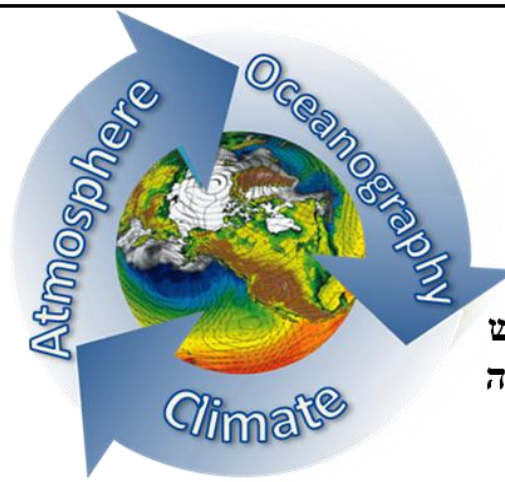


The Climate, Atmosphere and Ocean Seminar

Fredy and Nadine Herrmann
Institute of Earth Sciences,
Hebrew University of
Jerusalem



הסמינר באקלים,

אטמוספירה

ואוקיאנוגרפיה

המכון למדעי כדור הארץ ע"ש
פרדי ונדין הרמן, האוניברסיטה
העברית בירושלים

Thursday, 16/June at 12:00 in room 102

Yael Amitai

The Hebrew University of Jerusalem

Title:

Eastern Mediterranean Thermohaline Circulation Variability

Abstract:

The Eastern Mediterranean Transient (EMT) describes the transition and amplification of the Eastern Mediterranean Sea deep water source from the Adriatic Sea to the Aegean Sea. It was first observed in the mid-90' and this observation has stimulated intensive theoretical and analytical research. We demonstrate, using an oceanic general circulation model, that the meridional overturning circulation of the Eastern Mediterranean has multiple equilibria states under present-day-like conditions, and that the water exchange between the Aegean and the Adriatic Seas drastically affects these states. More specifically we found two stable states and hysteresis behavior of deep water formation in the Adriatic Sea when the atmospheric (restoring) temperature over the Aegean Sea is changed. The Aegean-Adriatic relationship can be summarized as follows: warm and saline water of the Aegean can either flow in the sub-surface to the Adriatic, thus switching "on" the deep water formation by increasing its salinity or feed the deeper layer of the Ionian and Levantine basins thus turning "off" the deep water formation in the Adriatic. The "off" state resembles some aspects of the EMT in which the Adriatic source of deep water was weakened when the Aegean source became active. In addition, the overturning circulation in both seas exhibits large decadal variability of the deep water formation. We also show that the Adriatic Sea outflow decadal variability in 1979-2014 is related to the wind stress regime.

הזמנה זו משמשת אישור כניסה לקמפוס גבעת רם בתאריך בו מתקיים הסמינר

מרכזי הסמינר: פרופ' נתן פלדור ופרופ' יונתן ארז

טל: 02/6584924 פקס: 02/5662581