The stories, politics and controversies (buried) within topographic maps
• pre-amble

• (my) questions

• some examples / case studies

• web maps to highlight topographic map collections?

• conclusion(s)
Map libraries are filled with the past (& present)...

...thousands of aerial photos and maps...

and

are useful for the present...

[section of] A227-65, 1928

[section of] Victoria S.415a, 1934
Topographic maps
(- are boring?...)
(- who needs them?; we have Google Maps...)

*versus*

Thematic (or “special topic”) maps

(not talkin’ ‘bout...) Thematic (or “special topic”) maps
North America

The entire Atlantic seaboard would vanish, along with Florida and the Gulf Coast. In California, San Francisco’s hills would become a cluster of islands and the Central Valley a giant bay. The Gulf of California would stretch north past the latitude of San Diego—not that there’d be a San Diego.
The “mountains” of Winnipeg

focus on topo maps...
[section of NTS 1:50,000 sheet] 92F/13 before / after 1952-54 dam construction
questions

• (still) Need topographic maps?

• What can historical topographic maps reveal?

• How / Why is
  • a lake no longer a lake?
  • an island no longer an island?
  • a valley no longer a valley?
  • a town no longer a town?

• Why is former landscape important?
How?/Why?

...May 2015 email from student who wanted to see...

“...Highland Valley prior to the development of Highland Valley Copper Mine...”
Highland Valley Copper Mine

Vancouver

Kamloops
Highland Valley Copper Mine
one tailings lake...

http://www.bcsnowcat.ca
Bing (and/or Google) Maps of Highland Valley Copper Mine
Google (terrain) Map of Highland Valley Copper Mine
Open Street map of Highland Valley Copper Mine
How / Why is a lake no longer a lake?

[section of] 92I/11 east, 1st ed, 1948


<table>
<thead>
<tr>
<th>Name</th>
<th>Big Divide Lake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key</td>
<td>JAHVQ</td>
</tr>
<tr>
<td>Status</td>
<td>Rescinded</td>
</tr>
<tr>
<td>Feature Type</td>
<td>Lake</td>
</tr>
</tbody>
</table>
How / Why is a lake no longer a lake?

<table>
<thead>
<tr>
<th>Name</th>
<th>Quiltanton Lake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key</td>
<td>JBUH</td>
</tr>
<tr>
<td>Status</td>
<td>Rescinded</td>
</tr>
<tr>
<td>Feature Type</td>
<td>Lake</td>
</tr>
</tbody>
</table>
most important question?

Why is former landscape important?
methods / sources

• maps

• reports

from the 1910s onwards
historical landscape important?

“...how and why was this landscape made?”

Geography and History
Bridging the Divide
Alan R. H. Baker
2003
historical landscape important?

“...an understanding of places and regions requires historical understanding...”

instead of (only) Canada....

some examples from California

...since we’re here at Stanford....
Orange County, 1930 population: 118,674
Orange County, 1950 population: 216,224
82.1% increase since 1930
Orange County, 1960 population: 703,925; 225% increase from 1950!
[section of] Shell mapsheet
San Francisco & vicinity; 1956
Embarcadero Freeway #480 (1960-1991) obscuring the San Francisco Ferry Building

www.spur.org/publications/urbanist-article/2010-02-01

Darius Aidala; http://www.fhwa.dot.gov/publications/publicroads/06mar/07.cfm
Embarcadero Freeway #480 (1960-1991) demolition in front of San Francisco Ferry Building

https://en.wikipedia.org/wiki/California_State_Route_480

https://mtc.ca.gov
What?
Rivers, dams, 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
Jacksonville... flooded... by Don Pedro Reservoir.
[section of] 1:62,500 USGS mapsheet Bradley, CA; 1948

[section of] 1:50,000 USGS mapsheet Bradley, CA; 1976
[section of] 1:62,500 USGS mapsheet
Valley Springs, CA; 1944

http://noehill.com

[section of] 1:62,500 USGS mapsheet
Valley Springs, CA; 1976
[section of] 1:62,500 USGS mapsheet
Valley Springs, CA; 1944

[section of] 1:62,500 USGS mapsheet
Valley Springs, CA; 1976

https://www.loc.gov/item/ca0030/
Los Angeles County, 1920 population: 936,455
[section of] 1:24,000 USGS mapsheet
Hollywood, 1953

LA County, 1950: 4,151,687
343% increase from 1920!
Har(d) town(s):
Baird, Copper City, Elmore, Etter, Kenneth, Morley, Pitt, Winthrop
California, 1930: 6.5 million acres, crops harvested
California, 1992: 7.7 million acres, crops harvested
1942; acres planted to grapes: Napa: 12k acres
Sonoma: 22k acres
1984; acres planted to grapes: Napa: 30k acres
Sonoma: 26k acres

ultimately dams age... and rivers triumph...


Elwha River, “free” after 100 years!

...topo maps needed to reconstruct the landscape...

USGS TopoView:
supposedly every edition, various scales, on-line...

...need to keep the print?
What IF change in government?... in priorities...

What IF USGS discontinues this program?

at minimum,
designated University Map libraries from every state should, retain every issue of every topographic map for their state
Map Libraries have these (great) maps...

How can we highlight them to (potential) users?
(part of sheet) NTS 92F/13: before / after 1952-54 dam construction
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
Berryessa Reservoir: 83sq miles
Shasta Reservoir: 46sq miles

Vancouver, Burnaby, Richmond, Delta
1,367 sq.kms (527 sq.miles)

1,773 sq.kms
685 sq.miles

93 sq.kms

BC gov’t Dec.16, 2014 announcement slideshow
WAC Bennett Dam, 1968 and Peace Canyon Dam, 1980 (on Peace River backing up into Parsnip and Parsnip Rivers) created Williston Reservoir

“Today’s distant beneficiaries [electricity consumers] do not remember the Finlay, Parsnip, and pristine Peace Rivers…” (p.307)
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.
Island Copper Mine, 1971 - 1995
(Vancouver) Island Copper Mine, 1971 - 1995

- pit 400m below sea level
- 1.4m tonnes valuable mined
- 800m tonnes waste rock
- 200m tonnes tailings

Aspinal, C. The Story of Island Copper, 1995
...but others state...

- dispersal of tailings greater extent than predicted
  *Assessment of metal mine submarine tailings discharge to marine environments*, 1996

- (federal) *Metal Mining Effluent Regulations*, 2002

- Governments and NGOs re-evaluating underwater tailing

- *Fisheries habitat compensation planning for mine drainage impacts at the Island Copper Mine*, 2007

- “…resulted in a permanent alteration of the native habitat and the smothering of resident benthic biota…”
  Dold, B. *Submarine tailings disposal (STD) - A review. Minerals*, 2014
pre-mine bathymetry, 1968

“being filled”, 1974

1997

(Before) Vancouver Island Copper Mine, 1971 - decommissioned 1995
Before Mica Dam
Map Libraries are filled with “change over time”!

- Can web maps highlight our topographic collections?

- Web maps: “hot like chicken s**t”

- Web maps: necessary geovisualisations in today’s digital world?
should librarians spend time building web maps...

Thanks for the awesome links.
We will be using them in both GEOG 101B and in 101A assignments.
(Uvic Geography instructor, Aug2015)

...comparative images of two British Columbia glaciers that will be of interest to some...
...and should prove to be handy teaching tools.
(Canadian Association of Geographers Listserv, Nov2015)

...help me find either a topo map and/or photos of the Nation River where it flow[ed] into the Parsnip River circa 1960 (prior to Bennett Dam)
(Manager, PipestoneProjects, Aug2016)

The students loved what you did online showing the development of land in Victoria. And they were really shocked... by the receded glacier...or disappeared...
(Uvic Education student on practicum, Apr2016)
Map Libraries are filled with “change over time”!

“Countering the ephemerality of screen-based map display... [is] the lasting value of old maps in their physical form...”

Humans...

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

“...the
  • general public
  • planners
  • politicians
  • land managers
  • ecological modelers
  • restoration ecologists
are some of the potential users of landscape history.”
[section] of 92I/11 east, 1st ed, 1948 over current imagery via QGIS
“To know a place is also to know the past. Place...is the past and the present...”

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