

The History of Astronomy in Taiwan

臺灣天文歷史追溯

The History of Astronomy in Taiwan

<http://www.asiaa.sinica.edu.tw/~altsai/hat/>

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Motivation

- When does Astronomy begin in Taiwan?
- Who is the first Astronomer in Taiwan?
- How large is the first Telescope in Taiwan?
- What is the first Observatory in Taiwan?
- What is the first Astronomical Club in Taiwan?
- What is the first Astronomical Publication in Taiwan?
- 『Did you ask people working in ASIAA?
They could know the answer. 』

Reference Collection

- Contact Information

- Central Weather Bureau (中央氣象局)
- Taipei Astronomical Museum (台北天文館)
- Taipei Municipal Social Education Hall (臺北市社會教育館)
- National Central Library (國家圖書館)
- National Central Library, Taiwan Branch (國立中央圖書館臺灣分館)
- National Taiwan University Library
- Institute of Taiwanese History, Academia Sinica (中研院臺灣史研究所)
- Institute of Modern History, Academia Sinica (中研院近代史研究所)
- Oriental Astronomical Association (東亞天文學會)
- Department of Economics, NTU (台大經濟系)

- Publication Reference

- Taiwan governor general Documents (臺灣總督府檔案)
- Taiwan Daily-New Paper (臺灣日日新報)
- Central Daily Paper (中央日報)
- History of Central Weather Bureau (中央氣象局沿革史)
- History of Taipei Astronomical Museum (台北天文館沿革史)
- Taiwan Wind and Rain Year (臺灣風雨歲月)
- Several Japanese Websites

Outline

- Observatories in Early Taiwan
 - *3 Observatories*
- Astronomers in Early Taiwan
 - *Japanese, Taiwanese*
- Astronomical Activities in Early Taiwan
 - *2 Astronomical Clubs*
 - *Eclipse*
 - *Astronomical Publications*
- Astronomical Chronology of Taiwan

Observatories in Early Taiwan

First Observatory in Taiwan

1896.8. Taipei Meteorological Institute, Taiwan governor general 臺灣總督府民政局臺北測候所

↓
1911, Meridian Instrument Laboratory, Taipei Meteorological Institute, Taiwan governor general 臺灣總督府通信局臺北測候所子午儀室

↓
1913, Celestial Bodies Laboratory, Taipei Meteorological Institute, Taiwan governor general 臺灣總督府通信局臺北測候所天測室

↓
1938-1944,. Astronomical Observatory ,Taiwan Meteorological Observatory , Taiwan governor general 臺灣總督府氣象臺附設天文臺

↓
1945,. Astronomy Department, Taiwan Weather Bureau 臺灣省氣象局天文科

↓
1971, Astronomy Station, Central Weather Bureau 中央氣象局天文站

Important Affairs

→ Solar Observation to determine time and calendar system
Astronomical Timekeeper, Sextan 時辰儀, 六分儀

→ Meridian Instrument 子午儀

→ 4.5" Astronomical Telescope
10 more other Instruments

→ President, Kubokawa, Kazuo came from Tokyo Observatory 東京天文臺 窪川一雄
4.5" Astronomical Telescope
4" Equatorial Refractor

→ "The Tropic of Cancer"
Astronomical Journal 臺灣總督府氣象臺會誌
「北回歸線」天文類

Observatories in Early Taiwan

Second Observatory in Taiwan

1938, Taiwan Daily-New Paper 40th Anniversary
Donate a 4" Telescope to Taipei City
臺灣日日新報四十週年社慶



1945-ca.1957?1962?, Chung-Shan Hall Observatory
中山堂天文台



1939-1945, Taipei City Hall Observatory
臺北公會堂天文臺



1963-2000, Taipei Yuan-Shan Observatory
臺北市圓山天文台



1996-now, Taipei Astronomical Museum
台北市立天文館

Important Affairs



http://www.tam.gov.tw/frame/all_1.htm

1941-1945, Celestial Bodies
Observation Association
天體觀測同好會

First President
Tsai, Chang-Hsien
前圓山天文臺長 蔡章獻

**1938.4.1, Taiwan Daily-New Paper donated a 4-inch
Astronomical Telescope which price was 4,000 dollars.
(The price is equal to 800,000 NTD now)**



Observatories in Early Taiwan

Disappeared Observatory in Taiwan

1909, Ichinohe, Naozo (1878-1920) and Ogura, Shinkiji(1884–1936) came to New High Mountain to investigate a location to build Observatory
一戶直藏與小倉伸吉來臺勘測新高山天文臺建地

↓
1911, Ichinohe, Naozo was fired

↓
1942, Kubokawa, Kazuo starts to build New High Mountain Observatory in North Peak of Mountain
總督府氣象臺天文臺長窪川一雄興建新高山天文臺

↓
1943, Observatory Foundation almost completed

↓
1943.1.3, Kubokawa, Kazuo died, New High Mountain Observatory construction suspends
窪川一雄因腸傷寒而去世

↓
1945, Chinese government took over Taiwan, Observatory construction stop

Important Affairs

Ichinohe, Naozo is the Observation Director of Tokyo Observatory
東京天文臺觀測主任

↓
conflicted with Terao, Hisashi, the President of Tokyo Observatory
與東京天文臺長 寺尾寿 意見相左

↓
1. 36" Reflector Telescope
2. 33" Refractor
3. Taiwan as International Solar Observatory Center

↓
4-meter diameter Dome
Solar spectrograph 太陽分光儀
Ultra Violet Spectrophotometer
紫外線測定機
12" Equatorial Mount 迴光赤道儀

Astronomical Activities in Early Taiwan

Astronomical Club

First Astronomical Club

ca.1931-1944

Astronomical Association,
Taiwan Branch
天文同好會臺灣支部

Important Affairs

1920, Astronomical Association Headquarters
Founder, Yamamoto, Kazukiyo (1889-1959),
Professor of Kyoto University
天文同好會 創辦人 京都帝大 山本一清 教授

1931, First President, Mimoto, Satoru
天文同好會臺灣支部長 見元了

1938, Second President, Kubokawa, Kazuo
(1903-1943) 天文同好會臺灣支部長 窪川一雄

Monthly Journal "South Star"
月刊會誌「南の星」

Oriental Astronomical Association 東亞天文學會
<http://www.amy.hi-ho.ne.jp/oaa-web/>

Astronomical Activities in Early Taiwan

Astronomical Club

Second Astronomical Club

1941-1945

Celestial Bodies Observation Association

天體觀測同好會



1945-1996,

Taipei Astronomical Association

臺北市天文同好會



1996-now,

Taipei Amateur Astronomers Association

臺北市天文協會

Important Affairs

1939-1945

Support Taipei City Hall Observatory

台北公會堂天文台

First President, Tsai, Chang-Hsien

理事長 蔡章獻

Current President, Tsai, Chang-Hsien

現任理事長 蔡章獻

Astronomical Activities in Early Taiwan

First Official Astronomical Activity

Celestial Bodies Observation
Association 天體觀測同好會

Taipei City Hall Observatory
台北公會堂天文台

Taipei Zoo 台北動物園

Elementary School

High School

1941.9.21 noon
Total Eclipse
1.5 hours

Radio Broadcast by Taiwan
Broadcasting to Taiwan and Japan
臺灣放送協會同時對台灣與日本轉播

Taiwan Meteorological Observatory,
Taiwan governor general
臺灣總督府氣象臺

Astronomical Association, Taiwan
Branch 天文同好會臺灣支部

How was the Eclipse?

Taipei	台北	100%	I-Lan	宜蘭	99.8%
Hsin-Chu	新竹	99.7%	Tai-Chung	台中	98%
Hua-Lien Port	花蓮港	98%	Tainan	台南	96%
Chia-Yi	嘉義	96%	Kao-Hsiung	高雄	96%
Ping-Tung	屏東	96%			

Astronomical Activities in Early Taiwan

Astronomical Publications

1914, Taiwan Farmer Calendar 臺灣民曆



1946, Taiwan Calendar 臺灣日曆



Now, Astronomical Calendar 天文日曆

Monthly Journal “South Star”
月刊會誌「南の星」

Astronomical Journal
“The Tropic of Cancer”
會誌「北回帰線」天文類

Published by

Taiwan governor general
臺灣總督府文務局臺灣神苑會

Taiwan Weather Bureau 臺灣省氣象局

Central Weather Bureau 中央氣象局

1931, Astronomical association,
Taiwan Branch, First Astronomical
association (ca. 1931-1944)
天文同好會臺灣支部

1937, Taiwan Meteorological
Observatory, Taiwan governor general
臺灣總督府氣象臺

Astronomers in Early Taiwan

Japanese Astronomers who contribute to Taiwan

Ichinohe, Naozo (1878-1920)
Former Director of Tokyo Observatory
前東京天文臺觀測主任 一户直藏

Mimoto, Satoru
1931, First President of Astronomical
Association, Taiwan Branch
前天文同好會臺灣支部長 見元了

Kubokawa, Kazuo (1903-1943)
1938, Second President of Astronomical
Association, Taiwan Branch
前天文同好會臺灣支部長 窪川一雄

Yamamoto, Kazukiyo (1889-1959)
Professor of Kyoto University
京都帝大教授 山本一清

Taiwanese Astronomers in Early Taiwan

Tsai, Chang-Hsien
President of Taipei Yuan-Shan
Observatory
前圓山天文臺長 蔡章獻

Ting, Yiou-Tsun
丁有存

Kao, Ping-Tzu
高平子

Astronomical Chronology of Taiwan

Taipei Astronomical Museum Chronology
台北市立天文館沿革史 (Chinese)

Taiwan Meteorological Institute History
臺灣總督府氣象台沿革史 (Japanese)

Central Weather Bureau Chronology
中央氣象局沿革史 (Chinese)

Taiwan Government-General
臺灣總督府公文類纂 (Japanese)

Chronologies from
Institute of Astronomy or
Department of Physics
NTU, NCU, NTHU, NCKU
臺灣的天文或物理所沿革 (Chinese)

Taiwan Great Chronology
臺灣大年表 (Japanese)

Taiwan Diary
臺灣日誌 (Japanese)

Chronology of ASIAA
中研院天文所沿革 (Chinese)

Taiwan Time
臺灣時報 (Japanese)

Astronomical Chronology of Taiwan 臺灣天文大年表
<http://www.asiaa.sinica.edu.tw/~altsai/hat/hat.chro.astro.html>

Earliest Astronomical Record in Taiwan

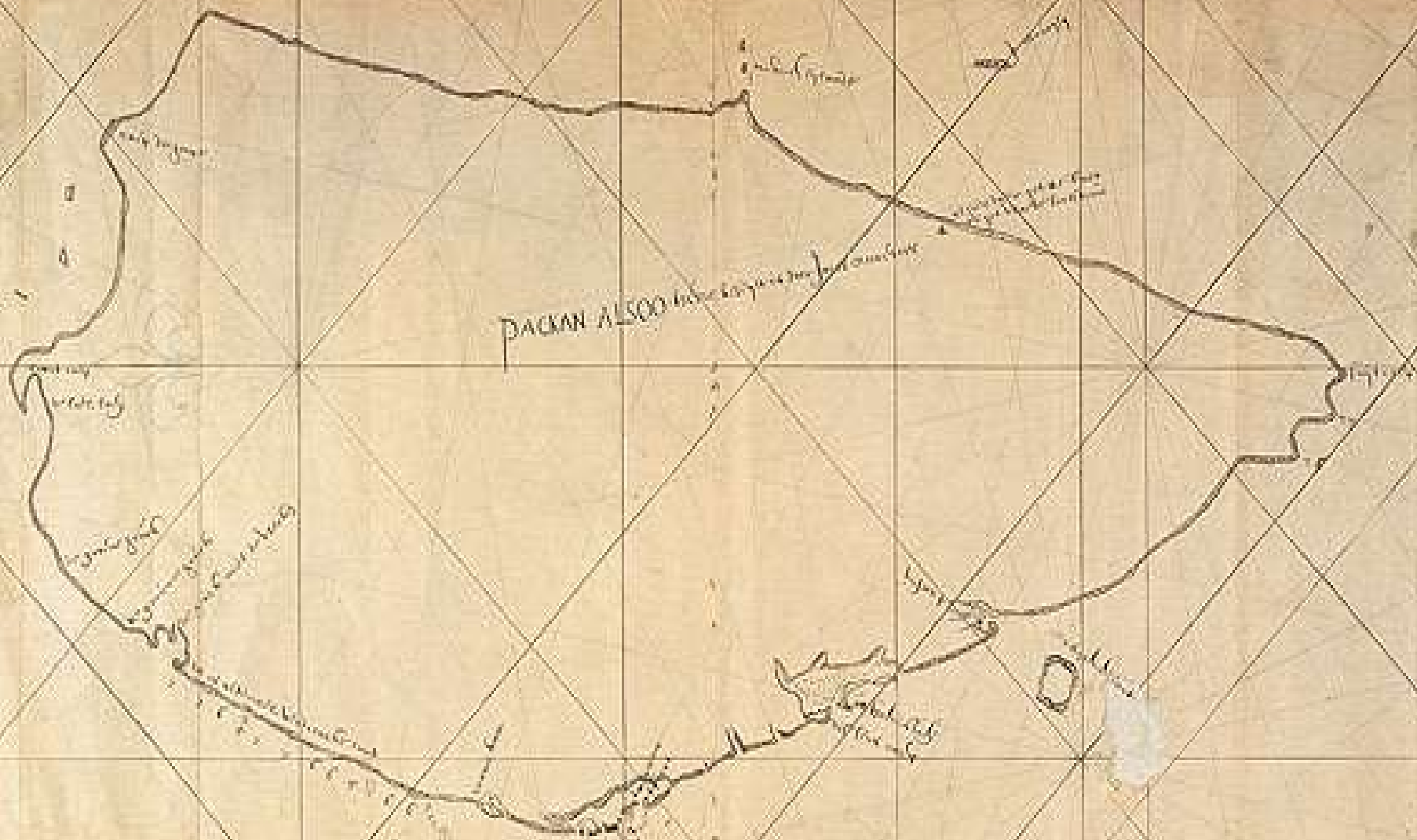
- 1680, Comet 1680 V1 明（鄭）永曆 34 年
(This is also the comet first be observed by telescope)
- 1811, Great Comet 清嘉慶 16 年
- 1814, Eclipse 清嘉慶 19 年



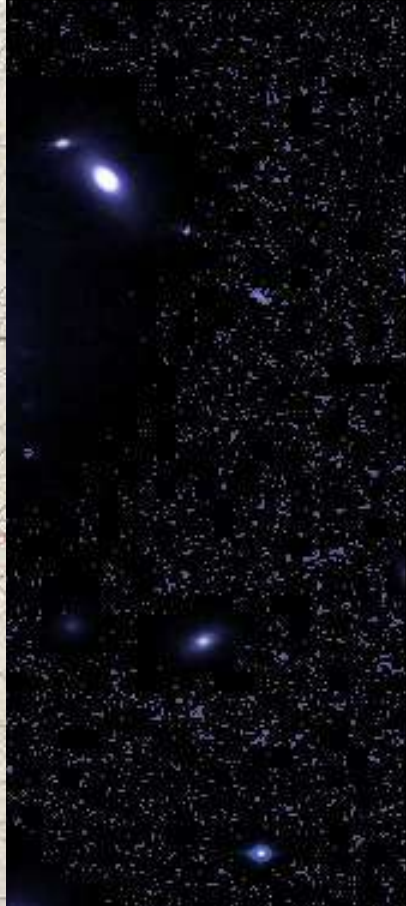
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《北港圖》約 1625 年 雅各·埃斯布蘭特松·諾得洛斯 荷蘭海牙國家檔案館藏
ca.1625, *Outline of Formosa*, Jacob IJsbrandtsz. Noordeloos Nationaal Archief, Den Haag
<http://www.npm.gov.tw/exhibition/formosa/chinese/>



《澎湖島及福爾摩沙海島圖》約 1640 年
約翰·芬伯翁 荷蘭海牙國家檔案館藏
ca. 1640, *The Island Formosa and the Pescadores*
Johannes Vingboons, Nationaal Archief, Den Haag

《大員港市島瞰圖》約 1644 年
油畫 米德堡 哲烏斯博物館藏
ca. 1644, *The landscape of islet Taiwan*
Anonymous, Zeeuws Museum Middleburg



Percentage of Completeness

December, 29th, 2003

