Notes and News

SECOND SESSION OF THE REGIONAL ASSOCIATION II (ASIA) OF THE WORLD METEOROLOGICAL ORGANISATION

The Second Session of the Regional Association for Asia of the World Meteorological Organisation was held at Rangoon from 3 to 13 November 1959 under the Chairmanship of Mr. S. Basu (India), the President of the Association. The following eighteen countries are at present Members of the Regional Association for Asia--Afghanistan, Burma, Cambodia, Ceylon, China, Hong Kong, India, Iran, Iraq, Japan, Korea, Laos, Pakistan, Portugal, Saudi Arabia, Thailand, U.S.S.R. and Viet Nam. Iran which is the latest addition to the list was admitted as a Member only a few days before the meeting. All the above countries except Afghanistan, Iraq and Pakistan were represented at the meeting. The Indian delegation was led by Mr. P. R. Krishna Rao, Director General of Observatories, who was accompanied by Mr. C. Ramaswamy and Dr. S. N. Sen. Australia, France, Israel, Phillipines, U.S.A. and a number of other international organisations sent Observers to the Session. Mr. A. Viaut, President of the WMO attended this Session as Observer of France.

Two Technical Committees were set up with Dr. Po E (Burma) and Mr. P. R. Krishna Rao (India) as elected Chairman for studying the items on the agenda of the Session. The first committee dealt with questions relating mainly to Instruments, Observations and network of observatories and the second dealt with items relating to Codes, Tele-communications, Climatology and other miscellaneous items.

The Session studied the existing network of surface and upper air observatories and recommended the basic minimum Regional network of reporting observatories for synoptic purposes. In view of the requirements for high level wind data for high flying jet aircraft operations, the Session strongly recommended establishment of more radiowind stations. The Session recommended specific time limits by which the minimum recommended network should be accomplished by the countries whose existing networks are below the minimum recommended.

One of the important items discussed by the Session was improvements in telecommunications arrangements for exchange of meteorological data within the Region and with neighbouring Regions. The quality of reception of various territorial broadcasts was reviewed and specific recommendations were made inviting certain countries either to increase the power of their broadcast transmission or to co-ordinate their time schedules. It was noted that Iran would be starting a territorial broadcast centre at Tehran by the end of 1960. The improvements necessary in sub-continental broadcast transmitters and the schedule of transmissions were reviewed and it was resolved that all sub-continental broadcasts should be made by RTT as soon as possible and not later than the end of 1962. The importance of the early implementation of the Northern Hemispheric Exchange Scheme was stressed and members concerned were urged to take urgent steps for the establishment of the required telecommunication centres. The leader of the Indian Delegation informed the Session that the Moscow-Delhi RTT channel of the Northern Hemispheric Exchange Scheme would be established from 1 January 1960. The Working Group on meteorological telecommunications for RA II was re-established comprising of experts designated by Burma, Hong

Kong, India, Iraq, Japan, Pakistan, Thailand and U.S.S.R. Mr. C. Ramaswamy (India) was nominated as Chairman of this Working Group.

Among other important items discussed, the Session reviewed the system of Regional comparison of barometers, Collection of weather observations from ships and from aircraft, Meteorological developments in view of commercial jet aircraft operations and the Meteorological codes requiring Regional agreement, and made suitable recommendations thereon. The Session also stressed the desirability of organising seminars and symposia in Region II, if possible by WMO's participation in the expanded programme of Technical Assistance. The need for the establishment of a Research Institute of Tropical Meteorology in the Region was also discussed and accepted. Other important items discussed included the organisation for recording of Atmospherics, Dissemination of ground-weather radar information, Networks of Climatological stations, Hydrological observations and their exchange, Radiation measuring observatories, Climatological Atlases, Agrometeorology, Meteorological assistance in locust control, Training of meteorological personnel, Observations of Atmospheric Ozone and Tropical storm warning procedures.

At the end of the Session, Dr. Po E(Burma) was elected President of the Regional Association II and Mr. P. R. Krishna Rao (India) was elected Vice-President. It was agreed to hold the next Session of the RA II during 1962. The delegate of Iran extended an invitation to hold the next Session in Iran.

The President of WMO addressing the meeting at the close of the Session congratulated the newly elected President and Vice-President and paid glowing tribute to the services rendered to the Regional Association by the retiring President, Mr. S. Basu. The retiring President thanked the Members for their co-operation and praised the excellent arrangements made for the Session by Dr. Po E and his staff.

SECOND SESSION OF THE COMMISSION FOR AERONAUTICAL METEOROLOGY OF THE WMO AND THE FIFTH SESSION OF THE METEOROLOGY DIVISION OF THE ICAO

The above joint Session took place in Montreal during September 1959 and was attended by 39 Member States and Observers from 7 Organisations. The discussions at the meeting resulted in a thorough revision of the existing procedures in Meteorology for international air navigation services with special reference to the requirements of high speed high altitude jet aircraft flights.

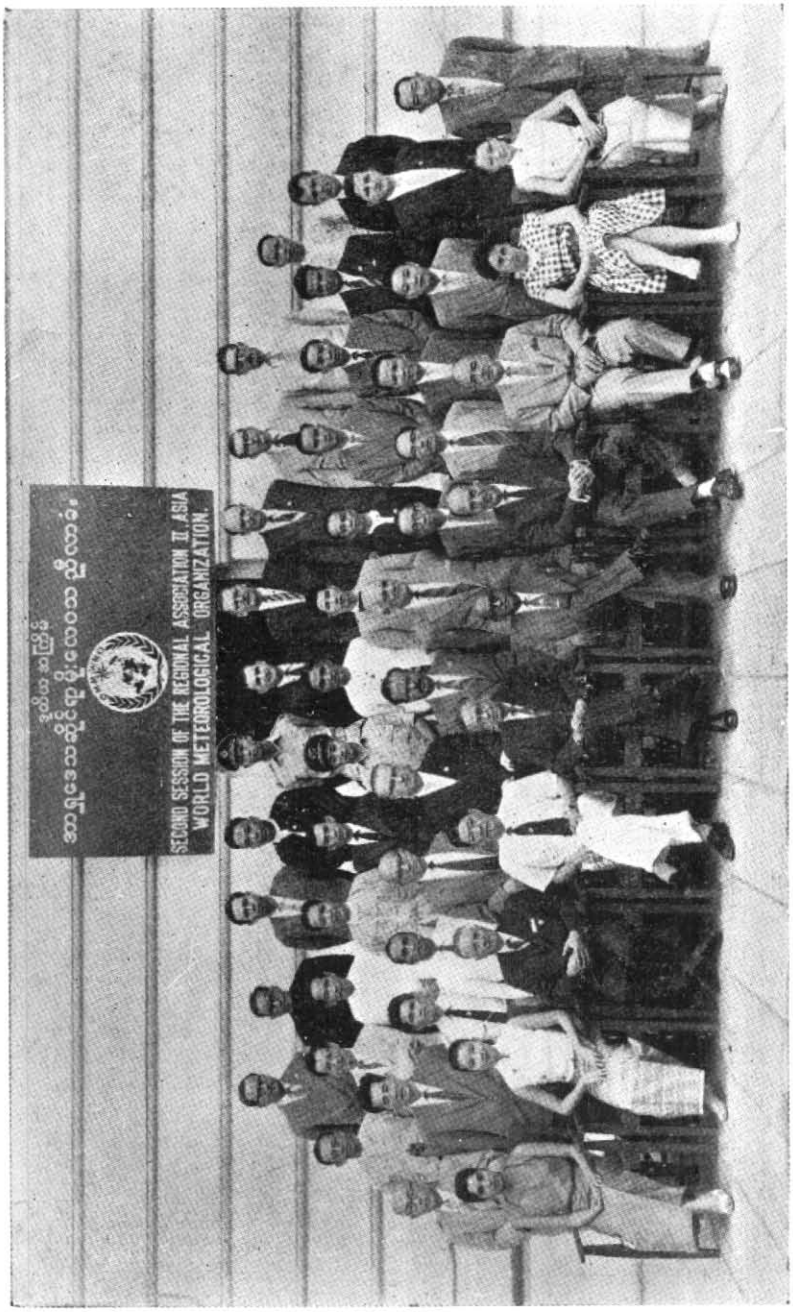
Mr. A. H. Nagle (U.S.A.), President of the Commission for Aeronautical Meteorology (CAeM) was elected Chairman and Mr. A. S. de Sousa (Portugal), Vice-President of the CAeM, as Vice-Chairman of the joint Session. The work of the meeting was carried on in three Technical Committees which were presided over by Mr. W. Halnon (U.S.A.), Mr. J. C. Cumming (U.K.) and Dr. P. Koteswaram (India). At the close of the Session three Working Groups were established for (*i*) Meteorological Aircraft Reconnaissance observing Techniques, (*ii*) Utilisation of Aircraft Meteorological Reports and (*iii*) Meteorological Aspects of Area Forecast systems. Mr. A. S. de Sousa was elected President of the CAeM for the ensuing period till the third session of the CAeM and Mr. A. H. Nagle, Vice-President.

India was represented at this Session by Shri P. R. Krishna Rao, Deputy Director General of Observatories and Dr. P. Koteswaram, Director, Aviation Services.

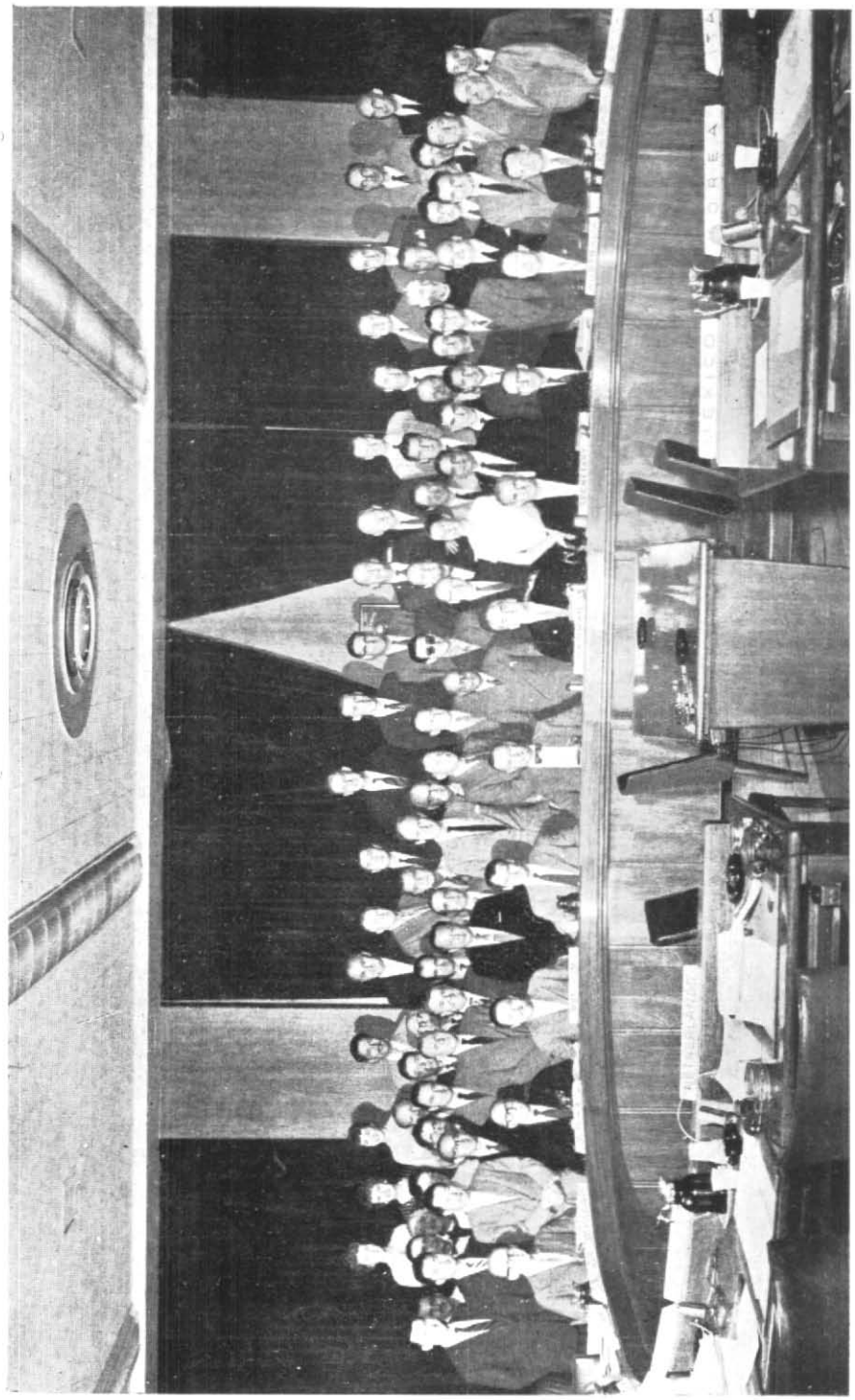
WEATHER DATA EXCHANGE—ESTABLISHMENT OF DELHI-MOSCOW RADIO-TELEPRINTER SERVICE*

An agreement for the operation of a round-the-clock Radio-Teleprinter Service between Delhi and Moscow for the exchange of

*The direct Radio-Teletype Channel commenced operation from 0600 GMT on 1 January 1960



Group photograph of RA-II (Asia), Rangoon, November 1959



Group photograph of ICAO, MET-V/WMO, CAeM-II meeting held at Montreal during September 1959

The Union Communications Minister, Dr. P. Subbarayan and His Excellency Mr. I. A. Benediktov, Soviet Ambassador in India, exchanging the documents after signing by the representatives of the two Governments

The minutes of discussions between the representatives of the U.S.S.R. and India regarding the establishment of a Radio-Teleprinter Circuit between New Delhi and Moscow for the exchange of meteorological data, was signed in New Delhi on 26 October 1959

(Photo : *Press Information Bureau, New Delhi*)

View of the signing ceremony at the Central Secretariat, New Delhi

Shri P. R. Krishna Rao, Director General of Observatories, India is signing. Shri S. Basu, President RA-II is next to him and Dr. P. Subbarayan, Minister for Transport and Communications, India is on the extreme left.

View of the signing ceremony at the Central Secretariat, New Delhi

Mr. E. E. Dobrovolsky, Telecommunication Engineer, U.S.S.R. is signing. Dr. K. T. Logvinov, Leader of the Soviet delegation is next to him and Mr. I. A. Benediktov, U.S.S.R. Ambassador in India is on the extreme right.

(Photos : *Press Information Bureau, New Delhi*)

meteorological data was signed on 26 October 1959 between India and U.S.S.R.

A delegation consisting of Dr. K. T. Logvinov of the Hydrometeorological Service of the U.S.S.R. and Mr. E. E. Dobrovolsky of the Chief Administration of the Ministry of Intercommunications of the U.S.S.R. visited New Delhi during the period 19 to 26 October 1959 and had discussions with an Indian delegation consisting of Shri S. Basu, Director General of Observatories, Shri P. R. Krishna Rao, Deputy Director General of Observatories, and Dr. P. Koteswaram, Director, Aviation Services, of the India Meteorological Department and Shri P. J. Rodgers, Director General, Shri M. V. Pai, Chief Engineer and Shri K. M. Balchandani, Director, of the Overseas Communications Services. The final minutes were signed at the Central Secretariat, Government of India, by Dr. Logvinov and Mr. Dobrovolsky on the U.S.S.R. side and Shri Basu, Shri Krishna Rao and Shri Rodgers on the Indian side in the presence of His Excellency Mr. I.A. Benediktov, Ambassador of U.S.S.R. to India and Dr. P. Subbarayan, Minister for Transport and Communications, Government of India.

The establishment of this radio communication channel forms part of a plan of the World Meteorological Organisation (WMO) for collection and exchange of meteorological information over the northern hemisphere. This international plan envisages the setting up of Northern Hemispheric Data exchange centres in Moscow, New Delhi, Tokyo, New York and Frankfurt which will be interconnected by radio-teleprinter communications.

The Moscow-Frankfurt-New York radio-teleprinter circuits have already been set up. The meteorological radio-teleprinter circuit between New Delhi and Moscow marks another step forward in implementing this programme of international co-operation. It will be completed when New Delhi-Tokyo and Tokyo-New York circuits are also established. With the implementation of this international programme, the latest meteorological information of the northern hemisphere would be available in New Delhi within a few hours of the time of observation. It would provide valuable data not only for forecasting atmospheric conditions in the Indian area and its neighbourhood but also for providing necessary forecasts for long distance international air services. Further, this exchange of information under the auspices of WMO would help to extend the scope of scientific research on improvement of short- and long-range weather forecasting techniques.

INTERNATIONAL ASSOCIATION OF METEOROLOGY AND ATMOSPHERIC PHYSICS

The meetings of the XIIth General Assembly of the International Union of Geodesy and Geophysics (IUGG) and of its Associations are scheduled to be held at Helsinki from 25 July to 6 August 1960.

The provisional programme of the meeting of the International Association of Meteorology and Atmospheric Physics (IAMAP), which is one of the seven Associations under the International Union of Geodesy and Geophysics, has just been announced. It includes a large coverage of topics, besides the usual business meetings.

Amongst the subjects for the scientific meetings are Dynamical Processes in the Atmosphere, Low water supply and periods of drought (organised by IASH), Aurorae (organised by IAGA), Results obtained from rockets and artificial satellites (organised by Secretary General IUGG), Atmospheric Electricity (organised by a Joint Committee with IAGA), Tsunamis and Storm Surges (organised by IASPEI with collaboration of IAPO and IAMAP), Atmospheric Chemistry and Radioactivity, Circulation of CO_2 in the atmosphere and ocean (in collaboration with IAPO) and The High Atmosphere (organised by a Joint Committee with IAGA).

Short abstracts of all papers which are intended to be presented at any of the sessions

should reach Dr. R. C. Sutcliffe, Secretary, IAMAP, Meteorological Office, Victory House, Kingsway, London, W.C. 2, England by 1 March 1960.

SCIENTIFIC CONFERENCE ON THE DISPOSAL OF RADIOACTIVE WASTES

A scientific conference on the disposal of Radioactive Wastes was held from 16 to 21 November 1959 in the principality of Monaco under the joint sponsorship of the International Atomic Energy Agency and the UNESCO, with the co-operation of the Food and Agricultural Organisation (FAO) of the United Nations.

The Conference was the first international meeting to familiarise geologists, oceanographers and fisheries experts with the existing problems on the disposal of radioactive wastes into the sea and on land resulting from the peaceful uses of atomic energy, and also provide a forum for discussion between them and specialists from Atomic Energy Organisations, on the practical aspect of wastes disposal problem. The agenda of the Conference provided for discussion on the various problems involved in (*i*) Practical aspects of Radioactive Wastes disposal, (*ii*) Oceanography and Fisheries and (*iii*) Geology. An Indian delegation to this conference comprising of experts was sponsored by the Atomic Energy Department of the Government of India comprising of Dr. A. K. Ganguly, Shri K. K. Dar, Shri K. T. Thomas and Dr. A. A. Rama Sastry.

UNESCO SYMPOSIUM ON WATER PLANT RELATIONS IN THE ARID AND SEMI-ARID ZONES

A Symposium on 'Water relations of plants in the arid and semi-arid zones', sponsored by the UNESCO, was held at Madrid from 24 to 30 September 1959. The symposium covered different aspects of the problem including Methods for measurement of evaporation from water and soil surfaces, Transpiration, Soil moisture content and suction sources and availability of water for plants with special reference to the Physics of soil water relationships under arid conditions, and Effects of water deficiency on plants.

Shri S. Venkataraman of the India Meteorological Department attended the symposium and presented a paper entitled "Evapotranspiration as an Agronomic factor".

The symposium was followed by a study tour in the arid regions of Spain.

VISIT OF SOVIET ANTIMAGNETIC SCHOONER 'ZARYA'

The Soviet Antimagnetic Schooner 'Zarya', the only ship of its kind in the world today, and its team of scientists, led by Dr. Boris Alexandrovitch Bologov, arrived in Bombay on 19 September 1959 on an expedition to study the earth's magnetism in the Indian Ocean. This expedition, which is a part of the International Geophysical Co-operation programme, is studying all the elements of the earth's magnetic field, structure of the ionosphere in tropical latitudes, intensity of cosmic rays in various latitudes and control measurement of the magnetic field in various observatories of the world.

The scientists of the Schooner visited the Alibag Magnetic Observatory on 24 September for taking comparative observations with their instruments. They also visited the Colaba Observatory (Bombay) on 26 September and saw the working of the magnetic, seismological and time units there. Visits of the scientists were also arranged to the various scientific institutes in Bombay. The Director, National Physical Laboratory, New Delhi; Director, Physical Research Laboratory, Ahmedabad; and Officers of the India Meteorological Department, Bombay and Poona, the Survey of India, Dehra Dun and the Central Fisheries Department, Bombay also visited the Schooner and acquainted themselves with the scientific work being carried out by it.

The Schooner 'Zarya' left the Bombay harbour on 7 October 1959 for its further survey work in the Arabian Sea.

CENTRAL BOARD OF GEOPHYSICS

A meeting of the Central Board of Geophysics was held at Baroda on 17 August 1959. Dr. A. N. Tandon, Seismologist, represented the India Meteorological Department at this meeting. The meeting discussed, among other things, the Third Five-Year Plan proposals of the Board. It also considered some proposals from All India Radio, India Meteorological Department, Survey of India, Geological Survey of India, Defence Research and Development Organisation and Central Water and Power Commission, and supported the inclusion of these proposals in the schemes of the respective departments for the above Plan.

INDIAN METEOROLOGICAL SOCIETY

Dr. A. Viaut, Director of the French Meteorological Service and President of the World Meteorological Organisation (WMO), who was on his way to Rangoon to attend the Second Session of WMO Regional Association II (Asia), addressed the Indian Meteorological Society at the Meteorological Office, New Delhi on 30 October 1959. In his address to the Society, Dr. Viaut drew attention to the importance of international co-operation in meteorology, particularly in connection with provision of meteorological service for long-distance jet aircraft flights. He expressed appreciation of the manysided activities of the India Meteorological Department and paid tribute to the work done by Indian scientists in the field of Meteorology and Geophysics. He urged for continued international collaboration in the furtherance of meteorological and geophysical investigations.

PHOSPHORESCENCE

Vessel : M. V. Dumra
Captain : G. Mackay
Voyage : Muscat to Bombay
Observer : V. Jarvis, 3rd Officer

27 February 1959, Lat. 24°19′N, Long. 60°27′E.

Unusually large amount of phosphorescence was observed between 1800 and 1825 GMT. At 1805 GMT flashes of phosphorescence were seen at an estimated distance of half a mile and at first appeared to be like flashing lights. A few minutes later, a distinct line of phosphorescence was seen ahead, resembling a line of breakers as seen on a beach. This line was of lesser intensity of brightness than the odd flashes seen in the background.

When the vessel crossed the line and afterwards, the brightness of the bow-wave illuminated the vessel's side and upper works. Several large fishes (possibly porpoises) were seen swimming towards the vessel and they left behind distinct and bright waves, not unlike one of the torpedo travelling through water.

About 8 minutes after crossing the bright line of phosphorescence, the intensity seemed to decrease and it faded away more or less completely at 1825 GMT when the moon rose.

Several less brighter patches of phosphorescence were crossed later during the watch.

BRIGHT LIGHTS

Vessel : S. S. State of Bombay
Captain : S. K. Kaikobad
Voyage : Porbandar to Mombasa
Observer : K. V. Hora, 3rd Officer

1 December 1958. Ship's position—6°20′N, 51°12′E; Course 229°(T), speed 14 kts.

At about 1910 GMT a brilliant green light probably a meteor was observed bearing SE at an elevation of 60°. It moved rapidly in a SW'ly direction past star Canopus in an almost horizontal plane leaving a greyish white trace behind. The trace lasted for about 8 sec and the light itself was only 3 sec. The sky was 4/8 covered with *Cb* (3000 ft) and *Ac* clouds. Rippled sea and low swell. Wind E, Force 2–3. The total arc of travel of the light was about 5° to 7°.

2 December 1958. Ship's position—2°50′N, 47°33′E. Course 229 (T), speed 12 kts.

Today again at about 1830 GMT another light, bright green in colour (brighter than observed on 1 December) was observed bearing NW at an elevation of 10° (approx.). The size of the light was about 10 times that of a star. The light travelled at an inclination of 45° to the horizontal plane in a NE'ly direction. After about 2 sec the light went off for a moment and appeared again which turned into a yellow light and disappeared abruptly after a few seconds. There was no trace left in the wake this time. Sky 2/8 covered with *Cb* (3000 ft). Wind E'ly, Force 4. Slight sea and swell.

CORONA

Vessel : M. V. Durma
Captain : G. Mackay
Voyage : Dubai to Muscat
Observer : J. C. R. Taverner, 3rd Officer

27 December 1958, 1500—1800 GMT. Ship's position—Lat. 26°00′N, Long. 56°54′E.

An unusually large Corona was observed. At 1800 GMT it began to fade, since the altostratus was becoming less developed and by 1830 GMT it had completely disappeared. At 1900 GMT the corona reappeared. It was extremely distinct, showing *no* cloud in the centre and with a comparatively thick altostratus on the outside.