Assignment
ASL762-Air-Sea Interaction
II Semester 2022-23

Instructions: Complete the assignment and return to me by soft copy through reply email (vimlesh@cas.iitd.ac.in) with subject line 'ASL762 Assignment' on or before 9 April 2023. Write your name and entry number on the top. Copying is strictly prohibited. Turnitin will be used to check for any similarity among submitted assignments.

Max. Marks: 15

Data resources: Use any of the following links of oceanic data –
Source 1: http://apdrc.soest.hawaii.edu/
Source 2: http://www.incois.gov.in/portal/datainfo/datainfohome.jsp

(Plotting help ---- Go to 'LAS' of any of these data where you find required variable. Then select the time-period, depth, and latitude-longitude and download the data. You can plot the downloaded data in Matlab, python, or any suitable software. If you cannot plot yourself, then use online plotting tool available on both of these data sources. Take snapshot of plot and paste it on doc file).

Q 1. Use the data Source 1 provided above. Generate spatial plots of Latent heat flux, Sensible heat flux, Net heat flux over the Global oceans for Winter (January month) and Summer (July month). Mark the important regions where you observe large variations and mention the reasons for these variations (e.g. ocean current and winds there, etc). [8]

Q 2. Using the data from the link (Source 2 or 1), Plot sea surface temperature (SST) at 4 different selected locations (latitude, longitude point location) of oceans of potentially different seasonal variations for at least 1 year duration (time series plots at sea surface). Interpret your figures in terms of observed variations in SST and the processes causing these variations. Try to relate these with variations seen in heat fluxes data in Q1 [7]