040
20	4281	5330	4441	4200	4565	4530	4920	4250
21	5362	5300	4932	4600	4740	4710	4700	4570
22	5233	4600	4785	4460	4656	5170	4850	5260
23	5178	5210	4683	4670	4903	4720	5800	5450
24	5283	5140	4595	4690	4983	5090	5040	5330
25	5174	5200	4784	4780	5240	5250	5250	4720
26	5486	3470	4759	4620	4815	5120	4600	4380
27	5323	5250	4561	5050	4977	4650	4660	4940
28	5223	4940	4430	4930	4944	4690	4760	4720
29	5143	5130			5000	5070	4270	4620
30		5038			4850	4870	4870	5020
31	5183	5000			4580	5130		
N		61		56		62		59
Mean		4937		4669		4687		4925
Max		5847		5220		5250		5820
Min		3470		4200		4146		4250

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	May 1990		June 1990		July 1990		August 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4947	4794	5260	5080	4900	5080	5390	5090
2	5120	4980	5030	5000	4790	4840	5060	5250
3	5029	4963	4870	5090	4800	4600	4950	5300
4	4942	4830	4870	5320	4730	4800	4840	4620
5	4800	5007	4930	5130	5060	4790	5150	4960
6	4760	4510	5360	5050	4840	4590	4660	5050
7	4750	4840	4950	4980	4600	4970	4800	5130
8	4880	5000	4720	5100	5070	4900	4600	
9	4550	4890	4930	4950	5130	5160	5050	4770
10	4560	4750	5040	5200	4900	4800	4650	4750
11	4730	4920	4930	5180	4670	5460	4970	4690
12	4750	4690	4530	4870	4940	4920	4820	4880
13	4790	5230	5310	5050	4890	4530	4710	5060
14	5060	4780	5130	4740	4630	4930	4450	4720
15	4980	4850	4800	5170	4840	4650	4520	4550
16	5060	5480	4660	4910	4680	5050	4772	4240
17	4870	4810	4400	4900	4960	5000	4340	4994
18	5000	5160	4720	4800	4950	5100	4520	4860
19	4700	5210	5000	4780	4860	4670	4620	4800
20	4950	4810	4830	5120	4750	4920	4650	4650
21	4860	5070	5050	4800	5740	4500	4650	4750
22	4900	5600	4770	5620	4760	5150	4660	4910
23	5300	5050	4840	5060	4930	5280	4530	4800
24	5130	4740	5250	5100	5170	5400	4610	4650
25	4940	5010	4860	5580	4960	4640	4374	4260
26	4890	4860	4940	5000	4700	5230	4720	4400
27	5140	5090	4900	5130	5130	5090	4610	4500
28	5100	5130	5010	5000	5010	5180	4440	4720
29	5100	5230	4620	5050	4850	4560	4790	4560
30	4940	4830	5230	5160	5060	5090	4690	4480
31	5350	5500			5700	5000	5150	4575
N		62		60		62		61
Mean		4960		4994		4934		4749
Max		5600		5620		5740		5390
Min		4510		4400		4500		4240

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	September 1990		October 1990		November 1990		December 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5320	5140	4540	4460	5000	4950	5303	4660
2	4960	5000	4555	4403	5070	4650	5168	5130
3	4400	4690	4310	4300	4900	5080	5110	5160
4	4390	4500	4560	4420	4480	4810	5126	5100
5	4480	4630	4610	4740	4580	4850	4978	5098
6	4500	4670	4200	4800	4780	5120	4922	5030
7	4500	4460	4620	5101	4870	4730	5012	4833
8	4630	4890	4530	4650	4780	4880	4934	4750
9	4610	4600		4640	4660	5080	4927	4730
10	4540	4940	4650	4680	4580	4850	4906	4850
11	4580	4660	5070	4920	4840	4760	4503	4720
12	4560	4620	4650	4610	4490	4700	4926	4740
13	4320	4310	5000	4950	4540	4730	4585	4707
14	4510	5400	4640	4720	4978	5006	4840	4810
15	4830	4750	4770	4830	5050	4830	4813	4910
16	4480	4730	4500	5040	4952	4936	4650	4690
17	4440	4710	4500	4330	4640	4750	4638	4490
18	4540	4600	4730	4610	4935	4790	4580	4676
19	4500	4700	4730	4350	4807	5330	5169	5070
20	5000	5030	4810	4480	5019	4800	5134	4850
21	4570	4730	5070	4860	4624	4480	4896	4630
22	4530	5120	4870	5050	4716	4841	4377	5300
23	4210		4620	5430	4951	5121	5463	5150
24	4470	4800	5260	4520	4920	4810	5288	5200
25	4340	4700	5160	4050	5073	4900	5277	5000
26	4860	4750	4510	4610	4905	4920	5089	4880
27	4407	4670	4590	4510	4907	5220	5052	4860
28	4520	4630	4350	4550	5411	5280	5108	4950
29	4550	4440	4480	4840	5375	5130	4953	5070
30	4382	4450	5000	5000	5267	5130	5056	4720
31			4800	4800			4644	4800
N		59		61		60		62
Mean		4648		4688		4893		4919
Max		5400		5430		5411		5463
Min		4210		4050		4480		4377

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	January 1991		February 1991		March 1991		April 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4784	4753	4956	4770	4701	4620	4340	4680
2	4908	4760	5323	5075	4605	4600	4705	4500
3	4722	4934	5100	4890	4560	4410	4708	4600
4	4799	4806	5089	5200	4909	4770	4729	4560
5	4778	4630	5091	4480	4991	4940	4637	4800
6	4987	4690	5080	4860	4946	4720	4481	4590
7	5030	4750	4946	4800	5120	4800	5025	5050
8	5214	4700	4964	4760	5135	4920	5050	5330
9	4925	5100	4994	5190	4985	5200	5075	5230
10	5192	5360	5115	4720	5188	5120	4884	4600
11	5201	4368	4987	5040	5292	4940	5253	4780
12	5416	5514	4859	4610	5063	4750	5375	5270
13	5267	5484	4891	4520	5019	4820	5135	5100
14	5259	4840	5118	5070	5155	4780	5182	5050
15	5217	5000	5447	5699	4984	4670	5293	4890
16	5089	4400	5465	5080	5050	4960	5059	5100
17	5102	4660	5441	4240	4726	5060	5394	5300
18	4914	4780	5217	4620	5208	4830	5197	4750
19	5061	4760	5219	4890	4951	4700	4959	4800
20	4875	4800	5328	4840	4751	4470	4935	4510
21	4703	4740	5478	4730	4666	4300	4816	4500
22	4911	4780	5190	4999	5594	4930	4661	4540
23	5016	4600	4866	4910	5356	4930	5148	4760
24	4760	4750	5200	5300	5217	4940	4921	4960
25	4958	5000	4972	4800	5332	5050	4940	4640
26	4862	4700	5027	4800	5118	4980	5138	5060
27	4638	4402	5197	4840	5416	4900	4902	5270
28	4308	4080	4792	4900	5058	4750	4946	4910
29	4500	4000			5053	4940	5009	5100
30	5035	5340			5007	4600	5135	4950
31	5071	4800			4393			
N		62		56		61		60
Mean		4867		5000		4917		4920
Max		5514		5699		5594		5394
Min		4000		4240		4300		4340

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	May 1991		June 1991		July 1991		August 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4949	4870	4848	5143	5169	4600	4807	5090
2	4948	4600	6218	5091	4815	4870	4808	4800
3	4784	4800	5038	5101	4748	4560	4938	4740
4	4950	4640	4861	4670	4736	5270	4843	4680
5	4796	4670	4898	4520	5071	4820	4636	4320
6	4764	4470	4734	4600	4688	4580	4589	4700
7	5001	4650	5022	5391	4834	4810	4766	5108
8	4823	4840	5091	4500	4757	5020	4949	4530
9	5079	4800	5177	4540	4769	4720	4891	4830
10	4797	4520	5035	5260	4845	4920	5040	4800
11	4703	4530	5181	4900	4979	4760	4713	4650
12	4808	4640	4970	4380	4870	5058	4662	4971
13	5000	4650	4970	5580	4911	4890	4747	4944
14	4957	4790	4949	5000	5218	4640	4972	4710
15	4770	4690	5286	4590	4979	4740	4902	4890
16	4786	4780	5134	5247	4859	4490	4870	4700
17	4913	4700	5083	4730	4827	4070	4963	4900
18	4861	4830	4945	4700	4859	4730	5020	4590
19	5240	4650	5077	5040	4896	4650	4935	4800
20	4868	4500	5173	4980	4953	4765	5023	4920
21	5001	4750	5308	4890	5124	4940	5153	4885
22	4879	4730	5249	4770	5015	5111	4984	4978
23	4969	5311	4544	4320	4987	4940	4955	4877
24	5082		4605	5031	5002	4800	4944	5302
25	4826	5073	4960	5145	5011	4940	5161	5181
26	4811	4918	4703	5030	4868	4650	5152	5401
27	4839	4824	4921	5350	4693	4900	5138	4630
28	4852	5320	4721	4970	4930	4790	4948	4690
29	4927	5133	4861	4860	4759	4810	4860	4790
30	4941		4920	5139	5100	4900	4919	5040
31		5106			4631	5080	5020	4790
N		59		60		62		62
Mean		4843		4966		4850		4880
Max		5320		6218		5270		5401
Min		4470		4320		4070		4320

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	September 1991		October 1991		November 1991		December 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5072	4830	4848	4860	4929	4730	5061	4820
2	5067	4940	4711	4830	5217	5020	5038	5480
3	4997	4640	4901	4730	4877	4910	5069	5032
4	4668	4800	4677	4570	4900	4990	5019	5240
5	4780	4650	4767	4730	5204	4660	4977	4300
6	5055	5050	4957	4951	4977	4930	5062	5040
7	4984	4710	4775	4500	5215	4910	4936	4590
8	4907	4840	4958	4840	4927	4460	5138	4920
9	4967	4520	4953	5143	4531	4600	4833	4480
10	4853	4700	4980	4870	4660	4590	4546	4890
11	4846	4770	4781	5010	5015	4920	4851	4520
12	4780	4900	4709	4660	4905	5090	4889	4740
13	4907	5090	4689	4620	4939	5070	4761	4490
14	4815	4830	4623	4740	4960	5170	4660	4970
15	4840	4600	4696	4700	5053	5090	4881	4770
16	4891	4620	4799	4940	4907	4240	4861	4600
17	4787	4850	4736	4620	4951	4720	5082	5360
18	4885	4550	4720	4430	5003	4810	4862	5040
19	5045	4980	4728	4360	5034	4540	5136	4860
20	4987	4810	4618	4580	4959	5001	4940	5190
21	4786	4600	4821	4200	4805	4820	5177	4970
22	4685	5194	4830	4000	4803	4600	5249	4900
23	4988	4900	4791	5120	4609	4550	5056	4770
24	4908	4550	4404	4360	4616	5230	5214	4750
25	4785	4790	4884	5000	4810	5010	4627	4300
26	4792	4570	4664	5200	4797	4780	4744	4870
27	4938	4890	4767	4220	5003	5100	4769	4460
28	5161	4650	4679	4700	5012	5120	4737	4840
29	4847	5299	4818	4900	5192	5269	4672	4620
30	4795	4590	4778	4820	4935	5020	4563	4260
31			4878	4570			4805	4760
N		60		62		60		62
Mean		4842		4737		4895		4856
Max		5299		5200		5269		5480
Min		4520		4000		4240		4260

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	January 1992		February 1992		March 1992		April 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4768	4850	4541	4409	4602	4900	5220	4870
2	4715	4390	4718	4840	5024	4920	4845	4670
3	4494	4641	4905	4570	5241	5400	4979	5000
4	4715	4900	4775	4700	5596	5390	5013	5000
5	4306	4699	4744	4520	5686	5290	5146	4700
6	4694	4900	4699	4390	5291	4970	5093	4960
7	4996	4520	4545	4500	5440	5090	5074	4740
8	4715	4395	4608	4740	5386	5280	5116	5360
9	4523	4500	4560	4610	5299	5150	4970	5100
10	4705	4140	4361	4525	5366	4960	5318	5300
11	5076	4740	4433	4555	5422	5448	5420	5620
12	4989	4900	4864	5000	5165	5080	5341	5180
13	5299	5121	4815	4540	5003	5090	5130	4950
14	5067	4740	5710	4500	5221	5050	5072	4820
15	5100	4000	5404	4880	5200	4760	4710	5070
16	4877	5000	5103	4580	5219	4850	4544	4770
17	4696	5006	4696	4770	5064	5030	4737	4750
18	4728	4710	4936	5000	4832	4820	4968	5000
19	4581	4526	5495	4710	4916	4760	5008	4630
20	4674	4440	4992	4970	4934	4940	2022	5000
21	4559	4580	5019	4510	4996	4470	5238	5080
22	4528	4200	4945	4403	4961	4530	5314	4890
23	4474	4553	4859	4400	4961	4960	5239	4940
24	4514	4540	4108	5000	4964	4720	5053	5100
25	4784	4758	3925	3820	4954	5137	4815	4530
26	4639	4860	4040	4160	5138	4940	5180	4740
27	4677	4400	4063	4580	5115	4920	5113	4840
28	4340	4700	4250	4290	5054	5000	4735	4540
29	4948	4870	4865	4910	4993	4570	5037	4480
30	4862	4700			5002	4100	4936	4950
31	4847	4520			5064	4720		
N		62		58		62		60
Mean		4689		4661		5038		4933
Max		5299		5710		5686		5620
Min		4000		3820		4100		2022

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	May 1992		June 1992		July 1992		August 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4785	4440	4985	5212	4992	4940	4320	4840
2	4736	5150	5026	4970	4971	4700	4740	4740
3	4744	4690	4987	4800	4986	4840	4760	4670
4	5107	4820	4835	5050	5039	5110	4600	4980
5	4825	4680	4968	4560	5025	4900	4600	5120
6	5005	4800	4916	4530	4789	4890	5050	4590
7	5105	4830	4960	4810	4903	4449	4500	4840
8	5014	5220	4881	4500	4714	4894	4790	4400
9	5142	4860	4842	4890	4632	4670	4650	5000
10	4961	4830	4866	4730	4535	5040	4770	4780
11	4806	4660	4985	4950	4817	4520	4620	4630
12	5006	4810	4915	4900	4867	4630	4560	4710
13	4871	4860	5000	5233	4798	4930	5280	5250
14	4772	5070	5018	5166	4703	4840	4780	5000
15	5149	4740	5219	5269	4820	4520	4460	4700
16	4843	4930	5036	4810	4686	4880	4870	4600
17	4747	4530	4893	5030	4681	5080	5200	4770
18	4991	4600	5125	5170	4691	4840	4820	4890
19	4950	5020	4844	5150	4760	4790	4380	4972
20	5059	5036	4795	4880	4785	4770	5143	5270
21	5226	4700	4847	4730	4772	4740	4879	5040
22	5051	5006	4809	5220	4704	4775	4720	4830
23	4851	4710	4926	5146	4704	5002	4860	5025
24	4861	4940	4952	4368	4984	5193	4694	5034
25	4967	4320	4707	4680	4793	5043	5024	5131
26	4940	4620	4753	4590	5046	5045	4956	5078
27	4840	4940	5290	5260	4816	4500	4928	4984
28	4766	4800	4706	4530	4400	5240	4895	5066
29	4997	4820	4886	5120		4590	5038	5103
30	5137	4500	4824	5100	4750	4940	4976	5177
31	5097	5160			4540	5000	4849	4820
N		62		60		61		62
Mean		4878		4919		4820		4851
Max		5226		5290		5240		5280
Min		4320		4368		4400		4320

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	September 1992		October 1992		November 1992		December 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4946	5000	4370	5060	4847	4720	5159	4200
2	5020	4790	4811	4590	4919	4520	4858	5000
3	4901	5120	4689	4480	4807	5000	4737	4768
4	4820	5000	4582	4520	5027	4960	4686	4800
5	4863	5138	4846	5080	5001	4820	4511	4160
6	4838	4530	4875	5090	4941	5500	4948	4720
7	4965	5150	4761	4911	5127	4900	5124	4850
8	4854	4700	4987	5379	4994	4500	5220	4790
9	4956	5000	4955	4880	4949	4730	5051	4900
10	4828	4730	4893	4700	4394	4962	5060	4990
11	4822	5200	4819	4630	4957	4840	5325	4880
12	4569	4760	4751	5051	4630	4650	5222	5180
13	4717	4380	4751	5036	4610	4740	5030	5100
14	4766	5022	4678	4800	4739	4640	5070	5120
15	4914	5220	4856	5080	4526	4863	5005	5070
16	4773	4600	4745	4540	5031	4900	4976	4954
17	4622	4960	4792	4500	4803	4740	4920	4740
18	4599	4778	4929	4710	4656	4800	4870	5000
19	4757	5240	4744	4290	4876	4710	4912	5100
20	4764	4900	4689	4880	5043	4988	5064	5119
21	4815	4820	4684	4600	5196	4970	4971	4950
22	4917	4670	4844	4842	5530	4780	5081	4620
23	4590	4970	4896	4900	5128	5200	4464	4553
24	4600	4985	4709	4765	4913	4980	4255	4144
25	4778	4757	4798	4873	4872	4394	4382	4673
26	4700		4795	4820	4635	4664	4542	4450
27	4838	4866	4652	4380	4520	4887	4976	4500
28	4300	4836	4889	4999	4650	5251	4640	4700
29	4840	4686	4876	4440	5061	4992	4641	4550
30			4820	4800	4973	5200	4258	5210
31			4609	4300			4739	4726
N		57		62		60		62
Mean		4833		4775		4869		4826
Max		5240		5379		5530		5325
Min		4300		4290		4394		4144

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	January 1993		February 1993		March 1993		April 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4759	4823	4740	4720	4421	4685	5160	4900
2	4762	4880	4845	4840	4560	4550	4982	5083
3	4675	5015	4480	4692	5152	4940	4760	4980
4	4669	4740	4720	5007	5173	5240	4883	4830
5	4767	4540	5060	4917	5096	4860	4963	4850
6	4722	4900	4720	4922	5117	5020	4808	4940
7	4802	5029	4820	4867	5091	4600	5037	4570
8	4998	4720	4600	4808	4977	4320	4645	4604
9	4886	4510	4751	4420	4777	4980	4830	4780
10	4683	4770	4689	4614	4761	4620	4883	4610
11	4711	4740	4770	4620	4894	4300	4719	4940
12	4650	4700	5111	5199	4542	4500	4614	4392
13	4731	4880	5108	4820	4246	4500	4531	4640
14	4767	4890	4850	5000	4348	4600	4664	5210
15	4623	4799	4830	5160	4535	4470	4905	4480
16	4580	4930	4654	4100	4520	4750	4719	4396
17	4760	4883	4764	4660	5012	4520	4663	5305
18	5011	4990	4634	4390	4867	5100	5140	4700
19	5176	4940	4402	4480	4673	5200	4934	4920
20	5386	5090	4437	4590	4431	4200	4980	4800
21	5277	5040	4509	4620	4596	4660	4885	5150
22	5243	5275	4429	4540	4588	4560	4663	4460
23	5073	5050	4613	4720	4733	4690	4600	4900
24	5222	5520	4637	4620	4624	4450	4610	4920
25	5137	5020	4599	4380	4888	4740	4850	4870
26	5024	4930	4756	4680	4892	4700	4700	4910
27	4780	4690	4762	4730	4906	5010		4540
28	5273	4890	4419	4350	4978	4610	4820	4620
29	5026	4970			4971	5184	4570	5120
30	5176	5250			4400	4730	4600	5120
31	5052	5027			4939	5172		
N		62		56		62		59
Mean		4917		4700		4745		4808
Max		5520		5199		5240		5305
Min		4510		4100		4200		4392

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	May 1993		June 1993		July 1993		August 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5080	5310	5260	5130	4650	4610	4720	4910
2	5320	5220	4580	5100	4740	4870	4460	5090
3	4920	5220	4990	5200	4700	4860	4540	4860
4	5000	5230	5040	4600	4500	4670	4800	5200
5	4630	5100	4950	5130	4300	4600	4780	5120
6	4800	4460	5000	5240	4410	5100	4700	4880
7	4580	4710	4700	4560	4680	5030	4780	4930
8	4760	5260	4920	5140	4620	4650	4930	4770
9	4600	5240		4560	4520	4960	4420	4840
10	4380	4700	5000	4880	4620	4740	4740	4480
11	5100	4840			5040	4460	4770	4900
12	4450	4750			4540	4970	4660	4850
13	4100	4720			4850	4710	4630	4950
14	4500	4820			4700	4880	5190	4910
15	4240	4340		5310	4810	4640	5100	4700
16	4040	4340	5060	4620	4600	4960	4480	4830
17	4520	4680	4680	5100	4600	4880	4540	5030
18	4460	4750	4600	5090	5250	5140	4600	4690
19	4460	4460	4500	4520	4810	4940	4420	4220
20	4600	4880	5000	4370	4900	5180	4490	5020
21	4940	4790	4630	4900	4830	4750	4560	4660
22	4620	4520	4860	5100	5000	5000	4710	4730
23	5000	4920	4650	4400	4760	5690	4700	4900
24	4720	4900	4450	4720	4680	5080	4540	5000
25	4570	4800	4620	4840	4900	5340	4640	4570
26	4400	4940	4880	4930	4750	4970	4920	4800
27	4650	4870	4890	4470	4830	5290	4440	4900
28	4900	5040	4630	5000	4830	4950	4800	4580
29	4840	4750	4920	4800	4700	4870	4760	4720
30	4730	4870	4400	4510	4900	5290	4520	4700
31	5130	5070			4800	5250	4900	4920
N		62		50		62		62
Mean		4767		4829		4841		4756
Max		5320		5310		5690		5200
Min		4040		4370		4300		4220

Freezing Level Height (m)

Bangkok

Lat 13.44 N Long 100.30 E

Day	September 1993		October 1993		November 1993		December 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4700	4490	4680	4750	5180	5160	4560	4910
2	4840	4770	4640	5040	5140	5080	4800	4880
3	4420	4960	4660	4860	4900	4850	5190	5140
4	4900	4720	4740	5000	5040	4800	5220	4950
5	4720	4840	4870	5000	4970	4780	5210	5370
6	4640	4800	4690	4900	4780	4730	4900	5200
7	5090	4700	4800	4960	4340	5020	5210	5400
8	4630	4730	4630	4800	4740	4720	5350	5250
9	4460	4910	4340	4700	4420	4640	5290	5530
10	5000	4720	4980	4800	4780	4730	4460	5030
11	4820	4920	4460	4800	4970	5040	5490	5000
12	4490	5200	4980	4920	5060	5240	5000	4650
13	4580	4500	4800	4880	4700	5130	4770	5100
14	4600	4840	4600	5100	5080	5120	5030	4910
15	4600	4490	4413	4860	4770	4950	4660	4860
16	4370	4730	4620	5000	4850	5200	4200	4880
17	4680	4920	4560	4730	4700	4620	5240	4660
18	4700	4820	4600	4650	4800	5340	4820	4950
19	4720	4740	4640	4740	4720	5020	5010	4930
20	4630	4540	4960	4800	4320	5050	5130	5250
21	4470	4620	4426	4460	4700	4770	4820	4780
22	4520	4620	4780	4800	4870	5220	4610	5060
23	4540	4780	4270	4940	4900	5100	4680	4860
24	4391	4450	4680	4540	4850	5320	4790	4910
25	4910	4900	4530	4800	4990	4980	4920	4800
26	4860	4900	4420	4900	4970	5080	4970	5230
27	4760	4750	4425	5120	4760	5130	5130	5190
28	4500	4470	4460	4720	4460	4490	4940	5220
29	4670	4700	4840	5200	4520	4940	5200	4970
30	4470	4970	4880	5030	4890	4590	5050	5470
31			4970	4900			5320	5350
N		60		62		60		62
Mean		4703		4759		4884		5011
Max		5200		5200		5340		5530
Min		4370		4270		4320		4200

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	January 1990		February 1990		March 1990		April 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4420	4610	4720	5060	4870	4550	3960	5000
2	4700	4530	4540	4570	4890	4750	4770	5060
3	4440	4500	4620	4720	4310	4650	4520	4060
4	4520	4430	4180	4200	4330	4540	4130	4190
5	3970	3860	4010	4412	4270	4810	4320	4440
6	4380	4240	4220	4900	4440	4570	3860	4320
7	4460	4660	4100	4100	4480	4090	4370	4180
8	4900	4550	3640	4830	3890	3940	4320	4290
9	4030	4320	4390	4460	3800	4130	4240	4470
10	4470	4120	4120	4790	4200	4460	4100	5390
11	3940	5230	4360	4270	4300	4090	4480	4450
12	4920	5640	4020	3800	4360	4440	4350	5770
13	5040	5520	4590	4650	4040	4430	5330	5960
14	4880		4190	3870	3820	4110	5000	4800
15			4190	4000	3860	3800	4950	5580
16			3820	4520	3520	4060	5030	5050
17			3870	4000	3900	4060	5100	5030
18		5320	4170	3700	3740	4270	4710	4370
19	5390	5420	3830	3900	3860	3980	4250	4840
20	5450	5380	4120	3770	3670	4040	4900	5340
21	5080	5360	3730	4030	3230	4600	4090	4520
22	4570	5480	3770	3900	4060	4030	5120	4370
23	5390	5410	3940	3980	4570	4040	4180	4530
24	4430	5000	4150	4180	4600	4640	5080	4650
25	3400	4200	4220	4180	4900	4970	4260	4530
26	3670	3930	3850	4170	4300	4560	4090	4370
27	3380	3630	4050	4250	4120	4570	3960	4390
28	4570	4630	4600	4880	4490	4720	4379	4400
29	4476	4740			4210	4370	4000	4870
30	4590	4930			4500	4570	4090	4540
31	4540	4850			4000	4860		
N		54		56		62		60
Mean		4639		4216		4278		4595
Max		5640		5060		4970		5960
Min		3380		3640		3230		3860

		Freezing Level Height (m)							
Chiang Mai		Lat 18.47 N Long 98.59 E							
Day	May 1990		June 1990		July 1990		August 1990		
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	
1	4700	4430	4800	5200	4850	5550	5000	5230	
2	4200	4610	4920	5190	5080	4980	5070	5100	
3	4270	4610	5300	5420	4910	4860	5180	5130	
4	4350	4740	4890	5130	4950	5270	5040	5020	
5	4580	4640	5370	5280	5000	5320	4675	5100	
6	4366	4430	4500	5310	4970	5340	4870	5230	
7	4710	5090	4900	5270	5090	4460	4620	5270	
8	4500	4560	4560	4810	5160	5470	5050	5240	
9	4490	4530	4530	4970	4920	5520	4750	5120	
10	4300	4550	4770	4350	4950	5306	4880	6220	
11	4640	4710	4980	5450	5140	5150	4810	4900	
12	5100	4740	5250	5440	4890	5260	5020	5180	
13	4670	4780	4930	5370	4430	5000	4960	5350	
14	4860	5030	5100	5020	4750	5540	4930	5400	
15	4810		5110	5540	5000	5050	4930	5240	
16			5170	5430	4990	5000	5100	4940	
17			4970	5450	5160	5140	4970	5200	
18		5540	4940	5790	4850	5070	4970	5030	
19	5360	5500	5330	5240	4950	5240	5070	5000	
20	5330	5000	5390	5200	4960	4890	4960	5270	
21	5020	5270	5300	5140	4720	5320	5080	5500	
22	5040	5530	5110	5270	4890	5240	4960	5130	
23	4850	4750	5020	5510	4770	5100	5060	5290	
24	5320	5400	5250	5570	4870	5260	5070	5370	
25	4820		4960	5510	5030	4950	4950	5230	
26	5000		5050	5480	4860	4740	4880	5070	
27			4980	4970	4870	5060	4910	5380	
28		5310	4870	5080	5900	5650	5070	4840	
29	5100	4900	5110	5160	4870	5200	5060	5020	
30	5120	5160	5150	5380	5230	5240	4900	5370	
31	4940	5070			5170	5170		5150	
N		51		60		62		61	
Mean		4850		5141		5073		5087	
Max		5540		5790		5900		6220	
Min		4200		4350		4430		4620	

Freezing Level Height (m)

Chiang Mai Lat 18.47 N Long 98.59 E

Day	September 1990		October 1990		November 1990		December 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5200	5600	4960	4930	4810	5180	3230	3440
2	5010	4860	4790	4770	4890	5000	5030	4640
3	4760	5050	5060	4815	5140	5350	4060	4570
4	4800	4850	4840	4830	4880	5000	4390	4414
5	4510	4590	4990	4940	4890	4970	4550	4840
6	4800	4750	5600	4810	4628	4790	4786	4830
7	4840	5350	4750	4940	4740	4930	4740	4600
8	4750	4820	5000	4880	4720	5060	4960	5040
9	4960	5330	5060	5170	5270		4660	4810
10	5130	5180	4880	4830	4650	4080	4650	4650
11	4730	4960	5080	5050	4740	4440		4860
12	4900	5000	4490	5020	4490	4810	4770	4964
13	4780	4820	4970	5050	4770	4800	4770	4760
14	4760	4970	5000	5170	4460	4680		4740
15	4900	5160	4670	5950	4700	4830	4860	4720
16	4930	4970	4979	4700	5022	5290	5190	4700
17	5050	4730	4670	5210	5340	5390	5040	5170
18	4800	4890	4735	4830	5320	5460	4917	4920
19	4640	5270	4910	5220	5560	5740	5540	4830
20	4980	5320	5040	5300	5200	5310	5090	4770
21	5010	4700	5050	5030	5230	4930	4450	4700
22	4890	4910	5630	5030	4190	4800	4544	5460
23	4840	5240	5420	5100	4740	4790	5130	3750
24	4860	5040	5080	5260		4490	4420	4910
25	4580		5000	4790	4500	4700	5040	
26	4960	5300	4390	5460	4700	4930	4950	4710
27	4970	5070	4630	4610	4630	5600	4910	4700
28	4720	5050	4730	4820	5280	3880	4470	4840
29	4730	4940	4560	4820	5180	5200	4640	4940
30	4740	4930	5480	4650		4570	4470	5110
31			4640	4890			4810	
N		59		62		57		58
Mean		4935		4967		4906		4732
Max		5600		5950		5740		5540
Min		4510		4390		3880		3230

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	January 1991		February 1991		March 1991		April 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1		4450	4580	4700	4680	4870	4150	
2	4280		4550	4380	4340	4320	4170	4050
3			4620	4950	4480	4460	3980	4100
4	4430		4640	4670	4240	4550	4350	4370
5			4520	4760	4540		4204	
6			4370	5040				
7			4320	5910			5130	
8				4800		5090	5000	
9			4200	4800		4680	4860	
10				4420	4930	4950	4968	4880
11				4750	4570	4390	4970	5000
12				4570	5580	4413	4730	4520
13			4310	3982	4405	4740	4670	4640
14			5060	5540	4350	4520	4780	4640
15			5810	5390	4650	4670	5020	4960
16			5630	5450	4240	4650	5150	
17			5180		4160	5270		
18			5170	6000	4420	5510		
19			4980	5060	4740	5010		
20			5010	4550	5260			
21			4670	5760	5010	5590		
22				4350	5315	5330		
23			4290	5030		5157		
24			4600	4620	5110			
25			4900		5060	4780		
26			4490		4880	4830		
27			4920	4270	4960	4780		
28			4400	4590	5270	4280		
29					4890	4890		
30	4450	4560			4500	4180		5040
31		4950			3900	4450		
N		6		48		52		25
Mean		4520		4824		4747		4653
Max		4950		6000		5590		5150
Min		4280		3982		3900		3980

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	May 1991		June 1991		July 1991		August 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4840	4530			5110	5170	4220	
2	4730	5430			5430	4820	5080	
3	5010	4760			5153	5460	4770	
4	4360	4900			5040	5170	5010	
5	4470	5260			4950	5130	4660	
6	4580	4980			5170	5220	4850	
7	4960	4860		5460	4930	4830	4980	5200
8	4470		5320	5370	4850			5040
9			5320	5120	4630	4640	4240	4580
10				5420	5010	5320	4630	5240
11			5250	5280	5150	5450	4630	
12			4890		4910		5000	
13		4830	5200		4570	5060	5200	5380
14	4850	5020			5130		5070	5060
15	4690	4880			4920		5050	5230
16	5000	4930			5200			4860
17	4130	5150			5070		5000	5330
18	4425	4930			5100		4920	5610
19	4960	5330		5570			5250	5020
20	4770	5030	5160	5600			5190	4900
21	4582	6127	5390		5020		5300	
22	4630		5250	5170	4880		5300	4680
23			4980	5380	4900		4860	5840
24			5300	5170	5110		5040	5300
25				5480	5288		5310	5030
26			5080	5060	5160		5060	4840
27			5000	5160	5760		5120	5060
28			5080	5380	4870		4900	5040
29			4960	5040	5260		5000	4740
30			4830	5560	4880		5350	4980
31					4940		4960	4690
N		33		31		40		51
Mean		4861		5233		5067		5012
Max		6127		5600		5760		5840
Min		4130		4830		4570		4220

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	September 1991		October 1991		November 1991		December 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4940	4970			4960	5060	4630	4980
2	5110	4770	4569		4660	4880	5030	4780
3	5070	5050	4940		4574	4920	4880	4720
4	4870	4750	4430		4700	4460	4290	5130
5	5030	4660	5240		4630	5050	5600	4540
6	5050	4760			5130	5110	4520	5090
7		4650	4800		4930	5150	4860	
8	5000	4710		5080	4770	4900	4780	4660
9	5290		5100	5300	4830	4790	4560	5000
10	4970	4910	5060	5300	4410	4540	4750	5000
11	4930	4780	5590	5230	4620	4170	4160	4710
12	5300	5180	4870	5040	5150		4690	5000
13	4980	5360	4850	5160	4882	4930	4770	4530
14	5250	5010	5180	5110	4890		4360	5050
15	5170	4890	4890	5000	4660	5360	4750	4860
16	5000	5070	4860	4980	5060	5190	4930	4516
17	4810	5050	4513	4750	4650	5520	4720	5100
18	5210	5120	4650	4900	5310	5280	5080	
19	5260		4720	4720	4660	5250	5000	
20	5310	5120	4840		4920	4870	4600	
21	4980	5170	4866	4730		4860		
22	5020		4570	4480	4480	4700		
23	5070		4440	4580	4220	4420		
24	5030		4415	4490	4807	4650	4261	4010
25			4620	4670	4960	5120	5340	4696
26			4610	4690	4450	5310	4130	
27				4410	4620	4940	4960	5300
28			4610	4680	5170	5700	4760	5120
29			4950	5100	4870	5070	4670	4680
30			4883	4900	4920	5000	4440	5050
31			4820	5260			4750	
N		42		50		57		50
Mean		5015		4849		4879		4776
Max		5360		5590		5700		5600
Min		4650		4410		4170		4010

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	January 1992		February 1992		March 1992		April 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4660		3950				4350	4720
2			3580				4320	4540
3		3540	4320				4740	4660
4	3500	3710		4260		5700	4380	4940
5	4000	4180	4620		5500		5050	5130
6	4330		4430	4250		5400	3820	4840
7	4729	5300			5330	5560		4400
8	4710	4430	3870		5230	5240	4640	4530
9	4500	4440	4590		5030	4950	4740	5590
10	3880	4850	4190		5000	5240	5100	5790
11	4850	4850	4230		5240	5000	5640	5380
12	5000	4800	4400		4930	4570	5390	5350
13	4370	5170	4730	4760	5030	5480		4950
14	4920	5110	5180	5160	5330	5420	4397	5140
15	4806	4780	4790		4940	4950	4440	4610
16	4450	5040	4337		4480	4990	4310	4920
17	4410	4290	5090	4760	4290	4490	4500	4440
18	4170	3820	4870	5790	3960	4840	4160	4720
19	4070	4370	4740		4560	5480		4310
20	4140	4020	4750		4289	4820	4690	5830
21	4020	4280	4460		4550	4730	4615	
22	3776	3680			4355	4620	4090	
23	4560	3000			4570	4520	4780	4870
24	3660	3930			4840	4930	4383	4460
25	3870	4030			4472	5000	4430	5030
26	4630	4510			4940	5270	4440	
27	4460	4500			5250	5320		4860
28	4430				5260	5440	4410	4930
29	4880				5090	4740	4560	
30	4278				4720	5320	4399	4860
31	4460				4633	4550		
N		53		25		53		52
Mean		4361		4564		4951		4742
Max		5300		5790		5700		5830
Min		3000		3580		3960		3820

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	May 1992		June 1992		July 1992		August 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4240	4840	5280	4580	5170	5190	4840	4850
2	4140	4560	5400	4920	4720	5380	4680	5100
3	4370	4100		5740	4840	4840	4873	
4		5400	5170	4430	5142	4840	5100	
5	4400	5100	4820	4550	5100	5150		
6	4720	5190	4868	5150	4840	5100	4760	4710
7	4770	5520	4850	5090	4910	4960	4550	4670
8	4940	5600	4830	4880	5050		4940	5350
9		4610	4860	5250	5008	5180	5200	3990
10	4530	4820	4800	5590	5080	5000	4910	4450
11	4970	4740	4820	4860	4770	5000	5050	5170
12	4500	5000	5000		5040	5170	4850	5040
13	4480	4890	5040		4740	4640	4850	5300
14	5150	4950	5260	4880		5140	4740	4990
15	5300	4980	5150	5233	4580		4730	4860
16	4560	5630	4970	5250	4720	4940	4780	5590
17	4580	4980	5098	6250	5030		4890	5150
18	4830	5500	5337	5760	4920	5150	5100	5660
19	5030	5030	5320	5420	5110	5060	5060	5300
20	5300	4460	5040	5830	4830	4900	5198	
21	5350	4890	4869	5870	5080	5650	5300	5100
22	4860	4500	5320	5620	4960	5130	4030	5760
23	4500	5170	4940	5590	4750	5010	5060	5400
24	4970	4800	5180	5440	5260		5230	5220
25	4240	5100	5060	5220	5040	5830	5060	5220
26	4940	4580	4740	5160	5020	4639	5170	
27	4830	5150	5080	5300	4730	5237		5450
28	4860	4940		5320	5000	4890	4960	4940
29	4947	5680		4510	4940	4840	5376	4910
30	5460	5450	4460	5210	5070	4350	4984	5220
31	5120	4780			4640	4900	4280	5080
N		60		55		57		55
Mean		4897		5136		4986		5001
Max		5680		6250		5830		5760
Min		4100		4430		4350		3990

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	September 1992		October 1992		November 1992		December 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4500	4700	5050	4920	4400	4540	4180	4150
2	5080	5260	4610	5500	4290	3740	3950	3980
3	4860	5100	4410	4600	4540	4600	3540	3930
4	4940	5060	4470	4740	4360	4030	3650	4040
5	4790	5050	4830	4540	4870	4770	4040	4200
6	4850	5010	4783	4150	4796	5570	3240	2610
7	4880	5200	4730	4960	5000	4690	4060	4060
8	4960	5120	4860	4600	4740	4000	4319	5050
9	5100	4890	4900	4900	4550	4060		2040
10	4826	5030	4790	5290	4290	3010	4750	4610
11	5020	5200	4590	4960	4330	4140	4010	6130
12	5580	5110			4260	3780	5260	5160
13	4610	5300		4530	4140	4650	5150	
14	4670	4980	4820	4860	4399	4393	4600	4870
15	4630	4800	4770	4860	4440	3960	4310	4470
16		4900	4700	4160	4350	4350	4120	4460
17	4690	5300	4550	4670	4420	4500	4170	4190
18	4900	4680	4680	4900	4600	5400	4350	4290
19	4820	4330	4710	4480	4820	4440	4580	4650
20	4840	5100	4820	4910	4820	5000	5190	4720
21	4850	4850	5110	4510	4560	5090	4470	4690
22	5000	5190	4860	4430	4400	4530	4000	3960
23	4740	5000	3840	4710	4600	4000	3860	3820
24	5030	4720	5088	4700	5600	4880	3600	3100
25	4570	4610	4520	5140	5370	4210	3450	4090
26	4930	4970	4650	4950	3370	3330	4140	4470
27		5140	4540	5160	3880	2620	4200	3600
28	4680	4630	5000	4850	3630	3200	4220	4250
29	4880	4920	4890	4140	3750	4230	3900	4220
30	4970	4470	4830	4840	4000	4120	4200	4010
31			4800	5050			4070	4300
N		58		59		60		60
Mean		4911		4749		4357		4195
Max		5580		5500		5600		6130
Min		4330		3840		2620		2040

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	January 1993		February 1993		March 1993		April 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	3780	4630	4130	4390	3970	3900	4630	4860
2	4470	4460	4270	4310		4267	5040	4400
3	4260	4434	2000	3010	4340	3430	4660	4920
4	4190	4230	2230	4350		5040	4750	4900
5	4420	4850	4220	4210	4830	4890	4950	5080
6	3990	4200	4220	4240	4770	4730	5050	
7	4355	4400	2370	4180	4809	4530	4420	4340
8	4040	4400	3920	4320	4010	4250	4680	
9	4410	4690	4600	5830	4030	4370	4160	4500
10	4530	4395	4540	4500	4080	4300	4030	4100
11	4800	4660	2530	4260	4130	4160	4167	4200
12	4600	4350	5070	5370	4160	3550		4120
13	4180	4240		4950	3650	3780	3940	4120
14	4000	4420	4610	4120	4060		4310	3810
15	4700		3370	4230	4080		4190	3600
16	4100	4020	3770	3680	3990		4670	4850
17	4880	4940	3880	3930	4970		4790	5740
18		4930	4170	3360	4250		5180	5890
19	4520	4870	2870	4570	4750		4750	4640
20	5020	5280		3870	4210		4870	4440
21	5140	5000	4240	3280	3880		4110	4530
22	4820	5390	2270	4540	4200		4290	4840
23	4970	5000	2440	3060	3850		4217	4240
24	4950	5720	2590	3990	4520		4980	4320
25	5390	4870	4480	4510	4080		4890	6080
26	4810	5410	4250	4440	4269		3920	4000
27	3240	2880	4270	3530	4660		4240	4000
28		3260	4070	3900	4780		4330	4740
29	3020	3060					4370	4430
30	1630	4490			5170		4350	4430
31	3230	4430			4960	5070		
N		59		54		42		57
Mean		4413		3932		4327		4545
Max		5720		5830		5170		6080
Min		1630		2000		3430		3600

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	May 1993		June 1993		July 1993		August 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5360	4700	5140	5300	5040	5200	5030	5070
2	4550	3960	5140	5380	4800	5320	5200	5200
3	4530		4850	5350	5100	5170	5240	5220
4	4480		4800	4800	4970	5000	4790	5330
5	4650	3660	5280	5250	5100	5190	4560	5280
6	4840	4520	4400	5330	4910	5290	4920	5000
7	4650		4930	5490	5170	5010	5090	4880
8		4490	5120	4730	5140	5220	5200	5150
9	4500	4740	4703	5300	4780	5020	5160	5180
10	4250	4270	5252	5160	4890	4700	5130	5500
11	4390	4640	4730	4950	4970	5230	4890	5380
12	4520	4600	5249	5130	5230	4710	5320	5700
13	4510	5200	4960	5550	5070	5490	5240	5660
14	4400	4130	5320	4770	5000	5050	5080	5505
15	4040	4740	5040	4970	5150	4440	5080	5170
16	4650		5000	4670	4950	4950	4940	5000
17	4500		4930	5490	5000	5220	4910	5070
18	5270		5030	4880	5270	5370	5200	5100
19	4630	4290	5160	4680	5070	5320	4880	4190
20	4680	4730	4760	5500	5100	5190	5050	5160
21	4770		5360	5260	4720	5320	5160	5320
22	4790	5060	4980	5580	5130	5020	4840	5220
23	4900	5500	4780	5120	5300	5280	5040	5320
24	5340	5340	5060	4790	5040	5280	5090	5230
25	4900	4990	5060	4840	5350	5520	5060	4710
26	4940	5350	5230	4500	4940	5395	5060	5090
27	5360	5190	5120	5260	5231	6080	5080	4750
28	4930	5220	5130	4940	5290	5590	4760	5120
29	4860	5100	4840	5390	5140	5290	4780	4730
30	5100	4880	5040	5490	5220	5230	4930	5070
31	4980	4360			5423	5350		5090
N		54		60		62		61
Mean		4739		5071		5144		5084
Max		5500		5580		6080		5700
Min		3660		4400		4440		4190

Freezing Level Height (m)

Chiang Mai

Lat 18.47 N Long 98.59 E

Day	September 1993		October 1993		November 1993		December 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4760	5080	4900	5000	4580		5290	
2	4830	4930	5080	5430	5300		3300	
3	5123	5000	5050	5500	4620		5100	
4	4850	5360	5110	5400	5010		5400	
5	4906	5180	5100	5260	4830		5150	
6	5000	4940	4600	4580	4670		5660	
7	4780	4750	5070	4710	4320		5120	
8	4670	4780	5180	4900	4420		5200	
9	4911	4860	4930	4600	4820		5300	
10	4860	4780	4770	4580	5080		5300	
11	4760	5070	5200	4980	4369		4364	
12	5060	4880	4810	4980	5090		4940	
13	4980	4940	4620	5110			4520	
14	4870	5350	5280	4970			4680	
15	4920	5190	5100	4590				
16	4770	5210	4780	5300	4690		4650	
17	4960	4790	4760	5230	3690		3720	
18	4570	4950	5120	5560	3750		4280	
19	4950	4800	4520	4770	5540		5300	
20	5000	5350	4410		4380		4780	
21	4880	5540	4750		4990		5130	
22	4680	4840	4760		4730			
23	4720	4630	4730		4650			
24	4970	5180	4660				4670	
25	4910	4820	4780		4440		4910	
26	4560	5000	5290		4220		4740	
27	5050	5060	4820		4580		4580	
28	4800	5060	4700		4180		4920	
29	4800	5080	4480		5180		4810	
30	5040	5120	4800		3910		5090	
31			4360				4930	
N		60		50		26		28
Mean		4941		4919		4617		4851
Max		5540		5560		5540		5660
Min		4560		4360		3690		3300

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	January 1990		February 1990		March 1990		April 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4630	4683	4938	5120	5220	4814	4993	5180
2	4610	4492	4809	5200	4984	4796	4922	5060
3	5230	4467	4783	5200	4333	4632	4995	4920
4	5120	4828	4627	4820	4530	4626	4894	4720
5	4750	4504	4588	4760	4129	4929	4606	4530
6	4590	4661	4507	5000	4103	4712	4449	4810
7	1870	4861	4470	4528	5066	4330	4699	5270
8	5230	4751	4505	4990	4370	4640	4141	5200
9	4830	4627	4435	4840	4270	4550	4514	4930
10	4710	4450	4485	4860	4300	4990	4419	5600
11	4385	4490	4460	5020	4780	4487	5164	5180
12	4780	4638	4435	4860	5060	5200	5031	5920
13	5490	5468	4620	5060	4760	4480	5226	5370
14	5340	5248	4921	4391	4490	4519	5504	5550
15	5390	5021	3948	4550	4260	4568	5287	5340
16	5240	4827	4001	4470	4391	4680	5055	5200
17	5170	4935	3939	4690	4273	4479	5011	5180
18	5780	5820	4257	4990	4340	4645	4968	4890
19	4310	4290	4197	4690	3730	4797	5071	4950
20	3980	5370	4136	4830	4950	4631	5087	5220
21	5220	5430	4427	4520	4530	4328	4764	4760
22	4910	5520	4328	4790	4150	4767	5007	5260
23	5220	5320	4442	4460	5320	4957	5080	5400
24	4960	5470	4605	4590	5050	5117	5159	5290
25	5420	5790	4422	4520	5380	5108	4701	4700
26	5590	5720	4147	4950	5020	4788	4660	4920
27	3620	5450	4560	4305	5050	4622	4545	4890
28	4980	5178	4613	4790	4860	4796	4816	4910
29	5400	5007			4730	4648	4949	5100
30	5060	4989			4770	4687	4784	4940
31	4888	4871			4880	4985		
N		62		56		62		60
Mean		4934		4614		4684		4995
Max		5820		5200		5380		5920
Min		1870		3939		3730		4141

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	May 1990		June 1990		July 1990		August 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5200	5120	5013	5280	5040	5294		
2	5120	5200	4944	5230	4880	5068		
3	5040	4860	4844	5320	4740	4834		
4	5150	4862	5704	4950	4950	5215		
5	4630	4988	4950	5100	5100			
6	5290	5161	4800	5010	4970	4982		
7	4880	4977	4781	5130	4720	5412		
8	4820	4804	4835	5630	5120	5244		
9	5180	5089	5176	5690	5100	5159	5380	
10	4880	5108	5161	5040	5330	5504		
11	4840	4832	5122	5727	5420	5211		
12	4700	4852	5011	5000	4990	5111		
13	4430	4722	5328	5120	4780	5099		
14	4730	5138	5062	5210	5050	5128		
15	4690	5413	5123	5000	5240	5063		
16		5063	5068	5410	4760	5150	5080	
17	5190	5043	4789	5190	4890	4828	5470	
18	5300	5033	5325	4990	4690	4890	5130	
19	5070	5358	5104	5230	4730	4878	5280	
20	5240	5331	4897	5530	4720	4829		
21	5000	5194	4423	5300	4910	5002		
22	5170	5325	4894	5490	4780	5097		
23	4910	4855	5020	5300	4870	5181		
24	4920		4862	4990	5150	5355		
25	4800	5192	4963	5050	5380	5346		
26	5090	5200	4620	5390	5120	5219		
27	5110	5242	5110		4960	5345		
28	5200	5430	4940	5200	5080	5062		
29	5160	5103	4940	5170	5080	5088	4490	
30	5120	5248	4900	5500	4660	5181	4910	
31	5070	5211			4820	5267	5030	
N		60		59		61		8
Mean		5048		5117		5050		5096
Max		5430		5727		5504		5470
Min		4430		4423		4660		4490

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	September 1990		October 1990		November 1990		December 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1							5490	5190
2				5140			5190	5280
3			4520	5080			5080	5130
4			5100	5180			5070	5250
5			4820	5050			5100	5170
6	5070	5400	4980	5110			5000	5010
7	5140	5040	4970	4840			4990	4920
8	4880		4940	5160			5100	4900
9			5020	5260			4690	4840
10			5070	5280			4680	4750
11			5520	5240			4640	5000
12			5560	4960		5110	4540	4830
13	5100	4980	5210	5270	4820	5050	5480	4490
14	5410	4800	4580	5020	5030	5100	3850	4850
15	5100	4790	4860	4950	4800	5040	4600	4880
16	5210	4850	4980	4890	5020	5240	5200	4800
17	5140	4850	5160	5120	5230	5070	4840	4780
18			4810	5100	5130	4910	4910	5180
19					5220	4860	4990	4820
20				5270	5280	5290	5250	5090
21			5120	5080	4760	4880	4820	4700
22			4640		5070	5030	5000	4940
23					5070	5250	3580	3760
24					4940	5130	5350	5210
25					4760	5240	5320	5360
26	5180	4860			5080	5220	5400	5020
27	5430	5090			5100	5320	4610	5220
28					5350	5270	4900	4920
29					5380	5120	4880	4880
30					5000	5060	4900	4880
31							5100	4670
N		19		37		37		62
Mean		5069		5050		5087		4924
Max		5430		5560		5380		5490
Min		4790		4520		4760		3580

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	January 1991		February 1991		March 1991		April 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4800	4736			4893	5040	4430	4861
2	5040	4704			4555	4550	4290	4563
3	4830	4949			4756	4520	4330	4703
4	4860	4960			4969	4680	4350	4822
5	4750	4733			5150	4880	4850	4568
6	4840	4832			4940	4880	4440	4711
7	4940	5350			4770	4870	4300	4683
8	5050	5081			5000	5060	4910	5275
9	5100	5080			4950	5000	4690	5148
10	5340	5352			5270	4970	4860	5118
11	5060	5334			5200	4720	4920	4985
12	5290	5308			5030	4850	5290	5208
13	5120	5523			4760	4930	5160	5180
14	5460	5176		5292	4780	5020	5120	5210
15	4650	5268	5696	5707	4940	4650	5170	5319
16	5760	5068	5280	5605	4920	4640	5295	
17	4900	5126	5620	5609	4640	4640		
18	4650	5106	5200	5335	5180	4500		
19	4920	5050	5140	5197	4640			
20	5100		5130	5579				
21			5030	5389				
22			5000	5113		5508		
23			4400	4941	5420	5348		
24			5200	5201	5338	5279		
25			5030	5168	5240	5290		
26			4690	5131	5173	5070		5165
27			4860	5202	5302	5240	4990	5284
28			4840	4806	5155	5080	5300	5287
29					5078	4960	5250	5276
30					5049	4740	5140	5263
31					4911	4220		
N		39		29		56		40
Mean		5056		5186		4949		4943
Max		5760		5707		5508		5319
Min		4650		4400		4220		4290

Freezing Level Height (m)								
Ubon Ratchathani				Lat 15.15 N Long 104.53 E				
Day	May 1991		June 1991		July 1991		August 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5096	5050			5040	4960	5170	5110
2	5016	4860			5470	5080	5060	
3	4962	4730			5289	5000		
4	5241	4820			4980	5050		
5	4766	5080			5057	5125		5060
6	5082	5099			5003	5252	5210	5250
7				5374	4899	4920	5070	5030
8			4900	5289	4925	5210	4940	5280
9			5240	5621	5197	5440	5050	
10			5030	5799	5029	5220		
11			5060	5445	5229	5240		
12			5190	5643	5083	5171		
13		5000	5070	5504	4776	5393		5260
14	5363	4580	5020	5150	5210	5125	4880	4980
15	4883	4970	5190		5098	4900	4820	5110
16	4879	4580			5208	4926	4770	4890
17	4873	4860			4907	4862	4960	4930
18	4876	5020			5046	5140	5060	4920
19	4851	5240		5582	5163	5239	5160	5040
20	4936	4820	5110	5531	5029	5048	5070	5220
21	4999	5160	5120	5231	5018	5512	4870	
22	4839	5240	4950	5153		5280		
23	5002	5280	5040	5235	5020	5200		
24	5220		5040	5616	5030	5020		
25			4880	5109	5180	5040		
26			4980	5278	4760	4980		
27			5030	5122	4810	4860		5010
28			4930	5157	4950	5180	4860	4960
29			5180	5141		5030	5030	5220
30			4640	5274	5040	4850	5020	5290
31					5070	5170	4900	5220
N		34		39		60		36
Mean		4979		5201		5082		5047
Max		5363		5799		5512		5290
Min		4580		4640		4760		4770

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	September 1991		October 1991		November 1991		December 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5130	5200	4640	4730			5180	5208
2	4970	4820	4890	4560			5120	5062
3	4640	4790	4750	4690			4890	4999
4	4530	4880	4900	4920			4900	5119
5	4890	4990					4680	5156
6	5020	5030					5350	5010
7	4740	5100					4890	4869
8	4860	4800					4760	4930
9	4820	4800					4819	4821
10	4880	5140						4659
11	4560	5430					4698	4887
12	5300	5130					4682	4979
13	4760	4810					4495	4877
14	4860	5130					4742	4792
15	5040	4980					4896	4676
16	5180	5140					4932	4949
17	4900	4800					4690	4859
18	5280	5190					5044	5077
19	5160	5280					5088	4981
20	4920	5140					5063	5038
21	5480	5170					4912	5117
22	4980	4980					4905	5086
23	5020	4970					5147	5150
24	4930	4890					5116	5058
25							4840	4680
26						4673	4620	4690
27					4857	5063	4840	4720
28	5020	5190			5083	5169	4710	4600
29	4750	4780			5039	5207	4710	4580
30	4920	4520			5160	5329	4440	
31								
N		54		8		9		58
Mean		4974		4760		5064		4893
Max		5480		4920		5329		5350
Min		4520		4560		4673		4440

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	January 1992		February 1992		March 1992		April 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1			3780	4510	4790	4700	4683	5110
2		4490			5230	4880	4629	4820
3	4478	4760			5240	5650	4677	4190
4	4619	4360			5480	5800	4604	4990
5	4196	4510			5640	5440	4973	4950
6	4503	4680		4380	5340	5640	4951	4850
7	4986	5160	4350	4696			4991	4480
8	4349	4710	4440	4503			4767	4850
9	4865	4610	4710	4509		5420	4611	4630
10	1559	4540	4395	4540	5140	5080	5379	5620
11	3080	5180	4350	4480	5320		5528	4760
12	5047	5000	4270	4730			5387	4440
13	5023	4660	4530	4760		5126	5202	4470
14	4922	4860	4630	4930	5170	5123	4667	4420
15	4985	5120	5470	4970	5060	5198	4635	4680
16	4854	4720	4950	4630	5050	5091	4703	4590
17	4795	4770	4990	5040	5050	4936	5851	4740
18	4552	4770	4820	4920	4990	4777	4919	4676
19	4630	4380	4920	4930	4630	4701		
20	4566	4530			4900	4825		
21		4590			5040	4744		
22	4470	4460			4260	4770		
23	4210	4360			4640	4894		
24	4000	4960			4520	4775		
25	3400			4540	4750	5073		
26			4200	4180	4740	4766		
27		4980	4130	4160	4980	5158		
28	4800	4640	3900	3990	4910	5050		4974
29	4600	4450	4430	5060	4550	4817	4985	4956
30	4730	4990			4790	4943	5063	5033
31	4350	4380			5080	4687		
N		54		38		53		41
Mean		4559		4572		5007		4864
Max		5180		5470		5800		5851
Min		1559		3780		4260		4190

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	May 1992		June 1992		July 1992		August 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4781	4866	5015	4870	5120	5080	4450	4830
2	4707	4893	5049	4680	4870	5100	4672	4830
3	4774	4785	4907	4770	5025	5287	4954	5480
4	4965	4986	5039	4720	4918	5100	4783	5380
5	5198	5239	4940	4880	4868	5163	4894	5220
6	5119	5121	5086	4550	4630	5060	4792	4670
7	5317	5292	4947		4640	4836	4759	5040
8	5113	5433			4440	4718	5000	5180
9	5368	5217			5000	4991	5100	5140
10	5028	4970		4850	4660	4888	4780	4600
11	4941	5135	4727	4880	4850	5102	4550	4760
12	4874	5216	4826	4690	4920	5151	4540	4860
13	4832	5271	5070	4440	4730	4845	5020	5080
14	5036	4769	4999	5280	4770	4510	4790	4940
15	4957	4710	4961	5130	4650	4967	5080	5060
16	4410	4840	5010	4870	4560	4806	4760	4870
17	4870	4720	5003	4940	4740	4871	5020	5170
18	4804	5180	5023	5040	4560	5130	4910	4790
19	4920	5136	5027	4860	4620	5320	4830	5170
20	4950	5165	5144	5260	5030	5243	5020	5270
21	4800	4959	4760	5290	4850	5189	4520	5280
22	4450	5097	4790	4520	4540	5242	5000	
23	4410	4871	4650		4280	5063		
24	4402	4936			4820	4983		5520
25	4080	5106		4900	4840	5237	4970	4970
26	4670	5234	4880	4660	4750	5144	4950	5120
27	4500	5398	4610	4880	4770	5093	4960	5200
28	5130	5088	4660	5060	4730	5240	4770	5180
29	4760	5050	4430	4980	4920	5172	4890	4740
30	4810	5240	4600	5130	4927	5169	5020	5060
31	5070	5468			4820	4943	4890	5150
N		62		50		62		58
Mean		4959		4886		4911		4952
Max		5468		5290		5320		5520
Min		4080		4430		4280		4450

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	September 1992		October 1992		November 1992		December 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5260	5220	4830	5000	4560	4940	4900	4990
2	4940	4900	4790	4870	5130	4880	4730	5060
3	4820	5300	4720	4630	5020	4880	4410	4550
4	5080	4810	4790	4930	4780	4710	4610	4720
5	4680	4720	4660	4980	4750	4910	4450	4440
6	4700	4820	4530	4960	4860	4980	5300	4990
7	4830	4880	4760	4660	4970	5040	4720	5130
8	4570	4950	4780	4780	4540	4580	4630	4850
9	4650	5000	4870	4870	4640	4870	5010	4800
10	4740	4920	4750	4470	4170	4740	4880	4810
11	4760	4930	4650	4780	4830	4560	5200	5240
12	4410	4740	4710	5040	4860	4880	5060	5050
13	4190	4690	4620	4660	4480	4940	4810	5130
14	4620	4930	4750	4760	4440	4400	4890	5110
15	4940	5080	4450	4900	4560	4550	4640	4700
16	4900	4650	4470	4920	4660	4840	4880	4600
17	4730	4320	4610	4640	4900	4980		4640
18	4500	4990	4630	4770	4920	4270	4800	4670
19	4840	4850	3970	4560	4920	4940	4440	4580
20	4560	5090	4480	5100	4720	5260	4860	4600
21	5060	4670		4550	5110	5240	5360	4520
22	4640	4870	5050	4820	4570	5220	4220	4530
23	4900	5060	5070	5010	5100	4940	4180	4280
24	4920	5180	4560	4490	4970	4830	3740	4020
25	4570	4680	4540	5060	4910	4890	3890	4120
26	4530	4920	4520	4500	4790	4710	4660	4400
27	4730	5120	5020	4540		4470	4570	
28	4580	4690			4230	4510		4790
29	4740	4770		4580	5260	4550	4740	4590
30	4450	4730	4500	4630	4750	4760	4730	4970
31			4620	4570			4540	4480
N		60		58		59		59
Mean		4805		4719		4791		4698
Max		5300		5100		5260		5360
Min		4190		3970		4170		3740

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	January 1993		February 1993		March 1993		April 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1			4950	4670	4500	4570	5070	5352
2			4700	4720	4640	5060	5220	5275
3			4570	4730	5320	5360	4920	5216
4		4660	4700	4580	5100	5380	4720	
5	4430	4360	4810	4980	5000			5050
6	4480	4700	4960	4720	4990	4650	5360	4676
7	4470	4730	4860	4480	4930	4850	4620	4945
8	5000	5010	4520	4780	4600		4160	4664
9	4800	4710	4580	4680			4010	4837
10	4910	4800	4760	4650			4280	4754
11	4680	4780	4730	5080			4320	4752
12	4250	4560	4820	4930			4480	4664
13	4800	4690	4730	4395			4110	4815
14	4520	4500	4710	4860			4610	5015
15	4240	4670	4940	3760			4710	4900
16	4500	4780	3980	3830		4170	4400	4764
17	5020	5160	4270	4220	4740	4920	4570	5014
18	4850	5180	4260	4230	4860	4600	4290	5124
19	5120	5060	4340	4830	4650	4520	4990	5184
20	5150	5060	4290	4580	4180		4840	5012
21	5140	5180	4380	4550			4640	5116
22	5220	5260	4400	4740			4590	4880
23	3650	5090	4340	4520			4510	4930
24	5070	5250	4840	4670			4420	5242
25	4860	5220	4650	4590			4760	5028
26	5110	5450	4650	4480			4820	5218
27	4870	3510	4530	4650			4385	5133
28	5460	3410	4080	4660			5050	5241
29	2830	5420					5000	5137
30	3460	5220				5050		5358
31	5200	5010			4800	4940		
N		55		56		25		57
Mean		4755		4588		4815		4827
Max		5460		5080		5380		5360
Min		2830		3760		4170		4010

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	January 1993		February 1993		March 1993		April 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1			4950	4670	4500	4570	5070	5352
2			4700	4720	4640	5060	5220	5275
3			4570	4730	5320	5360	4920	5216
4		4660	4700	4580	5100	5380	4720	
5	4430	4360	4810	4980	5000			5050
6	4480	4700	4960	4720	4990	4650	5360	4676
7	4470	4730	4860	4480	4930	4850	4620	4945
8	5000	5010	4520	4780	4600		4160	4664
9	4800	4710	4580	4680			4010	4837
10	4910	4800	4760	4650			4280	4754
11	4680	4780	4730	5080			4320	4752
12	4250	4560	4820	4930			4480	4664
13	4800	4690	4730	4395			4110	4815
14	4520	4500	4710	4860			4610	5015
15	4240	4670	4940	3760			4710	4900
16	4500	4780	3980	3830		4170	4400	4764
17	5020	5160	4270	4220	4740	4920	4570	5014
18	4850	5180	4260	4230	4860	4600	4290	5124
19	5120	5060	4340	4830	4650	4520	4990	5184
20	5150	5060	4290	4580	4180		4840	5012
21	5140	5180	4380	4550			4640	5116
22	5220	5260	4400	4740			4590	4880
23	3650	5090	4340	4520			4510	4930
24	5070	5250	4840	4670			4420	5242
25	4860	5220	4650	4590			4760	5028
26	5110	5450	4650	4480			4820	5218
27	4870	3510	4530	4650			4385	5133
28	5460	3410	4080	4660			5050	5241
29	2830	5420					5000	5137
30	3460	5220				5050		5358
31	5200	5010			4800	4940		
N		55		56		25		57
Mean		4755		4588		4815		4827
Max		5460		5080		5380		5360
Min		2830		3760		4170		4010

Freezing Level Height (m)

Ubon Ratchathani

Lat 15.15 N Long 104.53 E

Day	September 1993		October 1993		November 1993		December 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4975	4980	5150	4830	5221	5372		
2	5040	5180	4930	4800	5293	5364		
3	5119	5120	5080	5100	5193	5227		
4	4740	5030	5230	5200	5188	5187		
5	4948	4810	5000	5290	4983	4946		
6	5308	4750	5200	5187	4791	4836		
7	4901	4750	5190	5050	4818	4865		
8	5196	5016	5217	5220	4815	4929		
9	4969	5000	5091	4870	4781	4814		
10	5056	4990	5021	5050	5123	4916		
11	5054	4630	5024	5000	4949	4809		
12	4984	4980	5059	4480	5204	5108		
13	4944	5200	5115	4830		5006		
14	5240	4550	4851	4980	5352	5593		
15	4800	4620	4938	4900	5207	5367		
16	4660	4960	4924	4900	5127	5001		
17	4880	4790	4843	5000	4786	4787		
18	4840	4480	4709	4650	4447	5189		
19	4630	4610	4953	5050	5628			
20	4510	4670	5126	4760	4929	5450		
21	4750	4690	4859	4520				
22	4840	5180	4839	4800				
23	4470	4910	4887	4660				
24	4590	5060	4831	4710				
25	4810	5210	4773	4790				
26	5070	4960	4510	4950				
27	4870	4900	4820	5279				
28	4690	4920	5263	5047				
29	4700	5010	4984	4847				
30	5080	4630	5088	5235				
31			5213	5177				
N		60		62		38		0
Mean		4888		4966		5068		ERR
Max		5308		5290		5628		ERR
Min		4470		4480		4447		ERR

Freezing Level Height (m)

Songkhla

Lat 7.11 N Long 100.37 E

Day	January 1990		February 1990		March 1990		April 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4690	4600	4950	4940	4730	4750	4770	5180
2	4910	5070	4740	4920	4730	5070	5210	5150
3	5010	5050	5080	5000	4720	5190	4900	5100
4	4770	4460	4820	4700	4520	4440	5090	5100
5	4600	5000	4860	5090	4400	5240	4960	4800
6	4380	4890	5060	5010	5000	4990	4400	4900
7	4950	4900	5010	5060	4790	4560	4720	4770
8	4640	4700	4890	4950	4160	4750	5070	5370
9	4320	4770	5000	5220	4700	4680	5090	
10	4440	4990	4880	5140	4740	4790	5100	5230
11	5010	5000	4960	5270	4700	5020	5030	5190
12	4790	4840	5170	5120	4640	5050	5450	5080
13	4970	4870	4980	5240	4880	5070	5100	4980
14	8090	4950	4950	4750	5240	4960	5140	5000
15	5240	4980	4900	4770	4960	4740	5180	5040
16	4840	4950	4900	4940	4990	4710	5050	4800
17	4630	5220	4740	4780	4610	4940	4800	4590
18	4780	5080	4890	5100	4810	5050	4720	4840
19	5100	4750	4360	4820	4650	4880	4800	5190
20	4820	5010	4800	4890	4940	5070	4910	4930
21		4680	4660	4640	4860	5010	4560	4950
22	4680	4880	4680	4860	4780	4750	4850	4540
23	4790	5030	4760	5140	4810	4900	4960	5210
24	4740	5000	4880	4880	4780	5140	5140	5050
25	4960	5200	4660	5040	4670	4850	5220	5220
26	5130	4950	4750	4863	5050	4940	5080	5070
27	5020	5030	4930	4940	5030	5300	5100	5210
28	5200	5200	5010	4780	4870	5130	4550	4880
29	5180	5260			4610	5121	4750	4880
30	5040	5320			5060	4930	4800	4620
31	5290	5040			5160	5360		
N		61		56		62		59
Mean		4962		4913		4871		4972
Max		8090		5270		5360		5450
Min		4320		4360		4160		4400

Freezing Level Height (m)

Songkhla

Lat 7.11 N Long 100.37 E

Day	May 1990		June 1990		July 1990		August 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4560	4940	4920	5090	5090	5020	4960	4700
2	4970	5080	5130		5120	4940	4590	5042
3	4990	4960	5100	5290	4740	4850	4670	4940
4	4820	4990	5330	5180	4710	4940	4690	4820
5	5000	4880	5000	4900	4920	5000	4950	4780
6	4930	5000	5050	5120	4930	4770	4810	4790
7	4980	5030	4980	4620	4760	4750	5010	4490
8	5180	5250	4930	4900	4620	4860	4910	4630
9	4790	4890	5020	4980	5040	4720	4910	4450
10	4890	5350	5090	4830	4650	4391	4740	4690
11	4980		4640	4980	4800	4770	4780	4490
12	4950	4910	5070	4810	4770	4570	4410	4470
13	4860	4780	4590	4920	4580	4670	4780	4420
14	4740	4960	4800	4790	4460	4640	4540	4520
15	5150	4930	4840	4870	4540	4500	4420	4890
16	4850	5150	4660	4940	4630		4600	4670
17	5020	5070	4860	4820	4630	5000	4520	4740
18	5260	5120	4820	4760	4430	4750	4720	4720
19	5250	4860	4680	4910	4560	4750	4740	4850
20	4800	5120	4930	4580	4640	4640	4990	4950
21	5230	4580	5160	4790	4650	4340		4740
22	5260	5130	4890	5070	4330	4890	5060	
23	4810	4980	4900	4940	4670	4850	4850	4770
24	5040	5120	5090	5000	4850	4390	4900	5100
25	4959	4760	4920	4930	5130	4700	4688	4670
26	5200	5130	4770	4770	4870	4880	4690	4680
27	4790	5070	4680	5070	5110	4970	4710	5060
28	4960	4600	4760	4740	4890	4920	4800	4900
29	4750	4900	5050	4950	4640	5030	4830	4740
30	5040	4760	5030	4966	4720	5200	4930	5130
31	4625	5060			4710		4840	5135
N		61		59		60		60
Mean		4967		4919		4765		4767
Max		5350		5330		5200		5135
Min		4560		4580		4330		4410

Freezing Level Height (m)

Songkhla

Lat 7.11 N Long 100.37 E

Day	September 1990		October 1990		November 1990		December 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5060	4710	4470	4550	4710	4820	5027	4850
2	4890	4750	4270	4610	4800	4910	5110	5040
3	4630	4560	4570	4690	4870	4590	4760	4980
4	5170	4580	4700	4870	4780		4900	4790
5	4370	4700	4770	4850	4740	4730	4630	4550
6	4680	4870	4960	4732	4860	4700	4620	4970
7	5030	4870	4880	5200	4420	4700	5010	4920
8	4700	4710	4850	5080	4670	4700	4960	4700
9	4740	4900	4890	4920	4860	4550	4880	4840
10	4940	4720	4770	4770	4540	4560	4880	4810
11	4860	4930	4670	5070	5000	4760	4800	4710
12	4550	4850	4910	4710	7860	4870	4970	4680
13	5000	4950	4810	4770	4590	4720	4660	4820
14	4900	4950	4590	4830	5020	4730	4680	5050
15	4770	4910	4980	4730	4560	4820	4550	4590
16	4870	4780	4960	5010	4600	4830	4650	4910
17	4860	4580	4810	4830	4790	4920	4640	4650
18	4900	4940	4800	4700	4651	5060	4700	4740
19	4900	4810	4780	4820	4850	5010	5020	4790
20	4860	4840	4930	4800	4942	4980	4710	5020
21	4740	4860	4890	5020	4810	4810	5070	5010
22	4670	4670	4850	5090	4780	4540	4623	4900
23	4670	4770	4790	5000	5080	4848	4580	5130
24	4930	4500	4820	5020	4980	4940	5120	5190
25	4630	4620	4550	5221	5120	4940	5080	5000
26	4840	4390	4600	4890	4770	4800	4950	4720
27	4500	4890	4610	4690	4920	5090	4760	4940
28	4410	4500	4750	4680	4920	4610	4950	5160
29	4900	4700	4750	4880	4810	4710	4880	4980
30	4810	4490	4840	4980	5170	4760	4760	4690
31			4710	4840			4750	4850
N		60		62		59		62
Mean		4768		4813		4856		4849
Max		5170		5221		7860		5190
Min		4370		4270		4420		4550

Freezing Level Height (m)

Songkhla

Lat 7.11 N Long 100.37 E

Day	January 1991		February 1991		March 1991		April 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4500	4660	4860				4760	4900
2	4810	4900	5000	5019		4850	5000	4705
3	4610	4980	4780	4770	4670	4900	4849	4740
4	4980	5000	5090	4940	5360	5300	5130	4890
5	4980	4870	4860	4970	4780	4900	4910	5120
6	4860	5000	4750		4900	5120	4770	4810
7	5000	5110	5260		4810	5230	4740	4870
8	4940	4800			5210	4980	4960	
9	4943	5100			5100	5260	4710	4800
10	4710	5090			5250	5200	4860	5060
11	5080	5100			5160	5110	5230	5240
12	4920	5210	4680	4890	5050	4850	5160	5260
13	4990	4980	5020	5280	4690	4650	5130	5200
14	4990	4760	5230	5010	5060	5190	5070	
15	4620	5100	5060	5290	4930	5110	5030	
16	4990	4920	5063	5270	5000	5240	5180	
17	4638	4710	4700	5000	5230	5100		
18	4990		4910	5030	4961	4630		
19	4900	5080	5000	4830	4770	4740		
20	5120	5000	5140	5170	4920	4780		
21	4600	4960	5360	4520	4750	5170		
22	4740	4790	4860	5050	5000	5100		
23	4670	4680	4820	5110	5040	5040		
24	4780	4960	5340	5270	4870	5200		
25	5059	4840	5200	4830	4680	5270		
26	4920	4840	5200	4890	5090	5240		
27	4810	4909			5320	5340		4960
28	5330	4690			5300	5240	4875	4760
29	4540	4830			4880	5070	5160	5100
30	4700	5110			5230	4990	5120	5000
31	4980	4770			4880	4730		
N		61		41		59		35
Mean		4893		5008		5024		4973
Max		5330		5360		5360		5260
Min		4500		4520		4630		4705

Songkhla		Freezing Level Height (m)							
		May 1991		June 1991		July 1991		August 1991	
Day	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	
1	4890	4660	5050	5042	4856	4896	4978	4990	
2	4756	4830	5070	5122	4660	4804	4710	4660	
3	4810	5070	2090	4970	4830	5000	4760	4890	
4	5180	4800	4810	5070	4890	4540	4850	4700	
5	4750	4930	4990	5160	4800	4780	4420	4690	
6	4850	4500	5020	5100	4720	4740	5110	4690	
7	4740		5040	5090	4708	4920	4670	4391	
8	4970		5040	5030	4970	4420	4870	4540	
9	5080		5070	4810	4960	5050	4730	4790	
10	5120		4940	4730	4650	4740	4430	4860	
11			4960	4750	4881	4700	4840	4690	
12			4980	4750	4730	4670	4720	4450	
13		4850	4710	4700	4910	4870	4740	4530	
14	5050	4980	5120	5150	4800	4610	4830		
15	4880	5100	5120	5550	4650	4770	4860		
16	4860	5010	4960	4790	4740	4650	4870		
17	5040	5190	4820	4740	4680	4810	4760		
18	5060	4990	4900	5060	5230	5050	4630		
19	4890	5120	4900	4983	5070	4950	4500		
20	5000	5130	5090	5290	4870	4790	4860		
21	4850	4860	5150	5020	5080	4940	4760		
22	5070	5240	4880	4630	4610	5060	4770		
23	5050	5030	4852	4680	4870	5030	4640		
24	5120	5000	4810	4660	5260	4780	4830		
25	5240	5140	5040	4820	4830	4820	5040		
26	4790	5120	4880	5050	5000	4970	4740		
27	5070	4850	5070	5140	5320	4980	4870		
28	4830	5040	4840	4765	4680	4780	4630		
29	4840	5020	4740	4980	4930	5030	4660	5040	
30	5080	5090	4860	5150	5210	4730	4870	5020	
31	5060	5090			4970	4790	4900	4840	
N		53		60		62		47	
Mean		4973		4910		4855		4758	
Max		5240		5550		5320		5110	
Min		4500		2090		4420		4391	

Freezing Level Height (m)

Songkhla

Lat 7.11 N Long 100.37 E

Day	September 1991		October 1991		November 1991		December 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4990	5060	4610		4750	5080	5260	4720
2	4960	4880	4790		4870	4824	5160	5190
3	5120	4930	4920		5210	4760	5190	5120
4	4650	4560	4740		4838	4920	5230	5100
5	4640	4860	4890		4600	4740	5020	4970
6	4770	4890	5500	4793	4880	4690	4970	4812
7	5060	5130	4630	4801	4790	4890	4600	4772
8	5140	4890	5030		4678	4570	4940	4754
9	4880	4940			4810	4850	4707	4870
10	4760	4810			4720	4920	4730	4730
11	4650	4860			4720	5200	4680	4900
12	4910	4880			4690	4980	4890	5050
13	4750	4870			4690	4979	4780	4720
14	4880	4830			4810	4800	5160	4990
15	4910	4800			5060	4780	4630	5080
16	4730	4800			4610	4690	4792	4930
17	4900	4790			4960	4720	5310	4950
18	5230	4830			4740	4540	5210	4830
19	5110	4900			5010	4960	5136	5224
20	4940	4980			4920	4580	5143	5050
21	5099	4750			4780	4830	5070	4950
22	4820	5091		4820	4710	4840	4690	5100
23	4870	4950		4695	4820	5200	4810	
24	4920	4910	4610	4910	4910	5030	4600	4770
25	4780	5140	4690	4860	5330	5300	4598	4970
26	4714		4770	4780	5060	4790	4560	4660
27	4620		4890	4930	5050	4920	4770	4890
28	4670		4820	4560	5080	5170	4820	5000
29	4770		4747	4950	4710	4778	4945	4770
30	4530		4830	4760	5060	5060	4630	4790
31			4440	5040			4640	4790
N		55		28		60		61
Mean		4875		4815		4871		4904
Max		5230		5500		5330		5310
Min		4530		4440		4540		4560

Songkhla		Freezing Level Height (m)									
		January 1992				February 1992				March 1992	
Day		07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1		4640	5170	4460	4810	4990	5070	5110	4970		
2		4810	4660	4800	5061	5100	5260	5100	4950		
3		4720	5190	4950	4901	5200	5300	4906	5240		
4		5030	4860	4630	4810	4900	5210	5015	5010		
5		4810	4970	4680	4740	4580	4585	5120	5120		
6		5100	4600	5010	4780	4708	4900	4780	5000		
7		4350	4960	5060	4690	5110	5260	5030	5180		
8		5070	5080	4910	4760	5119	4960	4968	5140		
9		4800	4830	4810	4900	5176	5180	4770	4970		
10		4710	4884	4950	5300	5130	5000	5000	5000		
11		4980	4850	4690	4580	5130	5200	4880	4910		
12		5030	4980	4820	4660	5130	5210	4800	4770		
13		5100	5050	4690	4820	5056	5100	4930	5010		
14		5000	5020	5000	4900	4970	5070	5000	4850		
15		4770	5040	4870	4950	5110	4970	4700			
16		4910	4680	4770	5140	5140	5070	4829			
17		4930	4850	4414	4470	4990	4920	5080			
18		4890	4930	4380	4780	4800	5210	5090			
19		4920	4950	4350	5199	5300	5260	4840			
20		4770	4860	4300	4790	5150	5080	5040			
21		4720	4820	4590	4900	5110	4920	5120			
22		4720	4600	4700	4940	4830	4930	4890			
23		4760	4770	4910	4980	5140	5347	5060			
24		4650	4700	4940	5020	5030	5000	5010			
25		4700	4917	4910	4880	4940	4810	5290			
26		4580	4760	4970	5110	5080	5100	5050			
27		4770	4630	4760	5266	5003	5220	4700			
28		4510	4850	5200	5080	5230	4890	4980			
29		4910	4900	4920	5090	4880	5060	4900			
30		4830	5160			4990	5150	4980			
31		4720	4580			5050	4730				
N			62		58		62		44		
Mean			4844		4841		5049		4979		
Max			5190		5300		5347		5290		
Min			4350		4300		4580		4700		

Songkhla		Freezing Level Height (m)							
		Lat 7.11 N Long 100.37 E							
Day	May 1992		June 1992		July 1992		August 1992		
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	
1	4880	4890	4890	5070	4785	5170	4730	4670	
2	4870	5110	4880	4920	4780	4880	4840	4880	
3	4950	4820	5010		4690	4890	4900	4630	
4	5000	5250	4920		4840	5140	4800	4980	
5	5190	5020	5000		4940	4950	4900	5100	
6	4970	4960	5050		4800	4690	4650	4730	
7	5090	4850	5030		4860	4900	4620	4880	
8	4829	4810	4770		5029	4640	4520	4750	
9	5140	4880	4840	4990	4870	4710	4600	4780	
10	4900	5110	4870	4910	4821	5390	4580	4820	
11	4880	4980	4910	5060	4740	4550	4740	4830	
12	4858	5110	4690	4870	4640	4720	4761	4880	
13	5060	5170	5078	4980	4560	4550	4750	4660	
14	4910	4980	4700	4740	4390	4707	4520	4720	
15	4840	4960	4980	4940	4760	4920	4860	4780	
16	4870	4780	4790	4430	4840	4840	4910	4797	
17	4525	4860	4668	4670	4790	4970	4640	4740	
18	4800	5129	4500	4720	4590	4715	4910	4630	
19	4900	4940	4600	4680	4790	5030	4960	4600	
20	4980	4900	4630	4620	4810	4770	5040	5030	
21	4980	5080	5020	4940	4760	4800	5000	4770	
22	4680		4500		4660	4700	4110	4720	
23	4720	5150	4620		4690	4470	4860	4900	
24	4830	4920	4710		5050	4840	4700	5130	
25	4980	5030	4540	4550	4970	4960	4780	4920	
26	4740	4700	4570	4620	4940	4740	4790	5020	
27	4890	5120	4380	4720	4620	4530	4880	4820	
28	4900	4880	4730	5120	4840	5090	5193	5070	
29	4920	5000	4970	5300	4777	4850	4810	4940	
30	4700	4870	5063	5110	4700	5010	5000	4810	
31	4950	5030			4650	4560	4780	4240	
N		61		51		62		62	
Mean		4935		4821		4801		4796	
Max		5250		5300		5390		5193	
Min		4525		4380		4390		4110	

Songkhla		Freezing Level Height (m)							
		Lat 7.11 N Long 100.37 E							
Day	September 1992		October 1992		November 1992		December 1992		
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	
1	4950	4790	4700	4710	4700	5210	5190	5100	
2	5100	5080	4670	4790	4518	4840	4810	4800	
3	4560	4690	4760	4570	4720	4720	4520	4850	
4	4490	4620	4660	4860	4450	4780	4240	4620	
5	4760	4640	4780	5260	4660	4690	4850	4530	
6	7829	4740	4960	4900	4850	4670	4600	4900	
7	4720	4860	4800	5000	4700	5060	4830	4560	
8	4730	5010	4580	5060	4790	4890	4920	4580	
9	4692	4990	4700	4820	4690	4780	4780	4890	
10	4610	4850	4770	4860	4790	4700	4960	4860	
11	4690	4790	4930	4830	4720	4420	4600	4760	
12	4580	4830	4740	5270	4680	4180	4960	5030	
13	4560	4760	4900	4880	4660	4900	4520	4960	
14	4680	4880	4920	5100	4930	5130	4890	5130	
15	4660	4820	4590	4960	4740	4650	4970		
16	4700	4810	4580	4640	4570	4990	4920	4810	
17	4740	4740	4710	4640	4830	4980	5070	5090	
18	4760	4610	4660	4680	4960	4980	5100	4825	
19	4790	4650	4640	4660	4640	4830	4510	4680	
20	4770	5050	4990	4640		4740	4590	4790	
21	4570	4860	4630	4690	4770	4590	4450	4720	
22	4700	4830	4920	4730	4740	4780	4660	4690	
23	4860	4930	4890	4830	4810	4480	4680	4650	
24	4955	4860	4720	4900	4820	4800	4650	4730	
25	4720	4880	4610	4680	4470	4590	4730	4860	
26	4760	5070	4880	4830	4620	4920	4730	4820	
27	5070	5210	4780	4760	4880	4470	4920	4430	
28	4727	4890	4920	4430	4970	5080	4700	4660	
29	4730	4980	4980	5040	5130	5190	4460	4500	
30	4570	4700	4600	4850	4740	4740	4440	4620	
31			4540	4820			4510	4820	
N		60		62		59		61	
Mean		4841		4794		4768		4755	
Max		7829		5270		5210		5190	
Min		4490		4430		4180		4240	

Freezing Level Height (m)

Songkhla

Lat 7.11 N Long 100.37 E

Day	January 1993		February 1993		March 1993		April 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4650	5190	5090	4990	4620		4840	
2	4630	4880	4700	4630	4740		4800	
3	4780	4800	4780	5060	4800		4550	
4	4830	4970	5030	4880	4910		4780	
5	4890	4830	5000	4590	4980		4966	
6	4600	4900	4780	5000	4540		4902	4900
7	4780	4890	4910	4790	4670		4970	5270
8	4760	5080	4790	5090	4630		4850	5060
9	5000	4960	5020	5130	4630		4980	4820
10	5260	4920	4840	4690	4760		4880	4840
11	4600	5000	4840	4830	4820		4500	4810
12	5140	5290	4740	5070	4680		4790	4640
13	4810	4930	4701	4570	4560		4740	4800
14	4460	4570	4972	4900	4720		4590	4590
15	4700	4960	4710		4672		4420	4600
16	4630	5090	4790		4700		4740	4560
17	4970	4910	4610		4820		4930	4640
18	4800	5140	4740		4920		5090	4720
19	4720	4840	4540		4866		4782	4980
20	5030	4610	4690		4160		4890	5090
21	4900	4510	4770		4740		5040	5090
22	4620	4500	4650		4710		4870	4840
23	4110	4640	4700		5210		4840	4880
24	3990	4480	4912		4640		4920	4750
25	4400	4620	5098		4690		5080	5060
26	4220	5050	5070		4680		5060	4920
27	4900	4970	5057		4680		5110	4950
28	4710	4520	4690		5100		4717	5200
29	4507	4700			5080		5260	5190
30	4740	5100			4840		4900	5200
31	5260	4970			4816			
N		62		42		31		55
Mean		4794		4844		4754		4876
Max		5290		5130		5210		5270
Min		3990		4540		4160		4420

Songkhla		Freezing Level Height (m)							
		May 1993		June 1993		July 1993		August 1993	
Day	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	
1	5200	5180	5240	4860	4540	4810	4690	4640	
2	5260	5200	4640	4970	4894	4720	5070	4520	
3	5360	5180	4840	4870	4810	5100	4917	4780	
4	4890	5230	4920	5200	4750	4820	4910	4710	
5	5110	5040	4890	4810	4760	4800	4900	4300	
6	5020	5300	4980	4940	4730	4790	4510	4500	
7	5200	5200	4930	4880	4640	4500	4690	4420	
8	4900	5000	5020	4860	4780	4750	4720	4640	
9	4890	5170	4770	4900	4770	4600	4760	4580	
10	4920	4410	4980	4870	4690	5030	4676	4900	
11	4853	4710	4940	4880	4940	4960	4800	4510	
12	5040	4700	4720	4830	4940	5000	4673	4480	
13	4984	4900	4790	4700	4790	5010	4790	4720	
14	4908	4780	4770	4810	4590	4810	4970	4780	
15	4820	4720	4580	4720	4860	4810	4780	4680	
16	4840	4990	4700	4780	4620	4940	4730	4590	
17	4760	4580	4900	4550	4805	4820	4960	4460	
18	4690	4570	4673	4580	4900	4680	4780	4660	
19	4740	4560	4550	4550	4890	4690	4710	4550	
20	4715	4620	4920	5000	4970	4690	4490	4360	
21	4780	4790	4870	4900	4780	4720	4430	4490	
22	5040	5000	4800	5040	4580	4980	4709	4490	
23	4790	4890	4890	4840	4660	4600	4460	4500	
24	5130	4580	4760	4880	4840	4740	4590	4340	
25	5040	4940	4940	5190	4710	4810	4580	4610	
26	5180	5120	4950	4910	4940	4930	4300	4410	
27	4760	4850	5170	4986	4780	4730		4440	
28	4700	5020	4760	4630	4770	4920	4790	4400	
29	4710	4740	4940	5000	4820	4600		4330	
30	4860	4950	4950	4710	4770	4800	4650	4610	
31	5250	5140			4669	4760		4430	
N		62		60		62		59	
Mean		4926		4857		4789		4625	
Max		5360		5240		5100		5070	
Min		4410		4550		4500		4300	

Freezing Level Height (m)

Songkhla

Lat 7.11 N Long 100.37 E

Day	September 1993		October 1993		November 1993		December 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4540	4500	4520	4780	4900		4780	
2	4350	4270	4610	4970	4670		4620	
3	4500	4260	4130	5030	4950		4712	
4	4270	4370	4900	4820	5010		4765	
5	4360	4310	4430	5200	4620		4910	
6	4300	4590	4550	4480	5130		4672	
7	4310	4260	4430		4550		5014	
8	4460	4510	4910		4660		4680	
9	4300	4540	4710		4950		4681	
10	4490	4090	4930		4480		5240	
11	4540	4840	4720		4810		4930	
12	4490	4320	4812		4890		4910	
13	4280	4470	4730		4740		4760	
14	4020	4400	4530		4700		4910	
15	4350	4670	4980		4420		4710	
16	4620	4460	4820		4932		4650	
17	4630	4430	4580		4780		4861	
18	4230	4470	4830		5090		4894	
19	4480	4560	4512		4750		5100	
20	4580	4530	4680		4710		5082	
21	4400	4480	4750		4840		4810	
22	4780	4920	4780		4770		4768	
23	4270	4740	4720		5000		5060	
24	4550	4680	4840		4890		4766	
25	4480	4440	4730		4710		4670	
26	4400	4600	4900		4680		4734	
27	4410	4570	4750		4980			
28	4450	4150	4730		4935		5097	
29	4390	4300	4800		5000			
30	4800	4660	4930		4940		4830	
31			4690				4803	
N		60		37		30		29
Mean		4457		4736		4816		4842
Max		4920		5200		5130		5240
Min		4020		4130		4420		4620

Freezing Level Height (m)

Phuket

Lat 8.8 N Long 95.19 E

Day	January 1990		February 1990		March 1990		April 1990	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
N		0		0		0		0
Mean		ERR		ERR		ERR		ERR
Max		ERR		ERR		ERR		ERR
Min		ERR		ERR		ERR		ERR

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Phuket		Freezing Level Height (m)							
						Lat 8.8 N Long 95.19 E			
Day	May 1990		June 1990		July 1990		August 1990		
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	
1							5187	4948	
2							4966	5031	
3							4559	4977	
4							4808	4846	
5							4696	4780	
6							4941	5005	
7							4808	5023	
8							4842	4910	
9							5023	4975	
10							4679	4787	
11							4647	4317	
12							4591	4823	
13							4758	4931	
14							4808	4878	
15							5037	5040	
16							4785	4780	
17							5013	4579	
18							4709	4709	
19							4512	4785	
20							5014	4746	
21							4895	4867	
22							5016	5142	
23							5858	4841	
24							4984	5002	
25							4680	4782	
26							4840	4895	
27							4924	5107	
28							4969	4940	
29							5012	4464	
30							5022	5257	
31							5363	5175	
N		0		0		0		62	
Mean		ERR		ERR		ERR		4892	
Max		ERR		ERR		ERR		5858	
Min		ERR		ERR		ERR		4317	

Phuket		Freezing Level Height (m)							
		September 1990		October 1990		November 1990		December 1990	
Day	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	
1	4741	5035	4371		4880	5590			
2	5090	4764	4574		4882	4885			
3	4702	4826	4560	5180	4908	4963			
4	4809	4569	4735	4862	4808	4882			
5	4512	4674	4890	4949	4617	4786			
6	4663	4769	4856	4941	4733	4757			
7	4692	4839	4868	4979	4811	4802			
8	4725	4767	4984	7913	4610				
9	4651	4877	4782	4878	4764	4891			
10	5631	4652	4830	4822	4828	4861			
11	4870	4874	4668	5195	4791	5359			
12	4667	4961	5034	5385	4697	4807			
13	4878	5003	4793	7990	4772	4679			
14	4590	5206	5042	7968	4868	4664		4762	
15	4713	5066	4781	7990	4907	4829	4676	5265	
16	5121		4895	5019	4894	4904	4834	5116	
17			4971	5093	4728	4869	4804	4849	
18			4842	4580	4672	5068	5040	5099	
19		4872	4918	4862	4780	5120	4934	4822	
20	4812	4923	4912	5135	4842	5038	4669	4938	
21	5244	4711	4902	4911	4777	5004		4860	
22	4796	4860	4944	5374	4818	4788	4751		
23	4779	4758	4965	5182	5123	4792	4752	4902	
24	5113	4864	5031	5093	5138	4807	5034	5248	
25	4883	4840	4680	5194	4867	4850			
26	4822	4737	4792		4822	4670			
27	4797	4781	4798	4993	4988	4859			
28	5437	4780	4836	4888	4842	4935		5059	
29	4955	4848	4829	4865	5111	5245	4984	4982	
30		4659	4831	4949			4681	4822	
31			4809	4912			4723	4875	
N		53		59		57		26	
Mean		4853		5116		4877		4903	
Max		5631		7990		5590		5265	
Min		4512		4371		4610		4669	

Phuket		Freezing Level Height (m)									
		January 1991				February 1991				March 1991	
Day		07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1		4661	5025				4857	4663	4775		
2		4863	4995			4757	4957	4898	4617		
3		4938	4811			4796	5039	4875	5095		
4		5028	4983			5353	5190	5186	4894		
5		4854	4824			5135	5160	4922			
6		5035	4886			5028	5102		4963		
7		5018	5042			5191	5239				
8		4878	5101			4917	5224	5061			
9		4840	4944			4938	5162	4999			
10		4740	5331			5295	5318	4921			
11		5231	5241			5146	5107				
12		5185	5162			4967	4924				
13		5086	4962			4804	5147				
14		5046	4965			4878	5059				
15		4658	5013			5180	5073				
16		5034				5060	5197				
17						5114	5239				
18						5062	4724		5302		
19						5094	4931	5003	5135		
20					4320	4964	5207	5052	5003		
21				5142	4677	4869	5097	5042	5057		
22				4616	4682	4804	5187	4940	4729		
23					5217	5074	5116	4764	4862		
24				5338	5332	4931	5181	4945	5036		
25				5061	5070	4998	5012	4870	5053		
26				4856	4998	4953	5182	5007	4938		
27				4846	4834	5145	5187	4844	4999		
28				4874	4887	5099	4973	5007	5345		
29						4872	5179	5209	5408		
30						4989	5008	5156			
31							4955				
N			31		16		60		37		
Mean			4980		4922		5056		4989		
Max			5331		5338		5353		5408		
Min			4658		4320		4724		4617		

Freezing Level Height (m)

Phuket

Lat 8.8 N Long 95.19 E

Day	May 1991		June 1991		July 1991		August 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4861				4861			
2					4843			
3					4758			
4					4687	5016		4847
5					5043	4961	4655	4466
6					4693	5048	5001	4881
7				5107	4854	5310	4924	4944
8			4995	5175	4594	5135	4800	4867
9			4938	5048	4593	4871	4878	4976
10			5122	5088	4891	4793	4860	4906
11			4869	4983	4809	4893	4793	
12			5000	5103	4727			
13		5283	4712	4922	4923	4933		
14		5254	4944	4979	4881	5040		4945
15	4896		5130	5398	5256	6475	4984	4760
16			4900	5041	4799	4669	4916	4937
17		5345	4893		4748	5024	4983	
18			4561		4981	5111	4940	
19			4939		4878	5032	5144	
20	4943	5873	5139		5393	4949	5056	
21	4988	4761	4988		4926	5004	5066	
22	5064	5087	4812		4816	5017	4865	
23	5036	4947	4551		4934		4715	
24	5052	5096	4838		5211		4745	
25	5094	5094	5038		5269		4967	
26	5286	5273	4934		4824		4996	
27	4964	4647	4771		5168		4944	
28	4975	5192	4747		4829		4936	
29	5051		4721		4819		4967	
30	5063		4809		5283		5358	
31					5087		4985	
N		25		33		49		34
Mean		5085		4945		4973		4912
Max		5873		5398		6475		5358
Min		4647		4551		4593		4466

Freezing Level Height (m)

Phuket

Lat 8.8 N Long 95.19 E

Day	September 1991		October 1991		November 1991		December 1991	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5017						5049	5038
2	4868						4997	5121
3	4928						5048	5010
4	4990						5004	4739
5	4694						4958	4962
6	4916						4972	4862
7							4705	4828
8							4918	4833
9							4885	4850
10							4863	4828
11							4811	4759
12								4772
13							4914	4597
14							4737	4706
15							4978	5008
16							5040	5127
17							5267	5247
18							4908	5109
19							4945	5032
20							4999	4956
21							5211	4899
22							4947	5060
23							4716	4736
24							4719	4690
25							4791	4893
26								
27								
28								
29								
30								
31								
N		6		0		0		49
Mean		4902		ERR		ERR		4919
Max		5017		ERR		ERR		5267
Min		4694		ERR		ERR		4597

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Freezing Level Height (m)

Phuket

Lat 8.8 N Long 95.19 E

Day	January 1992		February 1992		March 1992		April 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1			4485		5018	5222	5151	5318
2			5017		5259	5386	5090	5050
3			4999		5247	5208	4992	5182
4			4780		5226	5360	4991	5159
5			4837		5208	4831	5172	5162
6			4821	5026	4724	5163	4911	5330
7			4854	4898	5286	5108	5172	4982
8			4891	5026	4968	5134	4844	5024
9			4947	4994	5404	4770	4898	5040
10			4706	5023	5133	5203	4972	5141
11			4880	4917	5314	5181	4909	5224
12			4684	4833	5213	5212	4921	5200
13			4884	4988	5280	5164	4988	
14			4806	5050	5307	4948	4925	
15			5124	4970	5035	5063	4866	
16			5202	5170	5072	5112	4959	
17			5080	4511	5034	5226	4966	
18	4669	4879	4705	4592	5135	5203	4856	
19	4986	4924	4226	4741	5216	5268	5175	
20	4887	4875	4701	4696	5275	5253	4898	
21	4786	4773	4735	5030	5242	5317		5182
22		4618	4580	4964	5281	5268		5158
23	4631	4578	4547	4675		5256	5232	5142
24	4640	4945	5036	4989	4942	5039	4920	5155
25	4759	4659	4848	4900	4873	4986	5233	5363
26	4609	4735	5108	4729	4969	4975	5231	5070
27	4691	4778	4891	5307	4888	5040	5106	5136
28	4532	4886	4875	5130	5100	4960	4897	4961
29	4819		4960	5127	5111	5037	5107	5075
30	4882						5362	5173
31	4607				4918	5111		
N		24		53		59		50
Mean		4756		4877		5130		5079
Max		4986		5307		5404		5363
Min		4532		4226		4724		4844

Phuket		Freezing Level Height (m)							
		Lat 8.8 N Long 95.19 E							
Day	May 1992		June 1992		July 1992		August 1992		
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00	
1	5007	4841	4891	4950	4739	5058	4828	5027	
2	4739	5082	4948		4933	4916	5039	5015	
3	4854	4939			4852	4911	4729		
4	5089	5370			4847	4926	4816		
5	5091	5386		5183	4863	4986	4959		
6	5231		4906	4798	4881	4811	4492		
7	4920	4992	4963	4983	4834	4897	4577		
8	4809	5041	5153	5061	4721	4825	4880		
9	5077	4993	4904	4971	4756	4818	4706		
10	4821	5103	5038	5127	4632	4962	4800		
11	4903	4963	4905	4963		4606			
12	5026	5038	4931	4897	4160	4668			
13	4992	5127		5109	4474	4766			
14	4879	4997	4866	4921	4674	4739			
15	4913	5061	5224	4908	4961	4963			
16	4798	5012	4723	4979	4781	4897			
17	4853	4946	4631	4856	4851	4684			
18	5082	5332	4946	4673	4571	4834			
19	4955	5024	5110	4708	4571	4818			
20	4851		4776	4534	4755	4735			
21			4783	5228	4864	4808			
22		5055	4750	5356	4791		4892		
23	4946	4943	4743	4782	4608	4613	4966		
24	4810	5071	4632	5038	5139	4719	4808		
25	5053	4944	4962	4932	4773	4772			
26	4836	4849	4748	4385	4945	5078	4869		
27	4840	4904	4648	4830	4721	4446	4796		
28	4978	5144	4674	4915	4607	5042	4651		
29	4918		5137	4853	4759	4849	4675		
30	4835	5159	5253	5124	4788	4903	5013	4976	
31	5277	5137			4794	4853	5114		
N		56		53		60		22	
Mean		4997		4911		4792		4847	
Max		5386		5356		5139		5114	
Min		4739		4385		4160		4492	

Freezing Level Height (m)

Phuket

Lat 8.8 N Long 95.19 E

Day	September 1992		October 1992		November 1992		December 1992	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
N		0		0		0		0
Mean		ERR		ERR		ERR		ERR
Max		ERR		ERR		ERR		ERR
Min		ERR		ERR		ERR		ERR



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Freezing Level Height (m)

Phuket

Lat 8.8 N Long 95.19 E

Day	January 1993		February 1993		March 1993		April 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
N		0		0		0		0
Mean		ERR		ERR		ERR		ERR
Max		ERR		ERR		ERR		ERR
Min		ERR		ERR		ERR		ERR



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

Freezing Level Height (m)

Phuket

Lat 8.8 N Long 95.19 E

Day	May 1993		June 1993		July 1993		August 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	5173	5416	5352	4912	4914	4944	5056	5121
2	5397	5478	5131	5083		4960	5063	5047
3	5232	4805	4839		5134	5007	5041	4714
4	5289	5265	4910	5186	4813	5806		4910
5	5005	4918	5048	4978	4805	5487	4826	
6	4934	5278	4923	4816	5254			
7	5085	5304	5752	5013	4810	4878	4924	4904
8	5229	5111	4911	5310	4921	4891	4826	5074
9	4839	5032	5001	5231	4776	4897	4858	4829
10	4986	4781	5160	5069	4988	4917	4980	5057
11	4895	4943		4781	5020	5126	5169	4930
12	4883	5099	4966	4962	4843	5096	4897	4878
13	5084	5138	5017	4824	5310	5343	4878	4977
14	5235	4825	4765	4957	4929	5026	4986	4927
15	5042	5061	4849	4885	5146	5028	4929	4845
16	4685	4727	4799	4967	5241	5004	4809	4914
17	4881	4810	4991	4925	4868	5163	4672	4875
18	4914	4791	5035	4711	5001	5003	4840	4928
19	5033	5406	4848	4727	4614	5082	4819	4744
20	5052	5037	4828	4714	4986	4876	4667	4816
21	4790	5013	4825	4924	4923	4973	4444	4860
22	4903	4928	4905	4925	4632	4755	4681	4740
23	5345	4927	4634	4782	5591	4851	4831	5433
24	4887	5119	4904	5042	4983		4595	4678
25	4997	5118	5000	4637	5209	4994	4720	5173
26	5235	5223	5086	4978	5008	5061	4750	4684
27	5783	4806	5125	5138	5193	4967	4702	4742
28	4928		5124	5027	4803		4658	4813
29	4855	4947	4674	5422	4900	5138	5292	4878
30	5064	5116	5515	4879	5177	4954	5070	4966
31	5236	5180			4682	5066	4982	4800
N		61		58		58		58
Mean		5057		4978		5013		4883
Max		5783		5752		5806		5433
Min		4685		4634		4614		4444

Freezing Level Height (m)

Phuket

Lat 8.8 N Long 95.19 E

Day	September 1993		October 1993		November 1993		December 1993	
	07.00	19.00	07.00	19.00	07.00	19.00	07.00	19.00
1	4834	4795	4729	4929				
2	4876	5226	5577	5039				
3	4700	5160	5368	4954				
4	5032	4871	5568	5477				
5	5184	5004	5615	5004				
6	5106	4728	4997	4945				
7	5181	4661	4936	4905				
8	5014	4957	4853	5079				
9	5272	4842	4859	4882				
10	5017	4798	4756	4793				
11	4889	4811	5506	4716				
12	4650	5190	4780	5242				
13	4829	4770	4992	4850				
14	4555	4711	4640	4778				
15	4542	5352	4611					
16	4750	4908						
17	4861	5135						
18	4751	4979						
19	4661	4887						
20	4888	4773						
21	4795	4950						
22	4829	5060						
23	4880	5007						
24	4980	5180						
25	4933	4805						
26	4861	5029						
27		4825						
28	4770	4754						
29	4689	4716						
30	4627							
31								
N		58		29		0		0
Mean		4894		5013		ERR		ERR
Max		5352		5615		ERR		ERR
Min		4542		4611		ERR		ERR

ประวัติผู้เขียน

นายพงษ์ศักดิ์ สุ่มพันธ์ไพฑูริย์ เกิดเมื่อวันที่ 26 พฤศจิกายน พ.ศ. 2512 ที่ อ. เมือง จ. นนทบุรี สำเร็จการศึกษาปริญญาวิศวกรรมศาสตรบัณฑิต (วิศวกรรมไฟฟ้า) เกียรตินิยมอันดับสอง จากมหาวิทยาลัย เกษตรศาสตร์ เมื่อปี พ.ศ. 2534 และเข้าทำงานในตำแหน่งวิศวกรระบบโทรคมนาคม บริษัทสามารถคอร์ปอเรชั่น ในระหว่างปี พ.ศ. 2534-2535 จากนั้นได้ทำการศึกษาต่อชั้นปริญญาวิศวกรรมศาสตรมหาบัณฑิต ภาควิชา วิศวกรรมไฟฟ้า จุฬาลงกรณ์มหาวิทยาลัย เมื่อปี พ.ศ. 2535 เคยเขียนบทความทางวิชาการด้านการสื่อสารดาว เทียม รวมทั้งเคยบรรยายพิเศษเรื่องการสื่อสารดาวเทียม ในงานสัมมนาวิชาการ ใต้ฯ เทคโนโลยี สุ่มพันธ์แห่ง ประเทศไทย ครั้งที่ 7 ที่มหาวิทยาลัยศรีนครินทรวิโรฒ มหาสารคาม



ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย