

CWFIS Data Services – Access to daily maps and fire data layers

Most of the information that is updated and presented on the [CWFIS website](#) and the CWFIS is made available to users in the form of maps, data and/or web services. All of the daily maps (PNG images) and several data products are available for download. Also, many data layers are provided through the CWFIS GeoServer in a variety of Open Geospatial Consortium (OGC) formats – wms/wfs/wcs. Many data services are available through the [CWFIS Datamart](#).

See below for information on how to access additional map and data products and services.

1. CWFIS Map images available:

Users can access static maps (PNG images) for each maptype as displayed on the [cwfis website](#). Current day maps are available here (refer to list of maptype abbreviations below):

<https://cwfis.cfs.nrcan.gc.ca/downloads/maps/>

Archived maps for previous dates are also available at the following URL. See the sample below, using the following file naming convention: **maptype** + **yyyymmdd** (eg: **fdr20160417**)

Sample http request for FWI/FBP/weather maps (substitute maptype and date):

https://cwfis.cfs.nrcan.gc.ca/data/maps/fwi_fbp/2016/temp20160417.png

Sample http request for hotspot maps (substitute maptype and date):

<https://cwfis.cfs.nrcan.gc.ca/data/maps/fireM3/2016/tri20160417.png>

Here is a list of all available maps and associated maptypes:

FireM3 Maps	
Map Name	Maptype
Daily Hotspots	tri
Season-to-date Hotspots	apt
Daily hotspots & FWI	fwih

FWI Maps	
Map Name	Maptype
Fire Danger	fdr
Fire Weather Index	fwi
Fine Fuel Moisture Code	ffmc
Duff Moisture Code	dmc
Drought Code	dc
Initial Spread Index	isi
Buildup Index	bui
Daily Severity Rating	dsr

FBP Maps	
Map Name	Maptype
Fire Type	ft
Rate of Spread	ros
Head Fire Intensity	hfi
Crown Fraction Burned	cfb
Foliar Moisture Content	fmc
Surface Fuel Consumption	sfc
Total Fuel Consumption	tfc

Weather Maps	
Map Name	Maptype
Atmospheric Dispersion Index	adi
Mixing Height	zh
Pasquill-Gifford-Turner Stability	stab
Precipitation	precip
Relative humidity	rh
Temperature	temp
Transport Wind Speed	umix
Transport Wind Direction	dmix
Ventilation index	vi
Wind Speed	ws
Wind Direction	wdir

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2. Many datasets are available as downloadable files

An index of all the data available for download is here: <https://cwfis.cfs.nrcan.gc.ca/downloads/>

For example, many datasets for current conditions are available:

Current fire danger (shp): https://cwfis.cfs.nrcan.gc.ca/downloads/fire_danger/fdr.zip

Current hotspots (csv or shp): <https://cwfis.cfs.nrcan.gc.ca/downloads/hotspots/hotspots.csv>

Current CFFDRS (fwi/fbp grids): <https://cwfis.cfs.nrcan.gc.ca/downloads/cffdrs/>

Current active fires (reported by agencies): <https://cwfis.cfs.nrcan.gc.ca/downloads/activefires/>

3. CWFIS Geoserver Layers:

Users/clients can access many of the data layers that are displayed on the [CWFIS website](#) (and [interactive map](#)) through the CWFIS GeoServer. Data is made available in a variety of Open Geospatial Consortium (OGC) formats – wms/wfs/wcs (see connection/access details below).

For more information on OGC standards, refer to opengeospatial.org

Here is a list of some of the publicly available data layers and descriptions:

- **hotspots_last24hrs** – Satellite detected hotspots for the last 24 hours;
- **hotspots_last7days** – Satellite detected hotspots for the last 7 days;
- **m3_polygons_current** – Current day fire perimeter estimate derived from buffered season-to-date hotspots;
- **activefires_current** – Current active fire locations as collected daily from (most) fire management agencies
- **fdr_current** – Current fire danger rating. This layer will show current days forecast conditions until the actual weather data is received at which point actual fire danger will be available.
- **firewx_stns_current** – Current weather and FWI calculations at weather station locations;
- **firewx_scribe_fcst** – SCRIBE 24 hour weather and FWI forecast at scribe station locations;
- **nat_fbpfuels** – National FBP Fuel Types;
- Daily fire weather index (fwi), fire behaviour prediction (fbp) & weather grids (Canadian Forest Fire Danger Rating System maps produced using the Canada Forest Service produced Spatial Fire Management System) (eg: **fwi_current**)
- *(Additional fire data layers may be made available over time)*

Access to wms/wfs/wcs data layers using OGC standards:

CWFIS data layers are available/accessible using standard (OGC) requests.

Get Capabilities: <https://cwfis.cfs.nrcan.gc.ca/geoserver/public/wms?request=getcapabilities>

Users can access data layers in a variety of formats (depending on the feature type requested). Data layers are available as a WMS (web map service), WFS (web feature service), or WCS (web coverage service).

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WMS requests can be made using the sample URLs below and specifying the desired layername and format. Available formats include: GIF, GeoRSS, GeoTIFF, JPEG, KML, OpenLayers, PDF, image/png.

Sample getMap request (png):

https://cwfis.cfs.nrcan.gc.ca/geoserver/public/wms?service=WMS&version=1.1.0&request=GetMap&layers=public:fdr_current&styles=&bbox=-2378164,-707617,3039835,3854382&width=768&height=646&srs=EPSG:3978&format=image/png

https://cwfis.cfs.nrcan.gc.ca/geoserver/public/wms?service=WMS&version=1.1.0&request=GetMap&layers=public:hotspots_last24hrs&styles=&bbox=-2378164,-707617,3039835,3854382&width=768&height=646&srs=EPSG:3978&format=image/png

Sample getMap request (kmz):

https://cwfis.cfs.nrcan.gc.ca/geoserver/public/wms?service=WMS&version=1.1.0&request=GetMap&layers=public:fdr_current&styles=&bbox=-2378164,-707617,3039835,3854382&width=768&height=646&srs=EPSG:3978&format=kmz

Sample request for past date layers (syntax: layer + year + month + day):

<https://cwfis.cfs.nrcan.gc.ca/geoserver/public/wms?service=WMS&version=1.1.0&request=GetMap&layers=public:fwi20230604&styles=&bbox=-2378164,-707617,3039835,3854382&width=768&height=646&srs=EPSG:3978&format=image/png>

Sample request for short-term forecast layers (syntax: layer + year + month + day + sf):

<https://cwfis.cfs.nrcan.gc.ca/geoserver/public/wms?service=WMS&version=1.1.0&request=GetMap&layers=public:fwi20230612sf&styles=&bbox=-2378164,-707617,3039835,3854382&width=768&height=646&srs=EPSG:3978&format=image/png>

Sample request for long-term forecast layers (syntax: layer + year + month + day + xf):

<https://cwfis.cfs.nrcan.gc.ca/geoserver/public/wms?service=WMS&version=1.1.0&request=GetMap&layers=public:fwi20230614xf&styles=&bbox=-2378164,-707617,3039835,3854382&width=768&height=646&srs=EPSG:3978&format=image/png>

WFS requests available using the sample url shown below. Substitute layername and format.

Available formats include: CSV, GML, GeoJSON, KML, shapefile etc.

Sample getFeature requests:

https://cwfis.cfs.nrcan.gc.ca/geoserver/public/ows?service=WFS&version=1.0.0&request=GetFeature&typeName=public:hotspots_last24hrs&maxFeatures=100000&outputFormat=SHAPE-ZIP

https://cwfis.cfs.nrcan.gc.ca/geoserver/public/ows?service=WFS&version=1.0.0&request=GetFeature&typeName=public:m3_polygons_current&outputFormat=kml

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WCS requests available using the sample url shown below. Substitute layername and format.
Available formats include: geotiff, gtopo30, arcgrid, gzipped, arcgrid etc.

Sample getCoverage request (*samples for geotiff shown below*):

https://cwfis.cfs.nrcan.gc.ca/geoserver/public/wcs?service=WCS&version=1.0.0&request=GetCoverage&coverage=public:fd_r_current&BBOX=-2378164,-707617,3039835,3854382&WIDTH=2709&HEIGHT=2281&CRS=EPSG:3978&FORMAT=geotiff

(Note: for a WCS request, it is mandatory to include a BBOX and WIDTH/HEIGHT parameters.)

Users can also connect directly to the data layers using GIS or web map applications (eg: QGIS, ArcGIS, Google Earth) using the following URLs.

Connect to WMS (web map service): <https://cwfis.cfs.nrcan.gc.ca/geoserver/wms?>

Connect to WFS (web feature service): <https://cwfis.cfs.nrcan.gc.ca/geoserver/wfs?>

Connect to WCS (web coverage service): <https://cwfis.cfs.nrcan.gc.ca/geoserver/wcs?>

If you have questions or comments, please contact cwfissa-csscifv@nrcan-rncan.gc.ca