Changes in the Earth's climate may alter the state of forests across broad areas, through changes in tree species composition and tree productivity rates. These potential changes may also have a cascading effect on associated environmental services, such water yield, wildlife habitat composition, and biodiversity. The location, extent, and magnitude of potential changes to the climate will vary according to current regional climatic conditions. This paper examines the issues facing forest planners in an era of climate change, and illustrates the challenges and opportunities to assessing climate change scenarios in forest landscape planning. For example, accounting for tree species physiology in forest planning would allow analysts to recognize that some tree species may be less able to adapt to changing conditions. And, adding socio-economic change projections (development and recreational opportunities) to the analysis of policies will further help one understand the potential impact of climate on biodiversity. These projections will enable policy makers to think through the vulnerability of forests to changes in temperature, precipitation, and wind speed. In addition, forest plans may need to incorporate measures that will reduce forest fragmentation, conserve biologically important resources, and reduce the vulnerability of forests to the risks presented. In addition to assessing traditional forestry concerns (sustainability of timber production, sustainability of multiple uses, and sustainability of ecosystems), an adaptive or contingent forest planning process would seem to be appropriate for assessing these potential issues. Thus there seems to be a need to assess broad-scale forest management scenarios that minimize adverse impacts and vulnerability to risks associated with insect and disease outbreaks, drought, windthrow, and wildfire. This type of planning process would need to account for changes in climatic variables and associated changes in disturbance regimes, and recognize that some forests may be more vulnerable during the adjustment period.