

# Pacific Northwest Geographic Area

## Safety Alert

### Excessive Heat: Increased Risk of Heat Related Illness

July 2014

The National Weather Service has issued an advisory warning of temperatures expected to be 10 to 20 degrees above normal across much of Oregon and Washington for the next week. The most severe heat will be at lower elevations, particularly east of the Cascades. In addition, humidity is also expected to be above normal. **With the high temperatures and above normal humidity, Fire resources will be exposed to an environment that poses an increased risk for heat related illnesses (HRI).**

**What you need to know:** Heat related illnesses are a direct result of the body's inability to cope with heat. When heat gain is greater than heat loss, firefighters are at risk of suffering HRI's. These illnesses can manifest themselves as a minor symptom or a life threatening emergency. HRI's include; Heat Cramps, Heat Exhaustion, Heat Stroke. While recognition and treatment are important, prevention is the key. It is important to note that a temperature above 95 degrees F with any amount of humidity will put you in the high risk zone. Increased hydration and frequent breaks are required for any physical activity performed in this zone.

**Consuming water or sports drinks does not guarantee that you won't suffer a heat related illness! Over a 22-year period, the military reported that only 17 percent of all soldiers suffering HRI's were dehydrated (Tech Tips June 2010). Therefore, just employing hydration strategies in extreme heat will not prevent HRI's.**

In order to help mitigate the increased risks, consider utilizing one or more of the following preventive strategies:

- **Adopt a Bi-Modal Operational Shift:** This would entail morning briefing and fireline operations, followed by afternoon monitoring and heat recovery, and then evening fireline operations. This shift would allow resources to operate during the more mild temperatures of the mornings and evenings, and take advantage of reduced fire activity during those same hours.
- **Continue with Current Operational Shift Schedules, Providing more Frequent Breaks:** Daily schedules and operational timing stay the same yet utilize the flexibility to adjust work/rest ratios as the weather changes. For example, during summer 2011 the Pike IHC employed the following work/rest ratios for escalating temperatures:
  - 98 – 103 degrees: 10 minutes rest after 1 hour of continuous work
  - 103 – 105 degrees: 15 minutes of rest after 45 minutes of continuous work
  - 105 degrees and above: 30 minutes of rest after 30 minutes of continuous work

#### Other Preventative Strategies

- While resting, resources should seek shade, when vehicles are close by, provide breaks in the crew vehicles with A/C.
- Hydrate with COLD water and sports drinks if at all possible.
- Remember to consume fluids before and after operational shifts as well.
- Provide sleeping locations that allow for adequate rest.
- Use the buddy system and watch for signs and symptoms of HRI's.
- Flexibility to the work, to the environment and to the firefighters is key.

As more frequent and longer breaks are taken as temperatures climb production rates can decrease. However, the decreased production is acceptable given the risk of injury from HRI's.

#### Other Tools

1) Heat Illness Basics for Wildland Firefighters:

[http://wildfirelessons.net/documents/heat\\_illness\\_Basics\\_For\\_Wildland\\_Firefighters.pdf](http://wildfirelessons.net/documents/heat_illness_Basics_For_Wildland_Firefighters.pdf)

2) Wildland Fire Crew Operations in Extreme Heat:

[http://wildfirelessons.net/documents/Crew\\_Operations\\_in\\_Extreme\\_Heat.pdf](http://wildfirelessons.net/documents/Crew_Operations_in_Extreme_Heat.pdf)

3) Heat Injury Prevention Guide:

[http://wildfirelessons.net/documents/Heat\\_Injury\\_Prevention\\_Guide.pdf](http://wildfirelessons.net/documents/Heat_Injury_Prevention_Guide.pdf)

