natural capital PROJECT

Photo credit: Stacie Wolny - NatCap

InVEST CARBON

- Carbon stock estimated as a function of land use/land cover
- *Storage* indicates the mass of carbon in a landscape at any given point in time
- *Sequestration* indicates the change in carbon storage over time
- Valuation is applied to sequestration

Photo credit: Stacie Wolny - NatCap

DECISION CONTEXT

- How do changes in land use affect carbon storage and sequestration?
- Identify possible areas for REDD credits
- Target payments for conservation
- Look for overlaps with other ecosystem services

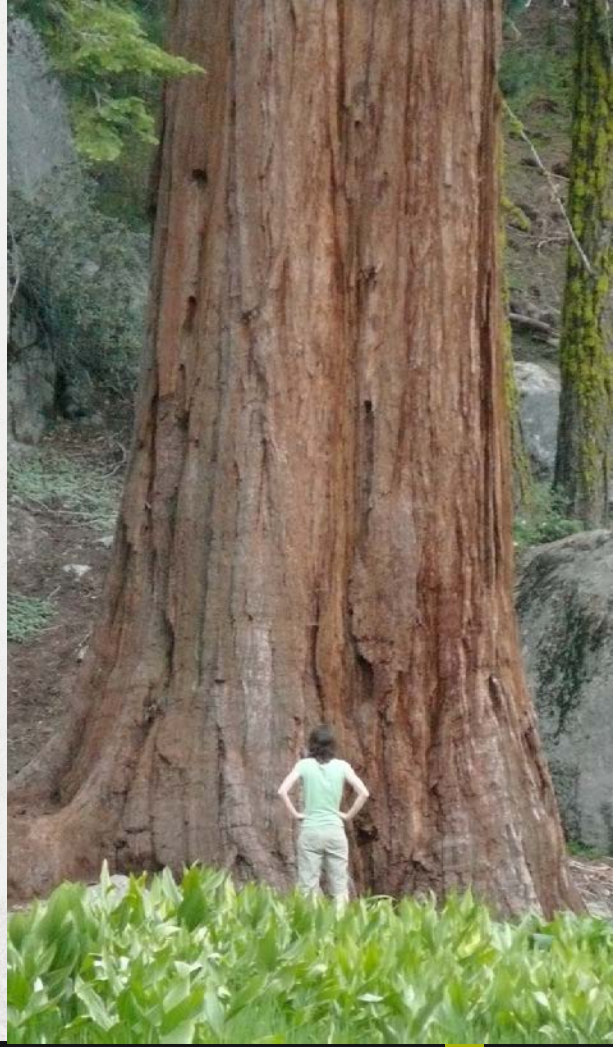
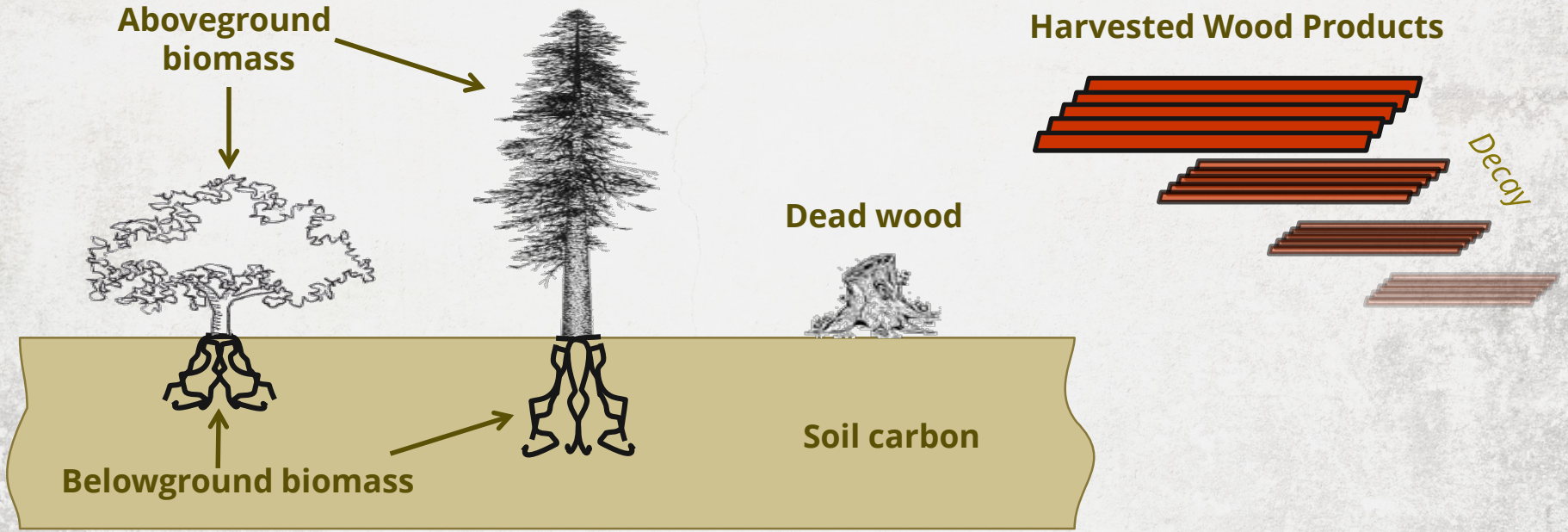


Photo credit: Stacie Wolny - NatCap

CARBON POOLS



Carbon storage = Sum of all 5 pools

Sequestration = $storage_{fut}$ – $storage_{cur}$

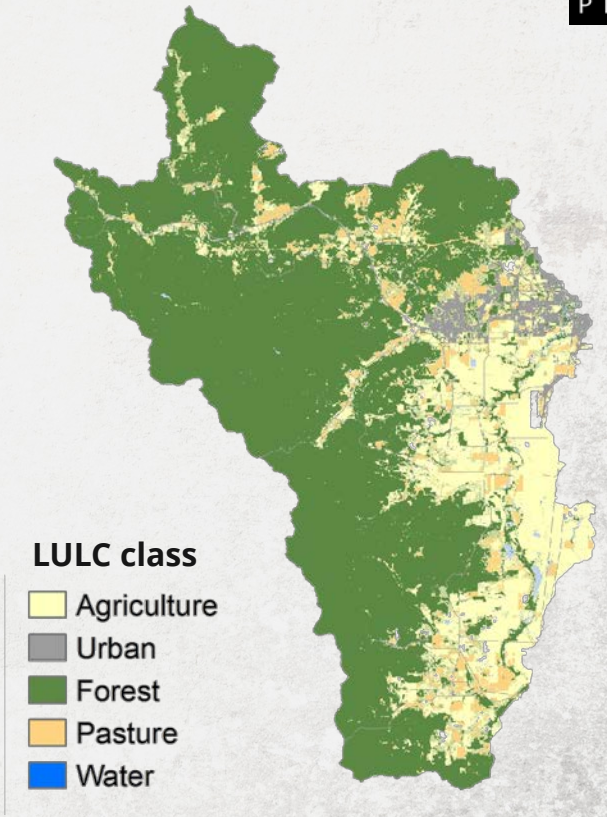
MODEL INPUTS

Required:

- Land use / land cover (LULC) map
- Table of 4 carbon pools

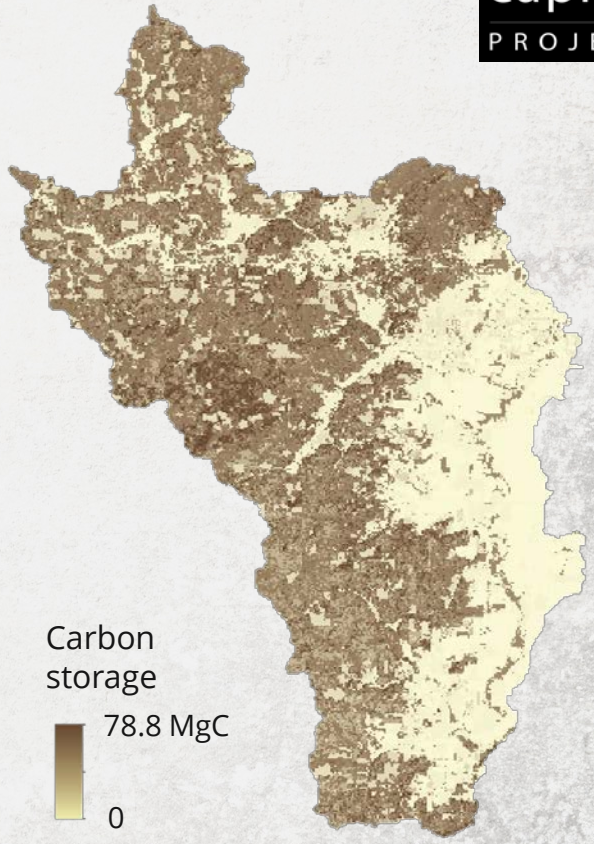
Optional:

- Timber harvest land parcels
- Future land use map
- REDD policy map
- Economic data
- Carbon pool uncertainty data



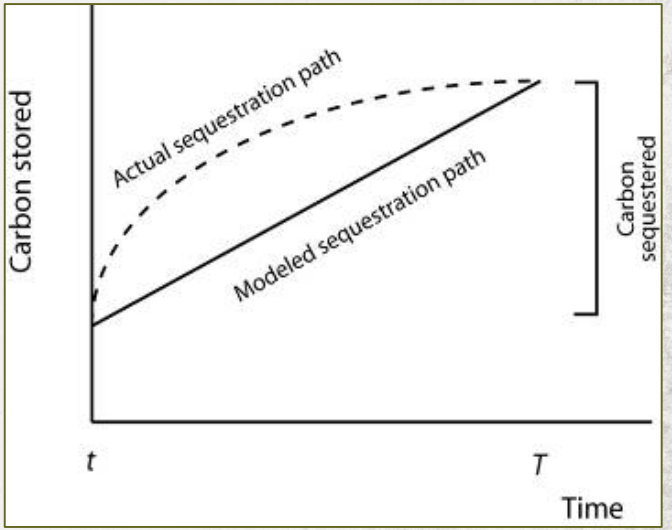
MODEL OUTPUTS

- Current/future carbon storage (Mg C)
- Carbon sequestration (Mg C)
- Sequestration map for REDD scenario (Mg C)
- Economic value of carbon sequestered (currency)
- Confidence intervals for uncertainty
- HTML summary

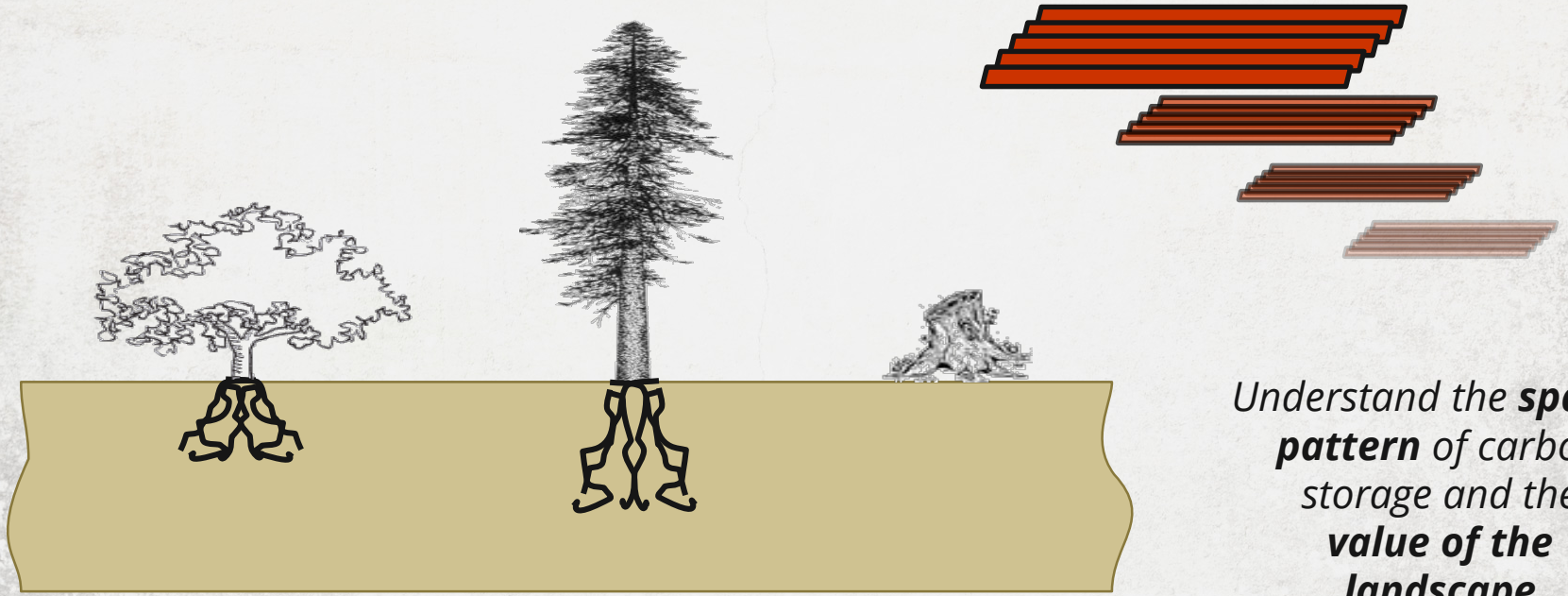


LIMITATIONS

- Simplified carbon cycle
- Economic valuation assumes a linear trend in sequestration over time
- Output is only as detailed and reliable as land use classes and carbon pool data
- Carbon sequestration does not occur in an area unless LULC changes over time or wood is harvested



MODEL SUMMARY



*Understand the **spatial pattern** of carbon storage and the **value of the landscape** for sequestration*