

Part 4g. Historic hurricanes in the US: Are there counties that get hit much worse than others?

Due at 1:30 pm on Thursday 15 September:

Download and prepare the data in this file.

This doesn't need to be handed in, but data preparation is part of your lab grade.

We aren't going to worry about the category of the hurricane for this analysis, just about the absolute number of hurricanes (no tropical storms or tropical depressions) that hit each place. To do this we'll be working with data that are compiled and available from ArcGIS online.

1. Open a new document in ArcMap (relative paths, etc.). Search for Countries and US Counties in the ArcGIS online database. You can also use the countries or continents you just used in the previous step. Add them to your map. Export the files to somewhere logical and add the new ones to your map. Remove the illogically located ones you downloaded.
2. Get some hurricane track data!

Navigate to:

<http://www.ncdc.noaa.gov/oa/ibtracs/index.php?name=wmo-data>.

Near the top of the page, click 'WMS, WFS & ...':



World Data Center for Meteorology, Asheville

[Data access](#) [Parameters](#) [Formats & samples](#) [WMS, WFS & KML \(Google Earth\), etc.](#)

IBTrACS-WMO data

Only data from the WMO RSMCs are provided by this subset. For data from other agencies (e.g., JTWC, CMA, etc.), please access the [complete IBTrACS dataset](#).

Registration

Please [register](#) to be notified of: new releases, data set errors and other important information about IBTrACS.

Caveats

The following caveats should be considered prior to using IBTrACS:

- **BUGS** - Dataset errors will be noted on the [status page](#).
- Due to the disparity between storm positions prior to 1970, some tracks during that period may not be properly merged.
- Due to the disparities in time between sources, some dates and times were changed in one source to match another. However, it is not clear which source had the correct time or date. From the original 16,539 storm tracks, only 255 tracks required time adjustments.

NCDC Data set identification

- IBTrACS has been assigned NCDC data set Identification (DSI) 9637
- [FGDC Metadata is also available](#)

-Click the hyperlink on the page you just navigated to in order to access the FTP interface.

-Using ArcCatalog, create a new folder in your Lab 3 directory called 'AllTracks'

-Download the file with the name 'Allstorms.ibtracs_all_lines.v03r06.zip' (the circled file below –

NOTE: We don't want the *_all_points* files) to your 'AllTracks' folder:

Index of <ftp://eclipse.ncdc.noaa.gov/pub/ibtracs/v03r08/all/shp/>

 [Up to higher level directory](#)

Name	Size	Last Modified
 Allstorms.ibtracs_all_lines.v03r08.dbf	268416 KB	12/16/2015 2:42:00 PM
 Allstorms.ibtracs_all_lines.v03r08.prj	1 KB	12/16/2015 12:35:00 PM
 Allstorms.ibtracs_all_lines.v03r08.shp	24127 KB	12/16/2015 2:42:00 PM
 Allstorms.ibtracs_all_lines.v03r08.shx	2194 KB	12/16/2015 2:42:00 PM
 Allstorms.ibtracs_all_lines.v03r08.zip	11379 KB	12/16/2015 3:07:00 PM
 Allstorms.ibtracs_all_points.v03r08.dbf	280495 KB	12/16/2015 2:42:00 PM
 Allstorms.ibtracs_all_points.v03r08.prj	1 KB	12/16/2015 12:35:00 PM
 Allstorms.ibtracs_all_points.v03r08.shp	8023 KB	12/16/2015 2:42:00 PM
 Allstorms.ibtracs_all_points.v03r08.shx	2293 KB	12/16/2015 2:42:00 PM
 Allstorms.ibtracs_all_points.v03r08.zip	9198 KB	12/16/2015 3:07:00 PM
 basin		12/16/2015 3:07:00 PM
 storm		12/16/2015 4:46:00 PM
 year		12/16/2015 4:46:00 PM

-Extract each the zip file within your 'AllTracks' folder

-Rename your shapefile of all the hurricane tracks to something short and reasonable that Arc won't choke on later (in ArcCatalog of course!)

3. Check the projections of all your files. What projection are they in? Is it a GCS or PCS?

Reproject everything to the **USA Contiguous Lambert Conic Conformal** projection (found in Continental > North America). We're using this one because it shows us the whole US relatively well. Don't guess on what geographic transformation to use. Look it up on the cheat sheet I gave you on Blackboard. What is the datum? What is the projection type?