

## National Fire Danger Rating System (1978 Version)

The National Fire Danger Rating System provides four major indexes designed to aid in planning and supervising fire management activities on a fire protection unit.

### Major indexes

1. Human (man) - caused fire occurrence index (MCOI)
  2. Lightning - caused fire occurrence index (LOI)
  3. Burning index (BI)
  4. Fire load index (FLI)
1. Human(man) - caused fire occurrence index (MCOI): a number related to the potential fire incidence within a rating area. Fire incidence is predicted by anticipating a. human(man)-caused risk (MCR) which expresses the degree to which an area will be exposed to ignition sources and b. the ignition component (IC) which defines the likelihood that fuels will ignite in the presence of an ignition source.
  2. Lightning- caused fire occurrence index (LOI): a number related to the potential fire incidence within a rating area. Use of the lightning risk (LR) and the ignition component (IC) to develop the LOI.
  3. Burning index (BI): a number related to the potential amount of effort needed to contain a fire in a particular fuel type within a rating area. The burning index is derived from the spread component (SC) and the energy release component (ERC). Spread components and energy release components are computed for different fuel models. There are currently 20 fuel models in use. A fuel model is a simulated fuel complex for which all the required fuel descriptors have been determined. A burning index is a fire behavior index. The difficulty of containment of a fire is related to fireline intensity as defined by Byram. A burning index does not relate to difficulty of control as related to factors of resistance to control or crew and machinery productivity.
  4. Fire load index (FLI): a numerical value related to the potential total amount of effort required to contain all probable fires on a given day. The fire load index is developed from use of the burning index and occurrence indexes. The fire load index by itself does not tell much about the nature of the fire control problem. An additional index, the seasonal severity index (SSI), may be computed by summing the fire load indexes recorded during a given period. The seasonal severity index is useful as an administrative tool to estimate the potential fire control job in an area during a fire season or some other specified period.

Review the handout on the Structure of the 1978 National Fire Danger Rating System

# 1978 NATIONAL FIRE - DANGER RATING SYSTEM

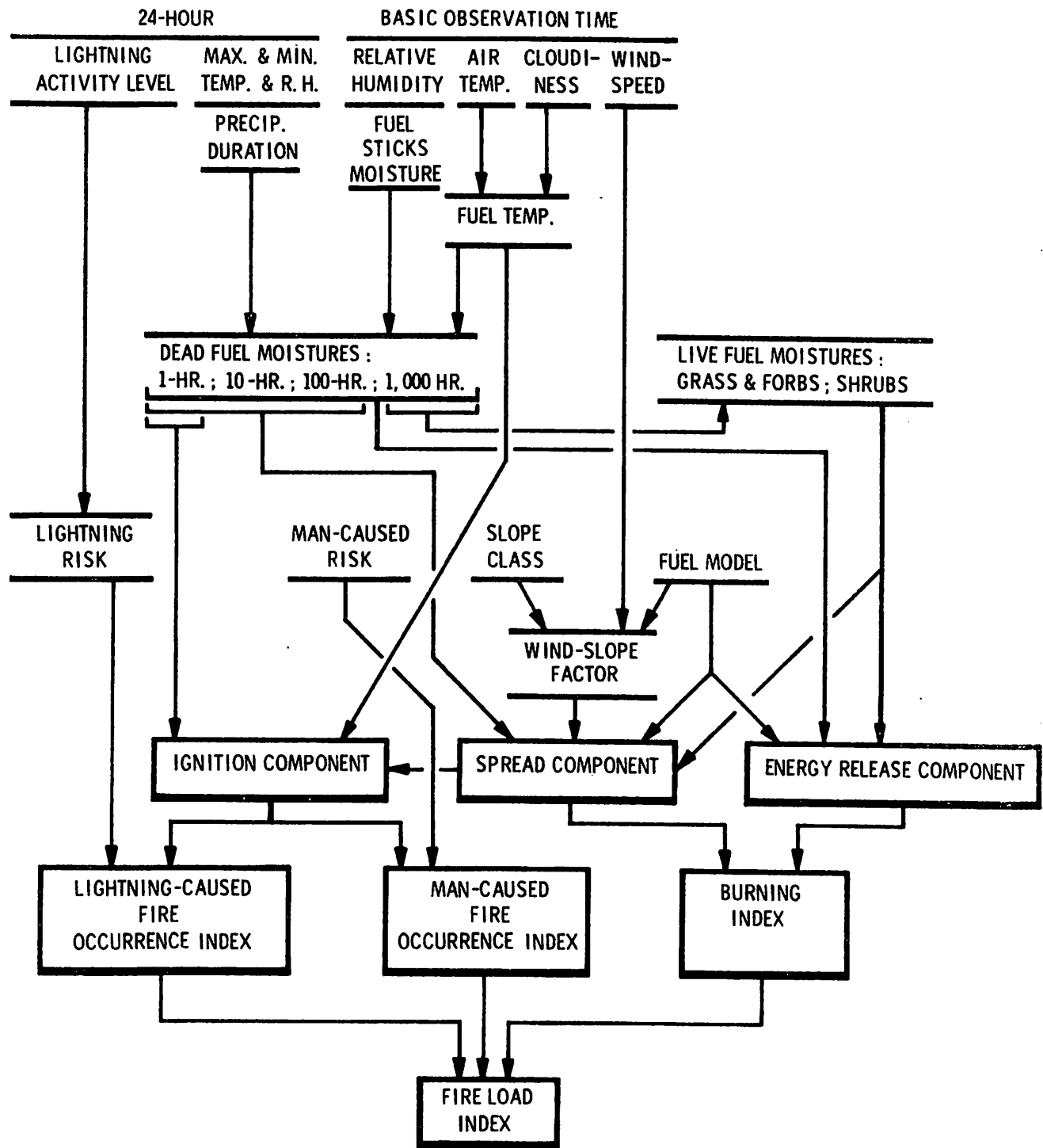


Figure 2.--Structure of the 1978 National Fire-Danger Rating System.