* Describe ERA5 data
  + The 6-hourly data is at 0.25 degree resolution
  + The data we extracted from it is the
    - Surface sensible and latent heat flux (SSHF, SLHF)
    - The sea surface temperature (T\_o)
    - The 2m air temperature (T\_a)
    - The 2m dew point temperature, and surface pressure which are used with T\_a to calculate the specific humidity.
* Describe the ssh data
  + The Copernicus Marine Service
* First all of the patches of data were extracted
* Filtering operation
  + A 2D FFT filter was used to calculate the low-pass (\overline{\bullet}) and high-pass (\bullet’) fields from the reanalysis data. First a least squares fit of a bilinear plane is removed from the 2D data field. Next, a 2D FFT is applied to the data. The cutoff frequency is the radius of a circle centered on the origin of the transformed field, and the low-pass (high-pass) field is recovered by removing all of the frequency content inside (outside) of this circle and then inverting the transform. This filtering procedure ensures that \bullet = \overline{\bullet} + \bullet’, and also that F\_LP(\bullet’) = \vec{0}.
* The optimization of \alpha and C\_D with the reanalysis data was accomplished by optimizing
  + SLHF =C\_D^s \rho\_a c\_p^{air} \* U \*(1+\alpha\_s T\_o’) (T\_o – T\_a)
  + SSHF = C\_D^L \rho\_a L\_v \*U\*(1+\alpha\_LT\_o’) (q\_o – q\_a)