

TOWARDS ACCESSIBLE ANNOTATIONS FOR A NATIVE MAP  
VIEWER FOR THE WEB PLATFORM  
USER NEEDS AND REQUIREMENTS

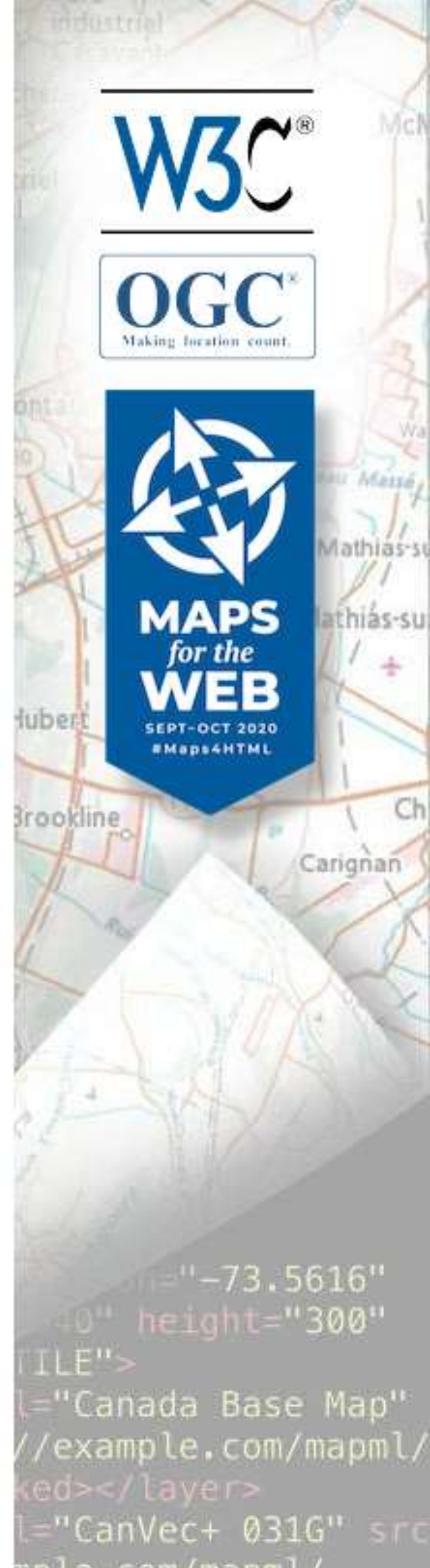
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September 29, 2020

**W3C/OGC Joint Workshop Series on Maps for the Web**

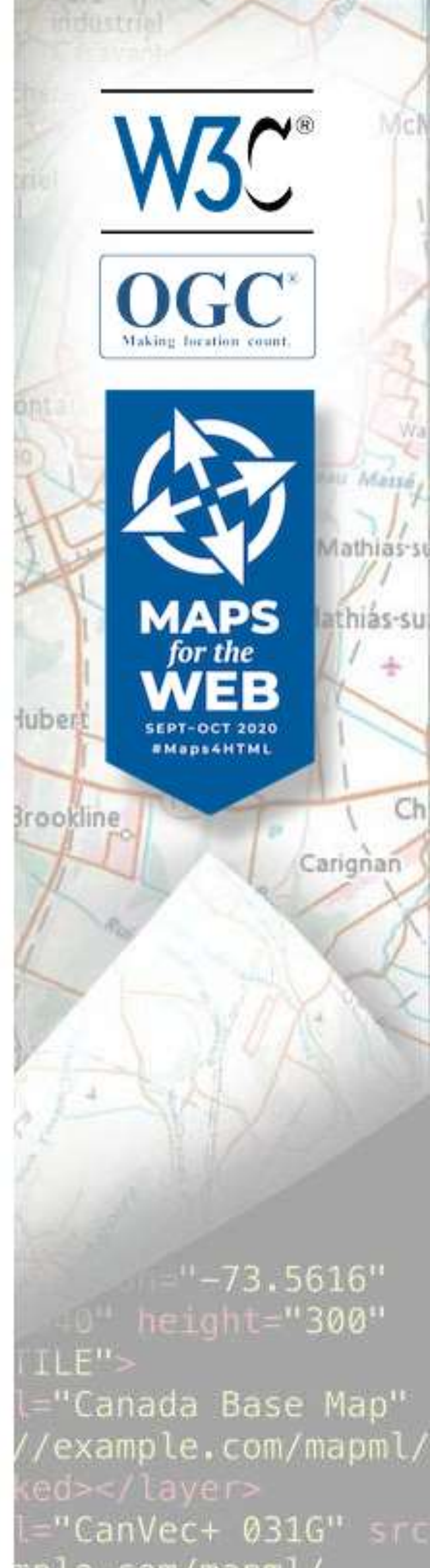
[w3.org/2020/maps/](https://w3.org/2020/maps/)



# Maps and Accessibility

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- Maps are used everyday to find routes, navigate and provide other information.
- Maps can be either complex or simple.
- According to the user needs, maps are often configurable.
- Users can switch to different views for the same data.
  
- From an accessibility perspective, we need to create accessible experiences that adapt to the different ways people interact in different modalities.



# The need for annotations

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- One of the needs relates to annotations of geolocated data and maps metadata.
- Once those annotations are specified and delivered they become available to be used from different outputs, such as non-visual (e.g. Speech Synthesis) or Symbols.
- Text annotation is the most portable format and the only one that can be translated into others.

# Maps use cases

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Maps use cases can be grouped into four main fields:

- Information retrieval
- Navigation
- Comparing
- Monitoring.

# User needs

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The following user needs are neither exhaustive, nor definitive but are presented in order to help orientate us towards understanding diverse user needs and potential requirements.

# User needs for Information retrieval

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- **Information retrieval**
- Navigation
- Comparing
- Monitoring.

# User needs for Information retrieval

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User Need 1.1: A student wants to learn the boundaries of a certain geographical area.

REQ 1.1.a: Different regions must be labeled with text and other meta-data.

REQ 1.1.b: Each place of interest (like cities) should be available for the users with an appropriate label that contains the place name and the region where it belongs.

**NOTE:** Meta-data in this context may be ARIA or other HTML attributes.

# User needs for Information retrieval

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User Need 1.2: A researcher wants to analyze a geographical area using different zoom levels and measurements.

REQ 1.2.a: Scale, unit and other metadata must be available as labels on the map context. They also must be editable using available controls.



# User needs for Information retrieval

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User Need 1.3: A user wants to study only the rivers and lakes of an area, without being distracted by other data.

REQ 1.3.a: Maps' different data must be available as layers that can be switched on and off by the user, according to their needs. Active layers must be available as text labels.

# User needs for Navigation

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- Information retrieval
- **Navigation**
- Comparing
- Monitoring.

# User needs for Navigation

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User Need 2.1: A user with low-vision wants to highlight the route between two places.

REQ 2.1.a: The distance between places must be available as a text label. If the user is using a real-time navigation mode, the distance should be updated and the update should be presented to the user, along with the data about its new position.

# User needs for Navigation

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User Need 2.2: A user, who finds orientation difficult wants to navigate towards a destination.

REQ 2.2.a: If a real-time navigation mode is enabled, the directions to follow must be available as text labels and every update or change must be presented to the user.

REQ 2.2.b: If a real-time navigation mode is enabled, the directions should be available as visual hints (like arrows) with proper alternative text. This alternate text will need to be dynamically driven and accurate.

# User needs for Navigation

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User Need 2.3: A wheelchair user wants to know the estimated time needed to move to a certain destination, following the route highlighted on the map.

REQ 2.3.a: Estimated travel time must be available as a text label.

REQ 2.3.b: Estimated travel time must be available for different travel modes and each user must be able to choose the one that they need.

# User needs for Comparing

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- Information retrieval
- Navigation
- **Comparing**
- Monitoring.

# User needs for Comparing

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User Need 3.1: A journalist wants to study data about the spread of a virus on a large geographic area. He wants to quickly understand the relevant data and spot the main differences between countries.

REQ 3.1.a: Numeric data should be available as text labels placed over the map and not only with visual highlighting. Each label should contain the value, the unit and the related country.

REQ 3.1.b: If numeric data are shown using colors or symbols, a legend must be available as text annotations on the map context.

# User needs for Comparing

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User need 3.2: A blind student wants to know the demographic data of a certain area specified on the map.

REQ 3.2.a: Numeric data must be provided with **an alternative mode** so that it is easy for the user to retrieve them without navigating the map elements for example using a table containing the data for each region of the selected area.



# User needs for Comparing

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**Alternative Mode example:** Numerical data on maps are usually shown with different colors graduations or with symbols (for example, with different sizes).

E.g. a city with 1000 people is highlighted with a big red circle, another one with 10 people with a tiny dot. Users may prefer to have those numerical data available as text over the map but also on a separate, alternative view: for example a table.

People who find difficult to differentiate colors, boundaries and symbols can retrieve the same content with the alternative 'mode'.

# User needs for Monitoring

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- Information retrieval
- Navigation
- Comparing
- **Monitoring.**

# User needs for Monitoring

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User Need 3.1: A user wants to analyze how real-time data are changing on a geographic area shown on the map.

REQ 3.1.a: Data must be available on the map as text labels or other metadata.

REQ 3.1.b: Data should update automatically if this feature is set, otherwise after a clear user action.

REQ 3.1.c: Data should be available via an alternative mode, for example using a table.

# THANK YOU!

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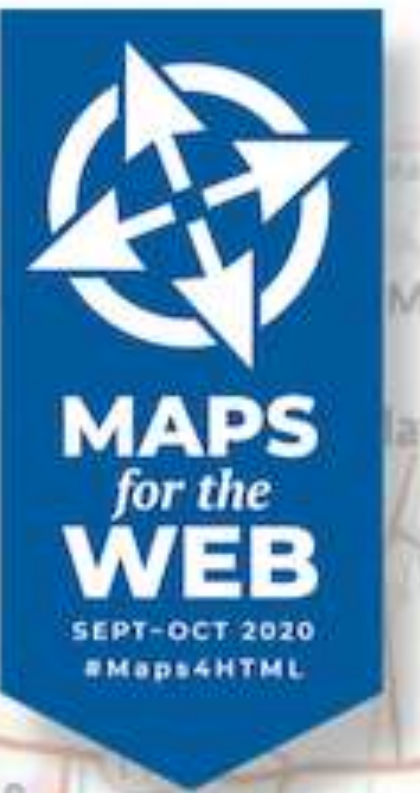
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```
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TILE">  
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//example.com/mapml/  
ked></layer>  
l="CanVec+ 031G" src  
example.com/mapml/
```