

MUC, MUNCEN	Majalah Universitas Cenderawasih
NGS	Nieuw-Guinea Studiën
NION	Nederlandsch Indië Oud en Nieuw
NJAS	Netherlands Journal of Agricultural Sciences
NING	Nederlands Nieuw-Guinea; tweemaandelijks orgaan van de Stichting 'Het Nationaal Nieuw-Guinea Comité'
NINGPM	Nederlandsche Nieuw Guinee Petroleum Maatschappij
NTNI	Natuurkundig Tijdschrift voor Nederlandsch-Indië
PdK	Departmen Pendidikan dan Kebudayaan
PNG	Papua / New Guinea
PTB	Institut Pertanian Bogor (Manokwari)
SIL	Summer Institute for Linguistics
SPC	South Pacific Commission (Noumea)
STTK	Sekolah Tinggi Teologi Katolik
TAG	Tijdschrift van het Koninklijk Nederlandsch Aardrijkskundig Genootschap
TBB	Tijdschrift voor het Binnenlandsch Bestuur
TBC	Tijdschrift voor Indische Taal-, Land- en Volkenkunde, uitgegeven door het Koninklijk Bataviaasch Genootschap van Kunsten en Wetenschappen
TGM	Tropical and Geographical Medicine
TNG	Tijdschrift Nieuw-Guinea
UNCEN	Universitas Cenderawasih, Jayapura
UNCEN, FHES	Fakultas Hukum, Ekonomi dan Sosial UNCEN
UNCEN, FK	Fakultas Keguruan UNCEN
UNCEN, FPPK	Fakultas Pertanian, Perikanan dan Kehutanan UNCEN
UNDIP, FK	Fakultas Kesehatan UNDIP
UNDP	United Nations Development Programme
UNTEA	United Nations Temporary Authority
ZfE	Zeitschrift für Ethnologie

GENERAL

1.1. General Works

General works devoted exclusively to Irian or to Irian as part of the island New Guinea are few in number. Although 30 years old, the best, even today, is Klein (1953-54). This work is a collection of 33 essays, counting some 1560 pages. They deal with all the various aspects of the island's natural and cultural history and the problems and prospects of its resources, and offer a valuable survey of the scientific knowledge and literature available at that time. The work replaced an earlier, equally valuable attempt by the same author at giving a comprehensive survey, which was sponsored by the Molukken-Instituut and appeared under a slightly different title (Klein 1935-38). The two works will be quoted as Klein's Nieuw-Guinea and Klein's Nieuw Guinee respectively, followed by the date of appearance of the relevant volume.

A simpler and more popular work is *Vademecum* (1956). Another important source of general information is the annual reports to the United Nations (Annual Reports 1949-61). These reports have been published in both Dutch and English. They contain a mass of precise administrative and statistical information on quite a variety of subjects. In addition, mention should be made of two popular works for general orientation, the first a picture book (Dutch and English text) compiled by Van Kampen (1961), the second by Kasberg (1956).

During the West Irian dispute the staff of the Indonesian armed forces, or Staf Penguasa Perang Tertinggi Republik Indonesia, published a source book of general information on soils, flora, fauna, agriculture, animal husbandry and forestry in West Irian (Apandi et al. 1962). A little later the University of Indonesia published a book with data on the geography, demography, prehistory, history, the ethnography of various ethnic groups, culture change and Messianic cults of the peoples of West Irian based on secondary sources (Koentjaraningrat and Harsja W. Bachtiar 1963).

Finally - and mostly for curiosity's sake - mention should be made of the fairly numerous Special Reports of the Allied Forces, S.W. Pacific area, Allied Geogr. Section. These documents were compiled from various earlier sources for the information and orientation of the advancing allied military forces on their campaign against the Japanese. After the war piles of these confidential reports were found in various parts of the one-time New Guinea war theatre. Most of them have disappeared in local archives and private collections. A number of these documents have been listed in Galis 1962:16ff. The most valuable parts of these documents are the maps contained in them. As the papers themselves are résumés of mainly second-hand information we will rarely refer to them.

1.2. Bibliographies, Serials and Periodicals

1.2.1. Bibliographies

A comprehensive bibliography of Irian, the arrangement of which, unfortunately, is purely alphabetical and not systematic, was compiled by Galis (1962). An English translation of an earlier, less extensive edition of the same work was published by Yale University, New Haven, in 1956 under the title *Bibliography of West New Guinea* (135 pp.).

Bibliographical data on Irian are also found in *An ethnographic bibliography* (1968). Other bibliographical works, but covering a limited field, are Galis (1968), a highly informative list of periodicals on West New Guinea published in and outside the area between 1950 and 1960, Van der Kroef (1954), Kooijman (1983) and Nienhuis (1968). Nienhuis' inventory has been annexed to the present volume.

1.2.2. Serials and Periodicals

Among the serials and periodicals devoted to Irian the only one of a purely scientific nature is *Nova Guinea*. It was started for the purpose of publishing the results of the first expedition to New Guinea dispatched by the *Maatschappij ter Bevordering van het Natuurkundig Onderzoek in de Nederlandsche Koloniën*, also called the *Treub Maatschappij*. The official name of the *Treub Maatschappij* (in English: Society for the Advancement of Physical Research in the Netherlands' Colonies) has since been changed into *Maatschappij voor Wetenschappelijk Onderzoek in de Tropen*. The name of this private institution should not be confused with that of the government foundation, *WOTRO*, or *Stichting voor Wetenschappelijk Onderzoek in de Tropen*, which pursues the same objective and has more ample means at its disposal than the *Treub Maatschappij* since decolonization has become a fact. Later, the *Treub Maatschappij* agreed to make the serial available for the publication of the results of expeditions sponsored by other bodies, such as, primarily, the *Koninklijk Aardrijkskundig Genootschap*. *Nova Guinea* was published by Brill (Leiden), which firm in 1936 became the owner of the series, of which 15 bulky volumes had appeared between 1907 and 1936. Of these, numbers I to IV, VII and XVI are devoted to History and Anthropology; VI to Geology; V, IX, XIII, XV and XVII to Zoology, and VIII, XII and XIV to Botany. Most of the contributions to these volumes appeared first as separate issues, which were later gathered together in the above mentioned volumes. Volumes X and XI have never appeared.

After 1936 Brill started a new series, again published in instalments, which, this time, were not collected into volumes, though the issues published announce on the page facing the title page that they form part of the relevant volume of the new series. The same happened when in 1959, on the occasion of the *Star Mountains Expedition*, this firm decided to put out the new issues in a more modest format than the previous ones. They are all announced as continuations of volume X, new series, whatever the category to which they belong: Anthropology (2 issues comprising 3 articles), Geology (4 issues, 6 articles), Botany (7 issues, containing 24 articles), or Zoology (9 issues, containing 38 articles).

The first journal devoted exclusively to Irian was *Tijdschrift Nieuw Guinea* (abbreviated as TNG), 's-Gravenhage: Nieuw-Guinea Comité and Nieuw-Guinea Studiekring (from vol. 6 onward Nieuw-Guinea Studie-

kring by itself), 1936-56. Sixteen volumes of it have appeared, the first in 1936-37, the last in 1955-56. During the war (1942-46) the journal did not appear. In 1957 it was replaced by *Nieuw-Guinea Studiën* (abbreviated as NGS), 's-Gravenhage: Stichting Studiekring voor Nieuw-Guinea, 1957-62). This was published in a more attractive form than TNG. It also replaced a mimeographed three-monthly journal published in Irian, namely *Het B.B.-blad*, Hollandia: Dienst van Binnenlandse Zaken, *Interne Voorlichting*, 1953-55.

A periodical containing an extensive body of general information is *Schakels/Schakels NNG*, 's-Gravenhage: Rijksvoorlichtingsdienst, 1950-62. This is a series of government publications designed to give information on the Netherlands' overseas territories, i.e. Suriname, the Netherlands Antilles and Netherlands New Guinea. Initially *Schakels* appeared in the form of mimeographed pamphlets published by the *Rijksvoorlichtingsdienst* (Government Information Service) in cooperation with the Ministry of Overseas Territories. Some time after 1954 the Ministry took the responsibility for the publication of *Schakels* upon itself alone. From then on the various issues appeared in print and were well illustrated. The issues dealing with Netherlands New Guinea were marked *Schakels NNG*. Unfortunately, this marking was sometimes omitted, so that it may be of some use to know that of the mimeographed issues published by the *Rijksvoorlichtingsdienst* the following numbers deal with Netherlands New Guinea: 55, 59, 62, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, and 95-97. Of those published by the Ministry of Overseas Territories, and later (once the affairs of Netherlands New Guinea had become the responsibility of a Secretary of State under the Minister of the Interior) by the Ministry of the Interior, numbers 20-36, 38, 41, 42, 44, and 47-52 are devoted to Netherlands New Guinea. It is not without interest to know that the authors invited to publish in this information series were often specialists in their respective fields.

A popular, politically oriented magazine concerned with Irian was *Nederlands Nieuw-Guinea* (abbreviated as NNG), 's-Gravenhage: Stichting Nationaal Nieuw-Guinea Comité, 1953-62. Another popular monthly which often contained articles on New Guinea in those years was *Oost en West*, ('s-Gravenhage: Vereeniging "Oost en West", 1934-71). In Irian the Government Information Service published every month, from 1954 onward every week, a Malay newspaper: *Pengantara*, (Hollandia: afd. Bevolkingsvoorlichting, 1952-58). In 1955 this was followed by an illustrated magazine written in Malay, namely *Triton*, which appeared in Hollandia every month from 1955 until c.1962.

Finally, there is quite a number of serials devoted to special purposes. Thus, dealing with the economy of Irian, there was *Statistiek van de Buitenlandse Handel van Ned. Nieuw-Guinea*, (Hollandia: Departments of Finance and Economic Affairs, 1959-62, an annual), and *Mededelingen Nieuw-Guinea Instituut Rotterdam* (Beursgebouw), which appeared six times a year from 1954 to c.1961. The Health Department published an issue of about 90 pages of *MDVG*, *Mededelingen van de Dienst van Gezondheidszorg in Nederlands Nieuw-Guinea*, (beginning from 1954) once every three months, and from 1957 onward an annual report of the central hospital at Hollandia, the *Jaarverslag Centraal Ziekenhuis* (both mimeographed).

Also in mimeographed form are the following serials published by government agencies: *Publicaties en Mededelingen van het Meteorologisch en*

Geophysisch Bureau (Publications of the Meteorological and Geophysical Bureau, Hollandia, 1957-62) and Mededelingen van de Landbouwkundige Afdeling, (Manokwari: Landbouwkundige Afdeling van de Stichting voor Agrarisch Onderzoek ten behoeve van Nederlands Nieuw-Guinea (the Agrarian Research Station at Manokwari), 1959-62).

These official and semi-official serials were stopped at the transfer of the administration of Irian to Indonesia. Since 1970 some new serials have appeared in Irian, the most important of which is Irian, Bulletin of Irian Jaya Development (abbreviated as IBIJD, Jayapura: University of Cenderawasih (UNCEN since 1972), Institute of Anthropology).

Other serials are Asmat Papers (Jayapura: UNCEN, 2 vols., M.T. Walker (ed.), 1974), a publication of reports of field work by staff members made possible by the Rockefeller 3d Fund grant, and An Asmat Sketchbook (Jayapura: Diocese of Agats-Asmat, F. Trenkenschuh (ed.)). This is a compilation of missionary notes on various aspects and the history of Asmat culture and society as well as those of some of their neighbours, including notes on the history of missionary activities in the area. Between 1970 and 1977 six volumes have appeared (which also included contributions by non-missionaries). Note: It is not uncommon to find Asmat Sketchbook mentioned as being published in either Asmat or Jayapura, but the cover states that copies are available from Crosier Missions, Box 709, Hastings NE, 68901 USA.

Another periodical to be mentioned here is *Majalah Universitas Cenderawasih* (abbreviated as MUNCEN or MUC, Jayapura: UNCEN, from 1963).

1.3. Maps

For an introduction to the problems of map making in Irian, see: Kint, Scherpier and Van Asbeck (1954). On the subject of nautical conditions and maps the reader should consult the *Zeemansgids* (1951) and its later supplements. According to p. X of this *Zeemansgids*, nautical charts of the Irian region may be obtained from *Pedjabatan Hydrografi* at Jakarta. The latter has a stock of Dutch nautical charts, tide-tables, naval guides, and so on.

The maps of the territory and adjacent islands are of many kinds. In fact, there is a plethora of maps of divergent quality. The first usable maps were the three 1:1,000,000 maps which (with a number of auxiliary maps) were drawn by the military explorers of the country between 1907 and 1915 and published in *Verslag militaire exploratie* (1920). The maps were based exclusively on terrestrial observation, and consequently are not always accurate. One of the present authors has had the experience, for instance, of finding that the map of the south-eastern coastal area had about 5 too many km. Comparison with the post-war aerial survey map reveals that the distance between the Maro River and the international border is considerably smaller than the early cartographers had supposed. Another deficiency of these maps is that they cover only part of the territory; a substantial part of the central mountains was still unknown at the time of drawing. Though successive expeditions have added considerably to our geographical knowledge, many gaps have remained, as is well illustrated by the 1:2,500,000 map of the territory made by the *Topografische Dienst* at Batavia in 1938 which is included in vol. III of Klein's *Nieuw Guinee* (1938). On this point cf.

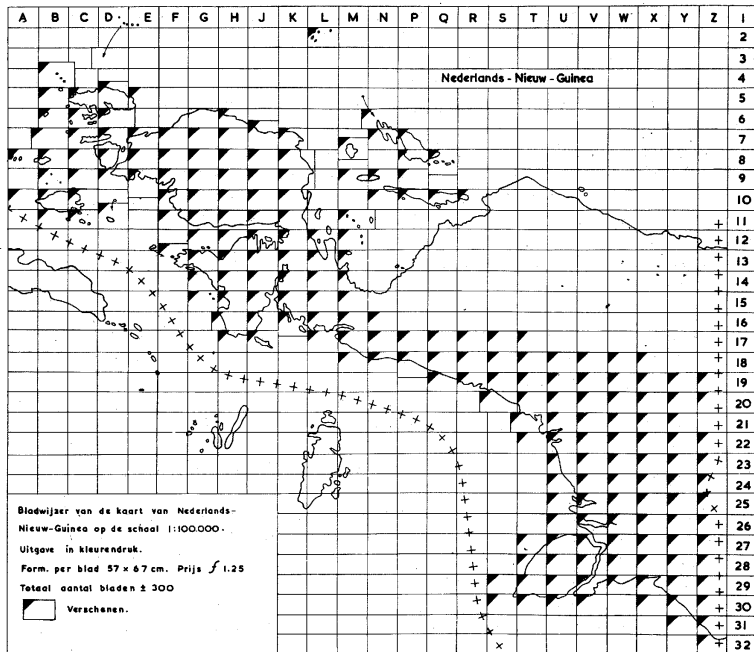
also Pannekoek (1937-38 and 1938-39).

An advantage of the older maps is that they mention a great many names of settlements or rivers. However, a number of these were rather haphazardly selected or were the result of misunderstandings caused by linguistic difficulties. We should not blame the makers too much on this point. Really blameworthy are the producers of later maps who copied the names on the maps of these military explorers without inquiring whether these villages still occupied the same spot (village migration is frequent in these parts) or whether the names used needed correction. Aerial observation and subsequent map-making has hardly ever been complemented by adjustment, on the basis of terrestrial observation, of the locations of settlements and other geographical features and the names under which they are currently known.

A case in point is that of the maps produced during the war by the USA Armed Forces and collected and distributed as *Netherlands New Guinea Terrain Intelligence* (1943). Based partly on aerial photography, partly on older maps and other information of all sorts, these maps were better in various respects than the old ones, but nonetheless far from ideal. Besides, they were not public property. Originally, they were marked as confidential, and though after the war no one seems to have taken this seriously, they became increasingly rare as most of these maps disappeared into private collections.

After the war, in 1953, the Dutch Government published a new map drawn by the *Topografische Dienst* at Delft on a scale of 1:1,000,000. It certainly had its merits (as every new map has), but still suffered from many of the shortcomings of its predecessors. A renewed systematic aerial survey followed. It resulted in a collection of coloured maps on a scale of 1:100,000, published by the *Topografische Dienst* at Delft (Netherlands) under the caption: *Kaart van Nederlands Nieuw-Guinea op de schaal 1:100.000*. Of the planned number of about 300 map-sheets, some 200 had been completed when in 1962 the Dutch withdrew from Irian (see the map on p. 6). The work had to be discontinued, and the task of filling in the relevant geographical names on the maps already completed had to be abandoned. This is a great pity, because the provisional maps published were of good quality. Deplorable, too, is the fact that a reprint of these maps (which had a very restricted distribution) is by now impossible. The same is the case with another publication of the *Topografische Dienst*, namely a map on the scale of 1:1,000,000 of the southern (Merauke) section of the complete map. Two others which had been planned, covering the northwestern and north-eastern sections of the territory, never appeared.

For practical purposes the best maps now available are those published by the American Army Map Service, Washington D.C.: *Corps of Engineers US Army*; sheets SA 53, Biak; SB 53, Kaokanao; SA 54, Aitape; SB 54, Ambunti; SC 54, Torres Strait.



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II

CLIMATE, GEOLOGY, AND SOILS

II.1. Climate¹

For a general description of the Irian climate the reader is referred to Braak (1954). Since 1954 a considerable amount of more detailed information has been made available in the Publicaties en Mededelingen van het Meteorologisch en Geofysisch Bureau (Bureau for Meteorology and Geophysics) at Hollandia, the first of which appeared in 1957. They were continued until a few years (exact data are impossible to give) after the departure of the Dutch (1962).

Much general information can be found in the Bureau's Publication no. 13 (Bureau for Meteorology 1962). The observations derive from 10 stations, namely: Hollandia (Haven), Hollandia (Sentani), Biak (Mokmer), Manokwari (Rendani), Mapia, Sorong (Jefman), Kaimana, Tanah-Merah, Merauke (Mopa) and Balim (Wamena), and give information on: monthly means of air pressure, air temperature, vapour pressure, relative humidity, wind speed, cloud amount, precipitation, duration of sunshine and number of days with thunder for 10 stations. Included are data for each year together with a five-yearly mean, and extreme values of the temperature and the number of days on which a specified amount of precipitation or a specified temperature was exceeded.

Other publications of the Bureau deal with precipitation and sunshine and global radiation respectively in more detail. These include on precipitation, Publications nos 2, 3, 5, 6, 7, 8-12, 17-19, Mededeling no. 1, and two maps (Bureau for Meteorology 1952-64, 1958, 1959b, 1959c, 1960a and 1960b), and on sunshine Publications nos 1 and 4 (Bureau for Meteorology 1957 and 1959a). After 1963 data concerning global radiation in Wamena (1959-61) and Sentani (1957-60) were published (Publications nos 15 and 16).

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