Learning by doing.
Joint project you are interest in

ESS 204 / STATS 221 REFERENCES
WEBSITE: http://www.bol.ucla.edu/~vkborok
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Appendix

MINI-PROJECT: HOW TO START?

Pour commencer il faut commencer ("to start one should start", French proverb)

Questions ask for an initial guess, to be modified or rejected during the analysis
Please indicate your name, affiliation, Degree if any, e-mail ad telephone in ICTP

Problem: Extreme events that you want to predict _____

Qualitatively (e.g. strong earthquakes) _____

Quantitatively (e.g. magnitude, territory, lead time) _____

Available time series possibly containing precursors (one at a time)

_____

Premonitory phenomenon (one at a time)

_____

A possibility: Analyze a time series generated by the model

DATA ANALYSIS: A BRIEF SUMMARY FOR MINI-PROJECTS

The data include:

- **a list of extreme events – the targets of your prediction**

and

- **one or more time series hypothetically containing precursors to these events.**

Prediction targets might be given (e.g. starts of recessions); otherwise you have to identify them by data analysis (e.g. strong earthquakes).

NOTATIONS

- T_e – times of extreme events, $e = 1, 2, \ldots$
- $S(t)$ – observable function hypothetically containing precursor. It is often given as a time series.
- $(t_i, m_i, h_i), i = 1, 2, \ldots$ – here t is the time of the event, $t_i, \leq t_{i+1}$; m is its size (often given in logarithmic scale), h stands for additional parameters that might be indicated (e.g. coordinates of earthquake's hypocenter)
- c_f – an adjustable numerical parameter, f indicates where it is used.