

## **SPEArTC Dataset in Matlab Format**

- SPEArTC is now available in Matlab format as a structured array
- After loading the dataset (Matlab command: `load speartc_January_2014`)
- The array will be available under the variable TC in a `<1x1117>` structure (there are 1117 tracks in the data set from 1840-2013)
- The TC structured array has the following field variables
- For `i=1:1117` the `(TC(i).fields` are as follows:
  - o `TC(i).serial_number` [unique TC serial number as decoded below]
  - o `TC(i).season` [the 1969/70 season would be noted as 1970]
  - o `TC(i).number` [storm number within a season]
  - o `TC(i).name` [name of the storm]
  - o `TC(i).time(1:6)` [a TC position point's time as follows as 6 distinct sub-fields]
    - year
    - month
    - day
    - hour
    - minute
    - second
  - o `TC(i).pos` [position – latitude and longitude at that point]
  - o `TC(i).speed` (maximum sustained wind speed at that point)
  - o `TC(i).press` (central pressure at that point)
  - o `TC(i).maxspd` (maximum wind speed over the entire life of the TC)
  - o `TC(i).len` (number of points in a TC's track)

### **SPEArTC TC Serial Number Decoding:**

NNNNJJJHYYXXX

- NNNN: year that storm has an initial data point
- JJJ: Julian Day that the storm has an initial data point
- H: Hemisphere (all TCs in the SPEArTC dataset will be "S")
- YY: 2-digit latitude of first data point for a TC
- XXX: 3-digit longitude of first data point for a TC