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# THE MAPML PROPOSAL - PART ONE

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September 23rd 2020

W3C/OGC Joint Workshop Series on Maps for the Web

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

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Making location count.

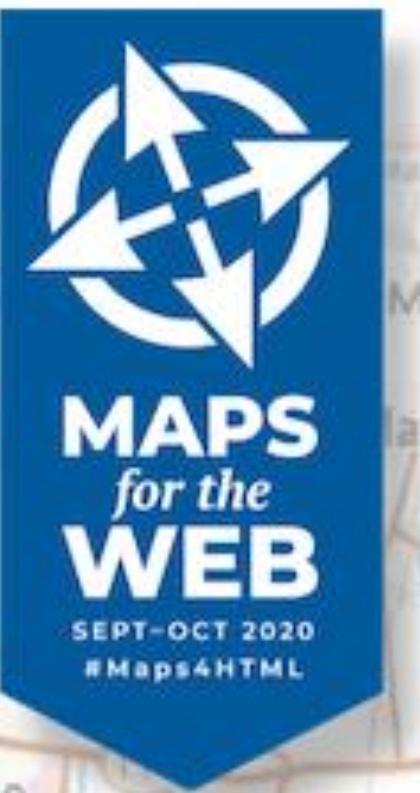


```
width="73.5616"  
height="300"  
TILE">  
l="Canada Base Map"  
//example.com/mapml/  
ked></layer>  
l="CanVec+ 031G" src  
example.com/mapml/
```

# Preface

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- MapML is the MVP of markup to support maps, like <video> etc
- Why <map>? Need a declarative, semantic entry point for maps in HTML for various reasons:
- Ethical: learn maps & geography through standards, least common denominator: HTML
- Performance: rendering spatial content is demanding. Script is killing the mobile web, and maps are especially timely for mobile users. So, build maps into the rendering engine of browsers.
- Ethics: Need to define and standardize what “accessibility” means in real life for maps and map users. It’s clear that like the Web, maps are for everyone, so let’s make that experience better and standard.
- Improve the ROI on spatial information: establish an organic non-metadata approach for spatially indexing the Web so that everyone can benefit via search engine implementation.
- HTML Design Principles are a framework to guide discussion
- Progressive enhancement, graceful degradation are key design values

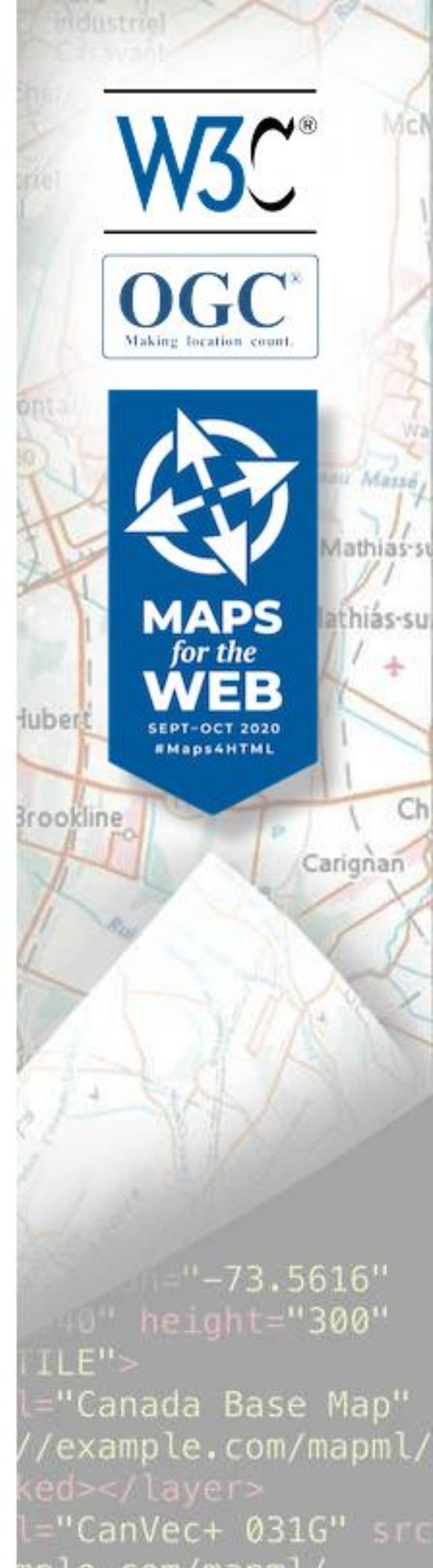
The W3C logo, consisting of the letters 'W3C' in a blue, stylized font with a registered trademark symbol.The OGC logo, featuring the letters 'OGC' in a blue, bold font with a registered trademark symbol, and the tagline 'Making location count.' below it.

# Agenda

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## Part 1

- The key elements: <map>, <layer> and <extent>
- Tiled Coordinate Reference Systems and Zoom Levels



# The <map> element

A small set of 'projection' values is defined. The default, if unspecified, is 'OSMTILE', which corresponds with Web Mercator.

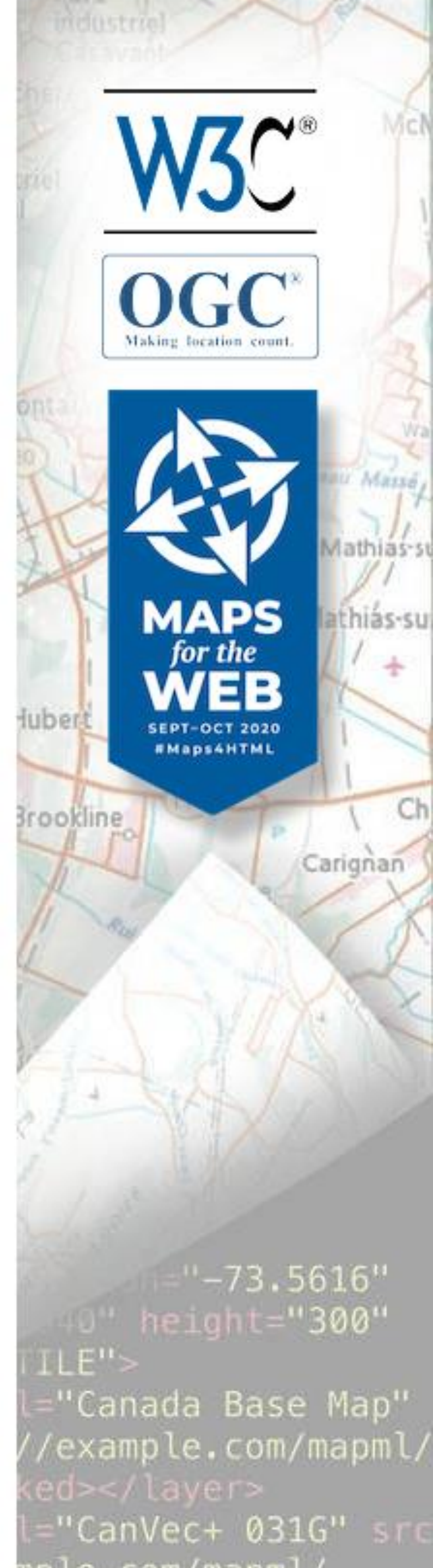
Required lat / lon numeric attributes designate the starting location

Required zoom integer-valued attribute defines the map scale

Boolean 'controls' attribute turns controls on / off. Controls are created by default in a closed shadow root, (like <video>)

The 'controlslist' attribute can prune the set of native controls provided

```
<!DOCTYPE html>
<html lang="en">
  <head> <title>Canada Base Map</title> </head>
  <body>
    <map projection="OSMTILE" zoom="4" lat="53" lon="-91" controls controlslist="nofullscreen">
      <layer label="Canada Base Map" checked src="..."></layer>
      <layer label="Canada Weather Map">...inline content...</layer>
    </map>
  </body>
</html>
```



# The <layer> element

```
<!DOCTYPE html>
<html lang="en">
  <head> <title>Canada Base Map</title> </head>
  <body>
    <map projection="OSMTILE" zoom="4" lat="53" lon="-91" controls>
      <layer label="Canada Base Map" hidden checked src="..."></layer>
      <layer label="Canada Weather Map" checked hidden>...inline content...</layer>
    </map>
  </body>
</html>
```

A 'hidden' layer is not shown in the layer control, but is rendered on the map

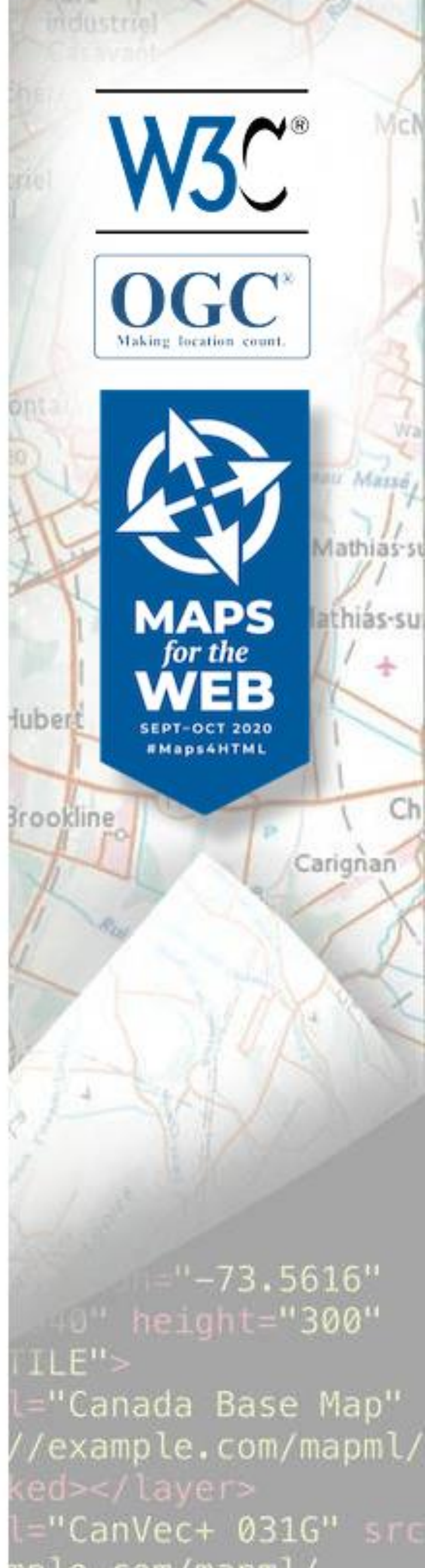


(processing similar to )

Layers are children of the <map> element only, and do not nest.

A layer has a text label attribute

A 'checked' layer renders on the map.

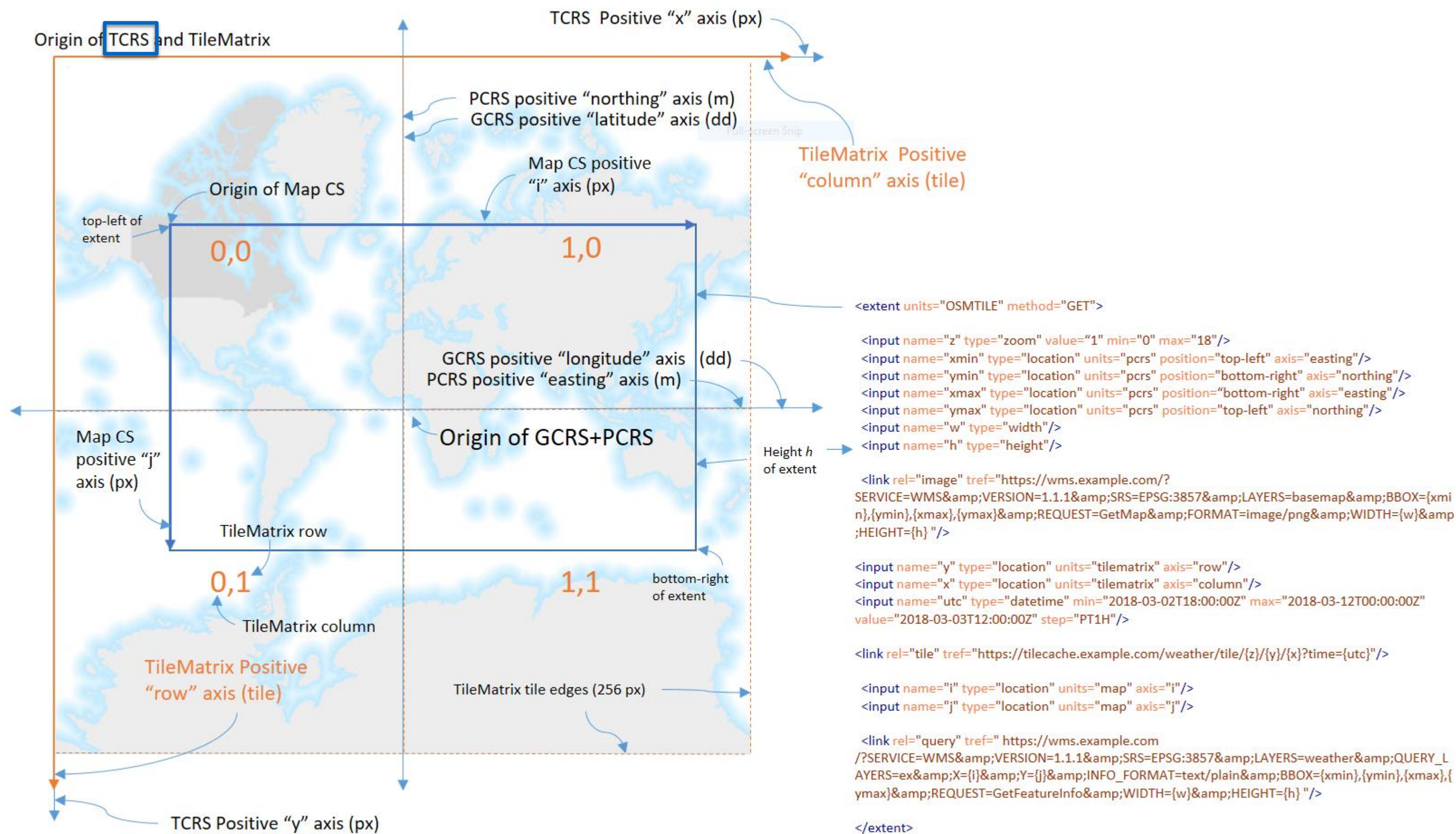


# The <extent> element

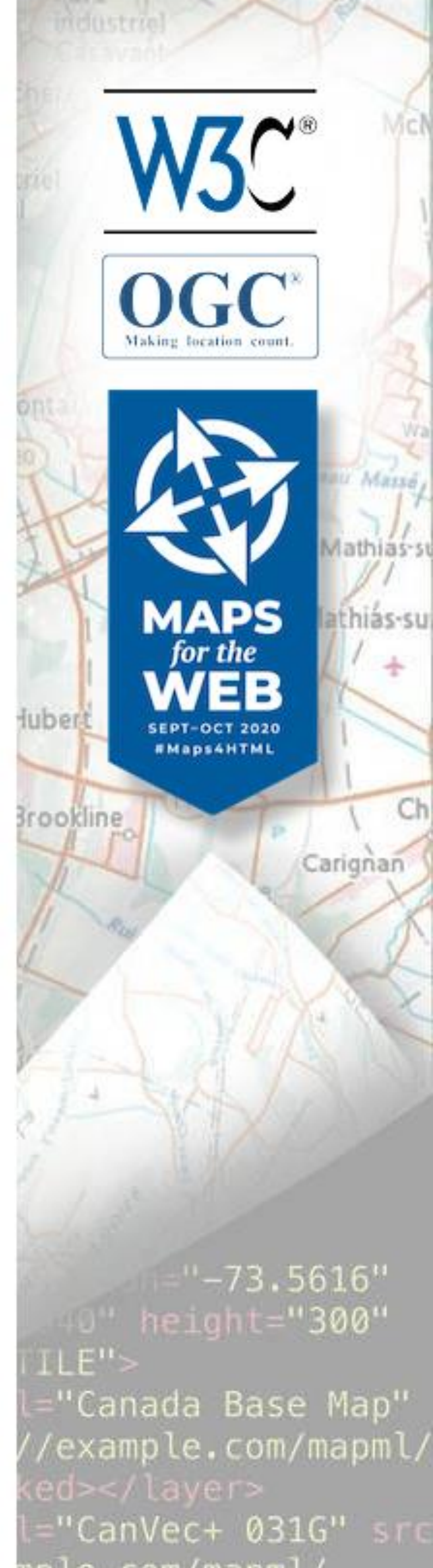
```
<!DOCTYPE html>
<html lang="en">
  <head> <title>Canada Base Map</title> </head>
  <body>
    <map projection="OSMTILE" zoom="4" lat="53" lon="-91" >
      <layer label="Canada Base Map" checked>
        <extent units="OSMTILE">
          <input name="z" type="zoom">
          <input name="y" type="location" units="tilematrix" axis="row">
          <input name="x" type="location" units="tilematrix" axis="column">
          <link rel="tile" tref="https://.../GEOM_3857/{z}/{y}/{x}/">
          <link rel="tile" tref="https://.../TXT_3857/{z}/{y}/{x}/">
        </extent>
      </layer>
    </map>
  </body>
</html>
```



# Tiled coordinate reference systems

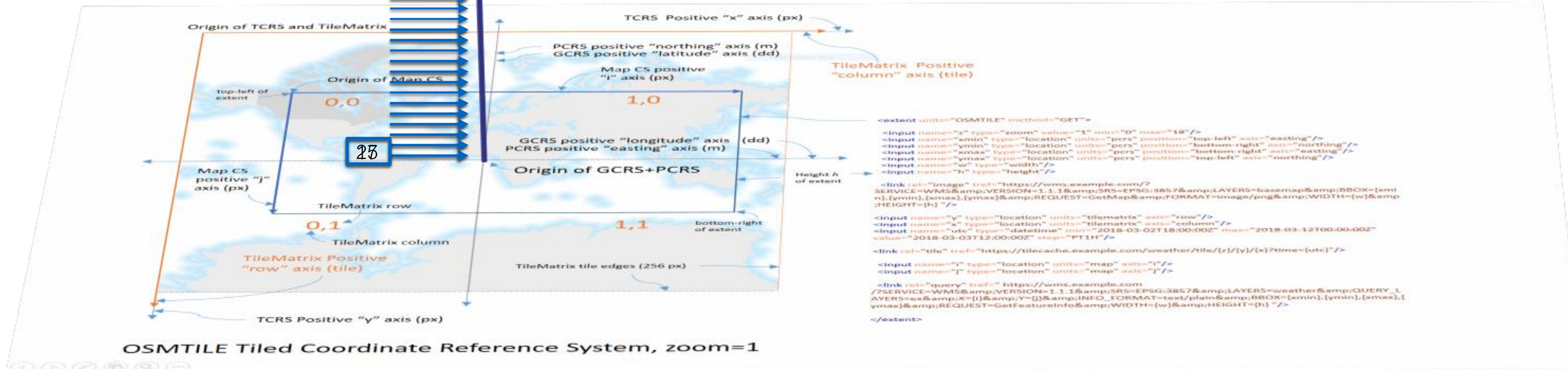
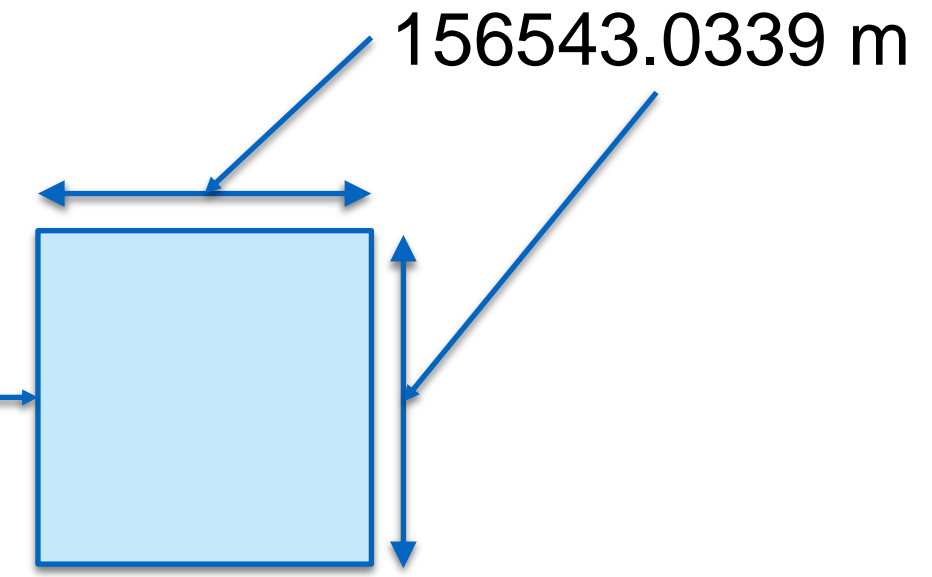


OSMTILE Tiled Coordinate Reference System, zoom=1



# Zoom levels

A "pixel" at zoom = 0



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MAPS  
for the  
WEB  
SEPT-OCT 2020  
#Maps4HTML

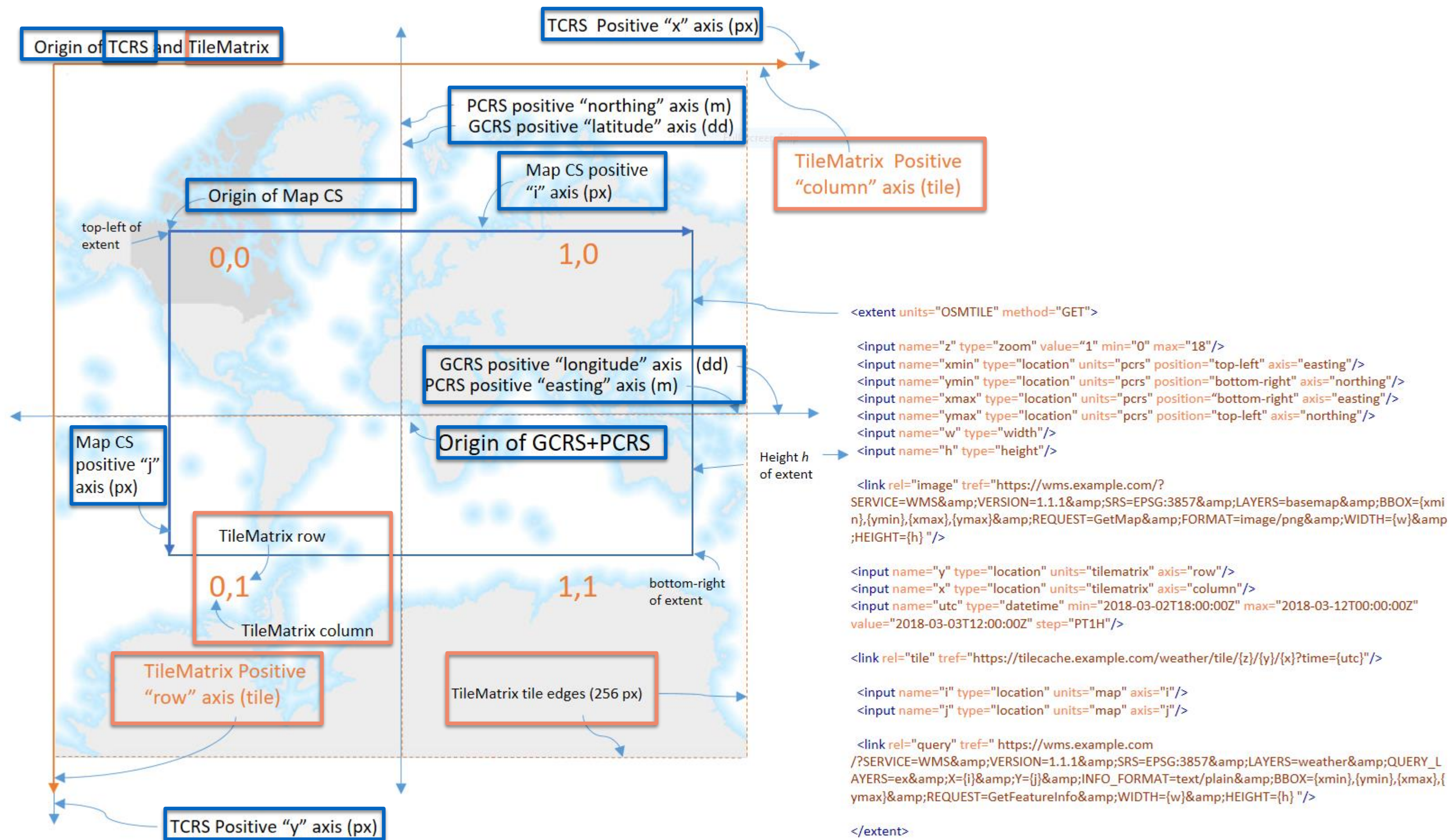
```

...=" -73.5616"
...40" height="300"
...TILE">
...l="Canada Base Map"
...//example.com/mapml/
...ked></layer>
...l="CanVec+ 031G" src
...com/mapml/

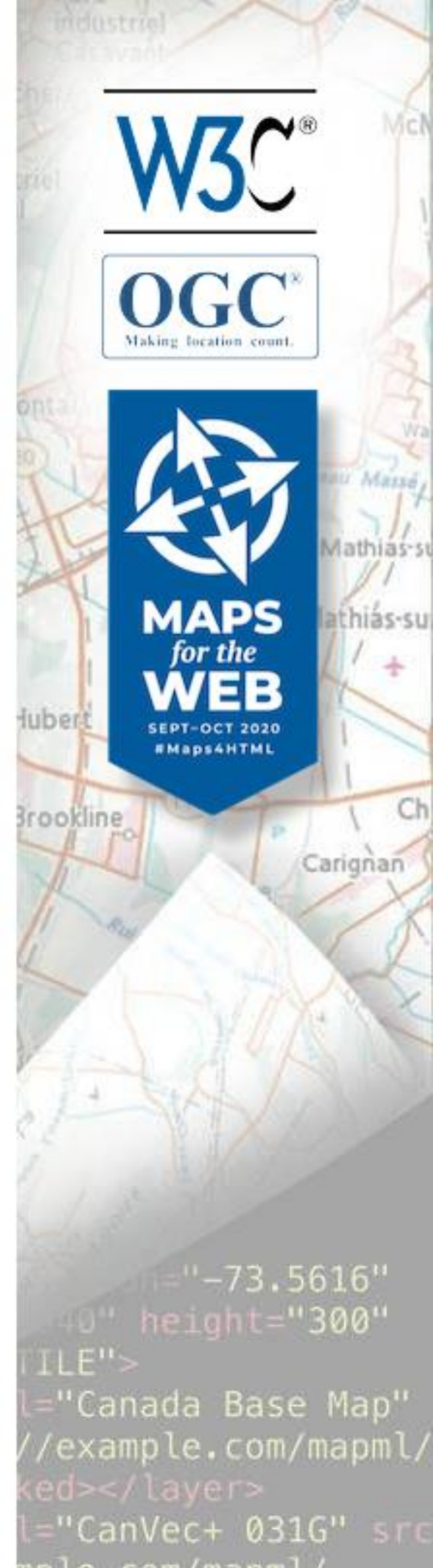
```



# Tiled coordinate reference systems



OSMTILE Tiled Coordinate Reference System, zoom=1



# THANK YOU! MERCI!

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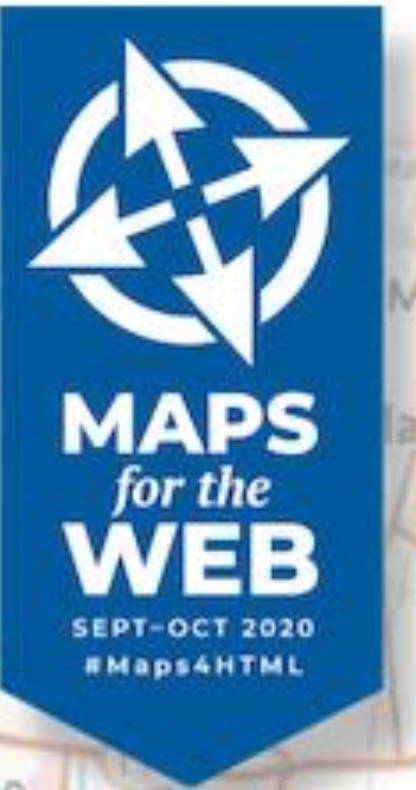
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