Name:

Student ID:

ATOC 1060: Our changing environment

Homework assignment 4

Ocean temperature and hurricanes

Due: 1:45 pm, Tuesday 3 October 2009

When water evaporates there is a latent heat exchange. A very energetic feature of the climate system is a hurricane. Do hurricanes get some of their energy from ocean?

1) Hunt for a hurricane

Visit Unysis hurricane web site (http://weather.unisys.com/hurricane/), and search for a hurricane of *at least* category 3 for a case study. List the following.

a) Hurricane name _____

b) Approximate latitude and longitude position _____ _____

c) Start and end date of track (day/month/year) _____

d) Which ocean is the hurricane in? _____

e) Maximum wind speed _____

2) Does the ocean supply energy to your hurricane?

Visit the NOAA Office of Satellite Data web site. Find sea surface temperature (SST) anomaly maps for a few days before and a few days after your hurricane was observed. Notice that there are maps of smaller domains available for dates after October 2006, so you can "zoom in" from the global map for the most recent data. (http://www.osdpd.noaa.gov/ml/ocean/sst/anomaly.html).

a) Print out these the maps. ***Draw the full track*** and ***circle the location*** of your hurricane on each of the two maps. **Attach them to this sheet with a staple to hand in.**

b) Estimate the SST anomaly before the hurricane arrives _____

c) Estimate the SST anomaly after the hurricane has passed _____

d) By how much has the temperature changed? _____

e) Does this temperature change indicate evaporation? _____

f) Give one sentence that explains how your ocean temperature result relates to the intensity of your hurricanes.

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