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科學技術卷

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民國時期文獻保護中心
中國社會科學院近代史研究所 編

國家圖書館出版社

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第九九七册目録

南通狼山氣象臺

中華民國九年季報

Chen-shan Meteorological Observatory

of

Nantung

Kiangsu China

Report for four quarte

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例　言

本報係就中華民國九年本臺氣象觀測之成績而編纂者、凡本臺與徐家匯氣象臺諸現象之差異、南通農業潮汐之概況以及各省之降水量等項、亦附載之、

觀測之時刻及方法等、係參酌我國中央觀象臺觀測總所徐家匯氣象臺及日本中央觀象臺等處之辦法、併度本臺之所能行者而定、其要點如下、

觀測時用我國標準時、即東經一百二十度之地方平時、但日照時數則用眞太陽時、　觀測訂每日八次、其時刻如下、

0時（即子正）　12時（即午正）

3時（上午）　15時（即下午三時）

6時（上午）　18時（即下午六時）

9時（上午）　21時（即下午九時）

但在0時及3時之兩次、係從自記儀比較求得之、

氣壓除以公厘明記外、餘施冰點之訂正、不施海面及重力之訂正、但海面及重力之訂正數、揭示表格之下、

溫度用攝氏度、不施海面之訂正、其在冰點下者、則以負號表示之、

最低寒暑表、於昨日下午六時整置之、本日午刻觀測之、最高寒暑表、於上午六時整置之、下午六時觀測之、　觀測此兩寒暑表時、須考察自記寒暑計所留痕迹之形狀、而依下列之四則規定之、(一)氣溫在午前有一最低度、隨後有一最高度、自最高度以後、即一順下降、倘在本日末期所達之度、反較午前之最低度尤低時、應仍以午前之最低度爲準、(二)倘本日有兩個最低度、一在日中最高度之前、一在日中最高度之後、則計算本日之最低度、仍以在最高度之前者爲準、(三)氣溫若自零時以後、即漸漸上升、越過最高度而後漸降時、則本日之最低度、當求之零時之前、此所前之時刻、則加以負號、(四)溫度若終日上升或終日下降時、則是本日無最高度或最低度也、冊上就作一橫畫、

風之速度以每小時行若干公里計、凡稱某時刻之速度云者、指在該時刻前後半小時以內所行之公里數而言、譬如3h之風速、即自兩點半鐘至三點半鐘之公里數也、　風之方向用十六方位、

雲量以自零至十之比例計、雲之形式約分十種、　雲之來向用十六方位、

例　言

雲行速度以自零至三之比例計、停止爲0,徐行爲1,疾行爲3,徐疾適中爲2,無雲量時,則於雲形雲向雲速各行中,作一橫畫、

濕度以百分率計、

水氣壓(水蒸氣張力)以公厘計、

不拘雨雪雹霰之種類統稱降水、降水量以公厘計、有降水而無量足計時,備上作零、不降水時,作一橫畫、全日降水量達公厘十分之一以上時,均稱降水日,但至特別計算雪雹霰時,則不計其量之多寡,凡有雪雹霰之日,皆以其日數算入、

最大風速,一小時間達五十乃至六十一公里之日,稱强風日、

最大風速,一小時間達六十二公里或六十二公里以上之日,稱大風日、

絕對最低氣溫,達冰點或在冰點以下之日,(以自0時至24時爲限)稱凍日、

各種現象,概依萬國普通符號記載,但各有增益之處、

諸數如不十分正確時,則加疑問符號(?)於其右、觀測有缺時,則作三點爲記、

南通軍山氣象臺　總　理　張　謇

主　任　劉渭清

INTRODUCTION

This report contains the meteorological observations made in our observatory, during the whole year 1920. The difference of the various phenomena at Chenshan and Sicawei observatories, the conditions of agriculture and tide of Nantung and the amount of precipitation of each districts etc. are taken into this report.

All observations and computations are refered to the observatories of Peking, Sicawei and Japan and moreover according to the conditions of our observatory. The important points are as follows.

Hours of Observation. — The Chinese Standard Time (mean time of the meridian 120°E.) is adopted in our observatory, but for Sunshine duration, we use apparent solar time. Daily observations are 8 times, at the following hours.

0h (= midnight)	12h (= noon)
3h (= 3 a.m.)	15h (= 3 p.m.)
6h (= 6 a.m.)	18h (= 6 p.m.)
9h (= 9 a.m.)	21h (= 9 p.m.)

But the readings of 0^h and 3^h are obtained from the self-recording instruments.

Pressure. — The barometric readings in millimetres are reduced only to freezing point, unless specially mentioned; the corrections to sea level and standard gravity are given at the bottom of the respective pages.

Temperature.—The degrees are given in Centigrade, and not reduced to sea level; those below freezing point are shown in minus signs.

The Extreme Thermometers.—The Minimum thermometer is prepared at 6 p. m. the day before and observed at noon on date. The Maximum thermometer is prepared at 6 a. m. and observed at 6 p. m.. When we observe the two thermometers we take into account the form of the trace of the thermograph, according to the following four rules.

1) The air temperature has a Minimum in the forenoon and then a Maximum, but afterwards the temperature is gradually falling, so that the temperature at the end of the day is lower than the forenoon Minimum, as Minimum

temperature we still use that of the forenoon.

2) If the air temperature has two Minimum in one day, one before and one after the midday Maximum, we still use the Minimum which preceded the Maximum.

3) If the air temperature gradually rises after 0^h and gradually falls after the Maximum, the Minimum temperature we use is that obtained before 0^h, this hour is shown with a minus sign.

4) If the air temperature rises or falls a whole day, there is no Minimum or Maximum, we only record a dash (—) in the register.

Wind. — The Velocity is expressed in kilometres per hour. The velocity at any hour is that during two half-hours, that which is before and that which is after the named hour; for instance, the velocity of wind at 3^h is the velocity from $2\frac{1}{2}^h$ to $3\frac{1}{2}^h$. The Direction is observed according to the sixteen cardinal points.

Clouds. — The Amount is estimated by the scale 0—10. The Cloud-form is only recorded according to the ten kinds. The Direction where coming is observed according to the sixteen cardinal points. The Velocity is estimated by the scale 0—3: —

0. Calm or stop.
1. Slow.
2. Moderate.
3. Fast.

} Velocity.

When the sky is cloudless, we record the dash (—) in the columns of forms, direction and velocity.

Relative Humidity. — It is given in percentages.

Tension of Aqueous Vapour. — It is given in millimetres.

Precipitation. — The Rain, Snow, Hail or Graupel (Soft Hail) are called Precipitation. The Amount is given in millimetres. When the precipitation is very small and without amount, we only record a zero (0) in the register. When there is no precipitation, we record a dash (—) in the register. The Number of days is counted only when the amount is 0.1 millimetre or more in a day ; but for days with either Snow,

Hail or Graupel the amount is not taken into consideration.

Days with Gales. — As such are counted the days when the maximum velocity reaches or exceeds 62 kilometres per hour.

Days with Moderate Gales.—As such are counted the days when the maximum velocity is from 50 to 61 kilometres per hour.

Frosty days. — Any day in which (from 0h to 24h) the absolutely lowest air temperature has reached or fallen under freezing point, is called a frosty day.

The occurrence of phenomena is usually recorded according to the international symbols, to which several others are added.

Interrogation and Ellipsis. — If a reading is not completely right, we record a note of interrogation (?) at the right of this reading. If the observation is wanting, we only record the ellipsis (...) in the register.

Chang Chien

Director of Chenshan Meteorological Observatory, Nantung.

W. C. Lew

Principal observer.

萬國普通記號 ILLUSTRATION OF SYMBOLS.

雨	●	Rain	日暈	⊕	Solar halo	卷雲	Ci	Cirrus
雪	✳	Snow	日光環(日華)	⊕	Solar corona	卷層雲	Ci-St	Cirro-Stratus
雹	▲	Hail	月暈	☽	Lunar halo	卷積雲	Ci-Cu	Cirro-Cumulus
霰,雪珠	△	Graupel (Soft Hail)	月光環(月華)	☽	Lunar corona	高積雲	A-Cu	Alto-Cumulus
冰針,細冰	←	Ice crystals	虹	∩	Rainbow	高層雲	A-St	Alto-Stratus
露	⌓	Dew	極光	⌒	Aurora	層積雲	St-Cu	Strato-Cumulus
霜	⌣	Hoar frost	閃電(無雷)	↯	Lightning	亂雲	Nb	Nimbus
雨凇,樹冰	V	Silver thaw	雷聲,遠雷	⊤	Thunder	積雲	Cu	Cumulus
雨凇 冰霜 凍雨	∞	Grazed frost(Verglas)	雷電,雷雨	⇅	Thunderstorm	積亂雲	Cu-Nb	Cumulo-Nimbus
霧	≡	Fog	大風	⸝	Gale	層雲	St	Stratus
煙霧	≡°	Mist	吹雪(大風雪)	⁺	Snowdrift	散層雲	Fr-St	Fracto-Stratus
濕霧	≡,	Wet fog	地上雪	▨	Snow on ground	散積雲	Fr-Cu	Fracto-Cumulus
低霧	≡	Ground fog	地震	⊙	Earthquake	散亂雲(飛雲)	Fr-Nb	Fracto-Nimbus
塵霧,黃沙	∞	Dust haze	黃道光	⋀	Zodiacal light	乳頭狀積雲	M-Cu	Mammato-Cumulus

用於紀要中之略語 ABBREVIATIONS USED IN REMARKS.

m. = The interval between 0h and 6h .....子正卯正之間
a. = The interval between 6h and 12h.....卯正午正之間
p. = The interval between 12h and 18h.....午正酉正之間
e. = The interval between 18h and 24h.....酉正子正之間
M.G. = Moderate gale or High wind .....强風
g.v. = Greatest velocity ..... 最大速度

本臺在地球上之位置
Geographic position of our observatory.

本臺居英國格林威池東經一百二十度五十五分三十秒以時計之即東八點三分四十二秒北緯三十一度五十六分四十秒氣壓表(水銀槽)高於中等海面一百十公尺四

Longitude : 120°55′30″($8^h\ 3^m\ 42^s$) E from Greenwich.

Latitude : 31°56′40″ N.

Altitude : $110^m.4$ over Mean Sea Level (cistern of our barometer).

注意　本臺民國六七兩年報告中所記之緯度係本臺開測之始用經緯儀測太陽之高弧而定經度則根據民國五年份中國海關所測之海圖推算而得旋於民國八年五月本臺用經緯儀(能看二十秒)在本臺實測恒星數次知本臺在英國格林威池東經一百二十度五十五分三十秒北緯三十一度五十六分四十秒如上數設欲更求精密俟將來用較佳之經緯儀(能看五秒)復測再具報告

Note—Among our report, 1917, and 1918, the Latitude of our observatory was observed the upper arc of the sun with the transit at the beginning of our observation and the Longitude of our observatory was calculated from the chart of the Yangtsze-Kiang, from Shanghai to Nankin, which was surveied by Chinese custom during the year 1916. In the May of the year 1919, we used the transit (reading to 20 seconds) to observed the Fixed Star in many times, then we known our observatory situated at Longitude 120°55′30″E from Greenwich and at Latitude 31°56′40″ N as shown above. But the accurate values of them we shall observe again with the finer transit (reading to 5 seconds) when we shall record them in our report.

本臺主要儀器高度一覽表

The Altitudes of our Principal Instruments are shown below:—

主要儀器 Principal instruments / 高度 Altitudes		高于軍山頂 Hight over the top of Chen-Shan.	高于中等海面 Hight over Mean Sea Level.
風杯（最高部）	Anemometer (Uppermost part)	21m70	128m1
福爾堉氣壓表（水銀槽）	The Fortin Barometer (Mercurial tank)	3.99	110.4
百葉箱內儀器 自記寒暑計	Thermograph	2.83	109.3
百葉箱內儀器 自記毛髮濕度計	The Hair Hygrograph	,,	,,
百葉箱內儀器 寒暑乾表	Dry Bulb Thermometer	,,	,,
百葉箱內儀器 寒暑濕表	Wet ,, ,,	,,	,,
百葉箱內儀器 最高寒暑表	Maximum ,,	,,	,,
百葉箱內儀器 最低寒暑表	Minimum ,,	,,	,,
自記雨量計（口面）	Self-Recording Rain Gauge (The rim of funnel)	1.23	107.8
雨量器（口面）	Raingauge (The rim of funnel)	,,	,,

附註 (1)寒暑表亭內各儀器如自記寒暑計自記毛髮濕度計等均高于土墩面1m77.

(2)軍山頂高於平原104m

Appendix—(1) The instruments in the Thermometer Shed as Thermograph and The Hair Hygrograph etc. are 1m77 over the Surface of The Hillock.

(2) Height of the top of Chen-Shan above the plain: 104m

本臺現任職員一覽表

職務	總理	協理	視察	主任	助員	練習生	繕寫員
姓名	張謇	張詧	張怡祖	劉渭清	陳潘	趙日昇	蔣鏞漵
籍貫	南通	南通	南通	南通	南通	南通	南通

The Staves of our observatory are shown below:—

Name	Office	Native
Chang Chien	Director	Nantung
Chang Cha	Sub-director	,,
Chang Chien Ju	Inspector	,,
W. C. Lew	Principal	,,
Ch'en Lei	Helpmate	,,
J. S. Tsao	Student	,,
S. L. Chiang	Writer	,,

本年第一季

報告

Report

for

first quarter, 1920.