Spectrum™ Technology Platform

Version 12.0

Risk Data Suite Database Guide

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1 - Introduction

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Risk Data Suite

The Risk Data Suite provides comprehensive location-based coverage of distance to coastal water, fire protection, fire risks, and flood risks faced by insurance companies.

For reference, see the *Risk Data Suite Product Guide*. You can download the document in PDF format from here: **Risk Data Suite Product Guide**.

The Risk Data Suite comprises of the following:

Distance to Coast

The U.S. Coastal Waters includes a region file of Coastal Water boundaries and their water body names within 3 miles of the coastline. This dataset is linked to Master Location data based on the nearest coastal water to it. This dataset also includes the name and type of water body that is adjacent to the coastal water body.

Fire Protection

This dataset provides information to allow the insurance industry to easily assess the fire risk for a given location. This dataset provides the drive distance and drive times to the three closest fire stations. This dataset also can be used to determine if a given location is within an incorporated place. This is important because incorporated places have fire hydrant standards which impacts the level of fire protection provided. This dataset also includes the distance to the nearest body of water for a given location which impacts the level of fire protection in rural areas where a local water body might be used as a source of water by fire fighters.

Fire Risk Pro

Fire Risk Pro is a nation-wide wildfire hazard and risk assessment tool. Incorporating the predicted severity (hazard) and the predicted frequency (risk) of wildfire in a given location, Fire Risk Pro gives a comprehensive view of the danger that a structure is exposed to. This dataset provides a Risk50 score which is an overall rating on the likelihood of a wild fire at a given location. The Risk Desc provides a descriptive name for the wild fire risk at a given location. This dataset also provides many other attributes that further describe the factors that are used to calculate the Risk50 score.

Flood Risk Pro

Flood Risk Pro is a map database that includes digital versions of Flood Insurance Rate Maps (FIRMS), Flood Hazard Boundary Maps (FHBM), Digital Flood Insurance Rate Maps (DFIRM), Letter of Map Revisions (LOMR) and National Flood Insurance Program (NFIP) community participation maps. This dataset can be used to determine the FME flood zone for a given location.

Risk Data Suite Lookup

The Risk Data Suite consists of an H2 database named riskdata. This database contains the pbKey™ unique identifier linked to the fire_id, flood_id and coastalwatersid. The coastalwatersid, fire_id, and flood_id are linked with Distance To Coast, Fire and Flood Risk attribute databases respectively using the pbKey™ unique identifier defined in these attribute tables.

Field Name	Field Type	Description
pbkey	char (12)	pbKey™ unique identifier
coastalwatersid	integer	Unique Identifier for Coastal Waters
fire_id	integer	Unique Identifier Fire ID
flood_id	integer	Unique Identifier Flood ID

Master Location Data Address Fabric Version Compatibility

Distance to Coast, Fire Risk and Flood Risk databases require Master Location Data Address Fabric May 2016 vintage.

Property Fire Protection database requires Master Location Data Address Fabric June 2016 vintage.

2 - Data Layouts

In this section

Distance to Coast

Coastal Waters Attribute

Field Name	Field Type	Description
pbkey	integer	PRIMARY KEY
dist_to_coast_name	char (40)	Name of water boundary
dist_to_coast_fips_cnty	char (5)	Five Character Census Bureau FIPS code that identifies the county from which the record came.
dist_to_coast_state_abbr	char (2)	State
dist_to_coast_type	integer	Water Feature Type: 0: Unknown Type 1: Oceans and Seas 2: Lake 7: Others 99: Intermittent Water Body
dist_to_coast_adjacentname	char (40)	Name of water boundary into which the record flows.
dist_to_coast_adjacenttype	integer	Water feature type of the adjacent water boundary.
dist_to_coast_dataset	char (100)	Product Layer
dist_to_coast_vintage	char (15)	Current release date
dist_to_coast_source	char (100)	Source of the data

Fire Risk

Fire Risk Attribute

Field Name	Field Type	Description
pbkey	integer	PRIMARY KEY
fire_statecode	char (2)	State abbreviation
fire_fipscode	integer	Federal Information Processing Standard (FIPS) state code.
fire_risktype	char (2)	Risk type with one of possible values: IF = Interface, IM = Intermix, WL = Wildland
fire_risk50	integer	An overall risk rating to reflect the predicted fire behaviour and likelihood of ignition. 0 = Low Risk, 49 = High Risk. See product reference guide for important details on how to use this value for different values of RISKTYPE (such as Interface versus Intermix and Wild land). The RISK50 rating should always be used in conjunction with the RISKTYPE to understand the specific hazard(s).
fire_fireshedid	integer	FireShed identifier. Unique reference value when used with STATECODE and RISKTYPE.
fire_riskdesc	char (10)	Descriptive risk category.
fire_if_tier	integer	Type of threat present in this area. 0 = Flame Impingement/Embers/Smoke, 1 = Embers/Smoke, 2 = Smoke. Valid when RISKTYPE = IF.
fire_im_freq	integer	Likelihood of future wildfires based on simulation. 0 =Least Likely, 49 = Most likely.Valid when RISKTYPE = IM.
fire_im_fsprox	integer	Distance to nearest fire station to reflect probability of a successful wildfire suppression or structure protection effort. 0 = Closer to Fire Station, 49 = Farther from Fire Station. Valid when RISKTYPE = IM.

Field Name	Field Type	Description
fire_im_cntnuit	char (10)	Effect related to the continuity of burnable area (roads, bare ground, etc.) which may reduce wildfire severity. Greatest mitigating effect (Low) to greatest aggravating effect (High). Valid when RISKTYPE = IM.
fire_im_pstfire	integer	Likelihood of future wildfires based on where they have occurred in the past. 0 = Least Likely, 49 = Most Likely. Valid when RISKTYPE = IM.
fire_im_severe	integer	Severity of fire behaviour based on topography (slope, aspect and elevation), prevailing weather patterns (based on weather readings at nation-wide stations) and the fuel type present (40 different subsets of grass, shrub and timber vegetation types). 0 = Lowest Severity, 49 = Highest Severity. Valid when RISKTYPE = IM.
fire_im_adjmnt	integer	Intermix risk adjustment due to weighted effect of aspect, crownfire, evc, foehn, golfcourse, roaddist, slope and waterdist values. 0 = Greatest Mitigating Effect, 49 = Greatest Aggravating Effect. Valid when RISKTYPE = IM.
fire_im_aspect	char (10)	Moisture drying effect relative to sun and topological slope. Greatest mitigating effect (Low) to greatest aggravating effect (High). Valid when RISKTYPE = IM.
fire_im_crown	char (10)	Crown fire effect. Least aggravating effect (Low) to greatest aggravating effect (High). Valid when RISKTYPE = IM.
fire_im_vegcvr	char (10)	Vegetation cover effect. Greatest mitigating effect (Low) to greatest aggravating effect (High). Valid when RISKTYPE = IM.
fire_im_foehn	char (10)	Warm dry wind effect. Least aggravating effect (Low) to greatest aggravating effect (High). Valid when RISKTYPE = IM.
fire_im_golfcrs	char (10)	Irrigated golf course effect. Greatest mitigating effect (Low) to least mitigating effect (High). Valid when RISKTYPE = IM.
fire_im_roadist	char (10)	Nearest important (evacuation/fire suppression access) road effect. Greatest mitigating effect (Low) to greatest aggravating effect (High). Valid when RISKTYPE = IM.
fire_im_slope	char (10)	Slope fire suppression effect. Greatest mitigating effect (Low) to greatest aggravating effect (High). Valid when RISKTYPE = IM.
fire_im_water	char (10)	Availability of water body sources. Greatest mitigating effect (Low) to greatest aggravating effect (High). Valid when RISKTYPE = IM.

Field Name	Field Type	Description
fire_wl_freq	integer	Likelihood of future wildfires based on simulation. 0 = Least Likely, 49 = Most Likely. Valid when RISKTYPE = WL.
fire_wl_fsprox	integer	Distance to nearest fire station to reflect probability of a successful wildfire suppression or structure protection effort. 0 = Closer to Fire Station, 49 = Farther from Fire Station. Valid when RISKTYPE = WL.
fire_wl_nonburn	char (10)	Effect related to the continuity of burnable area (roads, bare ground, snow and ice, etc.) which may reduce wildfire severity. Captures coarser-scale interruptions in fuels than IM_VEGCVR component. Least mitigating (Low) to greatest mitigating (High). Valid when RISKTYPE = WL.
fire_wl_pstfire	integer	Likelihood of future wildfires based on where they have occurred in the past. 0 = least likely, 49 = most likely. Valid when RISKTYPE = WL.
fire_wl_severe	integer	Severity of fire behavior based on topography (slope, aspect and elevation), prevailing weather patterns (based on weather readings at nation-wide stations) and the fuel type present (40 different subsets of grass, shrub and timber vegetation types). 0 = Lowest Severity, 49 = Highest Severity. Valid when RISKTYPE = WL.

Flood Risk

Flood Risk Attribute

Field Name	Field Type	Description
pbkey	integer	PRIMARY KEY
flood_mapname	char (11)	Map Panel Indentifier
flood_type	char (3)	Type
flood_statecode	char (2)	STATE FIPS Code

Field Name	Field Type	Description
flood_fipscode	char (5)	FIPSCODE
flood_floodzone	char (12)	FLOOD ZONE with BFE EVEL or Additional Information
flood_prim_zone	char (4)	FlOOD ZONE
flood_addl_info	char (5)	ADDL_INFO
flood_bfe_elev	char (4)	Base Flood Elevation (BFE) in feet
flood_commnum	char (6)	Community Number
flood_commstatus	char (3)	Community Status in the Nationall Flood Insurance Program as follows: E = Emergency NIP = Not in Program R = Regular SUS = Suspended
flood_map_eff_date	date	Map Effective Date
flood_rms_err	decimal (11,0)	Method to adjust the PAPER MAPS to the DIGITAL STREET LAYER fro digitization- with new DFIRM ony area, this method is not used.
flood_lomr_date	date	Letter of Map Revision Date
flood_casenumber	char (20)	Letter of Map Revision Case Number
flood_shape_area	float	Shapre Area
flood_shape_len	float	Shape Length

Property Fire Protection

Property Fire Protection Data

Field Name	Type	Description
pbkey	char (12)	A unique address identifier that is returned when an address match is made using the Master Location Dataset
placeCode	char (12)	Incorporated Place ID. Its value willl be Null if the address is not in an incorporated place
placename	char (40)	Incorporated Place Name. Its value willl be Null if the address is not in an incorporated place.
nearestwbpointdistance	double	Distance (in miles) between data point and nearest waterbody point.
wbname	char (60)	Nearest waterbody name.
wbareameter	double	Nearest waterbody area (in meters).
drivedistance1	float	Routing drive distance (in miles) from data point (start point) to nearest firestation 1 (end point).
ampeakdrivetime1	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 1 (end point) during the peak time of day in the AM.
pmpeakdrivetime1	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 1 (end point) during the peak time of day in the PM.
offpeakdrivetime1	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 1 (end point) during an off-peak time of day.
nightdrivetime1	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 1 (end point) during the night.
departmentid1	integer	Fire Department ID of nearest firestation 1

Field Name	Type	Description
departmenttype1	char (20)	Department type of nearest firestation 1
stationid1	integer	Station ID of nearest fireStation 1
fslat1	double	Latitude of nearest fireStation 1
fslon1	double	Longitude of nearest fireStation 1
drivedistance2	float	Routing drive distance (in miles) from data point (start point) to nearest firestation 2 (end point).
ampeakdrivetime2	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 2 (end point) during the peak time of day in the AM.
pmpeakdrivetime2	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 2 (end point) during the peak time of day in the PM.
offpeakdrivetime2	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 2 (end point) during an off-peak time of day.
nightdrivetime2	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 2 (end point) during the night.
departmentid2	integer	Fire Department ID of nearest firestation 2
departmenttype2	char (20)	Department type of nearest firestation 2
stationid2	integer	Station ID of nearest fireStation 2
fslat2	double	Latitude of nearest fireStation 2
fslon2	double	Longitude of nearest fireStation 2
drivedistance3	float	Routing drive distance (in miles) from data point (start point) to nearest firestation 3 (end point).
ampeakdrivetime3	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 3 (end point) during the peak time of day in the AM.

Field Name	Type	Description
pmpeakdrivetime3	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 3 (end point) during the peak time of day in the PM.
offpeakdrivetime3	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 3 (end point) during an off-peak time of day.
nightdrivetime3	float	Routing drive time (in minutes) from data point (start point) to nearest firestation 3 (end point) during the night.
departmentid3	integer	Fire Department ID of nearest firestation 3
departmenttype3	char (20)	Department type of nearest firestation 3
stationid3	integer	Station ID of nearest fireStation 3
fslat3	double	Latitude of nearest fireStation 3
fslon3	double	Longitude of nearest fireStation 3

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