

Intro to Permaculture Identifying Microclimates Video Transcript

Music

When we describe the orientation of an object in relation to the sun, we call that its 'solar aspect.' Depending on what the solar aspect of the side of an object will determine its 'microclimate.' A microclimate is an area that has a distinct climate that differs from the area around it. It can be as small as a few square feet or meters, or as large as many miles or kilometers. Some things that may determine a microclimate are solar aspect, topography, soils, water bodies, built structures, and vegetation.

Understanding microclimates is really important, when it's time to place plants, so we can take best advantage of the heat, cold, protection, moisture, dryness, or whatever that microclimate provides that a plant species likes. Understanding the microclimate a particular plant thrives in is also a tool to help us in reading the landscape. Noticing microclimates is an observational tool that will make you a better designer.

For instance, where I lived in the high desert of Arizona there was a plant called Manzanita, or *Arctostaphylos*. That plant requires fire as part of its regeneration, so wherever you see that plant in abundance, it is what is called a 'fire dependent' landscape. So when you find a thick stand of Manzanita on a South or sun facing or West facing slope, which is also the direction that the prevailing summer winds come from, then you have a potent wildfire sector and that would be a very risky place to locate a home.

Also, in the Arizona Mountains and many other desert areas, the presence of a cottonwood tree means there is water close to the surface. This is because Cottonwood trees need constant moisture and don't tend to send their roots deeper than 10 feet, or 3 meters. So a cottonwood tree may help you find a spring in the desert, or let you know that there is year-round moisture in an area. This can be really useful when assessing a piece of land. These are just a couple examples of why learning about and understanding microclimates is so useful and beneficial in your Permaculture studies.