Don’t fade away: Utilizing web maps to highlight, reveal and promote map libraries collections and research
• map libraries have amazing resources...
  ...but not always digital...

• how & why what was done

• web map(s)
  • types of web maps
    (specific “type” of web map)

• how!

• considerations
thousands of aerial photos and maps

A227-65, 1928

[section of] Victoria S.415a, 1934
How & Why? Curiosity...

UVic CJVI lands (dog park)
Orchards: “regular spacing and alignment of trees...”

Shelbourne Valley from Mt. Tolmie (1908)
Saanich Archives Photo 1989-008-175

“...near human occupancy...”
Aerial Photography and Image Interpretation
(Paine & Kiser, 2012)
Why?

“To know a place is also to know the past. Place...is the past and the present...”

Yi-Fu Tan, 1975. Place: An Experiential Perspective. Geographical Review 65(2)

Map libraries are filled with the past... and are useful for the present...
How?
BA25-48, 1926

[section of] Victoria S.415a, 1934
geo-reference airphotos to current road/street network & 1934 Victoria map
ArcMap desktop
Make public / share?

At minimum, want users to be able to click on / off layers of the:

• historic air photos

• 1934 Victoria map

• current roads / streets
Make public: How?

• generate .pdf from ArcGIS or QGIS but both...
  • “flatten” 2 or more raster layers into one inseparable layer

• ArcGIS OnLine did not support raster files in 2013
  • same with GeoCommons

• QGIS-Cloud (currently) did not support raster files in 2013
Make public: How?

• Adobe Illustrator (generate a .pdf with clickable layers)
  • but does not support geo-ref’d files

• MAPublisher (Avenza): plug-in for AI
  • cannot delete / eliminate “no data” area of geo-ref’d raster file
  • need to clip raster inside of “no data”
  • $800 year single license (!)
Safe FME translator(s) (Feature Manipulation Engine) but “only” produces a .pdf
Make public: How?

web maps service(s)

- CartoDB
  - 50 mb free (but not enough space!)
  - 100 mb $30/month
  - 200 mb $50/month

- GIS-Cloud
  - “special” of $100/month
  - 60% off for lifetime subscription...going....gone??
MapBox 2013: 50mb Free!  250mb $5/month  **2015: 1Gb $5/month!**  (100mb: free)
...limitations of using earliest air photos

UVic CJVI farm land: BC2042-55, 1956
UVic “dog park” CJVI farm land: BC5091-266, 1964
How to display change over time

**Touch History** YouTube video (1:20 min mark)
(Louis-Pascal Rousseau, McNeil Center for Early American Studies, University of Pennsylvania)

ahhhh; how do they do that?
Cool??! but not that useful...?
Land use change in Saanich, Victoria, BC
Use the slider to "swipe" aside the 1926 aerial photo to reveal current land use.
Land use change over time in Saanich, Victoria, BC
Slide through historic airphotos from 1926, 1954, 1959 and 1992

(Airphotos also [auto-cycle](#) for mouse-less touch screen devices.)
Types of webmaps

• some spatial analysis

• upload data

• download data

• zoom, pan, turn off/on elements/layers

• zoom, pan

• .pdf with elements to turn off/on

• (static) image (.jpg, .png)

Jan-Menno Kraak, *Web Map Classification*, 2001
near North “Buttle Lake” campground
“Campbell River” Islands...

...near Strathcona Park Lodge
(part of sheet) NTS 92F/13: before / after 1952-54 dam construction

1946: 1st edition

2011 4th edition
Before Strathcona Dam
Site C will be a third dam and generating station on the Peace River in northeast B.C. The project will provide 1,100 megawatts of capacity and about 5,100 gigawatt hours of energy each year to the province’s integrated electricity system.
WAC Bennett and Peace Canyon Dams
(on Peace River backing up into Parsnip and Parsnip Rivers)
created Williston Reservoir
deliberate #2?... hmmm...

RESERVOIR FOOTPRINTS

BENNETT'S WILLISTON RESERVOIR

177,300 HECTARES

Vancouver, Burnaby, Richmond, Delta
1,367 sq.kms

1,773 sq.kms

SITE C

9,330 HECTARES

93 sq.kms

BC gov't Dec.16, 2014 announcement slideshow
Rivers and humans

humans have manipulated rivers for millennia

- Smith, N. *A history of dams*, 1971

- Goudie, A.S. *The human impact on the natural environment: Past, present, and future* (7th edition since the 1980s!)

- Wohl, E. & Merritts, D.J. What is a natural river? *Geography Compass*, 2007
“Today’s distant beneficiaries [electricity consumers] do not remember the Finlay, Parsnip, and pristine Peace Rivers...” (p.307)
How did we get from this...

[section of map from] Peace River Chronicles, 1963
...to this...  ...so build a web map to remember the...
[section of] David Thompson’s *Map of the North West Territory of the Province of Canada*, [1814]
“...we ascended the Parsnip River down to the mouth of Nation River...”

Selwyn, A.R.C. (BC Archives NA-41323)
looking up river from the entrance to the Peace River Canyon, 1901
[Frank Swannell] survey expedition crossing Finlay River at Moodie Trail, Oct. 1914 (low water)
Finlay rapids on the Peace River, October (low water), 1914

BCA I-59806, 1914

BCA I-59753, 1914
(Nes) Parle Pas Rapids on the Peace River, July 1929

Frank Swannell, 1880-1969
Remembering the Dam(n)ed: Finlay, Parsnip and Peace rivers before Williston reservoir

"Today's distant [electricity consumers] do not remember the Finlay, Parsnip, and pristine Peace Rivers..." (SiteC Joint Review Panel, 2014)

Zoom in to see the rivers; click markers for historic photos; and use slider to fade out pre-Williston reservoir topographic maps.
How?

• html

• css

```html
<link rel="stylesheet" href="http://cdn.leafletjs.com/leaflet-0.7.3/leaflet.css"/>
```
(link to .css from the web)

OR

```html
<link rel="stylesheet" href="OpacityLib/jquery/jquery-ui-1.10.3.custom.min.css"/>
```
(download to computer directory and link)

• javascript

```html
<script src="http://leafletjs.com/dist/leaflet.js"></script>
<script src='https://api.tiles.mapbox.com/mapbox.js/v2.1.6/mapbox.js'></script>
<script src="OpacityLib/jquery/jquery-ui-1.10.3.custom.min.js"></script>
```
var Thunderforest_OpenCycleMap = L.tileLayer('http://{s}.tile.thunderforest.com/cycle/{z}/{x}/{y}.png',
  { attribution: '&copy; <a href="http://www.opencyclemap.org">OpenCycleMap</a>, &copy; <a href="http://www.openstreetmap.org/copyright">OpenStreetMap</a>' });
Customisable web maps important?
NOT always possible with web map providers

CartoDb

ESRI PDX
Considerations

• utilize (open-source) JavaScript libraries to create web maps with custom features (OR
• utilize web map providers with standard features)

• host and serve our maps ourselves

OR

• upload “our” maps to US server or cloud

• need to build for mouse and touch screens
Map Libraries are filled with “change over time”!

- Can web maps highlight our collections?
- Web maps: “hot like chicken s**t”
- Web maps: necessary geovisualisations in today’s digital world?