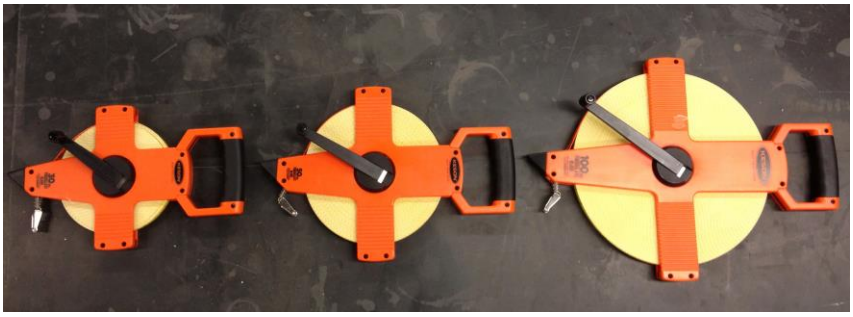
Environmental Geography & Data Collection Methods: Transects

Transect

- a straight line or narrow section across the earth's surface, along which observations are made or measurements taken.

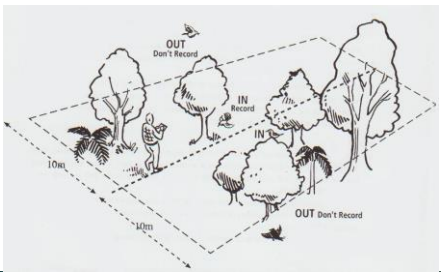


What is the purpose?

- Gather spatially explicit data about a given location
- Measure distance and occurrence of some object or phenomenon
- Understand the presence or distributions of species or the lack thereof
- Assess the condition of a species across space

Types of transects

- Line transect – single line along which you gather data
- Belt transects – Area between two lines from which you gather data



What can I use this for?

ARTICLE / multiple sources exist. see all

Climatic variability along a north-south transect of Finland over the last 500 years: Signature of solar influence or internal climate oscillations?

Ogurtsov, MG ; Raspopov, OM ; Helama, S ; Oinonen, M ; Lindholm, M ; Jungner, H ; Merilainen, J
Geografiska Annaler Series A-Physical Geography, 2008, Vol.90A(2), pp.141-150

PEER REVIEWED

ARTICLE / multiple sources exist. see all

Linking plant growth responses across topographic gradients in tallgrass prairie

Nippert, Jesse ; Ocheltree, Troy ; Skibbe, Adam ; Kangas, Laura ; Ham, Jay ; Shonkwi Kira ; Brunsell, Nathaniel
Oecologia, Aug 2011, Vol.166(4), pp.1131-42

PEER REVIEWED

ARTICLE / multiple sources exist. see all

Effects of gullies on space–time patterns of soil moisture in a semiarid grassland

Melliger, Joshua J ; Niemann, Jeffrey D
Journal of Hydrology, 2010, Vol.389(3), pp.289-300

“. *Any run-on and lateral inflow from the sidewalls into the gully bottom does not overcome the interception losses at these locations. The magnitude of* ”

PEER REVIEWED

ARTICLE

Assessing bee species richness in two Mediterranean communities: importance of habitat type and sampling techniques. (Report)

Nielsen, Anders ; Steffan - Dewenter, Ingolf ; Westphal, Catrin ; Messinger, Olivia ; Potts, Simon G. ; Roberts, Stuart P. M. ; Settele, Josef ; Szentgyorgyi, Hajnalka ; Vaissiere, Bernard E. ; Vaitis,

If this is interesting at all to you, consider…

GEOG 442 - BIOGEOGRAPHY

3 Units

SEC.	CLASS #	NO MATERIAL COST	RESERVE CAPACITY	CLASS NOTES	TYPE	DAYS	TIME	OPEN SEATS as of 10/17 05:02:18	LOCATION	INSTRUCTOR	COMMENT
01	8186				SEM	MW	5:30-6:45PM	●	PH1-208	Langdon S	

GEOG 486 - FIELD METHODS LANDSCAPE ANLYS

4 Units GE AREA: UD B, F-Writing

SEC.	CLASS #	NO MATERIAL COST	RESERVE CAPACITY	CLASS NOTES	TYPE	DAYS	TIME	OPEN SEATS as of 10/17 05:02:18	LOCATION	INSTRUCTOR	COMMENT
01	9565				SEM	F	9-9:50AM	●	PH1-227	Laris P	
02	10051				ACT	F	10-3:30PM	●	PH1-227	Laris P	

Background:

- The central Quad of CSULB is intersected by a number of paved concrete paths.
- These paths are used primarily for pedestrian traffic, though they are accessed by cars & utility vehicles too.
- Between these concrete paths are swaths of grass.

Research Questions:

- Does the presence of paths have an impact on the health of the grass nearby?

- Is there a gradient of disturbance or health visible within the grass?

- Can you explain why these paths have an effect on grass health or why they do not?

What to do:

- 4 - 5 people per group
- Take at least one sturdy notebook (per group) to record data and field observations.
- Run a **5 meter** transect **perpendicular** to a concrete path. (Make sure you select a sight that has at least 5 meters of grass!)
- Starting at the grass edge, record data concerning the health of the grass at every meter (6 readings total). Data might include:
  - Color
  - Thickness
  - Texture
  - Presence of moisture (visible on top & within the grass)
  - Presence of other species/objects
- Make observations regarding the surroundings (*Think*: what is worth recording here).
- **All groups back in class by 4:20!**

As a group, assess your data:

- Was there a gradient of grass health present?
  - Where was the best grass health present?
  - Where was the worst grass health present?
- What reasons/observations might explain your results?
- What would you do next time to better answer the research question?

As a class:

- What did you learn about field work?
- What did you learn about gathering data?
- Does this change the way you view research?