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U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Environmental Data Service

An Annotated Bibliography of Climatic Maps of India (Supplement)

ANNIE E. GRIMES

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EDSTM-BM 80 An Annotated Bibliography of Climatic Maps of Pakistan (Supplement)

U.S. DEPARTMENT OF COMMERCE
U.S. National Oceanic and Atmospheric Administration
Environmental Data Service

NOAA Technical Memorandum EDSTM-BM 81,

AN ANNOTATED BIBLIOGRAPHY OF CLIMATIC MAPS OF INDIA

(Supplement to WB/BM 65)

Annie E. Grimes
Atmospheric Sciences Library
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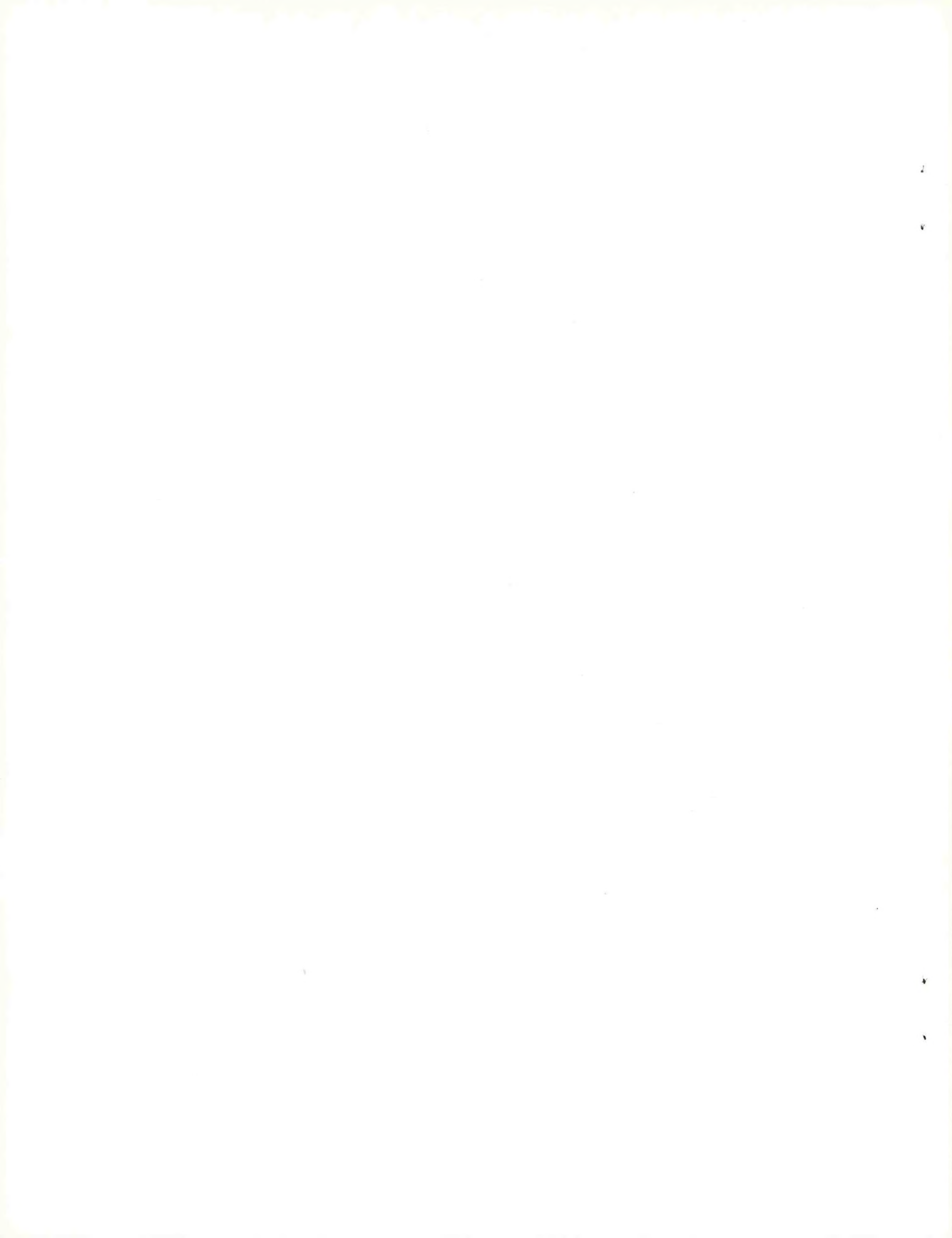
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016	Special subject bibliographies
551.58	Climatology
.582.3	Climatic maps and atlases
(54)	Indian subcontinent

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INTRODUCTION

This bibliography is one of a continuing series prepared at irregular intervals by the Foreign Branch, Climatology Division, Environmental Data Service. Earlier titles in this series are listed on the inside of the front cover.

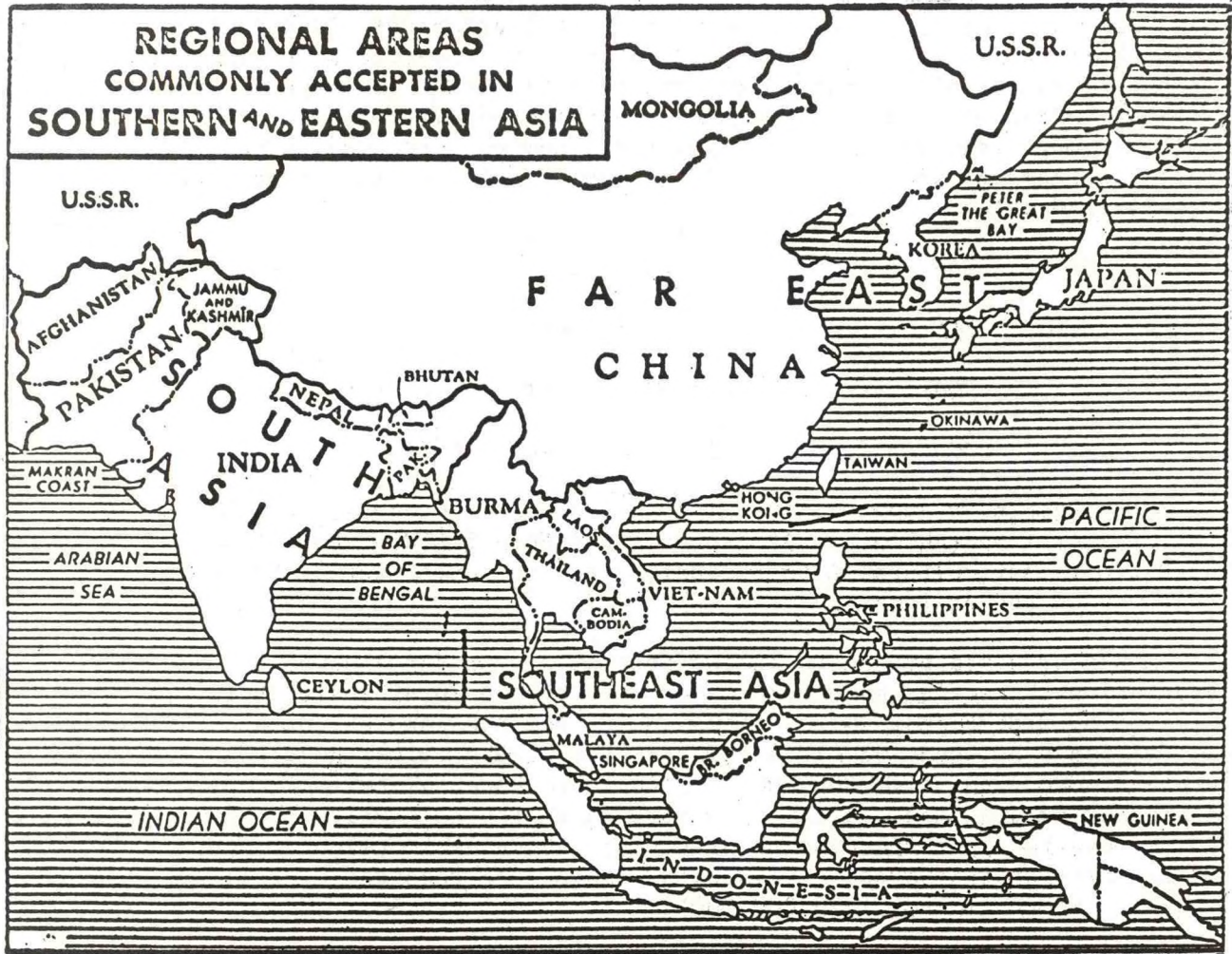
This is a supplement to An Annotated Bibliography of Climatic Maps of India, WB/BM-65 by Annie E. Grimes, January 1964. Sources made available in various libraries of the Washington Metropolitan Area with maps of India, India and adjacent areas and South Asia are included. Some of these sources may be in more than one of these libraries; however, the call number for each source is recorded in the abstract for only one of them in the preferential order listed below:

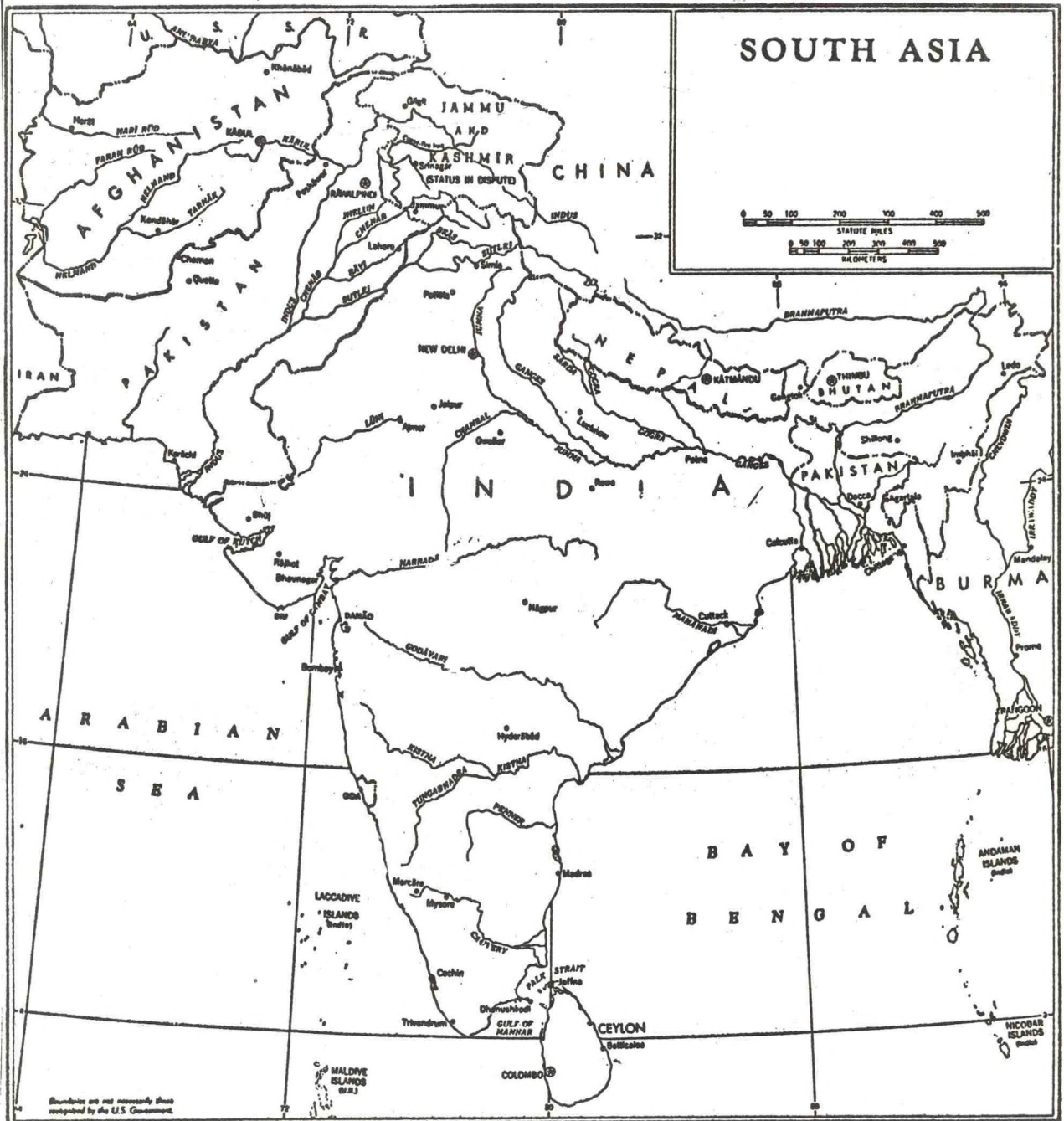
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DLC	Library of Congress
DNAL	National Agricultural Library
DGS	Geological Survey Library

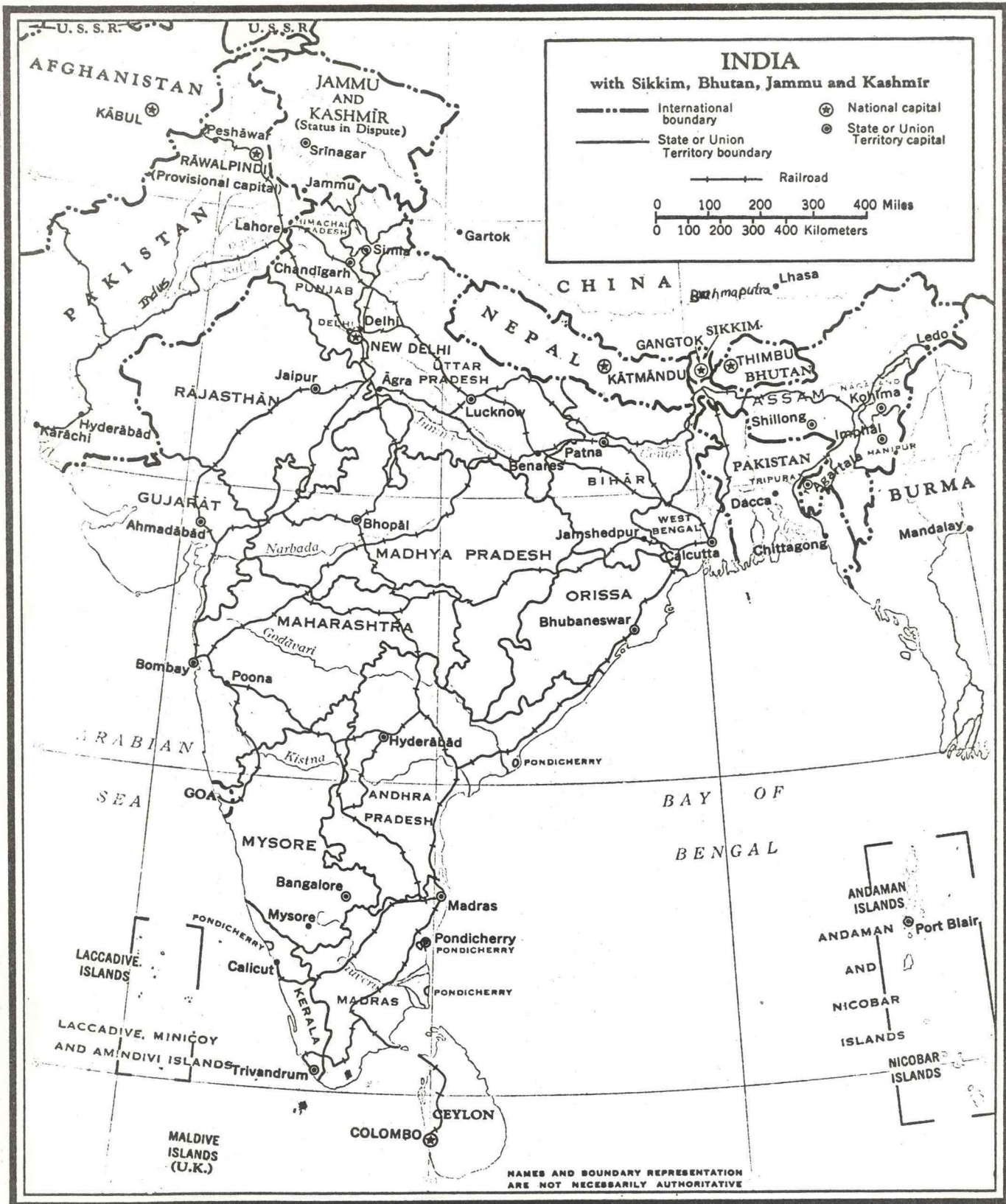
For example, a source listed in the Library of Congress, was not located at the time of search in the Atmospheric Sciences Library, but it may be in the National Agricultural Library and/or the Geological Survey Library, which are lower on the preferential list.

Map scales are presented in the abstracts. In the absence of printed information the scales have been determined by a natural scale indicator, prepared by S.W. Boggs, Chief, Division of Geography and Cartography, Department of State between 1924-1954. These approximate values have been enclosed in sub-brackets, as 1:16 400 000 , if they are ascertained from maps having graticules or distance scales. However, maps with no graticules or distance scales require the estimation of distance; the values obtained by the natural scale indicator from these estimated distances are recorded as follows, "scale is not indicated (about 1:40 000 000)."

Translations of foreign titles to English are recorded.







AN ANNOTATED BIBLIOGRAPHY OF CLIMATIC MAPS OF INDIA (SUPPLEMENT)

1892

1. Dickson, H.N. The meteorology of India and the surrounding sea-areas. The Scottish Geographical Magazine, VIII:248-256. Edinburgh, 1892. DAS P.

...Presents polychrome maps, scale is not indicated (about 1:40 000 000), of India, Pakistan, Burma and Ceylon with mean isobars and winds by arrows for December and June, mean temperature during the dry season and during the wet season, and mean isohyets during the dry season and during the wet season.

1901

2. Eliot, John. Handbook of cyclonic storms in the Bay of Bengal for the use of sailors. Vol. 1 and 2. Second edition. Calcutta, 1900-1901. DAS M/1530 E42h.

...Includes maps (scale [1:16 400 000]) of the Bay of Bengal, Burma, East Pakistan and the eastern part of India with tracks of cyclonic storms which originated in the Bay of Bengal during the months of May, June, July, August, September and October during the period 1877-87 and during the period 1888-99; tracks of cyclonic storms which originated during the months of November and December in the years 1877-99; tracks of cyclonic storms which originated in the Bay of Bengal during each month (May-December) in the years 1882-99 having a wind force ≥ 8 . The first edition of this source, published in 1890, is also available in DAS.

1915

3. Packard, Leonard O. Response to rainfall in India. Bulletin of the American Geographical Society, XLVII(2):81-99. New York, 1915. DAS P.

...Contains maps (scale 1:27 000 000) of India, Ceylon, and East Pakistan with mean isobars and wind by arrows for January and July and annual mean isohyets (inches).

1922

4. Newnham, E.V. Hurricanes and tropical revolving storms. Geophysical Memoirs No. 19, pp. 213-333. London, 1922. DAS M(055) G786g.

...Presents a map (scale [1:12 000 000]) of the Bay of Bengal and adjacent land areas showing the points of origin of storms in the different months (April-December) of the cyclone season for 1900-1912; maps (scale [1:28 000 000]) of India, Pakistan, Burma, Ceylon, Bay of Bengal and Arabian Sea show the cyclone tracks for each month (March-December) for the years 1900-1912.

1924

5. Harwood, W.A. The free atmosphere in India. Upper air movement in the Indian monsoons and its relation to the general circulation of the atmosphere. Memoirs of the Indian Meteorological Department, XXIV(VIII): 249-273. Calcutta, 1924. DAS M(055) I39m.

...Presents maps, scale is not indicated (about 1:33 600 000), of India, Pakistan and Burma with surface normal winds and winds at low cloud level, 2 km, middle cloud level, 5 km, high cloud level and 9 km by arrows for each season (cool, hot and southwest monsoon).

1930

6. Roy, S.C. and Roy, A.K. Structure and movement of cyclones in the Indian Seas. Beiträge zur Physik der freien Atmosphäre, XVI:224-234. Leipzig, 1930. DAS M(05) B422.

...Presents a map (scale [1:40 000 000]) of the Indian Seas and adjacent land areas with depression and severe cyclone tracks.

1932

7. Clark, K.G.T. The vicissitudes of the summer rainfall of the Indo-Gangetic plain and the Assam Valley. Geography, XVII:286-292. Manchester, December 1932. DLC G73 .A15.

...Presents a map (scale [1:17 000 000]) of Northern India and Pakistan showing the variability of summer rainfall in the Indo-Gangetic Plain.

8. Narayan, B.G. The meteorology of Malabar. The Journal of the Madras Geographical Association, VI(3 and 4):103-110. Madras, October 1931-January 1932. DLC DS401 .I36.

...Presents a map (scale [1:1 500 000]) of the Malabar District showing the distribution of annual rainfall amount (inches) by hatched areas.

9. Williams, George Bransby. The rainfall of Assam. Quarterly Journal of the Royal Meteorological Society, 58:449-464. London, 1932. DAS M(05) R888q.

...Presents maps, scale is not indicated (about 1:36 000 000), of India, Burma, Pakistan, and Ceylon showing normal isobars at the end of December and July; map (scale [1:6 600 000]) of Assam with mean isohyets.

1937

10. Das, S. Muthukrishna. The climate of Tanjore District. The Journal of the Madras Geographical Association, 12(2):122-127. Madras, July 1937. DLC DS401 .I36.

Source No. 10 continued.

...Presents a map (scale 1 inch = 20 miles) of Tanjore District with annual mean isohyets and graphs showing monthly rainfall values for Negapatam, Kumbakonam, Tanjore and Arantangi. Period of record is not recorded.

1938

11. Ramamurthy, K. Climate of South Kanara. The Journal of the Madras Geographical Association, XIII(3):263-268, Madras, September 1938. DLC DS401 .I36.

...Presents a map, scale is not indicated (about 1:900 000), of South Kanara with mean isohyets and graphs showing monthly values of rainfall for individual stations.

1939

12. Krebs, Norbert. Vorderindien und Ceylon (India and Ceylon). 382pp. (In German). Stuttgart, 1939. DLC GB291 .K7.

...Presents a map, scale is not indicated (about 1:32 000 000), of India and Pakistan showing the variability of rainfall according to Williamson and Clark and maps, scale is not indicated (about 1:25 000 000), of India and Pakistan showing the distribution by hatched areas of the number of rainy days, months with greatest amount of precipitation, number of months with precipitation <50 cm, and evaporation versus precipitation according to P.K. Raman and V. Satakopan.

1940

13. Ramdas, L.A. Cold waves and frost. Reprint from Indian Farming, 1(11):531-533. Delhi, November 1940. DNAL22 In283.

...Presents maps, scale is not indicated (about 1:75 000 000), of India, Pakistan and Burma with mean daily minimum isotherms (°F) for January; lowest minimum isotherms (recorded up to 1920); frequency of days with radiation minimum temperature <30°F in December, January and February.

1941

14. Germany. Reichsamt für Wetterdienst. Flugklimatische uebersicht über Iran (Aviation weather survey over Iran). 6pp. (In German). Berlin, 1941. DAS M82 G373f. v.8.

...Presents maps, scale is not indicated (about 1:60 000 000), of Iran and adjacent areas with summer and winter mean isobars and maps (scale [1:60 000 000]) of Iran and neighboring regions with summer and winter mean isohyets. The above mentioned maps include West Pakistan and western India.

15. Ramaswamy, C. On the Malabar cyclone of May 1941. Current Science, 10(7):322-324. July 1941. DNAL 475 Sci 23.

...Presents a map (scale 1:24 000 000) of southern India showing the tracks of the cyclones that have struck the Malabar coast since 1845.

1942

16. Conrad, V. Fundamentals of physical climatology. 121pp. Milton, Massachusetts, 1942. DAS M8(02) C754f.

...Presents maps, scale is not indicated (about 1:28 800 000), of India, Pakistan, Ceylon and Burma with May and July mean isotherms (also hatched areas).

17. Ernst, Frank and Barber, John H. Tropical storms. California Institute of Technology, Pasadena, Military Climatology, Vol. 2, 35pp. 1942. DAS M82 C153mi.

...Presents a map (scale 1:28 000 000) of the Bay of Bengal, Arabian Sea, and adjacent land areas showing the typical hurricane tracks in the months of the advance and retreat of the monsoon.

18. Griffith, A.L. Teak plantation technique. Indian Forest Records (New Series), Silviculture, 5(2):122-219, 1941. Delhi, December 1942. DLC SD87 .I54.

...Includes a map (scale 1:21 000 000) of India, Pakistan, and Burma with annual rainfall amount by hatched areas.

19. Lamoureux, C.E. and Fletcher, L.R. Air routes - Peshawar to Yarkand. U.S. Weather Bureau, S.R. No. 55. 7pp. July 1942. DAS M82.2 U587s.

...Includes maps (scale 1:6 100 000) of the suggested air route area from Peshawar, Pakistan to Yarkand, China with graphs showing the monthly values of mean total amount of precipitation (in.), mean number of days with precipitation and mean cloud amount (%) for individual stations along the route. This source includes data for 2-3 stations (Gilgit, Srinagar, Leh and Skardu) per element in Kashmir.

20. U.S. Weather Bureau. Southeastern Asia, India, Farther India, and the East Indies. Preliminary Report No. 5. 264pp. 1942. DAS M82 U587p.

...Presents maps (scale 1:21 500 000) of South Asia with numerical values of seasonal number of days with low clouds with bases <300, <600 and <1,000 m. in AM and PM for individual stations; maps (scale 1:15 200 000) of India, Pakistan, Ceylon and Burma with monthly and annual mean isonephs; maps (scale 1:30 000 000) of India, Pakistan, Ceylon and Burma with monthly and annual mean isonephs at 0800 and 1600 and with mean maximum and mean minimum temperatures for January and July; maps (scale 1:15 200 000) of India, Pakistan, Ceylon and Burma with January and July mean isotherms; maps (scale 1:32 500 000)

Source No. 20 continued.

of South Asia with January and July mean isobars and prevailing winds by arrows at surface and January and July prevailing winds and stream flow at 10,000 ft. and 20,000 ft.

1943

21. Gupta, B.R. The monsoon of 1942. Indian Farming, IV(1):21-24. January 1943. DNAL 22 In283.

...Presents a map, scale is not indicated (about 1:30 000 000), of undivided India with numerical values of actual and normal rainfall amounts for the meteorological divisions during the 1942 monsoon season (June-September). The departures are also shown by hatched areas.

22. Hariharan, P.S. The monsoon of 1943. Indian Farming, IV(12):622-625. Delhi, December 1943. DNAL 22 In283.

...Presents a map, scale is not indicated (about 1:30 000 000), of undivided India with numerical values of actual rainfall and departures from normal for the meteorological divisions during the 1943 monsoon season (June-September). The departures are also shown by hatched areas.

23. Lewis, Jean and Solomon, I. Mean dates of the onset and retreat of the southwest monsoon in Asia. U.S. Weather Bureau, S.R.276. 2pp. May 1943. DAS M82.2 U587s.

...Consists of maps (scale [1:40 500 000]) of south and east Asia showing the mean dates of onset and withdrawal of SW monsoon by isolines.

1944.

24. Kanitkar, N.V. Dry farming in India. Indian Council of Agricultural Research, Scientific Monograph No. 15. 252pp. Delhi, 1944. DLC S279 .B254.

...Contains maps, scale is not indicated (about 1:60 000 000), of undivided India with May and August mean isotherms; maps, scale is not indicated (about 1:43 000 000), of undivided India with mean isobars and wind direction by arrows for July and September; map, scale is not indicated (about 1:25 000 000), of undivided India with mean isohyets and divisions according to rainfall (desert, arid, semi-arid, sub-humid and humid).

25. Suffron, James O. and Marshall, Thomas G. Studies on local forecasting, Chabua, Assam, India. U.S. Army Air Forces, Report no. 600-78. 13pp. September 1944. DAS M09.34 U587a.

...Presents maps, scale is not indicated (about 1:30 000 000), of India, Pakistan, Burma and Ceylon showing some typical circulation patterns during the different seasons with surface maps corresponding to these circulation patterns.

1947

26. India. Meteorological Department. Monsoon of..., 1944-1946. Indian Farming, V(12):543-547; VII(2):58-62; VIII(2):59-63. Delhi, 1944-1947. DLC S17 .I5.

...Presents maps, scale is not indicated (about 1:25 000 000), of undivided India showing numerical values of actual rainfall amount and departures from normal of individual divisions of India for 1945 and 1946.

1948

27. Deshpande, C.D. Western India, a regional geography. 276pp. Dharwar, 1948. DLC GB294.B4D4.

...Includes a map, scale is not indicated (about 1:9 000 000), of west India with annual mean isohyets and graphs showing the monthly values of rainfall for individual undesignated stations; map, scale is not indicated (about 1:14 500 000), of west India with climatic sub-types.

1949

28. Khosla, A.N. Analysis and utilisation of data for the appraisal of water resources. The Central Board of Irrigation Journal, 6(4):410-422. Delhi, October 1949. DLC TC1 .I68.

...Includes a map (scale 1:23 000 000) of India, Pakistan, Burma and Ceylon with annual normal isohyets (in.) and normal isotherms (°F).

29. Ramamurti, K.S. The distribution of raingauges in the Damodar River catchment. Current Science, 18(5):148-150. May 1949. DAS M(05) C976.

...Presents maps (scale 1:4 000 000) of the Damodar River catchment with normal mean isohyets for July.

1950

30. Cold wave and extensive dust haze of February, 1950. Indian Journal of Meteorology and Geophysics, 1(3):241-244, Delhi, July 1950. DAS M(05) I39i.

...This note contains maps, scale is not indicated (about 1:57 000 000), of India and Pakistan with minimum isotherms and region of dust haze by hatched areas for each morning February 9-12, 1950.

31. Pramanik, S.K. and Rao, K.N. Rainfall in the Mahanadi Catchment above Hirakud. The Central Board of Irrigation Journal, 7(6):604-630. November 1950. DAS P.

...Presents a map (scale 1:3 500 000) of the Mahanadi catchment and neighborhood of the area of the catchment above Hirakud dam site with annual mean isohyets (1915-1944) and heaviest rain in 24 hours based on available data up to 1944.

32. Riabchikov, A.M. Природа Индии (Geography of India). 290pp. (In Russian). Moscow, 1950. DLC GB291 .R5.

...Presents maps (scale 1:32 000 000) of India, Pakistan, Ceylon and western Burma showing the distribution of climatic regions; maps (scale 1:67 500 000) of India, Pakistan, Ceylon and Burma with seasonal mean isohyets (mm) and mean isotherms for November, February, May and August; a map (scale 1:46 000 000) of South Asia with isobars and wind direction for August; maps (scale 1:43 000 000) of India, Burma, Ceylon and Pakistan showing the meteorological regime (isotherms, wind by arrows and precipitation by hatched areas) for two periods (December to May and June to November).

33. United Nations. Economic Commission for Asia and the Far East. Flood damage and flood control activities in Asia and the Far East. Flood Control Series No. 1. 81pp. Bangkok, October 1950. DAS M79.7 U58f.

...Presents maps (scale 1:55 000 000) of India, Pakistan, Burma, southeast Asia, and the Far East with surface wind by arrows and mean sea level isobars (millibars) in January and July, extratropical cyclone tracks and tropical cyclone tracks.

1951

34. Jensen, Kr. M. Rajasthan: Et jordbrugets graenseområde; en redegørelse for geografiske undersøgelser foretaget på den 3. Danske Centralasiatiske Ekspedition (Rajasthan: a marginal agricultural region; a preliminary report on the geographical investigation carried out by the 3rd Danish Expedition to Central Asia). Geografisk Tidsskrift, Bind 51, pp. 27-50. (In Danish). København, 1951. DAS.

...Presents a map (scale 1:3 500 000) of India with prevailing winds during monsoon period (June-September) by arrows.

35. Pithawalla, Maneck B. An introduction to Sind: Its wealth and welfare. 150pp. Karachi, 1951. DNAL 280.182 P682.

...Presents a map (scale 1:5 400 000) of Sind and Baluchistan with annual normal isohyets on page 32 and a map (scale 1:3 000 000) of Sind with mean isotherms, mean isohyets and graphs showing the monthly values of maximum and minimum temperatures and rainfall amount for individual stations.

1952

36. Basu, S.C. Fog forecasting over Calcutta and neighbourhood. Indian Journal of Meteorology and Geophysics, 3(4):281-289. Delhi, October 1952. DAS M(05) I39i.

...The maps (scale 1:47 500 000) represent the ideal condition of upper wind circulation on foggy nights at heights of 1000, 2000 and 3000 ft at 0030 and 1430 IST.

37. Khosla, A.N. Inter-relation of surface and ground water with special reference to arid zones. The Journal of the Central Board of Irrigation and Power, 9(3):402-411. Delhi, July 1952. DAS P.

...Presents a map, scale is not indicated (about 1:1 200 000), of the catchment of the Kantli River, Rajasthan, India with annual mean isohyets.

38. Parthasarathy, S. and Narayanan, J. The diurnal variation of upper winds over Bombay and Poona. Indian Journal of Meteorology and Geophysics, 3(3):197-203. Delhi, July 1952. DAS M(05) I39i.

...Presents maps (scale 1:29 000 000) of the Bombay-Poona region (12°-25°N, 65°-78°E) with mean isobars at 0800 and 1700 IST for January, April, July and October based on normals up to 1940.

1953

39. Chatterjee, S.B. Climostatical regions. Geographical Review of India, 15(1):36-55. March 1953, Calcutta. DLC G1 .C17.

...Presents maps (scale 1:40 000 000) of climo-statical regions in India, Pakistan, Burma and Ceylon.

40. Khosla, A.N. Inter-relation of surface and ground water with special reference to arid zones. Desert Research, Proceedings International Symposium held in Jerusalem, May 7-14, 1952. pp. 568-581. Jerusalem, 1953. DAS M85.53 I61d.

...Presents a map (scale 1:56 000 000) of the catchment of the Kantli River in the Rajasthan Desert of India with mean annual isohyets.

41. Krishna Rao, P.R. and Sen, S.N. The severe Nagapattinam cyclone of 30th November 1952. Current Science, 22(4):98-102. April 1953. DAS M(05) C976.

...Includes a map (scale 1:32 500 000) of South India and adjacent Bay area showing the track of the Nagapattinam cyclone in November 1952.

42. Sankaran, K.M. Minimum research and investigation needed in the initial stages of development of wind power in India. The Journal of the Central Board of Irrigation and Power, 10(4):445-452. Delhi, October 1953. DAS P.

...Presents maps, scale is not indicated (about 1:60 000 000), of India, Pakistan, and Burma with mean isovents (mph) for each season (January and February, March-May, June-September, and October-December).

1954

43. Aiya, S.V. Chandrashekhar. Distribution of thunderstorm days on the land mass of India. Journal of Scientific & Industrial Research, 13(7):314-317. July 1954. DAS P.

Source No. 43 continued.

...Presents a map (scale 1:24 500 000) of India showing the numerical seasonal and annual values of mean number of thunderstorm days for each 5° square of India.

44. Pramanik, S.K. Hydrology of the Rajasthan Desert-rainfall, humidity and evaporation. International Association of Scientific Hydrology, Publication no. 38: Assemblée Générale de Rome 1954, Tome III, pp. 223-240. DAS M(06) I611g S.Hyd. No. 38.

...Presents a map (scale 1:17 000 000) of Rajasthan and adjacent areas with mean annual isohyets (inches); maps (scale 1:50 000 000) of western and central India, Punjab, Sind, Buluchistan with mean isohumes and wind by arrows at heights of 1.0 and 3.0 km. for July and August, mean annual isohumes at 0800 and 1700, mean isohumes at 0800 for the monsoon period July-September; maps (scale 1:40 000 000) of the same area with annual mean isonephs at 0800 and 1700 and mean isonephs for monsoon season (July-September). Periods of record are not specified.

1955.

45. Banerjee, Bireswar. A study of jute cultivation in West Bengal. The Indian Geographical Journal, 30(3):65-78. Madras, July-September 1955. DLC DS401 .I36.

...Presents a map (scale 1:4 000 000) of West Bengal with mean isohyets (inches) and number of rainy days by isolines.

46. Kraus, E.B. Secular changes of tropical rainfall regimes. Quarterly Journal of the Royal Meteorological Society, 81:198-210. London, 1955. DAS M(055) R888q.

...Contains a map, scale is not indicated (about 1:80 000 000), of India showing wind and pressure distribution in October (after Philip's Atlas).

1956

47. Chiplonkar, M.W. and Nandgaonkar, M.W. A wind survey of wind power. Journal of the University of Poona, Science and Technology, No. 10, pp. 112-124. 1956. DLC AS472 .P6A3.

...Presents maps, scale is not indicated (about 1:24 000 000), of western and Central India with annual wind speed (mph) based on data during a short period (1949-50) at 0530, 0830, 1130, 1730 and 2330 I.S.T. and also based on data for a long period.

48. Kulkarni, G.S. Some aspects of the precipitation of Maharashtra. Journal of the University of Poona, Science and Technology, No. 10. pp. 71-78. 1956. DLC AS472 .P3A3.

Source No. 48 continued.

...Presents a map (scale 1:1 250 000) of Maharashtra with mean isohyets and a map (scale 1:700 000) with graphs showing the distribution of the monthly rainfall amount for the twelve districts of Maharashtra.

49. Shanbhag, G.Y. The climates of India and its vicinity according to a new method of classification. The Indian Geographical Journal, XXXI (1&2):1-25. Madras, January-March and April-June 1956. DLC DS401 .I36.

...Presents maps, scale is not indicated (about 1:10 000 000), of India, Pakistan and Burma with climatic zones after Shanbhag's method of classification of 1956 according to (1) seasonal concentration of effective growth index, (2) temperature regime based on growth index and (3) monsoon concentration of growth index. There is also a map (scale 1:10 000 000) of India, Pakistan and Burma with climatic types after Shanbhag's method of classification of 1956.

50. Sinha, Bichitrananda. Study of rainfall and rainy day conditions in Orissa; a plea for planning the irrigation. The Journal of the Central Board of Irrigation and Power, 13(4):487-495. Delhi, October 1956. DAS P.

...Contains maps (scale 1:6 000 000) of Orissa showing rainy day cycles and drought regions.

51. Subrahmanyam, V.P. The water balance of India according to Thornthwaite's concept of potential evapotranspiration. Annals of the Association of American Geographers, XLVI(3):300-311. September 1956. DAS P.

...Presents maps (scale 1:34 000 000) of India, Kashmir, Burma, Ceylon and Pakistan showing the distribution of annual average water surplus, average annual water deficiency and moisture regions by hatched areas.

52. United Nations. Economic Commission for Asia and the Far East. Multiple-purpose river basin development. Part 2B. Water-resource development in Burma, India and Pakistan. Flood Control Series, No. 11. 135pp. Bangkok, December 1956. DGS 552(600) qUn2bef.

...Presents a map, (scale is not indicated (about 1:17 000 000), of India showing the distribution of annual rainfall (mm. and in.) by hatched areas.

1957

53. Majumdar, Kesab Chandra. Evaporation loss in Damodar Valley: A statistical analysis. Indian Journal of Power and River Valley Development, VII(8):14-22. August 1957. DLC TC1 .I55.

Source No. 53 continued.

...Presents a map (scale 1:2 200 000) of the Damodar Valley in India showing the distribution of annual evaporation in inches and maps (scale 1:4 600 000) of the Damodar Valley showing the distribution of monthly evaporation in inches.

54. Ta, Thu. Contemporaneous storms and depressions in the Bay of Bengal and the South China Sea. Proceedings of the Ninth Pacific Science Congress of the Pacific Science Association, 1957. Vol. 13: Meteorology, pp. 243-250. Bangkok, Thailand, 1959. DAS M(06) P117p 1957.

... Presents maps (scale 1:45 000 000) of Southeast Asia, Bay of Bengal and the South China Sea showing the tracks of contemporaneous storms in the Bay of Bengal and South China Sea for each month June-November based on data for 1949-1956. Some of these storms affected the east coast of India.

55. U.S. Office of Naval Operations. Marine climatic atlas of the world. Volume III. Indian Ocean. NAVAER 50-1C-530. Washington, September 1957. DAS M82.3 U585m Oversize.

...Includes maps (scale 1:40 000 000) of the Indian Ocean area with circular tables showing for individual stations the seasonal frequency of wind component aiding (increasing) aircraft ground speeds by specified speeds (≥ 20 , ≥ 40 , ≥ 60 , ≥ 80 and ≥ 100 knots) at levels of 850, 700, 500, 300 and 200 mb; circular tables showing the seasonal percentage frequency of wind component retarding (decreasing) aircraft ground speed by specified speeds (≥ 20 , ≥ 40 , ≥ 60 , ≥ 80 and ≥ 100 knots) at levels of 850, 700, 500, 300 and 200 mb; seasonal wind roses at 850, 700, 300 and 200 mb; graphs showing seasonal cumulative frequency of the mean height of the 850, 700, 500, 300 and 200-mb. pressure surfaces; graphs showing the seasonal cumulative percentage frequency of temperature and relative humidity at 850, 700, 500, 300 and 200 mb levels; graphs showing three points of seasonal cumulative percentage frequency of the modified refractive index; graphs showing seasonal temperature inversion, height of freezing level and potential aircraft icing. Data are recorded for 2-5 stations in India (Calcutta, Port Blair, Trivandrum, Veravel and Visakhapatnam). Periods of record vary by station and element.

1958

56. Jain, S.K. assisted by Maheshwari, K.M. and Garg, J.M. Determination of peak flood in Rihand River at dam site and requirement of spillway capacity in Rihand Dam. Symposium on Spillway Capacity of Dams, Central Board of Irrigation and Power, Publication No. 65, pp. 108-134. New Delhi, June 1958. DAS 627.8 I39sy.

...Presents a map, scale is not indicated (about 1:14 000 000), of Rihand basin and surrounding area showing the distribution of the heaviest rainfall by hatched areas.

57. Trewartha, Glenn. Climate as related to the jet stream in the Orient. Erdkunde, XII(3):205-214. Bonn, September 1958. DAS P.

...This study includes a map, scale is not indicated (about 1:30 000 000), of India, Pakistan, Burma, Nepal and Ceylon with January normal isohyets (inches) and maps, scale is not indicated (about 1:60 000 000), of India, Pakistan, Burma, Nepal and Ceylon with January number of rainy days by isolines and January storm tracks.

1959

58. Mathur, L.S. Weather radar organization and some observations in India. Journal of the Institution of Telecommunication Engineers, 6(1): 12-22. New Delhi, December 1959. DLC TK5101 .I55.

...Presents a map, scale is not indicated (about 1:75 000 000), of India showing the location of existing and proposed radar stations.

1960

59. Ahuja, P.R. Planning of a precipitation network for water resources development in India. United Nations, Economic Commission for Asia and the Far East, Hydrologic Networks and Methods, Flood Control Series No. 15, pp. 106-112. Bangkok, 1960. DAS M79 U58hy.

...Presents a map, scale is not indicated (about 1:17 000 000) of India and Nepal showing the distribution of existing rain gages and the additional number of rain gages required in the main river basins in India and Nepal.

60. Bharadwaj, O.P. Climate of the Bist Jullundur Doab (Punjab) with reference to variability of rainfall. The National Geographical Journal of India, VI(II):67-94. Varanasi, June 1960. DGS S(640) N19n.

...Presents maps (scale 1:2 000 000) of the Bist Jullundur Doab with seasonal and annual mean isohyets.

61. International Commission on Irrigation and Drainage. World-wide survey of experiments and results on the prevention of evaporation losses from reservoirs. 74pp. New Delhi, 1960. DAS M73 I61wo.

...On page 6 includes maps, scale is not indicated (about 1:100 000 000), of India, Pakistan and Burma showing by isolines the distribution of computed normal evaporation (inches) based on Rowher's formula and annual evaporation (inches) based on actual records with U.S.A. evaporimeter during 1952 to 1955.

62. Kanitkar, N.V. Dry farming in India. Second enlarged edition. 338pp. New Delhi, 1960. DLC SB110 .K3 1960.

Source No. 62 continued.

...Presents maps, scale is not indicated (about 1:45 000 000), of India and Pakistan with May and August mean isotherms and July and September mean isobars and wind by arrows; map, scale is not indicated (about 1:19 500 000), with mean isohyets of India and Pakistan.

63. Misra, D.K. and Bhatt, P.N. Soil of Rajasthan with special reference to arid tract. Journal of Soil & Water Conservation in India, 8(4):33-39. Hazaribagh, October 1960. DGS S(640) J824.

...Presents a map (scale 1:7 500 000) of the Rajasthan with annual mean isohyets (cm.).

64. Optimum number of years for computing mean annual precipitation. Central Water and Power Research Station, Poona, Annual Research Memoirs, 1960, pp. 135-142. DGS S(640) qP79rm.

...Includes maps (scale 1:15 000 000) of India with annual mean amount of precipitation (mm.) and standard deviation, % of coefficient of variation of annual precipitation amount and 55-year mean and 95% optimum number of years for computing mean annual precipitation amount within ± 5 reliability at 100 selected raingages.

65. Parthasarathy, K. and Singh, Gurbachan. Rainfall intensities for local drainage design. United Nations, Economic Commission for Asia and the Far East, Hydrologic Networks and Methods, Flood Control Series No. 15, pp. 145-147. Bangkok, 1960. DAS M79 U58hy.

...Includes a map (scale 1:25 000 000) of India with isopluvials of 2-year 6-hour rainfall in inches.

66. Pisharoty, P.R. and Asnani, G.C. Flow pattern over India and neighbourhood at 500 mb during the monsoon. Symposium on Monsoons of the World, New Delhi, 19-21 February 1958. pp. 112-117. Delhi, 1960. DAS M53.21 S989sy.

...Presents a map (scale 1:85 000 000) of South Asia (0°-45°N, 45°-145°E) showing an idealized flow pattern at 500 mb (6km) in July.

67. Puri, G.S. Indian forest ecology. Vol. II. pp. 320-710. First edition. New Delhi and Calcutta, 1960. DLC SD87 .P8.

...Contains maps (scale 1:28 000 000) of India, Pakistan, Ceylon and Burma with normal January, April, July and October mean isohyets; maps (scale 1:68 000 000) of India, Pakistan and Burma with January, April, July and October mean amount of rain on a rainy day by isolines and hatched areas; maps (scale 1:110 000 000) of India, Pakistan, Burma and Ceylon with the distribution of January, April, July and October heaviest rainfall in 24 hours by hatched areas; maps (scale 1:34 000 000) of India, Pakistan, Ceylon and Burma with January, April, July and October diurnal range of temperature based on 20 years of data; maps (scale 1:70 000 000) of India, Pakistan, Burma and Ceylon showing

Source No. 67 continued.

the distribution of evaporation for January, April, July and October; maps, scale is not indicated (about 1:68 000 000), of India, Pakistan and Burma with seasonal (January and February; March-May; June-September; October-December) mean wind speed (mph); map, scale is not indicated (about 1:70 000 000), of India, Pakistan and Burma showing the January, April, July and October frequency of hail storms in 100 years by isolines; maps (scale 1:52 000 000) showing the climatic classifications of India, Pakistan and Burma according to Köppen (1918), Köppen (1936), Thornthwaite (1931) and Thornthwaite (1948); map (scale 1:70 000 000) of India, Pakistan and Burma showing the climatic classification according to Köppen; maps (scale 1:35 000 000) of India, Pakistan, Burma and Ceylon with the distribution of annual potential evapotranspiration, moisture regions, water deficiency and water surplus by hatched areas.

68. Sen Gupta, Prabhat K. Sunspot influence on movement of storms over the Bay of Bengal and associated atmospheric variations. Weather, XV (2):52-58. London, February 1960. DAS M(05) R888w.

...Presents maps (scale 1:45 000 000) of the Bay of Bengal and adjacent land areas with normal streamlines at 10-12 km with average wind speed in knots for each month (October-December) based on data between 1920-1949.

69. Thambayahpillay, George. The "burst" of the southwest monsoon: The new perspective. The Ceylon Geographer, 14(1-4):31-53. Colombo, January-December 1960. DAS M53.21 T366bu.

...Presents maps (scale 1:52 500 000) of south Asia showing winter and summer circulation patterns at 8 km. over the Indian region (Ceylon, India, Pakistan and Burma) and maps, scale is not indicated (about 1:30 000 000), of south Asia with the mean circulation patterns showing limits of the trades, migrations of the Inter-tropical Convergence Zone and wind flow during April, May, June and October in the Indian region.

1961

70. Banerji, S. Meteorology in Indian agriculture. Agricultural Situation in India, XVI(5):435-440. Delhi, August 1961. DLC HD2071 .A75.

...Presents maps (scale 1:37 500 000) showing the distribution of normal dates of onset and withdrawal of the southwest monsoon over India, Pakistan, Burma and Ceylon. There is also a map (scale 1:33 000 000) of India and adjacent areas with annual mean isohyets.

71. India (Republic). Meteorological Department. Our weather service. 86pp. Faridabad, March 1961. DAS M(06) I39ou.

...Presents a map (scale 1:21 000 000) of India showing its meteorological divisions; a map (scale 1:18 500 000) of India showing its regions and regional centers; a map (scale 1:23 500 000) with some storm tracks of recent years.

72. Nilakantan, P.; Ramakrishnan, K.P.; Venkiteshwaran, S.P. Windmill types considered suitable for large scale use in India. India (Republic), National Aeronautical Laboratory, Technical Note No. TN-WP-3-61. 30pp. Bangalore, April 1961. DAS M(055) I39tec.

...Presents a map (scale $\lceil 1:26\ 250\ 000 \rceil$) of India, Pakistan, Ceylon and part of Burma showing the distribution of annual mean isohyets (also hatched areas) based on 1940 normals.

73. Ramakrishnan, K.P. and Venkiteshwaran, S.P. Wind power resources of India with particular reference to wind distribution. India (Republic), National Aeronautical Laboratory, Technical Note No. TN-WP-1-61. 15pp. Bangalore, June 1961. DAS M(055) I39tec.

...Includes maps, scale is not indicated (about 1:60 000 000), of India showing the bimonthly (January to November) mean wind speed (kph), annual mean wind speed and annual highest monthly mean wind speed based on data up to the end of 1940 and a map (scale $\lceil 1:22\ 000\ 000 \rceil$) of India showing the location of anemograph stations of the India Meteorological Department.

74. Ramdas, L.A. Crops and weather in India. 127pp. New Delhi, 1961. DAS M:63 R169cr.

...Presents a map (scale $\lceil 1:50\ 000\ 000 \rceil$) of India, Pakistan, Burma and adjacent areas with mean isohyets (also hatched areas); maps, scale is not indicated (about 1:40 000 000), of Ceylon, India, Burma and Pakistan with mean wind currents by arrows for January and July; maps, scale is not indicated (about 1:30 000 000), of India, Pakistan, Ceylon and Burma with isolines showing the normal dates of onset and withdrawal of the SW monsoon; map (scale 1:27 500 000) showing the rainfall sub-divisions of India and Pakistan; map (scale $\lceil 1:29\ 000\ 000 \rceil$) of India, Pakistan and Burma with isopleths showing the frequency distribution of heavy rainfall ($\geq 5''$) in 24 hours based on data for the period 1891-1920; map (scale $\lceil 1:28\ 000\ 000 \rceil$) of India, Pakistan and Burma with isolines and hatched areas showing the distribution of annual heaviest rainfall in 24 hours; map, scale is not indicated (about 1:30 000 000), of India, Pakistan and Burma with isolines showing the annual frequency of hailstorms in 100 years; maps, scale is not indicated (about 1:25 000 000), of India, Pakistan and Burma with computed normal evaporation in inches according to Rowher's formula, annual evaporation in inches according to Rowher's formula, annual evaporation in inches based on records with U.S. evaporimeter during 1952-1955 and normal annual potential evapo-transpiration as computed by Ramdas by isolines; maps, scale is not indicated (about 1:50 000 000), of India, Pakistan and Burma with January mean daily minimum isotherms and annual absolute minimum isotherms ($^{\circ}\text{F}$) based on data recorded up to 1920 and monthly (November-February) frequency of days with radiation minimum temperature $>30^{\circ}\text{F}$. by isolines.

75. Subbaramayya, Indugula. Studies on the Indian southwest monsoon. Thesis submitted to the Andhra University for the award of the degree of Doctor of Philosophy. 147pp. December 1961. DAS MF2369.

...Presents maps, scale is not indicated (about 1:30 000 000), of India, Pakistan, Ceylon and Burma with annual isohyets (inches); streamlines and isovels (knots) at levels of 0.6, 1.5, 3.0, 4.5, 6.0 and 9.0 km.; thickness of monsoon stream; distribution of divergence at levels of 0.6, 1.5, 3.0, 4.5 and 6.0 km.; distribution of vorticity at levels of 0.6, 1.5, 3.0, 4.5, and 6.0 km. The source also includes a map, scale is not indicated (about 1:45 000 000), of India, Pakistan, Burma and Ceylon with July isohyets; a map, scale is not indicated (about 1:45 000 000), of India (except southern tip), Pakistan and Burma with isogons; a map, scale is not indicated (about 1:35 000 000), of India, Pakistan, Ceylon and Burma with streamlines at levels of 12, 14, 16 and 18 km.

76. Subramaniam, A.R. Some studies of aridity and droughts in the dry climatic zones of India. 178pp. Thesis submitted to the Andhra University. December 1961. DAS MF 2334.

...Presents a map, scale is not indicated (about 1:16 000 000), of India with annual mean isohyets; a map, scale is not indicated (about 1:22 500 000), of India showing the precipitation variability of annual rainfall (1901-1940) by isolines; maps (scale 1:15 000 000, Mercator projection at 22°30' Latitudes), of India, Pakistan, Ceylon and Burma with seasonal (NE monsoon, hot, SW monsoon and retreating SW monsoon) mean isohyets and mean water needs by isolines, annual mean potential evapotranspiration (cm) and mean water adequacy (mm) by isolines, dry climates according to Thornthwaite (1955) by hatched and stippled areas, aridity index according to Thornthwaite by isolines and location of Indian climatological stations used in this study; maps (scale 1" = 21 miles) of Mysore State showing the location of meteorological observatories, climatic types according 1955 scheme of Thornthwaite and vegetation types according to Thornthwaite's moisture regime; maps (scale 1" = 64 miles) of Andhra Pradesh with surface wind by arrows during December (cool season), April (hot season) and August (monsoon season); maps (scale 1" = 64 miles) of Andhra Pradesh with annual mean isohyets and mean number of rainy days by isolines, seasonal (cool, hot and monsoon) mean isohyets (in.), annual number of days with thunder and mean isotherms, mean isotherms of hottest month and of coldest month, annual temperature range and water deficiency, climatic zones according to Köppen, climatic types according to 1955 scheme of Thornthwaite's moisture regime, climatic types according to 1955 scheme of Thornthwaite--thermal regime, and vegetation types according to Thornthwaite and according to Champion.

77. Trewartha, Glenn T. The earth's problem climates. 334pp. Madison, Wisconsin, 1961. DAS M8 T817ea.

Source No. 77 continued.

...Presents maps, scale is not indicated (about 1:45 000 000), of India, Pakistan and Ceylon with annual, January, April and November mean isohyets (inches); a map (scale 1:70 000 000) showing the moisture regions of India, Pakistan and Burma; a map (scale 1:62 750 000) of India, Pakistan and Ceylon showing the rainfall sub-divisions.

78. Venkiteshwaran, S.P. Operation of Allgaier Type (6-8 KW) Wind Electric Generator at Porbandar. India (Republic), National Aeronautical Laboratory, Technical Note No. TN-WP-2-61. 9pp. Bangalore, June 1961. DAS M(055) I39tec.

...Includes maps, scale is not indicated (about 1:14 000 000), of the area in and around Kathiawar in western India with monthly and annual mean wind speed (kph) by hatched areas.

1962

79. Gananathan, V.S. Western districts of upland Maharashtra. The Indian Geographical Journal, XXXVII(4):121-132. October-December 1962. Madras. DLC DS401 .I36.

...Includes a map, (scale 1:6 750 000) of the western districts of upland Maharashtra with mean isohyets in cms.

80. India. Meteorological Department. Symposium on meteorology in relation to high-level aviation over India and surrounding areas held at Meteorological Office, New Delhi, 7 December 1957. 150pp. Delhi, 1962. DAS M:629.13 S989sy.

...Includes maps (scale 1:25 000 000) of India showing the location of (1) existing pilot balloon stations, existing RS/RW stations and projected RS/RW stations (locations are tentative) and (2) existing storm detection radar stations and projected storm detection radar stations (locations are tentative).

81. India (Republic). Meteorological Department. Weather and the Indian farmer. Second edition. 38pp. Poona, 1962. DAS M86:63 I39w 1962.

...Contains maps (scale 1:27 500 000) of India with seasonal and annual mean mean isohyets (cm) and number of rainy days by isolines for the season (June-September); maps, scale is not indicated (about 1:42 500 000), with rainfall sub-divisions of India, numerical values of heaviest rainfall in 24 hours in India, and dates of onset and withdrawal of southwest monsoon in India; map (scale 1:32 500 000) of India, Pakistan, and Burma with isolines showing the frequency (no. in 30 years) of heavy rainfall of ≥ 12.5 cm in 24 hours; maps (scale 1:40 000 000) of India, Pakistan and Burma with mean annual evaporation and mean annual rainfall minus evaporation in centimeters

Source No. 81 continued.

by isolines; map (scale 1:37 500 000) of India and East Pakistan with some storm tracks of recent years; map, scale is not indicated (about 1:40 000 000), of India, Pakistan and Burma with annual frequency of days with hail storms based on one hundred years of data; map (scale 1:30 000 000) of India with January mean daily minimum isotherms in °C.; map, scale is not indicated (about 1:32 500 000), of India and East Pakistan with absolute minimum isotherms in °C based on data up to 1958; maps, scale is not indicated (about 1:75 000 000), of India with isolines showing the frequency of days with radiation minimum temperature <-1°C for November, December, January, and February; map (scale 1:40 000 000) showing the regions and regional centers of the India Meteorological Department.

82. Kaushic, S.D. Climatic zones and their related socio-economy in the Garhwal Himalaya. Geographical Review of India, XXIV(3-4):22-41. Calcutta, September-December 1962. DLC G1 .C17.

...The map (scale 1:1 480 000) of the Garhwal Himalaya shows the distribution of the climatic zones.

83. Krishnan, A. Heights of base of low clouds over India. Indian Journal of Meteorology & Geophysics, 13(Spl. No.):31-38. Delhi, March 1962. DAS M(05) I39i Special No.

...Presents maps, scale is not indicated (about 1:50 000 000), of India with diminutive graphs showing normal percentage frequencies of heights of low clouds during morning and afternoon at 25 Indian stations for January, April, July and October.

84. Majumdar, K.C. and Chatterji, A.K. A study of cloud form and associated rainfall in Gomati River basin. Indian Journal of Meteorology & Geophysics, 13(Spl. No.):51-62. Delhi, March 1962. DAS M(05) I39i Special No.

...Presents a map (scale 1:2 950 000) of the Gomati basin showing the location of raingauge stations and observatories in the area.

85. Mattimore, Norine Marie. Climatic regions of the subcontinent of India, a modified Köppen classification. Thesis (M.A.). Clark University, Worcester, Mass. 1962. DAS SF1178.

...Presents a map (scale 1:8 000 000) of India, Pakistan and Ceylon showing the climatic regions according to a modified Köppen classification.

86. Raman, K.S.V.; Bole, N.C.; Prasad, J.K. Rainfall in Bihar. Journal of Soil & Water Conservation in India, 10(3&4):1-24. Hazaribagh, August-December 1962. DGS S(640) J824.

Source No. 86 continued.

...Presents map (scale 1:4 500 000) of Bihar with annual mean isohyets based on the normals calculated for 210 stations; maps (scale 1:7 000 000) of Bihar showing variation in rainfall for the season June-September during the period 1901-1950 by isolines, indicating the distribution of dates of onset of rains and recession of rains by isolines, and presenting the distribution of storm rainfall $\geq 3''$ by isolines.

87. Rao, B. Subba and Subrahmanyam, V.P. A climatic study of arid zones in the central Deccan. Proceedings of the National Institute of Sciences of India, 28, A(4):568-572. New Delhi, July 1962. DGS S(640) N21ip.

...Presents a map (scale 1:4 000 000) of Deccan showing the distribution of climatic types (dry sub-humid, semi-arid and arid).

88. Sreenivasaiiah, B.N. and Ramakrishnan, K.P. Upper air climatology of India in relation to high-level flying. Symposium on Meteorology in Relation to High-level Aviation over India and Surrounding Areas held at Meteorological Office, New Delhi, 7 December 1957, pp. 75-92. Delhi, 1962. DAS M:629.13 S989sy.

...Presents charts (scale 1:62 500 000) of India and adjacent areas with mean isotherms (A°) at 300 and 200-mb levels and the normal distribution of wind at heights of 10 and 12 km for four typical months, namely, January, April, July and October based on data during the period 1943-1955.

1963

89. Chakravorty, K.C. and Das Gupta, Brij Ratan. "Interesting meteorological features of Varanasi." The Journal of Scientific Research of the Banaras Hindu University, XIII(2):267-282. June 1963. DGS S(640) J823 v.13, No. 2.

...Presents a map, scale is not indicated (about 1:42 500 000) of India and Ceylon showing the distribution of mean annual rainfall by hatched areas.

90. Gangopadhyaya, M.; Sreenivasan, P.S.; Venkataraman, R. Some characteristics of the average monsoon rainfall along the coasts of India and Burma. Australian Meteorological Magazine, 41:23-41. Melbourne, June 1963. DAS M(05) A938.

...Presents a map (scale 1:18 500 000) of Burma, coastal areas of East and West Pakistan, India south of $25^\circ N$. and Ceylon showing the normal dates of onset of southwest monsoon by isolines. Figures on the map indicate the duration of the southwest monsoon for individual stations in India, Burma and Pakistan.

91. India. Meteorological Department. Annual report on agricultural meteorology..., 1935/1937-1939/1940, 1943/1944-1945/1946, 1948/1949-1962/1963. Title varies. Poona. DNAL 346 In2.

...Presents a map, scale is not indicated (about 1:25 000 000), of India and Pakistan showing the distribution by isolines of the average number of days during the winter (December-February) when minimum temperature in Stevenson Screen is $<40^{\circ}\text{F}$ based on data for the period 1939-1950. There are also maps, scale is not indicated (about 1:40 000 000), of India showing the monthly (November-March) and period (November-March) distribution by isolines of mean depression of grass minimum temperature below the Stevenson Screen minimum temperature, monthly (November-March) and period (November-March) mean grass minimum temperature by isolines and seasonal (June-September, October-November, December-March and April-May) distribution of sunshine duration (hours) by isolines.

92. India's agricultural problems. Focus, XIV(1):1-5. New York, September 1963. DAS P.

...Contains maps, scale is not indicated (about 1:88 000 000), of India showing the rainfall variability during the southwest monsoon (June-September) for 1951 and 1954 by hatched areas.

93. Koteswaram, P. Movement of tropical storms over the Indian Ocean: Technical Report of the Japan Meteorological Agency, No. 21. Proceedings of the Inter-regional Seminar on Tropical Cyclones in Tokyo, March 1963. DAS M(055) J35rep.

...Presents maps (scale 1:27 500 000) of the Arabian Sea, Bay of Bengal, India, Pakistan, Ceylon and Burma with depression, storm and severe storm tracks for May, July and November during the period 1891-1960.

94. Naqvi, S.N. Periodicity of cyclonic storms and depressions in the North Indian Ocean. Technical Report of the Japan Meteorological Agency, No. 21. Proceedings of the Inter-regional Seminar on Tropical Cyclones in Tokyo, 18-31 January 1962. pp. 37-40. Tokyo, March 1963. DAS M(055) J35rep.

...Includes maps (scale 1:30 000 000) of India and Pakistan with tracks of tropical storms from June to September which affected the Indus Basin from 1951 to 1959.

95. Rao, K.N. and Jagannathan, P. Climatic changes in India. Proceedings of the Rome Symposium Organized by Unesco and WMO, Changes of Climate, pp. 49-66. Paris, 1963. DAS M83 R763ch.

...Includes a map (scale 1:30 000 000) of India, Pakistan, Ceylon and Burma with annual mean isohyets (inches); a map, scale is not indicated (about 1:42 500 000), of the same area with mean isohyets for southwest monsoon (June-September); a map, scale is not indicated

Source No. 95 continued.

(about 1:50 000 000), of India, Pakistan, and Ceylon with coefficient of variation of annual rainfall by isolines; maps, scale is not indicated (about 1:55 000 000), of India with numerical values of southwest monsoon rainfall as percentage of annual rainfall amount in inches and variability of rainfall for each subdivision; maps (scale 1:10 500 000) of the Rajasthan with normal annual isohyets and coefficient of variation of rainfall.

96. Sivaraman, K.R. and Venkiteshwaran, S.P. Utilisation of wind power for irrigation of crops in India with special reference to the distribution of wind and rainfall. India (Republic), National Aeronautical Laboratory, Technical Note No. TN-WP-30-63. 9pp. Bangalore, November 1963. DAS M(055) I39tec.

...Presents a map (scale 1:20 000 000) of India showing the annual wind speeds by hatched areas based on data from 200 stations over an unspecified period.

97. Subrahmanyam, V.P. Continental trends over India and the neighbourhood. Indian Journal of Meteorology and Geophysics, 14(3):334-338. Delhi, July 1963. DAS M(05) I39i.

...Presents a map (scale 1:36 000 000) of India, Pakistan, Burma and Ceylon with mean isocontinentals (lines of equal continentality) based on data for about 250 stations for an unspecified period.

98. Tikka, R.N. The delimitation of the climatic regions of Uttar Pradesh. The Geographical Review of India, XXV(3):73-83. Calcutta, June 1963. DLC G1 .C17.

...Contains maps (scale 1:4 800 000) of Uttar Pradesh showing the climatic regions based on the method of Thornthwaite 1955 and based on the author's symbols.

99. Tripathi, N. A study of cyclonicity in relation to rainfall over Indian region. Indian Journal of Meteorology and Geophysics, 14(1): 53-63. Delhi, January 1963. DAS M(05) I39i.

...Presents maps (scale 1:44 000 000) of India, Burma, Pakistan and adjacent land and sea areas with monthly total number of cyclonic systems which formed over or moved into each 5-degree square, number of cyclonic systems which moved in different directions in each 5-degree square, total number of days on which cyclonic system lay over each 5-degree square, mean rainfall amount per station for each 5-degree square and mean number of rainy days per station for each 5-degree square. These maps are based on data for the period 1944-1953.

1964

100. Ananthakrishnan, R. and Rao, K.V. Diurnal variation of low level circulation over India. Proceedings of the Symposium on Tropical Meteorology, Rotorua, New Zealand, 5-13 November 1963, pp. 89-95. Wellington, 1964. DAS M15.5 S89pr.
- ...Contains maps (scale 1:65 000 000) of India and Ceylon with mean isobars and plotted wind direction and force at 0000, 0600, 1200, and 1800 GMT for January, April, July and October and maps (scale 1:76 250 000) of India with January, April, July and October temperature changes and pressure changes by isolines.
101. Ananthakrishnan, R. and Rajagopalachari, P.J. Pattern of monsoon rainfall distribution over India and neighbourhood. Proceedings of the Symposium on Tropical Meteorology, Rotorua, New Zealand, 5-13 November 1963, pp. 192-206. Wellington, N.Z., 1964. DAS M15.5 S89pr.
- ...Includes maps (scale 1:75 000 000) of India, Pakistan, Ceylon, and Burma showing the seasonal distribution of rainfall as a percentage of annual amount by isolines and maps (scale 1:70 000 000) of India, Pakistan, Burma and Ceylon showing the normal dates of the onset and withdrawal of the southwest monsoon by isolines.
102. Ananthakrishnan, R. and Rangarajan, S. Some features of the thermal structure of the atmosphere over India and neighbourhood. Proceedings of the Symposium on Tropical Meteorology, Rotorua, New Zealand, 5-13 November 1963, pp. 62-71. Wellington, 1964. DAS M15.5 S89pr.
- ...Presents maps (scale 1:100 000 000) of South Asia showing the distribution of temperature at levels of 700, 500, 300, 200, and 100 mb for January and July.
103. Asnani, G.C. and Umamaheswara Rao, A. Seasonal changes in the circulation pattern over India and neighbourhood. Proceedings of the Symposium on Tropical Meteorology, Rotorua, New Zealand, 5-13 November 1963, pp. 207-215. Wellington, N.Z., 1964. DAS M15.5 S89pr.
- ...Presents maps (scale 1:60 000 000) of India showing the horizontal distribution of one of the parameters of static stability in the bulk tropospheric column 800-300 mb in degrees per deci-bar for January and July by isolines.
104. Brown, W. Norman India, Pakistan, Ceylon. Revised edition. 203 pp. Philadelphia, Pennsylvania, 1964. DLC DS407 .B7 1964.
- ...Inside the front cover presents a map, scale is not indicated (about 1:25 000 000), of India, Pakistan and Ceylon with mean isohyets.
105. Dubey, R.N. Economic geography of India. Tenth edition revised by Vinod Behari Srivastava. 398pp. Allahabad, 1964. DLC HC435 .D9.

Source No. 105 continued.

...Includes maps, scale is not indicated (about 1:75 000 000), of south and southeast Asia with mean isobars and winds by arrows for January and June; maps, scale is not indicated (about 1:40 000 000), of India with (1) mean isotherms ($^{\circ}\text{C}$) for January and July and (2) annual mean rainfall amount (cm) by hatched areas; a map, scale is not indicated (about 1:32 500 000), of India with annual mean rainfall amount (cm) by hatched areas; a map, scale is not indicated (about 1:30 000 000), of India with annual variability of rainfall by hatched areas.

106. Frost, R. and Stephenson, P.M. Mean stream lines for standard pressure levels over the Indian Ocean and adjacent land areas. Proceedings of the Symposium on Tropical Meteorology, Rotorua, New Zealand, 5-13 November 1963. pp. 96-106. Wellington, 1964. DAS M15.5 S89pr.

...Includes maps (scale 1:100 000 000) of the Indian Ocean and adjacent land areas with streamlines and plotted wind direction for selected stations (names of stations are not designated) at levels of 700, 500, 300, and 200 mbs. for January, April, July, and October. There is also a map (scale 1:80 000 000) of the same area showing the aircraft route winds and rawin stations used in this upper air stream analysis.

107. Hutchings, J.W. Large scale perturbations of the tropical circulation. Proceedings of the Symposium on Tropical Meteorology, Rotorua, New Zealand, 5-13 November 1963, pp. 123-143. Wellington, N.Z., 1964. DAS M15.5 S89pr.

...Contains maps (scale 1:90 000 000) of India and adjacent areas showing the mean summer and winter circulation at 8 km.

108. Kulshrestha, Shashi M. A preliminary study of the surface distribution of absolute humidity over the Indian Sub-continent. U.S. National Bureau of Standards, Report, NBS Report 8463. 15pp. Boulder, Colorado, October 1964. DAS 600 U585re.

...Presents maps (scale 1:21 000 000) of the Indian Sub-continent (India, Pakistan and Burma) showing the winter (January), summer (May), monsoon (August) and post-monsoon (November) surface distribution of mean absolute humidity (gm/m^3) by isopleths based on 5 years (1959-1963) of data; location of climatic data stations.

109. Lettau, Katharina and White, Fred. Fourier analysis of India rainfall. Indian Journal of Meteorology & Geophysics, 15(1):27-38. Delhi, January 1964. DAS M(05) I39i.

...Presents maps (scale 1:40 000 000) of India and Pakistan with isolines showing the results of Fourier analysis of rainfall for the first three harmonics and isochrones showing the phase angles in degrees.

110. Maximum wind pressure map of India. Indian Journal of Meteorology & Geophysics, 15(2):319-322. Delhi, April 1964. DAS M(05) I39i.
- ...Presents maps (scale 1:30 000 000) of India with maximum wind pressure including winds of short duration as in squalls and with maximum wind pressure excluding winds of short duration.
111. Raghavan, K. A climatological study of severe cold waves in India. Indian Journal of Meteorology & Geophysics, 18(1):91-96. Delhi, January 1967. DAS M(05) I39i.
- ...Contains a map (scale 1:45 000 000) of India showing the lowest minimum temperature (°C) during the years 1881-1964 in the various subdivisions of India.
112. Raman, C.R.V. and Dixit, C.M. Analyses of monthly mean resultant winds for standard pressure levels over the Indian Ocean and adjoining continental areas. Proceedings of the Symposium on Tropical Meteorology, Rotorua, New Zealand, 5-13 November 1963, pp. 107-118. Wellington, N.Z., 1964. DAS M15.5 S89pr.
- ...Presents maps (scale 1:120 000 000) of the Indian Ocean and adjacent land areas (50°S-45°N, 20°E-155°E) showing the mean resultant wind at levels of 850 and 200 mb for January, April, July (also at 500 mb level), and October.
113. Subrahmanyam, V.P.; Subba Rao, B.; Subramaniam, A.R. Moisture adequacy in relation to the distribution of some crops in India. International Association of Scientific Hydrology, Publication No. 65: Assemblée Générale de Berkeley de l'UCCI 19-8-31-8 1963. pp. 462-467. Gentbrugge (Belgique), 1964. DAS M(06) I611g S. Hyd. no. 65.
- ...Includes a map, scale is not indicated (about 1:42 500 000), of India, Pakistan and Ceylon showing the distribution of the moisture adequacy index (%) by isolines.
114. Vasantha Devi, M.N. Some aspects of the agricultural geography of South India. The Indian Geographical Journal, XXXIX(1&2 and 3&4):1-122, Jan.-Mar., April-June, July-Sept. and Oct.-Dec. 1964. Madras. DLC DS401 .I36.
- ...Presents maps, scale 1:9 000 000, of South India with seasonal (south-west monsoon and retreating monsoon) mean isohyets in inches normal annual mean isohyets and normal monthly rainfall values at individual stations by bar graphs.
115. Venkiteshwaran, S.P. & Sivaraman, K.R. Utilisation of wind power in arid and semi-arid areas in India. National Aeronautical Laboratory, Bangalore, Technical Note, No. TN-WP-35-64. 13pp. November 1964. DAS M(055) I39tec.

Source No. 115 continued.

...Presents a map (scale 1:5 400 000) of the Rajasthan showing the distribution of annual mean wind speed (<5, 5-10, 10-15, 15-20 kph) based on summaries for 20 stations.

1965

116. Ananthakrishnan, R. General circulation of the atmosphere over the Indian Ocean and adjoining areas. Proceedings of the Symposium on Meteorological Results of the International Indian Ocean Expedition, Bombay, India, 22-26 July 1965. pp. 105-114. DAS M:551.46 S989pr.
- ...Includes maps (scale 1:170 000 000) of the Indian Ocean and adjacent land areas with mean monthly contours and winds at two standard isobaric levels, 850 and 200 mb., for January and July.
117. Ananthakrishnan, R. General circulation of the atmosphere over the Indian Ocean and adjoining areas. Symposium on Meteorological Results of the International Indian Ocean Expedition. 5pp. Bombay, July 22-26, 1965. DAS M13 A533g.
- ...Presents maps (scale 1:90 000 000) of the Indian Ocean and adjoining areas showing the distribution of contours and winds at 850- and 200-mb levels for January and July 1964.
118. Ananthakrishnan, R.; Selvam, M. Mary; Chellappa, R. Seasonal variation of precipitable water vapour in the atmosphere over India. Indian Journal of Meteorology & Geophysics, 16(3):371-384. Delhi, July 1965. DAS M(05) I39i.
- ...Contains maps (scale 1:75 000 000) of India showing the variation of precipitable water vapor by isolines by month based on data for 12 stations for a 6-year period 1956-1961.
119. Ananthakrishnan, R. and Ramakrishnan, A.R. Upper tropospheric zonal circulation over India and neighbourhood in relation to the south west monsoon. Proceedings of the Symposium on Meteorological Results of the Indian Ocean Expedition, Bombay, India, 22-26 July 1965. pp. 415-422. DAS M:551.46 S989pr.
- ...Contains maps (scale 1:175 000 000) of India and adjacent areas with mean isotherms (°C) and isohumes (gm/kg and %) at levels of 700 and 850 mb. for January and July.
120. Dhar, O.N. and Narayanan, J. A brief study of rainfall and flood producing rain storms in the Beas Catchment (up to Pong). Indian Journal of Meteorology & Geophysics, 16(1):1-12. Delhi, January 1965. DAS M(05) I39i.

Source No. 120 continued.

...Presents maps (scale 1:2 240 000) of the Beas Catchment area showing the location of raingauge stations; mean annual isohyets (1950 normals); total storm isohyets for August 11-14, 1943; total storm isohyets for September 24-27, 1947; total storm isohyets for October 3-6, 1955; total storm isohyets for September 1-4, 1957. There is also a map (scale 1:40 000 000) of India showing the tracks of some important depressions responsible for floods in the Beas River basin.

121. India (Republic). Central Board of Irrigation and Power. Development of Irrigation in India. 231 pp. New Delhi, 1965. DAS 631.7 I39de.

...Presents maps (scale 1:25 000 000) of India with annual mean isohyets (cm), and showing the distribution of mean daily maximum temperatures in January and May by isolines and hatched areas.

122. India (Republic). Meteorological Department. Weekly weather report, July 1942-September 1945, July 1953-February 1965, August-November 1965 (Some years are not complete). Poona. DAS M06.1/54 I39we.

...Presents maps (scale 1:23 500 000) of India (1) showing the rainfall departures for the different rainfall divisions of the country for each week during the period July 1942-September 1945, July 1953-February 1965, August-November 1965 and (2) showing the rainfall departures for accumulative rainfall amounts over specified periods.

123. Mani, A.; Chacko, O.; Iyer, N.V. Studies of terrestrial radiation fluxes at the ground in India. Indian Journal of Meteorology & Geophysics, 16(3):445-452. Delhi, July 1965. DAS M(05) I39i.

...Includes maps, scale is not indicated (about 1:100 000 000), of India showing by isolines the distribution of effective outgoing longwave radiation ($\text{cal cm}^2/\text{min}$) and downward infra-red radiation ($\text{cal cm}^2/\text{min}$) for each month.

124. Mani, Anna; Chacko, O.; Krishnamurthy, V.; Desikan, V. Radiation balance of the Indian Ocean. Proceedings of the Symposium on Meteorological Results of the International Indian Ocean Expedition, Bombay, India, 22-26 July 1965. pp. 165-177. DAS M:551.46 S989pr.

...Presents maps (scale 1:150 000 000) of the Indian Ocean and adjacent land areas showing the distribution of global solar radiation and net radiation by isolines for January, April, July and October.

125. Portugal. Serviço Meteorológico Nacional. O clima de Portugal. Fascículo XI. Estado da Índia. (The climate of Portugal. Fascicule XI. State of India). 57pp. (In Portuguese). Lisboa, 1965. DAS M82.1/469 P853c.

Source No. 125 continued.

- ...Presents a map (scale 1:650 000) of the District of Goa with mean isohyets and numerical values of precipitation for individual stations.
126. Raghavan, K. Co-existence of tropical storms. Indian Journal of Meteorology & Geophysics, 16(1):69-74. Delhi, January 1965. DAS M(05) I39i.
- ...Includes maps (scale 1:60 000 000 for each month June-September and 1:70 000 000 for each month October-December) of India, Pakistan, Burma and Ceylon showing the tracks of co-existing storms/depressions observed during the 40-year period (1923-1962).
127. Raghavan, K. Some aspects of severe cold waves in India. Current Science, 34(13):401-403, July 5, 1965. Bangalore. DNAL 475 Sci23.
- ...Presents a map (scale 1:60 000 000) showing the distribution of the lowest minimum temperatures ever recorded in India during the years 1881-1961 by isolines.
128. Raghavan, K. and Nagarkar, N.D. Water temperature in evaporation pans in India. Indian Journal of Meteorology & Geophysics, 16(1):128-133. Delhi, January 1965. DAS M(05) I39i.
- ...Includes maps (scale 1:47 500 000) of India with isolines showing the mean annual range of water temperature (°C) and water temperature in excess of air temperature at 0830 and 1730 IST for January, April, July and October.
129. Raman, C.R.V. Cyclonic vortices on either side of the equator and their implications. Proceedings of the Symposium on Meteorological Results of the International Indian Ocean Expedition, Bombay, 22-26 July 1965, pp. 155-163. DAS M:551.46 S989pr.
- ...Includes maps (scale 1:140 000 000) of Indian Ocean and adjacent land areas with 700 mb mean streamlines for January and July.
130. Rangarajan, S. and Srivastava, G.P. Temperature and humidity distribution in the atmosphere over the Indian seas. Proceedings of the Symposium on Meteorological Results of the International Indian Ocean Expedition, Bombay, India, 22-26 July 1965. pp. 17-26. DAS M:551.46 S989pr.
- ...Includes maps (scale 1:120 000 000) of India and neighborhood with mean temperature (°C), mixing ratio (gms/kg) and relative humidity at levels of 700 and 850 mbs for January and July based on data during the two-year period 1963-1964.

131. Rao, K.N. Seasonal forecasting -- India. World Meteorological Organization, WMO-No. 162, TP.79, Technical Note No. 66, WMO-IUGG Symposium on Research and Development Aspects of Long-range Forecasting, Boulder, Colorado, 1964. pp. 17-30. Geneva, 1965. DAS M(06) W927p No. 162.

...Presents a map, scale is not indicated (about 1:35 000 000), of India, Ceylon, Burma and Pakistan with June to September rainfall expressed as percentage of the annual by isolines and maps, scale is not indicated (about 1:40 000 000), showing the numerical values of SW monsoon rainfall amount (inches) for the period June to September and the coefficient of variation for the subdivisions of India.

132. Subrahmanyam, V.P. and Subramaniam, A.R. Some characteristics and frequencies of occurrence of droughts in the dry climatic zones of India. Bulletin of the International Association of Scientific Hydrology, X^e Année, No. 3. pp. 31-37. September 1965. DAS M(06) I611gb.

...Presents a map, scale is not indicated (about 1:35 000 000), of India, Burma, Ceylon and Pakistan showing the distribution of dry climates according to Thornthwaite's 1955 scheme.

133. Thiruvengadathan, A. Mean upper air flow patterns associated with spells of strong and weak northeast monsoon conditions over the Madras State in the month of November. Indian Journal of Meteorology & Geophysics, 16(1):61-68. Delhi, January 1965. DAS M(05) I39i.

...Presents maps (scale 1:60 000 000) of India showing mean flow pattern for November 3-17, 1960 (strong monsoon) at heights of 1.5, 6.0, and 9.0 km; mean flow pattern November 6-18, 1955 (weak monsoon) at heights of 5000 and 20,000 ft.; anomaly pattern at 1.5 and 6.0 km during strong monsoon (November 3-17, 1960) and weak monsoon (November 6-18, 1955); monthly flow pattern during strong monsoon (November 4-9, 1957) at heights of 1.5 and 6.0 km and at 5000 and 20,000 ft.

134. Venkataraman, S. and Krishnamurthy, V. Studies on the estimation of pan evaporation from meteorological parameters. Indian Journal of Meteorology & Geophysics, 16(4):585-602. Delhi, October 1965. DAS M(05) I39i.

...Presents maps (scale 1:65 000 000) of India with monthly and annual mean computed values of evaporation by isolines.

135. World Meteorological Organization. Meteorology in the Indian Ocean. WMO publication no. 166. 31pp. Geneva, 1965. DAS M(06) W927p.

...Includes a map (scale 1:27 500 000) of India and Pakistan showing the % variability of annual rainfall determined from long-period records of rainfall measured at thousands of stations. Additional maps are for larger areas.

1966

136. Alvi, S.M.A. and Punjabi, K.G. Diurnal and seasonal variations of squalls in India. Indian Journal of Meteorology & Geophysics, 17(2): 207-216. Delhi, April 1966. DAS M(05) I39i.

...Presents maps (scale 1:60 000 000) of India showing the distribution of the mean annual frequency of squalls, average variability of squalls and relative variability of squalls; maps (scale 1:29 000 000) with squall direction roses for individual stations in India for the winter (December-February) and post monsoon (October and November) seasons; maps (scale 1:24 000 000) with squall direction roses for individual stations in India for summer (March-May) and SW monsoon (June-September) seasons; maps (scale 1:17 500 000) of India with graphs showing the percentage frequency of squalls with respect to maximum speed reached and percentage frequency of duration of squalls for individual stations in India; map (scale 1:25 000 000) with annual mean isobronts and numerical number of thunderstorms for individual stations in India and Ceylon during the period 1931-1960.

137. Dhar, O.N.; Mantan, D.C.; Jain, B.C. A brief study of rainfall over the Teesta Basin (up to Teesta Bridge). Proceedings of the Symposium on Hydrometeorology of India with Special Reference to Flood Forecasting and Warning held at Meteorological Office, New Delhi on 23-24 March 1964, Indian Journal of Meteorology and Geophysics, 17(Spl. No.): 59-66. Delhi, April 1966. DAS M(05) I39i v.17 Special No.

...Includes a map (scale 1:3 300 000) of the Teesta Catchment area in India with annual mean isohyets (cm) based on data for the period 1958-62.

138. Ghose, S.K. On some aspects of climatology and hydrometeorology of the Damodar Valley area. Proceedings of the Symposium on the Hydrometeorology of India with Special Reference to Flood Forecasting and Warning held at Meteorological Office, New Delhi on 23-24 March 1964, Indian Journal of Meteorology & Geophysics, 17(Spl. No.):217-226. Delhi, April 1966. DAS M(05) I39i Special No.

...Includes a map, scale is not indicated (about 1:5 000 000), of the Damodar Valley showing the network of stations. There are also maps, scale is not indicated (about 1:7 500 000), of the Damodar Valley with monsoon and annual mean isohyets (mm), heaviest rainfall (mm) in 24 hours and highest rainfall (mm) in 1 hour by isolines, mean maximum and minimum isotherms (°C) and mean isohumes at 0830 and 1730.

139. Kulshrestha, S.M. and Chatterjee, K. Radio-climatology of India: 1. Radio refractive index near the ground surface. Indian Journal of Meteorology & Geophysics, 17(3):367-384. Delhi, July 1966. DAS M(05) I39i.

Source No. 139 continued.

...Presents maps (scale $\frac{1}{67\ 500\ 000}$) of India showing the surface distribution of radio refractive index by isolines for each month.

140. Lockwood, J.G. 700-mb contour charts for south-east Asia and neighbouring areas. *Weather*, XXI(9):325-334. London, September 1966. DAS M(05) R888w.

...Presents maps (scale $\frac{1}{110\ 000\ 000}$) of the area from 30°S-30°N latitude and from 70°E-140°E longitude with typical daily contour patterns based on data for July 1963-June 1965.

141. Mallik, A.K. Arid-zone agrometeorology in India. *Agricultural Meteorology*, 3(1/2):3-34. Amsterdam, February 1966. DAS M(05) A278agr.

...Includes a map (scale $\frac{1}{3\ 500\ 000}$) of India within the limits 24°N-32°N and 68°E-78°E showing the distribution of the number of weeks with no rain expressed as percentage of weeks of the southwest monsoon season (June-September) by isolines.

142. Mallik, A.K. and Godbole, B.H. Southwest monsoon rains in West Rajasthan week by week. *Proceedings of the Symposium on the Hydro-meteorology of India with Special Reference to Flood Forecasting and Warning held at Meteorological Office, New Delhi on 23-24 March 1964*, *Indian Journal of Meteorology & Geophysics*, 17(Spl. No.):227-240. Delhi, April 1966. DAS M(05) I39i. Special No.

...Contains maps (scale $\frac{1}{12\ 000\ 000}$) of West Rajasthan showing network of stations, percentage frequencies of weeks with rain by isolines, percentage frequencies of weeks with rainfall up to 50 mm by isolines and percentage frequencies of weeks with more than 50 mm of rainfall.

143. Nandy, J. and Mukherjee, A.K. A tornado over northwest Assam and adjoining West Bengal on 19 April 1963. *Indian Journal of Meteorology & Geophysics*, 17(3):421-426. Delhi, July 1966. DAS M(05) I39i.

...Includes map (scale $\frac{1}{440\ 000}$) of North Bengal and Goalpara district of Assam showing tornado track on April 19, 1963, with points indicated where devastation starts at 1710 IST, tornado lifts up at about 1740 IST and loops detected from chaotic devastation left over by the tornado.

144. Naqvi, Sibte Nabi. The meteorological problems of the deltaic flood-plains of East Pakistan. UNESCO, *Scientific Problems of the Humid Tropical Zone Deltas and their Implications*, *Proceedings of the Dacca Symposium*, 24 February to 2 March 1964, pp. 123-133. Paris, 1966. DAS 574.9 U581sc.

Source No. 144 continued.

...Includes a map (scale 1:3 200 000) of East Pakistan and adjacent areas of India with tabular annual values of mean total precipitation amount, mean potential evapotranspiration and water surplus and deficiency as well as graphs showing the monthly values of potential evapotranspiration and rainfall amount for 4 stations (Calcutta, Berhampore, Shillong and Silchar) in India and 13 stations in East Pakistan.

145. Tewari, A.K. Land utilization in Juansar Bawar. The Deccan Geographer, 3&4(2&1):1-128. Secunderabad, India, July 1965 and January 1966. DLC.

...Presents maps (scale 1:600 000) of Juansar Bawar with annual mean rainfall amounts by hatched areas and diminutive graphs showing the monthly rainfall amounts for individual stations.

1967

146. Banerjee, A.K. and Sharma, K.K. A study of the seasonal oscillations in the upper air temperatures over India. Indian Journal of Meteorology and Geophysics, 18(1):69-74. Delhi, January 1967. DAS M(05) I39i.

...Presents a map (scale 1:42 500 000) of India showing the location of the 13 radiosonde stations (as in 1955).

147. Bedi, H.S. and Parthasarathy, B. Cold waves over northwest India and neighbourhood. Indian Journal of Meteorology & Geophysics, 18(3):371-378. Delhi, July 1967. DAS M(05) I39i.

...Presents maps (scale 1:32 750 000) of Indo-Pakistan sub-continent north of 22 1/2°N and west of 82 1/2°E showing the location of meteorological stations used in this study; average number of days with minimum temperature departure $\leq -6^{\circ}\text{C}$ per winter season, average number of days with minimum temperature departure $\leq -8^{\circ}\text{C}$ per winter season (Dec-Feb), distribution of mean lowest anomaly of minimum temperature and distribution of lowest anomaly of minimum temperature during 50 years (1915-16 to 1964-65) by isolines; mean progression of cold wave by isochrones; probable duration in days of cold wave likely to be exceeded once in a 5-year period, 10-year period, 25-year period, 50-year period and 100-year period by isolines.

148. Chang, Jen-hu The Indian summer monsoon. The Geographical Review, 57(3):373-396. New York, July. DAS P. 1967.

...Presents maps (scale 1:60 000 000) of monsoon Asia with mean resultant winds at 700 mb in April and at 200 mb in June and mean isotherms at 500 mb in July; maps (scale 1:60 000 000) of India, Pakistan, Burma and Ceylon showing the average dates of the onset of the southwest monsoon and the distribution of the precipitable water

Source No. 148 continued.

vapor (gms/cm^2) in July by isolines; maps (scale $\frac{1}{65\ 000\ 000}$) of India, Pakistan, Ceylon and Burma showing the mean summer circulation at ca. 350 mb and normal dates of withdrawal of southwest monsoon by isolines.

149. Datta, R.K. and Gupta, M.G. Synoptic study of the formation and movements of western depressions. Indian Journal of Meteorology and Geophysics, 18(1):45-50. Delhi, January 1967. DAS M(05) I39i.

...Includes (1) a map (scale $\frac{1}{80\ 000\ 000}$) of south Asia showing selected tracks of well-marked western disturbances over Iran, Afghanistan, Pakistan and India and (2) synoptic maps (scale $\frac{1}{60\ 000\ 000}$) of the days when frontogenesis took place in three typical cases in the Caspian Sea area and intensified further into depressions.

150. Desai, B.N. Circulation over India and neighbourhood during the southwest monsoon season. Indian Journal of Meteorology and Geophysics, 18(4):459-464. Delhi, October 1967. DAS M(05) I39i.

...Presents maps (scale $\frac{1}{100\ 000\ 000}$) of India and neighborhood showing the distribution of wind flow by mean streamlines and isotachs at 500 and 700 mb levels for July according to Frost and Stephenson; maps (scale $\frac{1}{105\ 000\ 000}$) of India and neighborhood showing the distribution of mean resultant winds at levels of 850, 700 and 500 mb for July according to Raman and Dixit; map (scale $\frac{1}{52\ 500\ 000}$) showing the distribution of mean streamlines at the 700 mb level for July according to Raman.

151. Mani, A.; Chacko, O.; Desikan, V.; Krishnamurthy, V. Distribution of global and net solar radiation over Indian Ocean. Indian Journal of Meteorology & Geophysics, 18(2):171-184. Delhi, April 1967. DAS M(05) I39i.

...Presents maps (scale $\frac{1}{180\ 000\ 000}$) of Indian Ocean and adjacent land areas showing the monthly and annual distribution of global solar radiation in kcal/cm^2 and the net solar radiation in kcal/cm^2 for January, April, July, October and year.

152. Narayanan, S. A 'driving rain index' map of India. Indian Journal of Meteorology & Geophysics, 18(1):129-130. Delhi, January 1967. DAS M(05) I39i.

...Presents maps (scale $\frac{1}{55\ 000\ 000}$) of Pakistan and India with mean annual driving rain index (driving rain index defined as rainfall in cm x wind speed in mph), maximum monthly driving rain index and driving rain index for rainiest month by isolines.

153. Parthasarathy, B. Seasonal oscillation of bright sunshine in India and neighbourhood. Indian Journal of Meteorology & Geophysics, 18(2): 263-266. Delhi, April 1967. DAS M(05) I39i.
- ...Presents maps (scale 1:50 000 000) of India, Ceylon and Pakistan with amplitudes of annual and semi-annual oscillations of sunshine hours, dates of maximum semi-annual oscillations of sunshine and anomalies of the amplitude of annual variation minus the amplitude of annual variation expected by isolines.
154. Raghavan, K. Influence of tropical storms on monsoon rainfall in India. Weather, 22(6):250-256. London, June 1967. DAS M(05) R888w.
- ...Presents maps (scale 1:37 500 000) of India north of 15°N showing the tracks of tropical storms in July and August during the period 1948-1957 and maps (scale 1:37 500 000) of India with mean track of tropical storms and per cent departure of mean monthly rainfall without storms for July and August.
155. Ramachandran, G. Rainfall distribution in India in relation to latitude, longitude and elevation. Indian Journal of Meteorology & Geophysics, 18(2):227-232. Delhi, April 1967. DAS M(05) I39i.
- ...Contains maps (scale 1:45 000 000) of India and Pakistan showing the anomalies (calculated minus observed) of rainfall for January, April, July, October and the year.
156. Spate, O.H.K. & Learmonth, A.T.A. India and Pakistan; a general and regional geography. Third edition revised and completely reset. 877pp. London, 1967. DAS 915.4 S738in.
- ...Presents maps (scale 1:27 000 000) of India, Pakistan and Ceylon showing the annual distribution of rainfall, variability of rainfall for India and Pakistan and January and July mean temperatures; a map (scale 1:39 000 000) of India and East Pakistan showing anomalous rainfall regimes; a map (scale 1:25 500 000) of India showing the distribution of percentage probability of monsoon rainfall; maps (scale 1:30 000 000) of India showing the distribution of annual percentage number of years of excess rainfall and percentage number of years of deficient rainfall; a map, scale is not indicated (about 1:27 000 000), of India, Pakistan and Ceylon showing the distribution of Kendrew-Stamp classification of the climates; a map (scale 1:37 500 000) of India and Pakistan showing the distribution of the climatic regions according to Köppen; a map (scale 1:30 400 000) of India and Pakistan showing the moisture regime according to Thornthwaite's 1948 formula; maps (scale 1:56 000 000) of India, Pakistan and Ceylon showing the distribution of climatic comfort zones for January, May and August.

157. Venkataraman, S. and Krishnamurthy, V. The radiation climate over India. Indian Journal of Meteorology & Geophysics, 18(1):39-44. Delhi, January 1967. DAS M(05) I39i.

...Presents maps (scale 1:62 500 000) of India showing the normal global radiation (gm. cal./cm²/per day) by isolines based on data for 52 stations. There is also a map (scale 1:40 000 000) of India showing annual normal global radiation (gm. cal./cm²/ per day) by isolines.

1968

158. Chacko, O.; Krishnamurthy, V.; Desikan, V. Global solar radiation flux measurements over India during the IQSY. Indian Journal of Meteorology and Geophysics, 19(1):89-92. Poona, January 1968. DAS M(05) I39i.

...Includes maps (scale 1:110 000 000) of India showing the monthly (January, April, July and October) and annual distribution of global radiation (cal/cm²/day) based on data for 1964 and 1965.

159. Desikan, V.; Swaminathan, M.S.; Chacko, O. Distribution of sunshine and global solar radiation over the arid and semi-arid regions in the Indian sub-continent. Indian Journal of Meteorology and Geophysics, 19(2):149-158. Poona, April 1968. DAS M(05) I39i.

...Presents maps (scale 1:80 000 000) of the Indian sub-continent showing the monthly duration of sunshine in hours and the global solar radiation in kcal/cm/month by isolines. There are also maps (1:48 000 000) of the Indian sub-continent with annual duration of sunshine (hours) and global solar radiation (kcal/cm²/month) by isolines. A map (scale 1:38 000 000) of the same area shows arid and semi-arid regions.

160. Flohn, Hermann; Hantel, Michael; Ruprecht, Eberhardt Air-mass dynamics or subsidence processes in the Arabian Sea summer monsoon? Journal of the Atmospheric Sciences, 25(3):527-529. Boston, May 1968. DAS M(05) A512j.

...Presents a map (scale 1:8 000 000) of northwest India and West Pakistan showing the vertical wind velocity [mm. sec⁻¹] at 1.5 km MSL for a two month period (July-August).

161. Harihara Ayyar, P.S.; Krishnamurthy, V. Net radiation climate of India. Indian Journal of Meteorology and Geophysics, 19(2):203-208. Poona, April 1968. DAS M(05) I39i.

...Contains maps (scale 1:55 000 000) of India showing the distribution of monthly values of net radiation (cal/cm²/day) by isolines.

162. Mowla, K.G. Cyclogenesis in the Bay of Bengal and the Arabian Sea. *Tellus*, 20(1):151-162. Uppsala, 1968. DAS M(05) T277.

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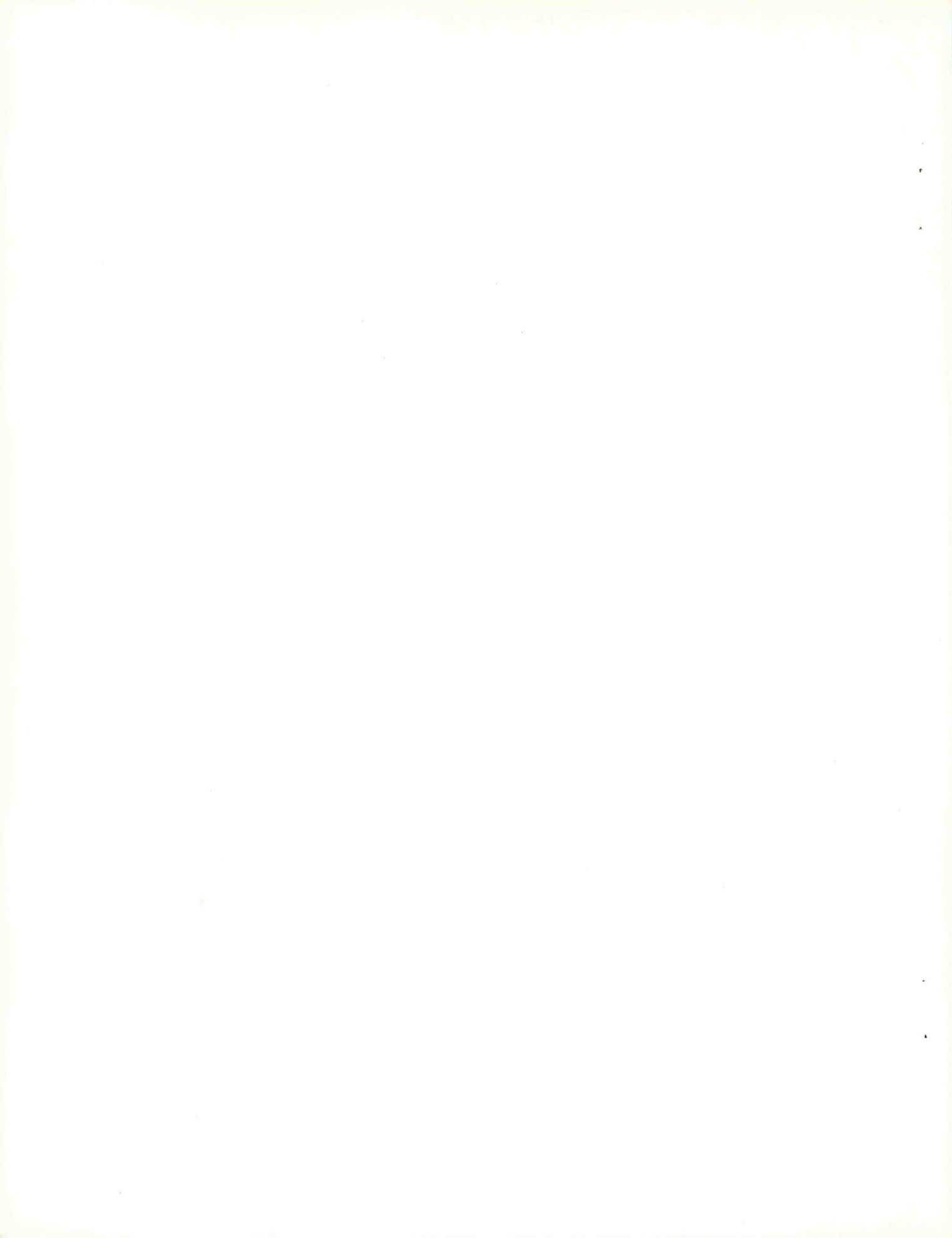
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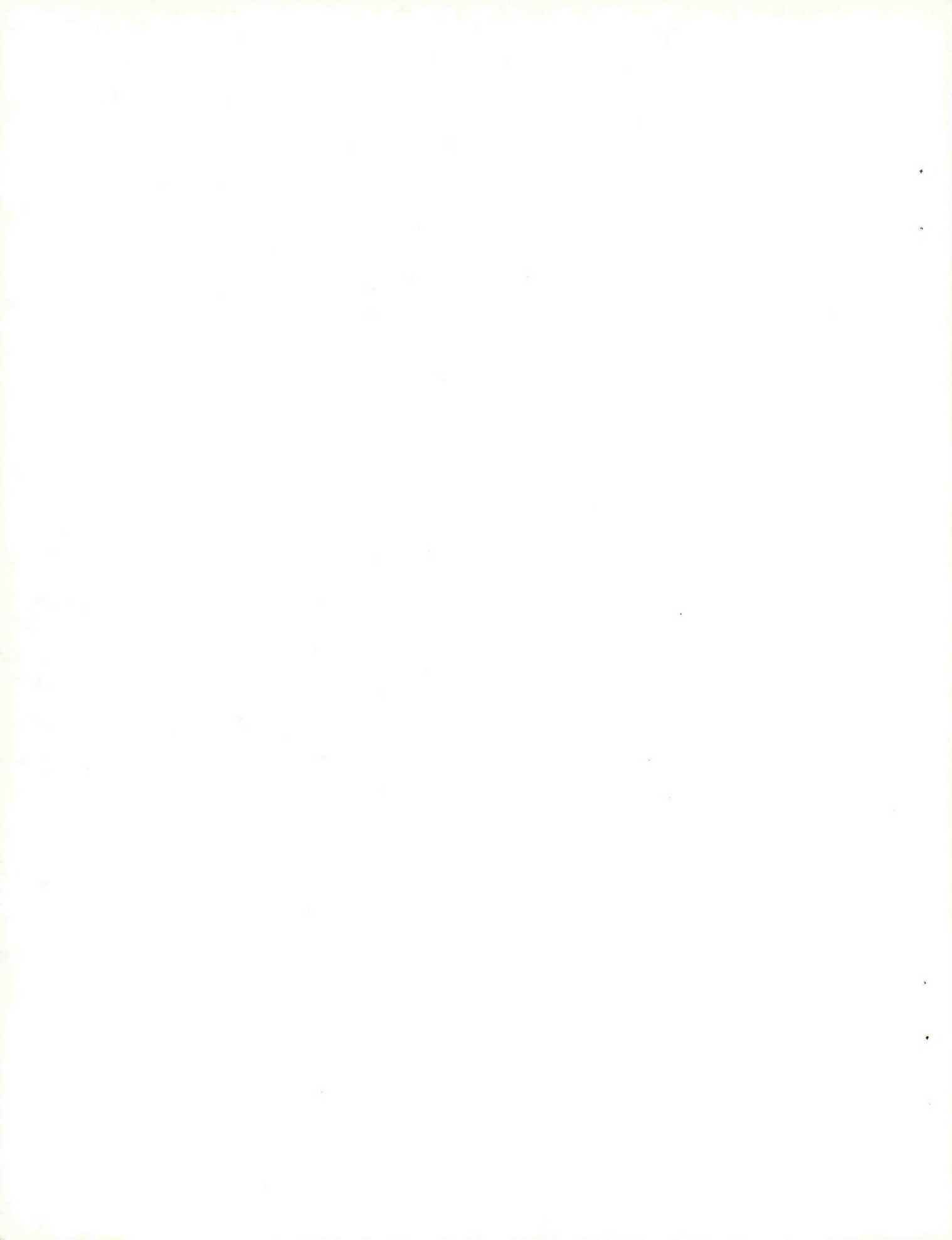
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