



Assessing exposure to hurricanes and other tropical storms for epidemiological research

Drexel University Environmental and Occupational Health
Research Seminar

Brooke Anderson

`brooke.anderson@colostate.edu`

`www.github.com/geanders`

Department of Environmental & Radiological Health Sciences
Environmental Epidemiology Section
Colorado State University



Motivation



Assessing exposure



Hazard-specific metrics

- Distance from the storm
- High winds
- Rainfall
- Flood events
- Storm events





Distance from storm

[Intro to best tracks]





Distance from storm

[Importance of interpolating tracks]





Wind exposure

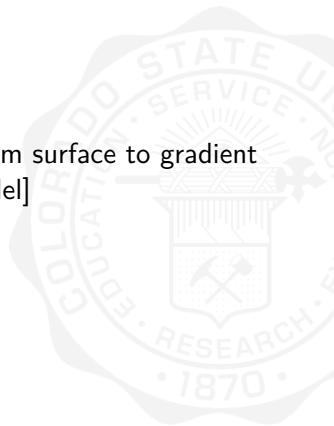
[Reminder of best tracks, intro to Willoughby model]





Wind exposure

[Factors of doing the modeling (transferring from surface to gradient and back, etc.), other applications of the model]





Rain exposure

[Intro to NLDAS-2 data]





Rain exposure

[Showing how to ID date of closest approach]





Rain exposure

[Showing map from hurricaneexposure]





Flood and tornado events

[Intro to NOAA Storm Events]





Flood and tornado events

[Figure from hurricaneexposure]





Agreement between exposure metrics



Agreement on intensity

[How we measured this]





Agreement on intensity

[What we found]





Agreement at the county level

[How we measured this]





Agreement at the county level

[What we found]





Discussion





Software



Software as a research product

[Open science, ROpenSci, influence of example packages]





Software as a research product

[Coursera specialization, book]





Project software

[list of software, availability through CRAN, GitHub]





Sharing exposure data

[hurricaneexposure, hurricaneexposuredata, web page]





Modeling storm winds

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[stormwindmodel]
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Working with NOAA Storm Events

[noaastormevents]





Dealing with time zones

[countytimezones]

