

Barometers and Modernity: *Observatorio Meteorológico de Manila* and the Rise and Growth of Meteorology in the Philippines, 1865-1945

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Introduction

- This presents a history of the development of meteorology in the Philippines, through the works and inventions of the *Observatorio Meteorologico de Manila* from 1865 to 1945
- Introduction of modern instruments
- Institutionalization of meteorological work, which resulted to:
 - Production of pioneering scientific studies about typhoons and earthquakes
 - Support for the commercial and business sectors



Some Meteorological Observatories in the Pacific, 1860s-1940s

4 Phases of Development

1. **1865-1884**: The observatory as a private Jesuit institution
2. **1884-1901**: The observatory as a Spanish government agency
3. **1901-1935**: The observatory as the Philippine Weather Bureau
4. **1935-1945**: The observatory under the Commonwealth Government

1. 1865-1884:

The observatory as a private Jesuit institution

- The Jesuits returned to the the Philippines in 1859, 91 years after the “expulsion” (1768)
- The Philippines as part the Jesuit global network of knowledge
 - “Apostolic spirituality” (Harris 2005)
 - “Aid for human progress” (Udias 1996)
 - “Where creative power of God is hidden and operates” (Teilhard de Chardin 1968)



Federico Faura, S.J.
(1840-1897)

Director
(1865-1897)



Jose Algue, S.J.
(1856-1930)

Director
(1897-1927)



Miguel Selga, S.J.
(1879-1956)

Director
1927-1941

1. 1865-1884:

The observatory as a private Jesuit institution

- The observatory began as a laboratory of the *Ateneo Municipal de Manila*
- Model/early correspondences:
 - Belen College Observatory in Cuba (1857)
 - Observations in Tananarive in Zimbabwe (1878-1882)
 - Zikawei in Shanghai, China (1872)
- Support to business owners through weather forecast information

OBSERVATORIO METEOROLÓGICO DEL ATENEO MUNICIPAL DE MANILA.

Observaciones del dia 6 de Abril de 1870,

Horas.....	Barómetro reducido a 0° en milímetros....	Temperatura en el centígrado.	Higrómetro....	Humedad relativa.....	Tension del vapor en milímetros.....	Dirección del viento.	Estado del cielo.	Estado de la mar.
6 m.	753'81	27'2	80	70'9	18'5	E. ventolina.	Cubierto.	Tranq.
9 m.	54'70	28'7	78	68	18'8	ESE. »	»	»
12..	54'36	29'2	76	63'2	18'8	O. fresquito.	»	Rizada
3 L.	53'36	31'2	70	58'2				

Gaceta de Manila

06 April 1870 Weather Bulletin

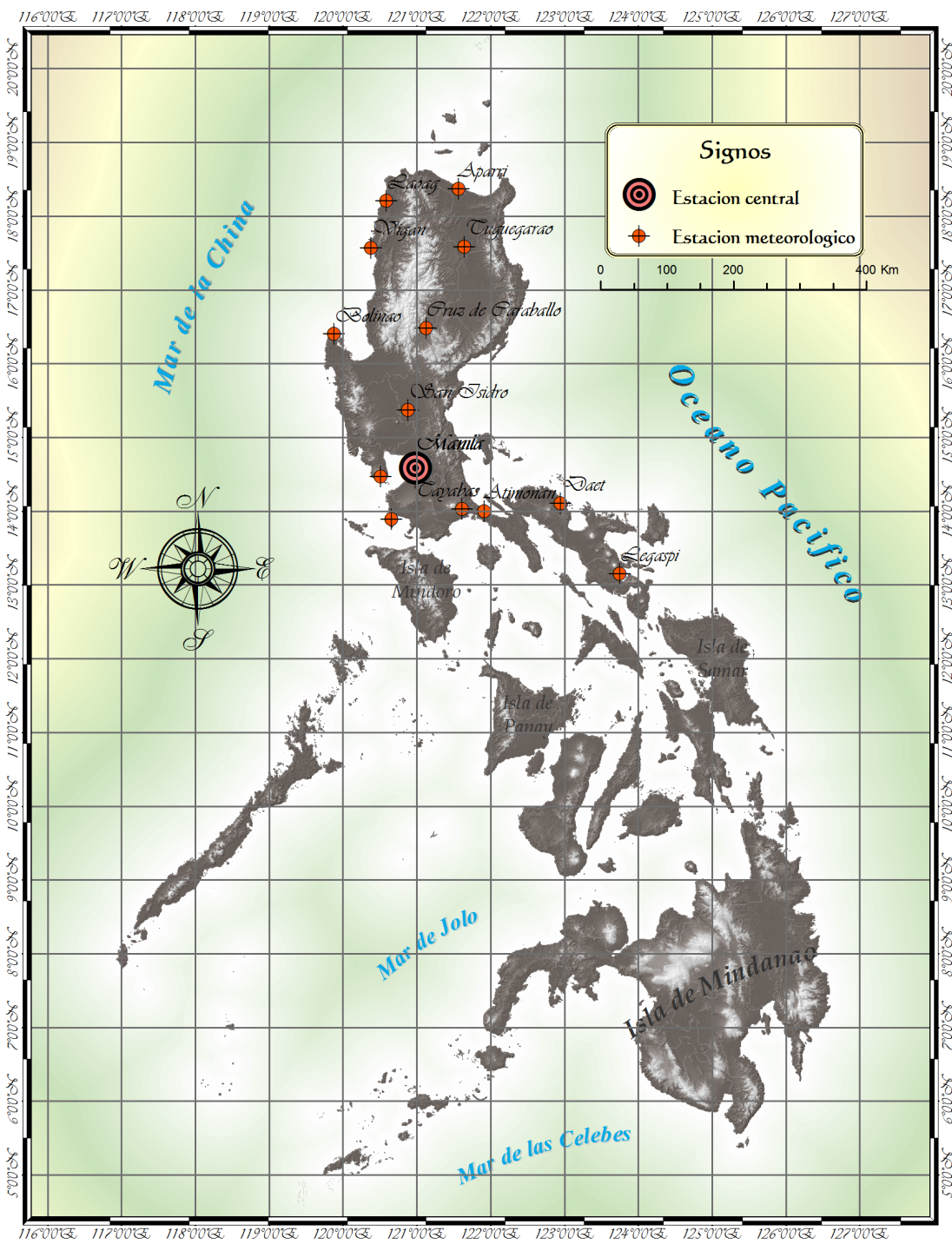


Manila Observatory Building, 1877-1945

2. 1884-1901:

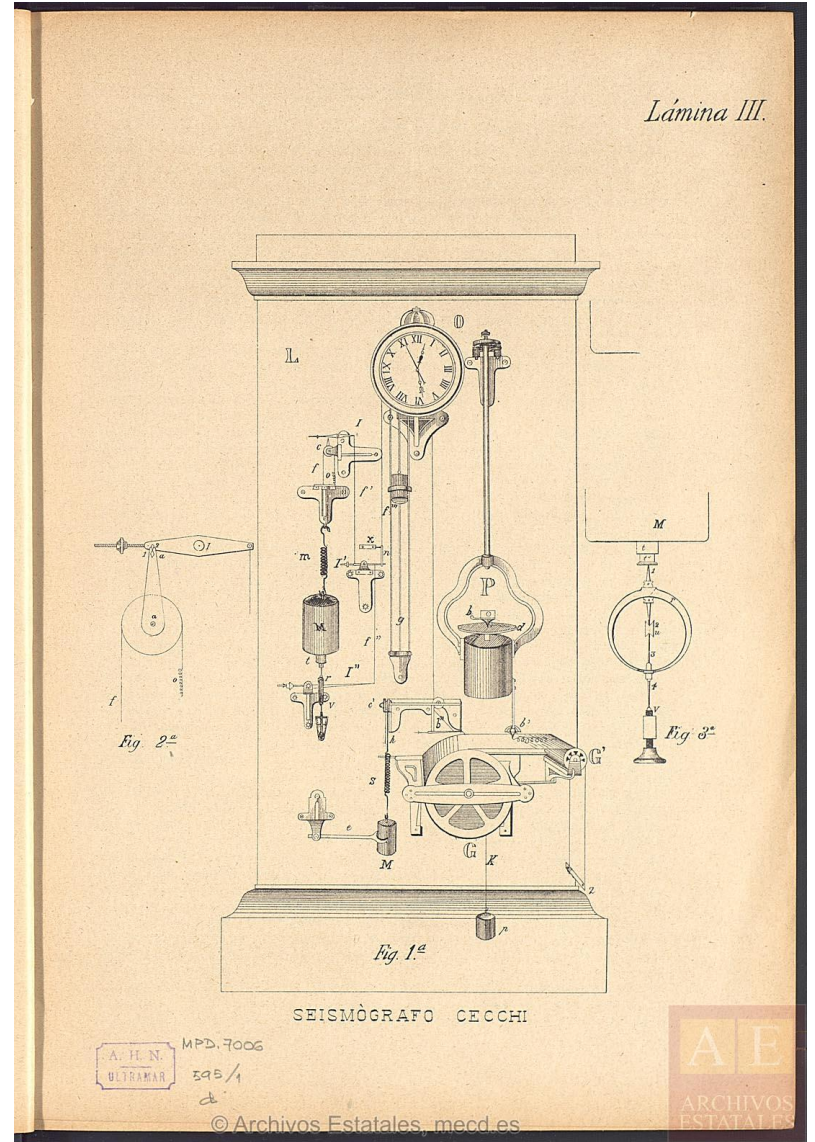
The observatory as a Spanish government agency

- In 1880, a commission was formed and was aimed at recommending the creation of a state meteorological service.
- Royal Decree of 28 April 1884 - the observatory of the Jesuits became the official meteorological institution in the Philippines



1 Central Station
(Manila)

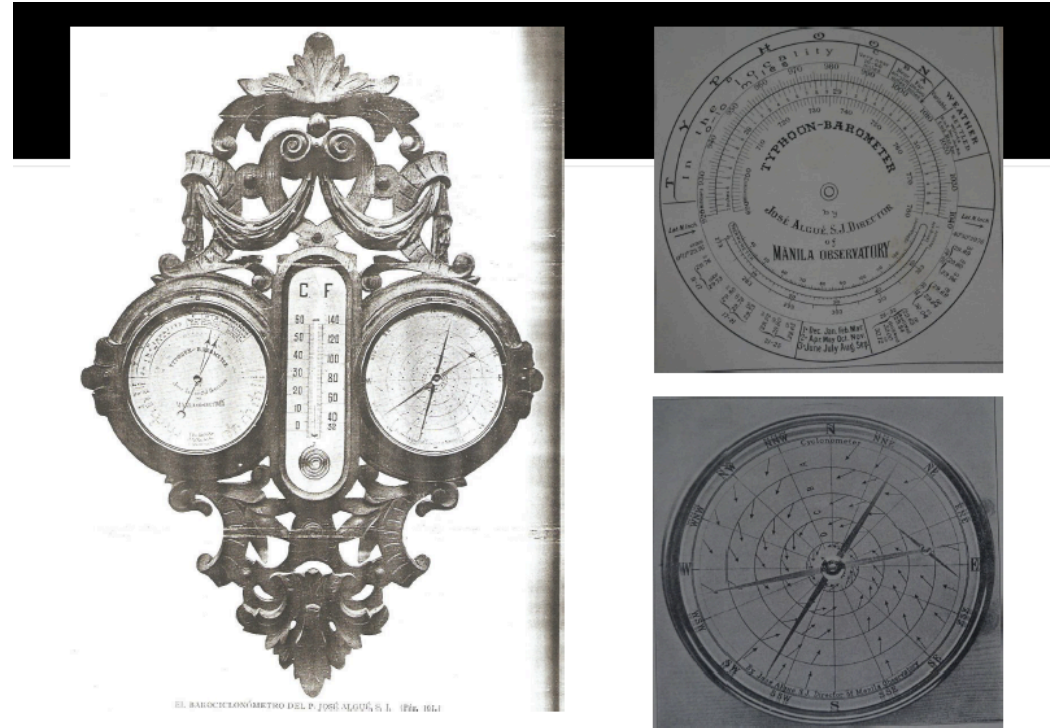
13 Secondary
Stations



Secchi's seismograph



Faura's Aneroid
barometer



Padre Algué's **BAROCYCLONOMETRO**
(Saderra Maso, 1915)

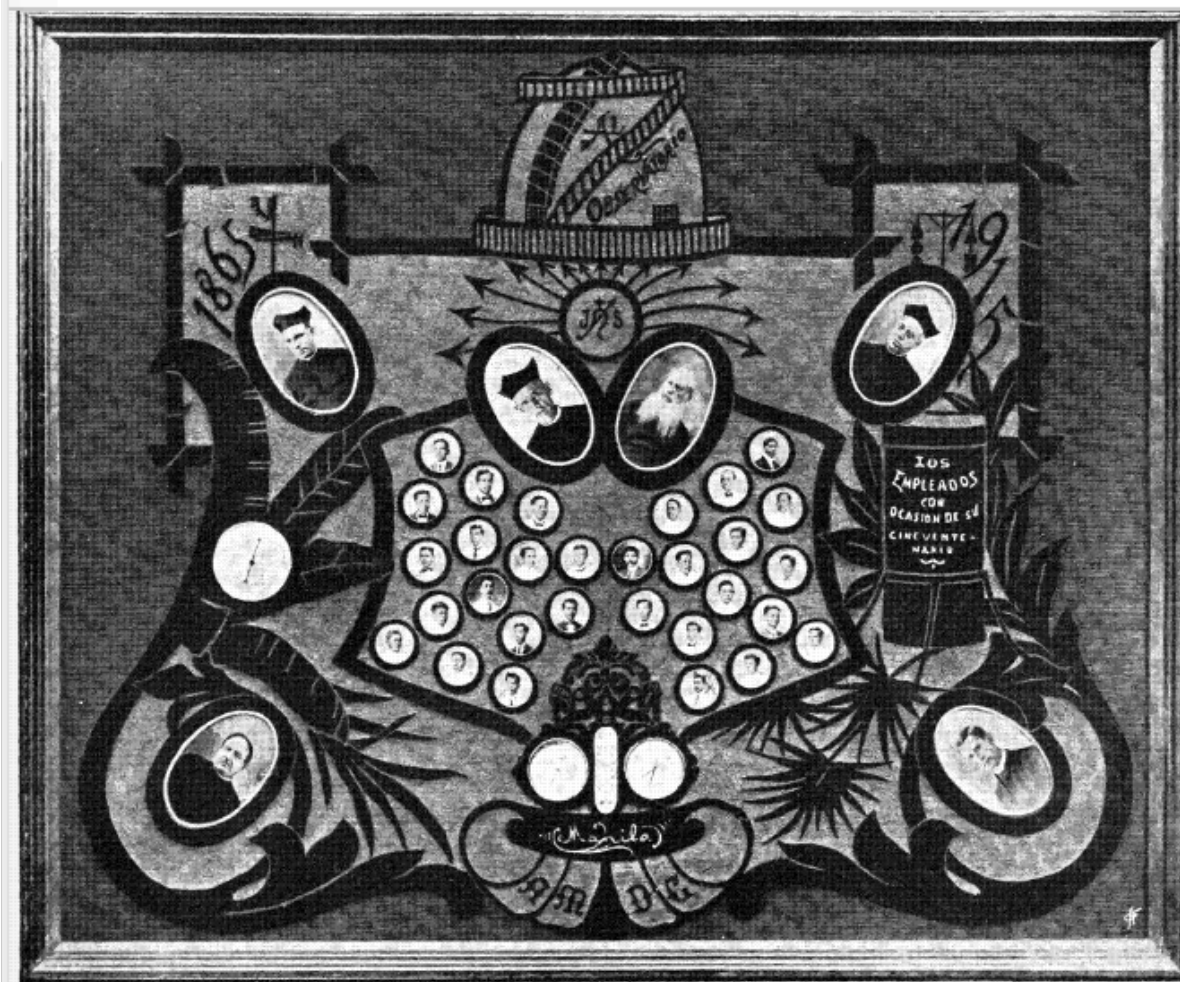
Algué's barocyclonometer

Personnel of the Observatory

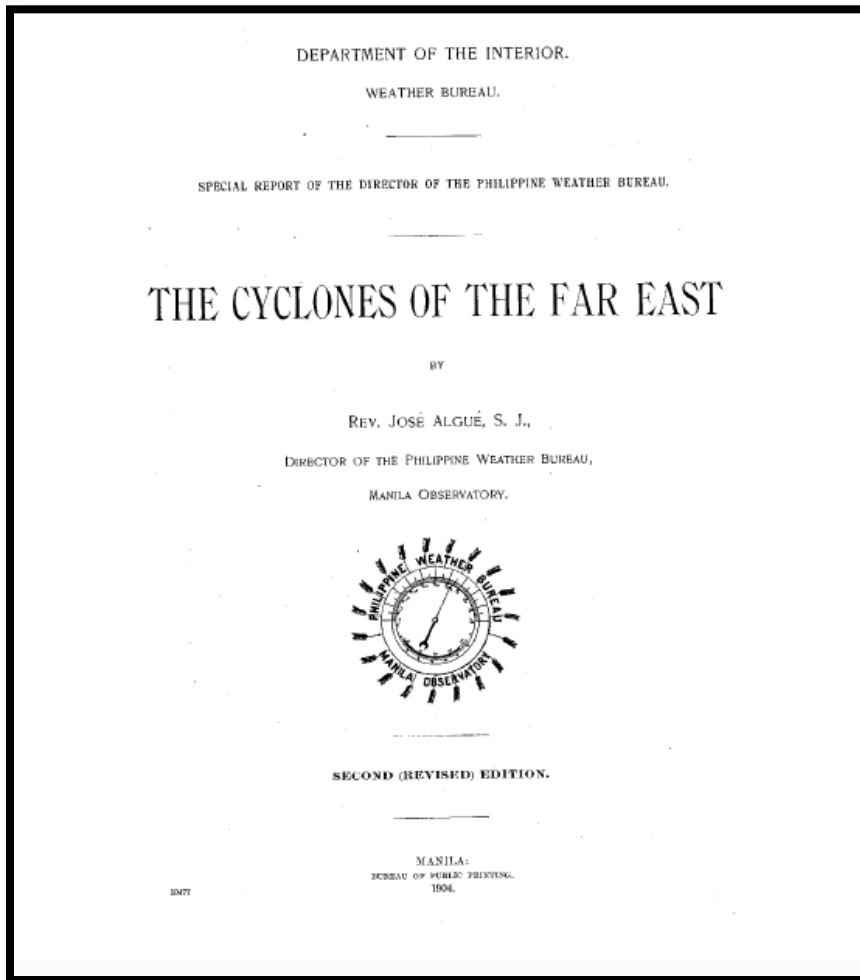
1887-1895:

1 director
and
2 assistant
directors

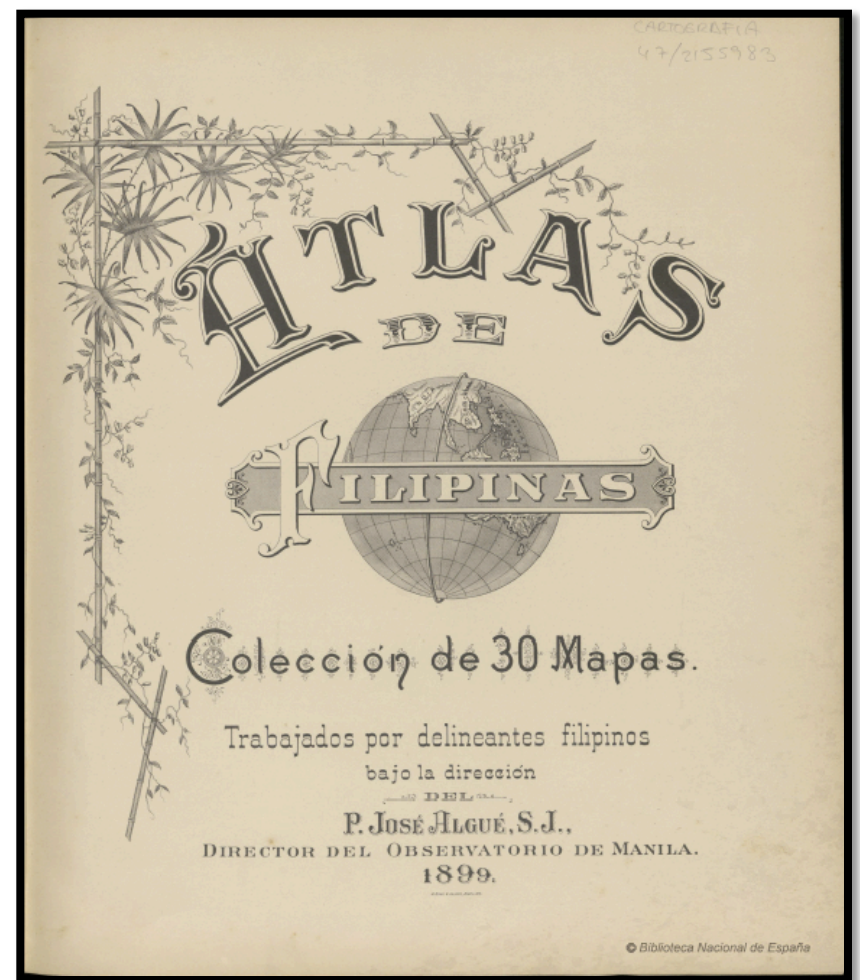
Staff work:
observadores,
calculistas,
mecánicos,
delineantes, and
ordenanzas



CUADRO CONMEMORATIVO DEL QUINGUAGÉSIMO ANIVERSARIO DEL OBSERVATORIO.
(Ejecutado en madera por algunos empleados del mismo)



Cyclone of the Far East
(Republished 1904)



Atlas de Filipinas
(1899)

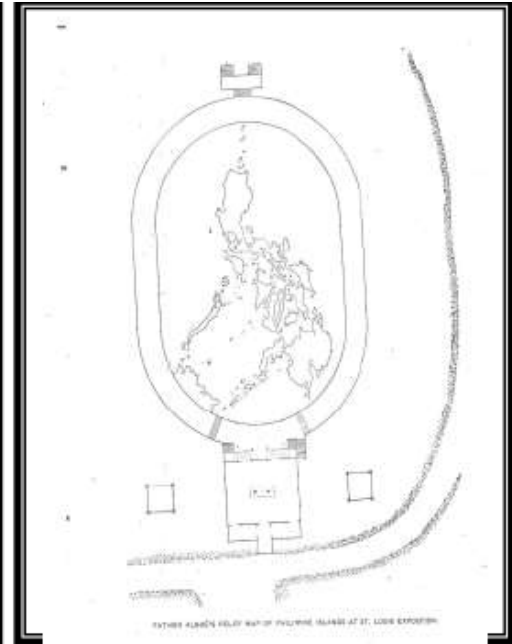
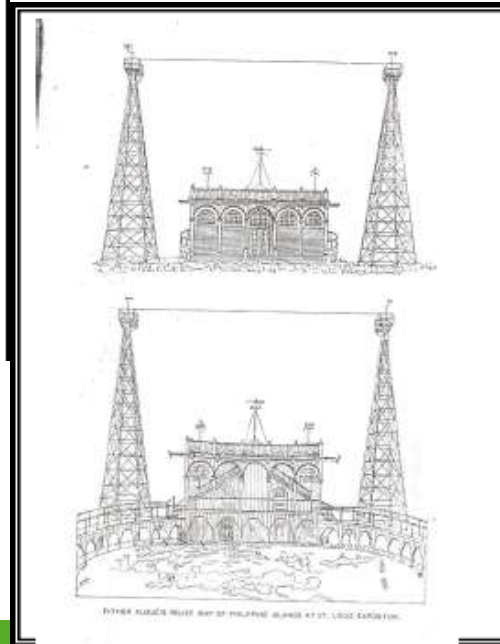
3. 1901-1935:

The observatory as the Philippine Weather Bureau (PWB)

American colonial project

- Reorganization through the Philippine Commission Act No. 131 (1901):
 - Change of name
 - Expanded scope of work
 - Budget from US government
- The PWB as institution for agricultural meteorology
- Other projects:
 - Use of race as an imperial discourse
 - Development of science

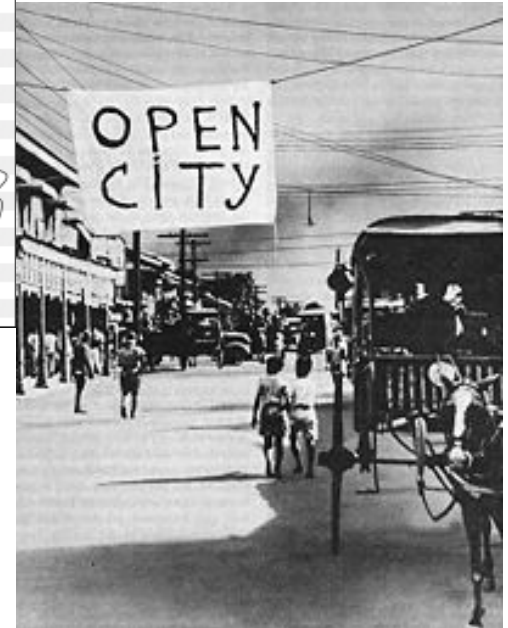
The PWB at the St. Louis World's Fair, 1904



4. 1935-1945:

The observatory under the Commonwealth Government and the Japanese

- “Filipinization” Program of the Philippine Commonwealth Government
- Japanese occupation, 1941-1945



MANILA OBSERVATORY
ARCHIVES



**Manila Observatory/PWB Building after the liberation of
Manila, March 1945**

Conclusion

- Legacy of instruments and research
- Colonial Laboratory
 - Weather research
 - Agricultural support
 - Seafaring and sea trade support
- Contesting the “Leyenda Negra”

Marami pong salamat!
Thank you very much!
Merci beaucoup!

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