



Abstract Details

[AOGS 1st Annual Meeting](#) > [Interdisciplinary Working Groups](#) > [Seasonal Variations of Water Mass Mixing off the Pingtung Plain, Southwestern Taiwan](#) >

Corresponding Author : Dr. Chung Ho Wang (chwang@earth.sinica.edu.tw)

Organization: Institute of Earth Sciences, Academia Sinica

Category: Interdisciplinary Working Groups

Paper ID: 57-IWG-A1256

Title: Seasonal Variations of Water Mass Mixing off the Pingtung Plain, Southwestern Taiwan

Abstract:

Detailed hydrographic surveys for water columns off the Pingtung coastal zone, southwestern Taiwan, were performed using stable oxygen isotope compositions, salinity and temperature data to determine the source and mixing of water masses during summer and winter periods from 2001 to 2003. Results show that horizontal oxygen isotope distributions clearly display the extent of river plume derived from high freshwater input during the summer periods. Vertical seawater oxygen isotope values exhibit systematic variations with depth from surface to bottom. Generally, oxygen isotope data of summer coastal waters are relatively depleted to those of the same depths in winter seasons. Except the top surface layer in summer, coastal waters off the Pingtung Plain have a temperature-salinity relationship between the Kuroshio and South China Sea. North Pacific Intermediate and Deep Waters can also be identified by oxygen isotope and salinity. Two layers of relatively depleted oxygen isotope values are found along the Kaoping Canyon in depths ranging from 400~600m and 1200m, respectively, in the summer periods. However, only the lower one still remained the depleted oxygen isotope nature in the winter seasons. Those light oxygen isotope signals along with ^{14}C and Tritium data of coastal waters in both summer and winter periods provide encouraging evidences of submarine groundwater discharge from the aquifers of the Pingtung Plain and deserve a further study.

Presentation Mode: Oral

Keywords: coastal water, submarine groundwater discharge, Taiwan, Pingtung Plain, isotopes

Status: Pending.

Co-Authors

No.	Title	First Name	Family Name	Organization
1	Mr.	IN-TIAN	LIN	Institute of Oceanography, National Taiwan University, Taipei, Taiwan
2	Prof.	SAULWOOD	LIN	Institute of Oceanography, National Taiwan University, Taipei, Taiwan

