

# DATEX II 3.1 Specification

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# DATEX II v. 3.1

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## DATEX II

This document gives short information in English of the DATEX II 3.1 feeds from The Icelandic Road And Coastal Administration (IRCA).

### Services

All services support both SOAP and HTTP Get.

### Transport/Communication

For communication web services according to the regular DATEX II profile is used. URL's to services, WSDL and schemas are listed for each service in this document.

### Delivery modes

Only pull services are available which publishes all active situations, sections and weather stations.

### Delivery format

HTTP Get returns data in XML.

### Publication types

The following publications from the DATEX II standard are used:

- SituationPublication
- MeasuredDataPublication
- PredefinedLocationsPublication
- MeasurementSiteTablePublication

### Base URL for the production environment

<https://datex.vegagerdin.is/>

### HTTP Get

Here follows a brief description about the headers supported by the services, for more information see the [References](#) section in this document.



### HTTP request headers

Some of the services supports the use of the request header If-Modified-Since. The value can be left out or set to a date returned in an earlier response (See Last-Modified under HTTP response headers).

If the header is left out, all available data is returned in the response.

If the header is set the service checks if there exists newer data, in that case a response with all available data is returned.

If no newer data exist an empty response with status code 304 (Not Modified) is returned.

Header	Example value
If-Modified-Since	Wed, 20 Jan 2021 07:16:01 GMT

### HTTP response headers

Services that support the If-Modified-Since header also supports the response header Last-Modified.

For all responses containing data (i.e. all responses except the 304 – Not Modified response) the Last-Modified header is set to the publicationTime of the returned publication data. The value of the header shall be used in the If-Modified-Since header in the next request.

Header	Example value
Last-Modified	Wed, 20 Jan 2021 07:16:01 GMT

## PredefinedLocation service

Service for metadata information about road segments and their location. For location referencing system GML Linestring and OpenLR Linear is used. Uses DATEX II PredefinedLocationPublication.

### SOAP URL

[https://datex.vegagerdin.is/predefinedlocationspublication3\\_1/PredefinedLocationsPublicationService](https://datex.vegagerdin.is/predefinedlocationspublication3_1/PredefinedLocationsPublicationService)

### WSDL

[https://datex.vegagerdin.is/predefinedlocationspublication3\\_1/PredefinedLocationsPublicationService?wsdl](https://datex.vegagerdin.is/predefinedlocationspublication3_1/PredefinedLocationsPublicationService?wsdl)

### HTTP Get URL

[https://datex.vegagerdin.is/predefinedlocationspublication3\\_1/PredefinedLocationsPublicationService/pullsnapshotdata](https://datex.vegagerdin.is/predefinedlocationspublication3_1/PredefinedLocationsPublicationService/pullsnapshotdata)



#### HTTP Request headers

The service supports the following request header

Header	Example value
If-Modified-Since	Wed, 20 Jan 2021 07:16:01 GMT

#### HTTP Response headers

The service sets the following response header

Header	Example value
Last-Modified	Wed, 20 Jan 2021 07:16:01 GMT

#### Schema URL's

[https://datex.vegagerdin.is/predefinedlocationspublication3\\_1/PredefinedLocationsPublicationService?xsd&name=DATEXII\\_3\\_MessageContainer.xsd](https://datex.vegagerdin.is/predefinedlocationspublication3_1/PredefinedLocationsPublicationService?xsd&name=DATEXII_3_MessageContainer.xsd)

[https://datex.vegagerdin.is/predefinedlocationspublication3\\_1/PredefinedLocationsPublicationService?xsd&name=DATEXII\\_3\\_D2Payload.xsd](https://datex.vegagerdin.is/predefinedlocationspublication3_1/PredefinedLocationsPublicationService?xsd&name=DATEXII_3_D2Payload.xsd)

[https://datex.vegagerdin.is/predefinedlocationspublication3\\_1/PredefinedLocationsPublicationService?xsd&name=DATEXII\\_3\\_Common.xsd](https://datex.vegagerdin.is/predefinedlocationspublication3_1/PredefinedLocationsPublicationService?xsd&name=DATEXII_3_Common.xsd)

[https://datex.vegagerdin.is/predefinedlocationspublication3\\_1/PredefinedLocationsPublicationService?xsd&name=DATEXII\\_3\\_ExchangeInformation.xsd](https://datex.vegagerdin.is/predefinedlocationspublication3_1/PredefinedLocationsPublicationService?xsd&name=DATEXII_3_ExchangeInformation.xsd)

## MeasurementSite service

Service for metadata information about automatic weather stations.

The service provides information about the stations position and which measurement values each station support.

For location referencing system point by coordinates and OpenLR Point is used.

Uses DATEX II MeasurementSiteTablePublication.

This service uses LevelB/extensions (trafficFlow, index 9 and 10).

<q1:specificMeasurementValueType>trafficFlow</q1:specificMeasurementValueType>

#### SOAP URL

[https://datex.vegagerdin.is/measurementsitetablepublication3\\_1/MeasurementSiteTablePublicationService](https://datex.vegagerdin.is/measurementsitetablepublication3_1/MeasurementSiteTablePublicationService)

#### WSDL

[https://datex.vegagerdin.is/measurementsitetablepublication3\\_1/MeasurementSiteTablePublicationService?wsdl](https://datex.vegagerdin.is/measurementsitetablepublication3_1/MeasurementSiteTablePublicationService?wsdl)

#### HTTP Get URL

[https://datex.vegagerdin.is/measurementsitetablepublication3\\_1/MeasurementSiteTablePublicationService/pullsnapshotdata](https://datex.vegagerdin.is/measurementsitetablepublication3_1/MeasurementSiteTablePublicationService/pullsnapshotdata)



### Schema URL's

[https://datex.vegagerdin.is/measurementsitetablepublication3\\_1/MeasurementSiteTablePublicationService?xsd&name=DATEXII\\_3\\_MessageContainer.xsd](https://datex.vegagerdin.is/measurementsitetablepublication3_1/MeasurementSiteTablePublicationService?xsd&name=DATEXII_3_MessageContainer.xsd)

[https://datex.vegagerdin.is/measurementsitetablepublication3\\_1/MeasurementSiteTablePublicationService?xsd&name=DATEXII\\_3\\_D2Payload.xsd](https://datex.vegagerdin.is/measurementsitetablepublication3_1/MeasurementSiteTablePublicationService?xsd&name=DATEXII_3_D2Payload.xsd)

[https://datex.vegagerdin.is/measurementsitetablepublication3\\_1/MeasurementSiteTablePublicationService?xsd&name=DATEXII\\_3\\_Common.xsd](https://datex.vegagerdin.is/measurementsitetablepublication3_1/MeasurementSiteTablePublicationService?xsd&name=DATEXII_3_Common.xsd)

[https://datex.vegagerdin.is/measurementsitetablepublication3\\_1/MeasurementSiteTablePublicationService?xsd&name=DATEXII\\_3\\_ExchangeInformation.xsd](https://datex.vegagerdin.is/measurementsitetablepublication3_1/MeasurementSiteTablePublicationService?xsd&name=DATEXII_3_ExchangeInformation.xsd)

## MeasuredData service

Information about the weather situation along the roads based on reports from automatic weather stations. Locations references the measurement sites published in MeasurementSiteTable service. Uses DATEX II MeasuredDataPublication.

### Measurement values

The service delivers the following measurement values.

Index	specificMeasurementValueType	Value
1	windInformation	windDirectionBearing/windDirectionCompass
2	windInformation	windSpeed
3	windInformation	maximumWindSpeed
4	temperatureInformation	airTemperature
5	roadSurfaceConditionInformation	roadSurfaceTemperature
6	temperatureInformation	dewPointTemperature
7	pressureInformation	pressureValue
8	humidityInformation	relativeHumidity
9	trafficFlow	vehicleFlowRate/vehicleFlowPer10Minute
10	trafficFlow	vehicleFlowPerDay

If a measurement site does not support a specific measurement value type, that index is excluded in the result.

When a site delivers faulty or unreliable measurement values from any of its sensors a PhysicalQuantityFault is returned for that specific index.

### SOAP URL

[https://datex.vegagerdin.is/measureddatapublication3\\_1/MeasureDataService](https://datex.vegagerdin.is/measureddatapublication3_1/MeasureDataService)

### WSDL

[https://datex.vegagerdin.is/measureddatapublication3\\_1/MeasureDataService?wsdl](https://datex.vegagerdin.is/measureddatapublication3_1/MeasureDataService?wsdl)

### HTTP Get URL

[https://datex.vegagerdin.is/measureddatapublication3\\_1/MeasureDataService/pullsnapshotdata](https://datex.vegagerdin.is/measureddatapublication3_1/MeasureDataService/pullsnapshotdata)



### HTTP Request headers

The service supports the following request header

Header	Example value
If-Modified-Since	Wed, 20 Jan 2021 07:16:01 GMT

### HTTP Response headers

The service sets the following response header

Header	Example value
Last-Modified	Wed, 20 Jan 2021 07:16:01 GMT

### Schema URL's

[https://datex.vegagerdin.is/measureddatapublication3\\_1/MeasureDataService?xsd&name=DATEXII\\_3\\_MessageContainer.xsd](https://datex.vegagerdin.is/measureddatapublication3_1/MeasureDataService?xsd&name=DATEXII_3_MessageContainer.xsd)

[https://datex.vegagerdin.is/measureddatapublication3\\_1/MeasureDataService?xsd&name=DATEXII\\_3\\_D2Payload.xsd](https://datex.vegagerdin.is/measureddatapublication3_1/MeasureDataService?xsd&name=DATEXII_3_D2Payload.xsd)

[https://datex.vegagerdin.is/measureddatapublication3\\_1/MeasureDataService?xsd&name=DATEXII\\_3\\_Common.xsd](https://datex.vegagerdin.is/measureddatapublication3_1/MeasureDataService?xsd&name=DATEXII_3_Common.xsd)

[https://datex.vegagerdin.is/measureddatapublication3\\_1/MeasureDataService?xsd&name=DATEXII\\_3\\_ExchangeInformation.xsd](https://datex.vegagerdin.is/measureddatapublication3_1/MeasureDataService?xsd&name=DATEXII_3_ExchangeInformation.xsd)

## Situation service

### Point located incidents

Incidents and other point located traffic information.

For location referencing system point by coordinates and OpenLR Point is used.

Uses DATEX II SituationPublication

### Incident types

The service supports the following point incident types

Type	Attribute	Enum value
MaintenanceWorksmaintenanceType	maintenanceType	roadworks
RoadOrCarriagewayOrLaneManagement	roadOrCarriagewayOrLaneManagementType	roadClosed
NonWeatherRelatedRoadCondition	nonWeatherRelatedRoadConditionType	roadSurfaceInPoorCondition
NonWeatherRelatedRoadCondition	nonWeatherRelatedRoadConditionType	looseChippings
NonWeatherRelatedRoadCondition	nonWeatherRelatedRoadConditionType	roadSurfaceInPoorCondition
GeneralObstruction	obstructionType	other
Accident	accidentType	accident
EnvironmentalObstruction	environmentalObstructionType	flooding
GeneralObstruction	obstructionType	obstructionOnThe Road
EnvironmentalObstruction	environmentalObstructionType	avalanches
EnvironmentalObstruction	environmentalObstructionType	rockfalls
AnimalPresenceObstruction	animalPresenceType	animalsOnThe Road
PoorEnvironmentConditions	poorEnvironmentType	strongWinds



*SOAP URL*

[https://datex.vegagerdin.is/situationpublication3\\_1/SituationService](https://datex.vegagerdin.is/situationpublication3_1/SituationService)

*WSDL*

[https://datex.vegagerdin.is/situationpublication3\\_1/SituationService?wsdl](https://datex.vegagerdin.is/situationpublication3_1/SituationService?wsdl)

*HTTP Get URL*

[https://datex.vegagerdin.is/situationpublication3\\_1/SituationServiceSchemas/pullsnapshotdata](https://datex.vegagerdin.is/situationpublication3_1/SituationServiceSchemas/pullsnapshotdata)

HTTP Request headers

The service supports the following request header

Header	Example value
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HTTP Response headers

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[https://datex.vegagerdin.is/situationpublication3\\_1/SituationService?xsd&name=DATEXII\\_3\\_D2Payload.xsd](https://datex.vegagerdin.is/situationpublication3_1/SituationService?xsd&name=DATEXII_3_D2Payload.xsd)

[https://datex.vegagerdin.is/situationpublication3\\_1/SituationService?xsd&name=DATEXII\\_3\\_Common.xsd](https://datex.vegagerdin.is/situationpublication3_1/SituationService?xsd&name=DATEXII_3_Common.xsd)

[https://datex.vegagerdin.is/situationpublication3\\_1/SituationService?xsd&name=DATEXII\\_3\\_ExchangeInformation.xsd](https://datex.vegagerdin.is/situationpublication3_1/SituationService?xsd&name=DATEXII_3_ExchangeInformation.xsd)

**Road conditions**

Road condition information. Locations references the sections published in the PredefinedLocation service.

Uses DATEX II SituationPublication





The following types are used.

Type	Attribute	Enum value
Conditions	drivningConditionType	unkown
WeatherRelatedRoadConditions	weatherRelatedRoadConditionType	slippery
Conditions	drivningConditionType	normal
WeatherRelatedRoadConditions	weatherRelatedRoadConditionType	icyPatches
WeatherRelatedRoadConditions	weatherRelatedRoadConditionType	slippery
RoadOrCarrigewayOrLaneManagement	roadOrCarrigewayOrLaneManagementType	roadClosed
RoadOrCarrigewayOrLaneManagement	roadOrCarrigewayOrLaneManagementType	roadClosed
RoadOrCarrigewayOrLaneManagement	roadOrCarrigewayOrLaneManagementType	roadClosed
WeatherRelatedRoadConditions	weatherRelatedRoadConditionType	snow
Conditions	drivningConditionType	hazardous
Conditions	drivningConditionType	passableWithCare
WeatherRelatedRoadConditions	weatherRelatedRoadConditionType	slushOnRoad
RoadOrCarrigewayOrLaneManagement	roadOrCarrigewayOrLaneManagementType	roadClosed
RoadOrCarrigewayOrLaneManagement	roadOrCarrigewayOrLaneManagementType	closedPermanentlyForWinter
PoorEnvironmentCondition	poorEnvironmentConditionType	snowfall
MaintenanceWorksmaintenanceType	maintenanceType	snowploughsInUse
NonWeatherRelatedRoadCondition	nonWeatherRelatedRoadConditionType	roadSurfaceInPoorCondition
PoorEnvironmentCondition	poorEnvironmentConditionType	badWeather
PoorEnvironmentCondition	poorEnvironmentConditionType	blowingDust
PoorEnvironmentCondition	poorEnvironmentConditionType	blowingSnow
PoorEnvironmentCondition	poorEnvironmentConditionType	snowfall
NonWeatherRelatedRoadCondition	nonWeatherRelatedRoadConditionType	looseChippings
PoorEnvironmentCondition	poorEnvironmentConditionType	blizzard
PoorEnvironmentCondition	poorEnvironmentConditionType	fog
PoorEnvironmentCondition	poorEnvironmentConditionType	badWeather

#### SOAP URL

[https://datex.vegagerdin.is/situationpublication3\\_1/RoadConditionService](https://datex.vegagerdin.is/situationpublication3_1/RoadConditionService)

#### WSDL

[https://datex.vegagerdin.is/situationpublication3\\_1/RoadConditionService?wsdl](https://datex.vegagerdin.is/situationpublication3_1/RoadConditionService?wsdl)

#### HTTP Get URL

[https://datex.vegagerdin.is/situationpublication3\\_1/RoadConditionService/pullsnapshotdata](https://datex.vegagerdin.is/situationpublication3_1/RoadConditionService/pullsnapshotdata)

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### *Schema URL's*

[https://datex.vegagerdin.is/situationpublication3\\_1/RoadConditionService?xsd&name=DATEXII\\_3\\_MessageContainer.xsd](https://datex.vegagerdin.is/situationpublication3_1/RoadConditionService?xsd&name=DATEXII_3_MessageContainer.xsd)

[https://datex.vegagerdin.is/situationpublication3\\_1/RoadConditionService?xsd&name=DATEXII\\_3\\_D2Payload.xsd](https://datex.vegagerdin.is/situationpublication3_1/RoadConditionService?xsd&name=DATEXII_3_D2Payload.xsd)

[https://datex.vegagerdin.is/situationpublication3\\_1/RoadConditionService?xsd&name=DATEXII\\_3\\_Common.xsd](https://datex.vegagerdin.is/situationpublication3_1/RoadConditionService?xsd&name=DATEXII_3_Common.xsd)

[https://datex.vegagerdin.is/situationpublication3\\_1/RoadConditionService?xsd&name=DATEXII\\_3\\_ExchangeInformation.xsd](https://datex.vegagerdin.is/situationpublication3_1/RoadConditionService?xsd&name=DATEXII_3_ExchangeInformation.xsd)

### **Situation id's and versioning**

#### *Situation and situationRecord id's*

Each situation has a unique id which is set as an attribute to the situation

Ex: <q1:situation id="IRCA\_31243.0">

Each situationRecord in the situation has a unique id which is set as an attribute to the situation record.

Ex: <q1:situationRecord xsi:type="q1:EnvironmentalObstruction" id="IRCA\_31243.0\_1" version="0">

#### *Situation and situationRecord versioning*

If a situationRecord has an <overallEndTime> and that time has passed, one can interpret it so that the event/situation record has expired (can be removed or not shown).

If there is no <overallEndTime> the situationRecord shall be interpreted as "valid until further notice".

To determine which message is the latest (i.e. most recent) it is recommended that you look at the <situationRecordVersionTime>.

## **References**

[www.road.is](http://www.road.is) - The Icelandic Road and Coastal Administration

[www.datex2.eu](http://www.datex2.eu) - Official DATEX II web site

<https://tools.ietf.org/html/rfc7232#section-3.3> – RFC7232, section 3.3, If-Modified-Since

<https://tools.ietf.org/html/rfc7232#section-2.2> – RFC7232, section 2.2, Last-Modified

<https://tools.ietf.org/html/rfc7232#section-4.1> – RFC7232, section 4.1, 304 Not Modified