Disturbance: can be described by magnitude (physical scale), intensity (heat of fire, depth of water – characteristics of the disturbance), severity (how much biomass was lost – consequence of the disturbance)

Temporal characteristics – frequency (# events in certain time), recurrence interval (space in between events), return time (combines frequency and magnitude – 100-yr flood – how much time will pass before an event of a certain size happens again), rotation period (return time on space – landscape ecology – time it would take for everything in the reference area to be disturbed)

Other: synergisms (interactions with other disturbances, chronic stresses, and other factors – if stressed by fire, might be more susceptible to bugs); feedback loops (positive or negative), predictability (how sure we are that the disturbance will happen again), spatial association and contagion (spatial association – distribution of events relative to topography, soils, etc. – way of predicting where the disturbance will have an effect; contagion – rate or tendency of disturbance spread – cells right next to each other are more likely to have the disturbance spread, such as with grass fires).

Human impacts – can scale disturbances to make them larger or smaller; can increase/decrease intensity, frequency, and other magnitude and temporal characteristics (like fire suppression; make corridors for invasive species); can homogenize landscape (take natural forest and turn it into a monoculture agricultural field, or a single-age loblolly forest).

Disturbance types:

Natural Effects		Human Activities
*Fire/fire suppression (Liz)	A F S R In M	Land use
Flooding	A F Im In S	• Mining
*Biological/pest/disease (Dahl), Invasive species (Liz)	A F R Im In S M	• Agriculture
*Soil erosion (Kat)	All	• Forestry
* Trophic effects (Alex)		• Recreation (Cris)
Pollution (Kat)		o *OHVs
Fragmentation/connectivity (encompasses many of these)		o Hunting
Exogenous factors		o Horseback riding
Hurricanes		o Hiking/camping
Climate change (Dahl)		o Boating
Pollution		o Prospecting/panning
		• *Infrastructure (Dahl – GIS data)
		o Roads
		o Dams
		• *Settlement (Carly – property records)
		• Impoundment

GIS layers to gather:
DEM – digital elevation model
Soil
Slope, aspect, etc.
Road networks
Land use/land cover

Other data:
Census (demographic)
Species population trend data (presence data)
National Forest use and demographics/markets
Ethnographic data from local communities (historic; attitudes, values)

Dendrochronology (tree ring data for hurricanes)
Weather data
Historic records (media, local gov. documents – how politics have influenced land use, historic maps, property records – who owned the land, how it got subdivided)

Look for current and historical data sources.

On discussion board – can upload data or data sources.

Assignment: find one source – due Tuesday. Tell us what it is; don't have to bring it.
Thursday – take a look at the Simon report; do comparing and contrasting with Shafely weekly and Pulse data. Two questions to answer – online.
Also, reading – Swanson and the other paper.