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How Can We Evaluate the Speed and Movement Direction of Creep due to Trees?

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Aim of the study: In this study, we tried to calculate the speed and movement direction of creeps due to trees from two selected area in Denizli, Turkiye. So we developed a method from inclination degrees of trees, and we showed that there is soil movement in searching area in the study area. Environmental factors such as soil creep, snow, wind, rain and sun can cause some effects on trees about growing curved shapes. One way to measure the inclination degrees of a tree is to showing a way for creep speed. Such as landslides, creep occur when sub-surface water flow accumulates at particular points on a slope due to topography or soil hydrological pathways, on the bases, soil moves down slopes under gravity effect and this can be easily seen in many ways. One of them is the formation of small terraces across the slope which is named as creep that cause of motion is not clear and may include several different means of movement.

Material and Methods: In this study, we try to show the landslide (creep) geometry and dimensions. For this purpose, we used the seismic, electric and GPR methods.

Results: Trees on creep area show it most noticeably because they are tilted downslope depends on the session. If it can monitored that we can say the creep speed and the movement direction. So we selected two area for showing this event in Denizli district area.
Where trees with curved trunks due to soil creep can be recognized, they may provide a useful indication of slope instability in the working areas. Trees with trunks which are curved downslope to resemble catenaries probably owe their shape to downslope soil creep in the study areas.

Keywords: Creep, Geophysics Methods, Tree.