

# S-591 Advanced Tools for Wildland Fire Modelling and Forecasting – CFFIC National Course

## Overview/Description

As part of the national fire behaviour specialist training series of courses, S-591 expands on specialized experience in fire behaviour prediction and provides information on advancements in longer-term fire behaviour prediction, computer modelling and interpretation, applying fire climate forecasting and wildfire management on the landscape (fuel management and prescribed fire). This course uses a virtual learning approach with interactive content to support synthesis of information.

Students will be able to analyze and forecast the impact of fuel, weather and topographic characteristics and correctly apply the Canadian Forest Fire Danger Rating System (CFFDRS) to determine and predict complex fire behaviour, the impacts on firefighter and public safety and assist in developing operational strategies and tactics.

Topics of discussion include (but are not limited to):

- New fire growth model developments
- Fire Behaviour Analyst (FBAN) contribution to ignition operations
- Smoke forecasting
- Wind vector modelling
- Scraping and incorporating upper air forecasting
- FBANs role in tactical and strategic planning
- Understanding Prometheus/W.I.S.E./ FireStarr growth models
- Weather database analytics
- Designing fuel treatments using structure-based crown fire models
- Predicting plume fires and pyrocumulonimbus activity

## Target Audience

Personnel desiring to be qualified as an FBAN in wildfire management operations and:

- Planning Section Chief, Situation Unit Leader, Incident Commander, supervisory roles in the Operations section, Ignition Specialist;
- Those responsible for coordinating wildfire response at a provincial or area level;
- Academic students interested in studying wildfire behaviour and its impacts on fire operations;
- and Modelling Specialists or other computer Data Analysts.

## Prerequisites

Candidates must have attended and passed both the S-589 and the S-590 Specialized Fire Behaviour Theory & Applications course OR have completed the original 15 day in-person S-590 Wildland Fire Behaviour Specialist Course. S-591 can be taken more than once to continually review updates in this field.

This course is not available to the general public. Preference is given to wildfire agency staff.

## Registration

Forestry Division employees register through your local training contact.

Individuals outside of Forestry Division, please contact your local or provincial training contact.

Non-wildfire agency staff need sponsorship or referral from a wildfire agency and would register through the appropriate provincial training contact.