

InVEST TIP SHEETS:

Using InVEST to Assess the Feasibility of REDD+

Here are some tips for users who want to use the InVEST carbon model for forest carbon policies, programs or projects similar to REDD+

1. **Calculate** current forest carbon storage using the **most recent LULC map** you have available.
2. **Estimate** the likely losses in forest carbon in the future by **developing a ‘business as usual’ scenario** that uses changes in past LULC maps to predict the location and rate of future deforestation. If possible, it is preferable to have at least a 10-year timeframe to analyze with multiple years of data. It can also be useful to **establish a REDD+ scenario** in which your REDD+ program, policy, or project is established and avoids deforestation.
3. **Create** a clear timeframe on your scenarios: over what period will carbon be lost or regrowing? Consider a longer timeframe for forest regeneration, reforestation or afforestation in order to better understand the full carbon potential. For a REDD+ project, consider a timeframe of at least 30 years – the typical period for a voluntary contract to date.
4. **Input** the average or **expected price per ton CO₂e** to replace the default valuation for the carbon model where forest carbon markets exist.
5. **Incorporate** climate change impacts in your future land use scenario if your timeframe is for 50 years or more--in particular, consider expected changes in precipitation, possible droughts, fire risk, changes in growth rate and climate envelope, as well as human responses.
6. **Subdivide LULCs** or review to ensure that LULCs reflect the loss or gain in carbon. This may mean establishing LULCs for different age and management classes of forests, such as ‘young forest – 5-7 years,’ ‘mature forest,’ and ‘selectively logged forest,’ and seeking appropriate biomass data. Also make sure that you **set endpoint LULCs that reflect human interventions** envisioned in your scenario(s).
7. **Know** the limitations of the modeling tool to provide a complete picture of the REDD+ opportunities and risks. InVEST will require specialized, user-defined inputs to **calculate leakage estimates**. In its current version, the carbon model does not provide **uncertainty estimates**. In addition, the annualized value of forest carbon may be lower than expected because of the **linear growth rates** modeled by InVEST.