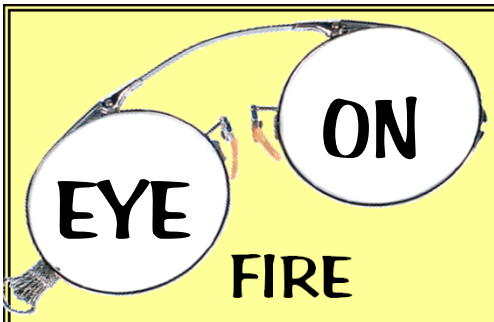
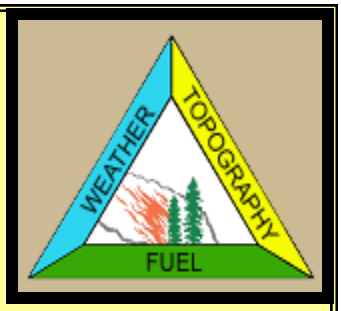


TOPIC 55

WIND



WIND is the horizontal movement of air resulting from variations in atmospheric pressure over the surface of the earth. Wind is generally described in terms of its speed and direction and both are equally important to fire behaviour. Wind speed is measured in kilometers per hour (km/h or kph) using an anemometer. Wind direction is measured using a simple wind vane. The direction of the wind can be expressed in degrees (225°) or cardinal directions (southwest) and in either case this indicates the direction from which the wind is blowing (not where the wind is blowing to).

The direction of the wind dictates in which direction forest fuels will be dried most intensely and determines in which direction the fire will spread the fastest. As a result, the fire will advance in the downwind direction more quickly than it would on the flanks or upwind side.

Wind plays an important role in determining the forward and lateral rates of fires. the speed and the direction of the wind also influences the range and direction in which spotting will occur. Burning embers will always be carried downwind, with the strength of the wind determining how far downwind spot fires will occur.

DAILY TRENDS IN WIND SPEED AND DIRECTION

In the morning, winds at the surface are generally light and from a prevailing direction determined by the large-scale weather systems or by any local wind influences. At higher altitudes, winds are stronger and often from a slightly different direction. As the day progresses and the air at the surface warms and rises, winds at the surface mix with winds from higher altitudes and begin to increase in speed and undergo a clockwise shift in direction (called veering). This mixing with winds from higher altitudes partly explains why stronger and possibly gusty winds often occur in the afternoon.