

History in 20th century

AIR-SEA COUPLED PROCESS

20世紀 海洋学/気象学 の進化



オホーツク海流氷(左) と雲南ヒマラヤ「梅里雪山」氷河(右) の後退(Nakajin, 2017)

2020 - Global Rhythm or Global Warming ?

Relation between sea surface temperature and climate can't be avoided and passed

1980 - Prediction in Unusual Weather

Seawater temperature flows out in the atmosphere suddenly

1972 - Restart to El Niño and La Niña Study

The globe as a whole, ocean is the great regulator, the great stabilizer of temperature



1969 - El Niño / Southern Oscillation (ENSO)

Air-Sea Interaction ⇄ Teleconnection Patterns (J.Bjerknes)



J. Bjerknes
1897-1975

1966 - Walker Circulation (J. Bjerknes)

General Circulation of the Atmosphere

1909 - Southern Oscillation (G.T.Walker)

Negative correlation of Indian Ocean-South Pacific Ocean air pressure



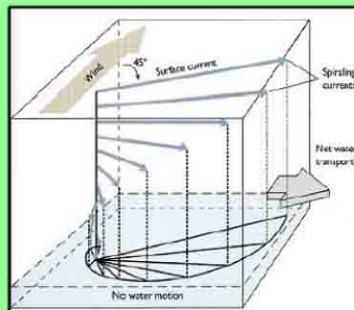
G.T. Walker
1868-1958

1902 - Ekman Transport (V.W.Ekman)

Ekman transport, spiral and flow from Nansen's "Fram" Expedition!



F. Nansen
1861-1930



V. W. Ekman
1874-1954



by Takao Nakajin
(Tokai University)