



Network-Landscapes – Assessing the perceived landscape through the use of internet-based, international, locative media data streams

Assessing the perceived landscape using crowdsourced photo geodata

Landschaftswahrnehmung

(Landschaftsbild)

Ausgangsbasis: gesetzlicher Anlass

→ Wahrnehmung ist entscheidend für unser Wohlbefinden



- EU Landscape Convention: landscape “as a zone or area as **perceived by local people or visitors**” (ELC art. 1, para. 38).
- EU Biodiversity Strategy to 2020/CICES (Common International Classification of Ecosystem Services): “[...] ecosystem services are the contributions that ecosystems make to **human well-being.**”
 - Physical and experiential interactions
 - Intellectual and representational interactions
 - Spiritual and/or emblematic
- BNatschG (Germany); Countryside Commission for Scotland (1971); Rural White Paper UK (2000); USDA Forest Service (1973)

Schwerpunkt: visuell

→ Größte Teil der Wahrnehmung geschieht **visuell**

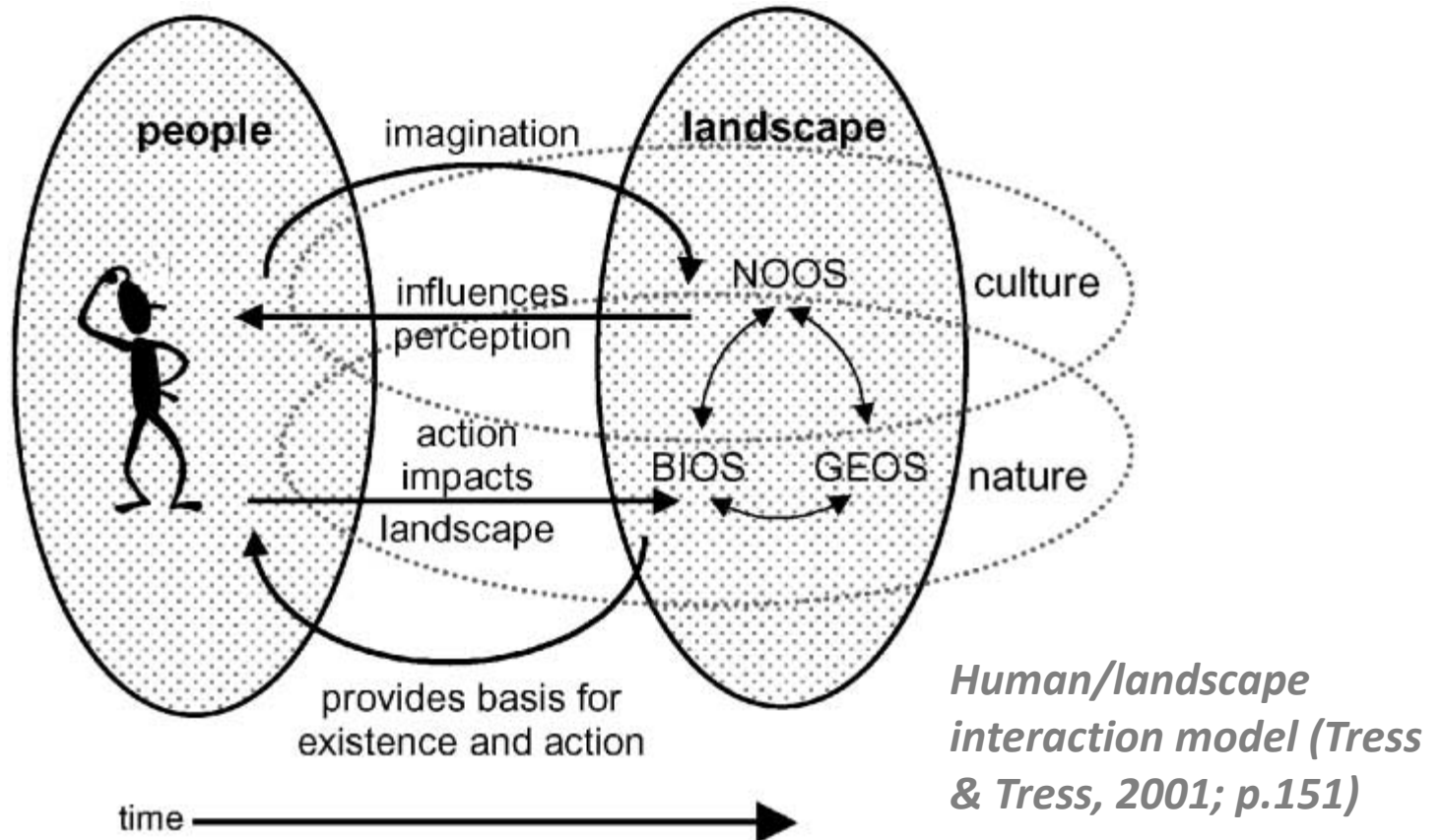
*“[...] ability to handle large quantities of **visual** landscape information has been essential for our species' long term survival (Ulrich, 1977).”*

*“We use all our senses to analyse our surroundings, **particularly sight, which fulfils 87 per cent of our sensory perception.**” (Bell, 2012, p.16; p.40);*

“It is not possible to think in smell, sound or taste, but in pictures!” (Arnheim, 1969)

Problem(e):

Das Sehen und die kognitive Verarbeitung des Gesehenen sind untrennbar verbunden.

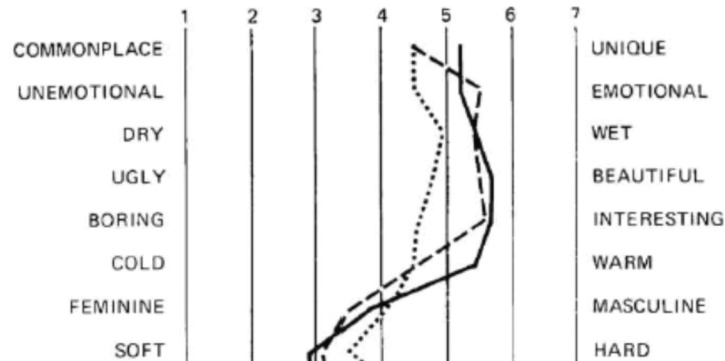


...ist verschieden von Mensch zu Mensch

Stand der Praxis



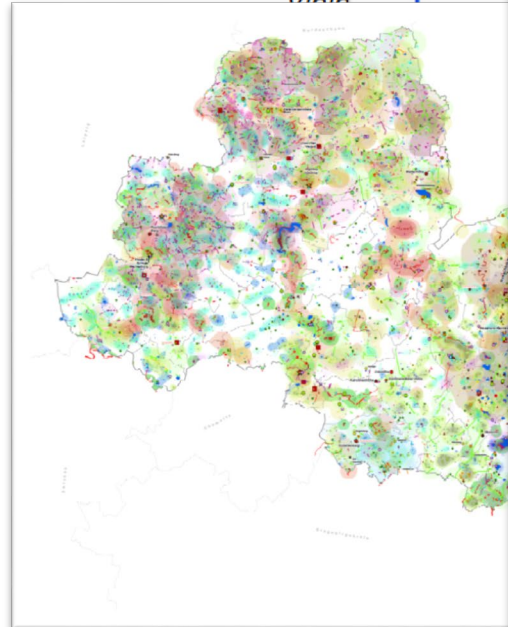
Scene 4.—A lake with stone-crushing plant from scene 3 appearing in the background.



AL'
aning
ver



RE SAYS THAT WE ARE A VERY
tight family, like the THREE
ty sucks, but it brings us
ETHER.
Anda Banks



Kulturlandschaftselemente in Mittelsachsen

(Shafer & Richards, 1974)

(Collier, 1967)

Ansatz:

Auswertung frei verfügbarer Fotos im Internet

Study Area	Berkeley	Coit Tower	Fort Mason	Bay Area, CA	State of California	Yosemite	Highline, NY	Germany	State of Saxony	Dresden Oldtown	B.-Wuerttemberg	Σ
Num. of Photos	121,456	8,280	41,777	1,150,954	2,981,319	36,520	39,541	2,821,268	209,323	10,828	472,292	5.8 M.
Num. of Tags	630,093	40,245	38,696	3,959,748	15,440,753	164,985	218,718	2,291,886	1,207,830	58,063	344,116	18.1 M
Num. of Users	5,100	1,497	5,002	27,049	53,977	2,461	3,776	84,028	7,929	901	13,840	0.14 M

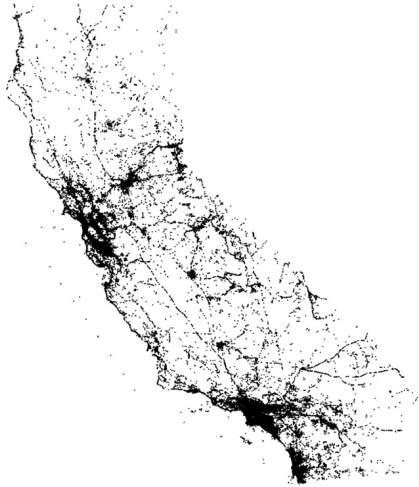
Flickr Studie basierend auf:

6 Millionen Fotos

18 Millionen *Tags*

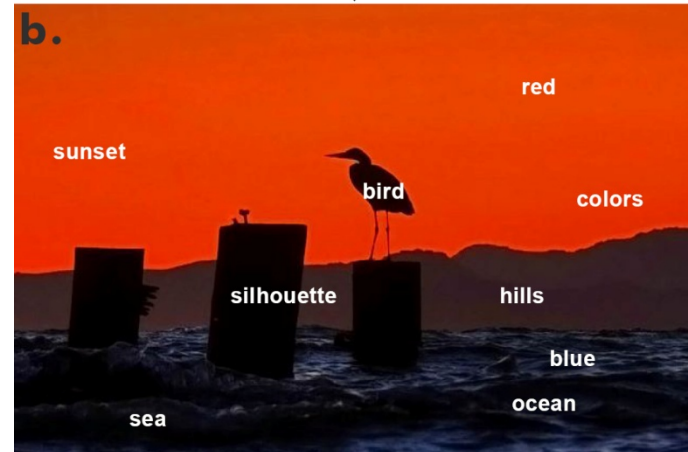
140.000 Nutzern

1. Fotografieren ist Interaktion



2. *Tagging* (Beschriften) ist Bedeutungszuschreibung

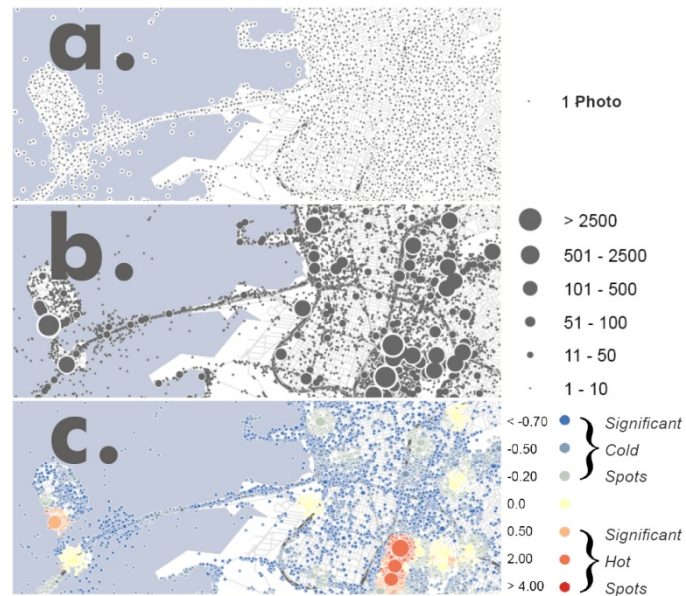
a.
ocean, california, blue, sunset, red, sea, sky, bird, colors,
sunglasses, silhouette, grey, bay, bravo, hills, albania,
sanfranciscobay, hdr, trilogy, gonewiththewind, goldengatefields,
albanyca, flopper, interestingness27, i500, explorefrontpage,
photomatrix, bonzag, p1f1, explore20



2009 - 2011
state of california
flickr data stream

3. Fotografieren & *Tagging* sind Kommunikation

Von Einzelwerten zu Gruppenwerten..



1. Aggregieren von Fotostandorten

Ergebnisse

Assessment! Evaluation?

Erfassen/Beurteilen --- Bewerten

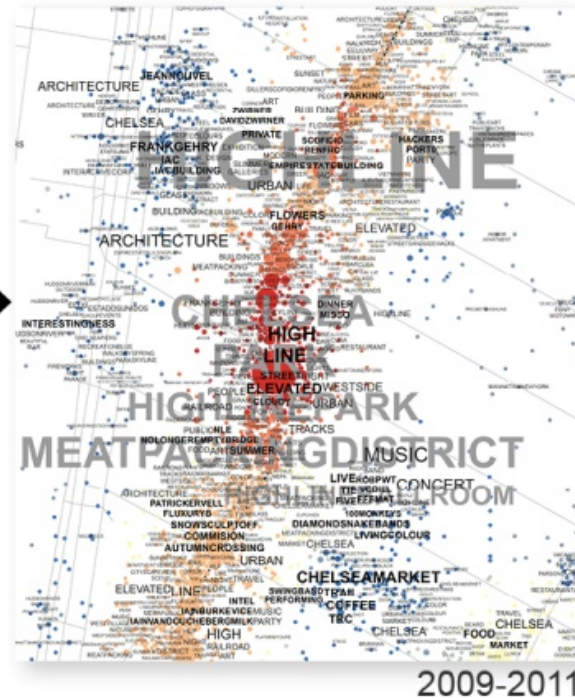
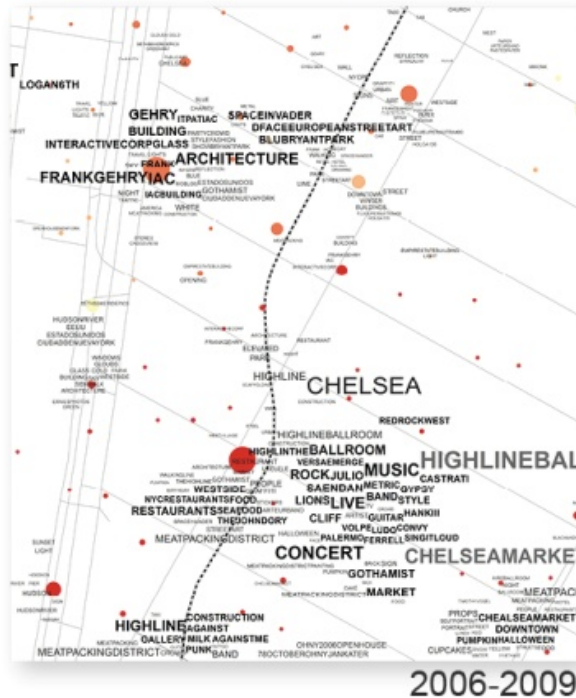
Anwendungsbeispiele



→ Bei der Visuellen Bestandsaufnahme - Landschaftsbild: Relativierung der eigenen (Experten-)Wahrnehmung

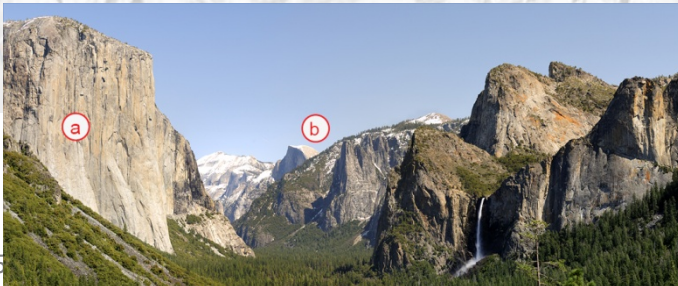
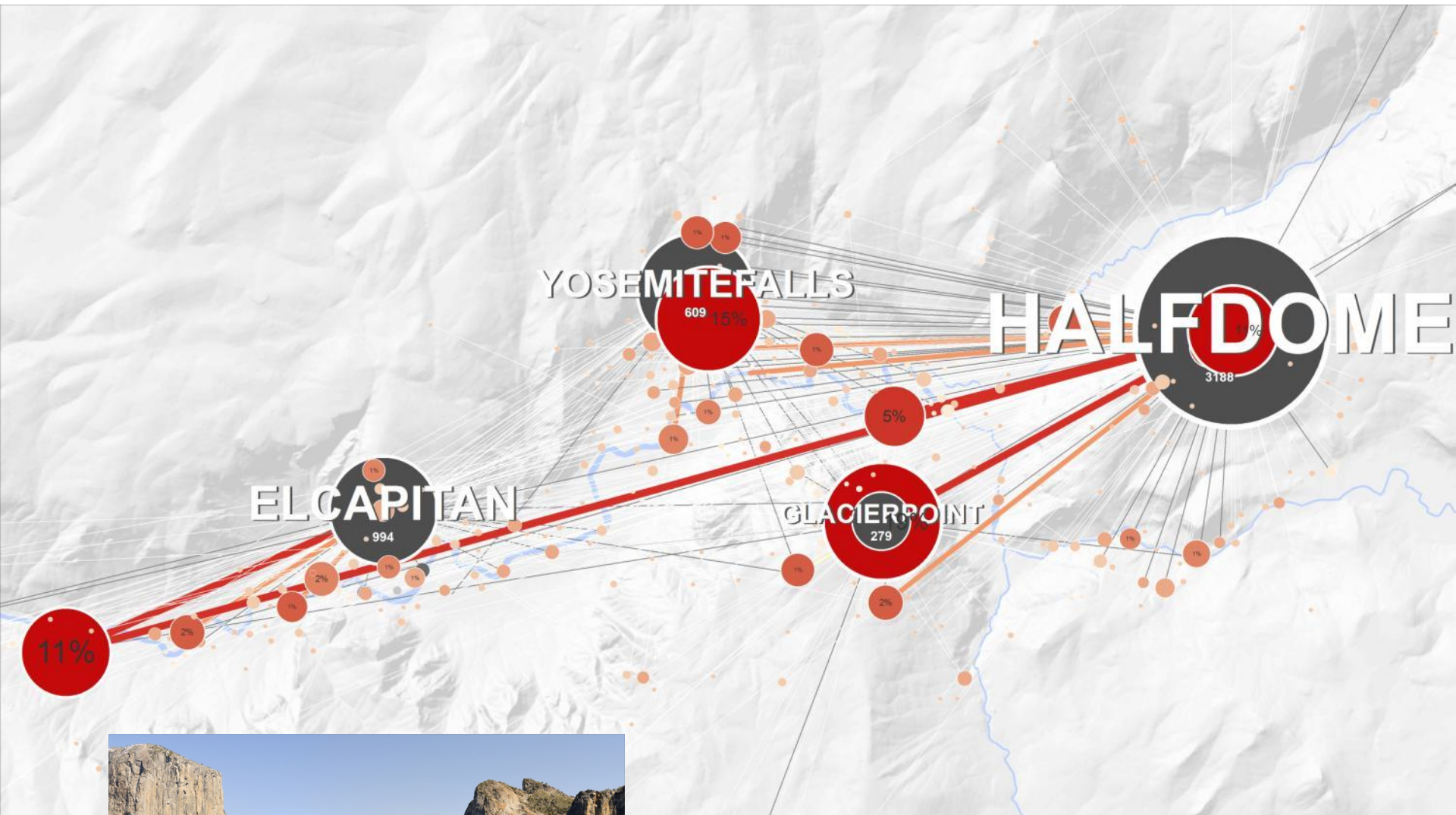
→ Bemessung von Wahrnehmung in Zahlen, z.B. bei der Umweltverträglichkeitsprüfung

Anwendungsbeispiele: Landschafts(bild)wandel



Highline Park, NY, eröffnet
08/06/2009

Anwendungsbeispiele: Sichtachsen



→ Die Bedeutung eines Ortes als Aussichtspunkt
im Bezug zur Bedeutung als Sichtpunkt

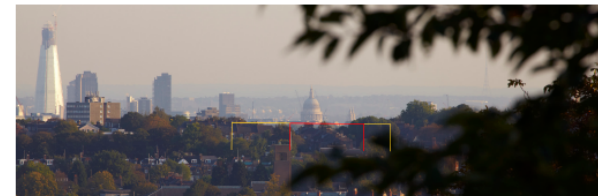
Anwendungsbeispiele: Sichtachsen

Protected Vista from Assessment Point 1A.2

from: Alexandra Palace: the viewing terrace – approaching from the north-eastern carpark to: St Paul's Cathedral

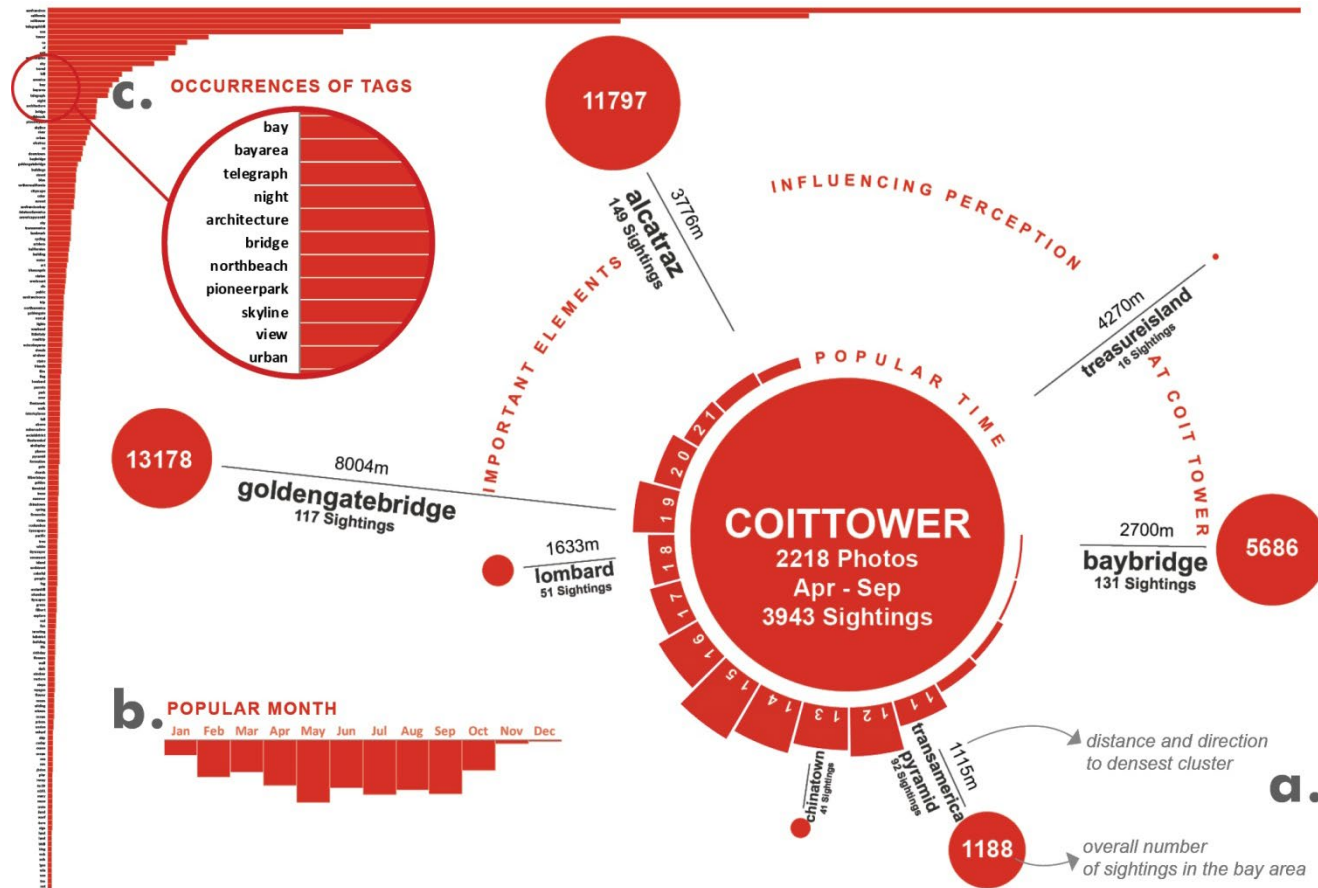


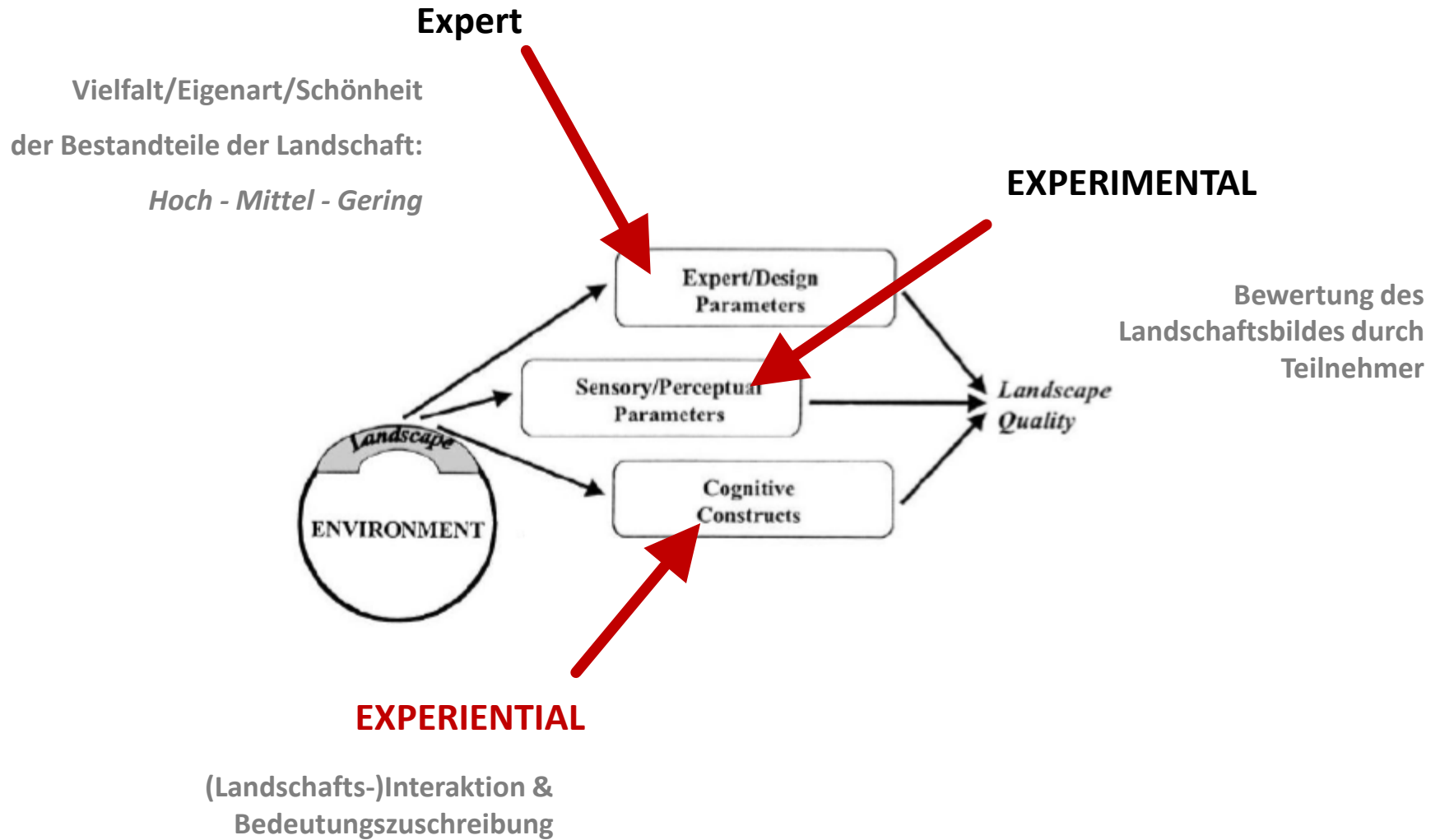
Viewing Corridor (VC)			
a	676,703.00	190,073.20	94.00m
b	642,883.10	181,310.00	52.50m
d	643,482.70	181,310.00	52.50m
Length (m)			0.500km
Width of corridor (m)			
Defining point at St Paul's Cathedral			
a	642,883.10	181,310.00	52.50m
b	643,482.70	181,310.00	52.50m
Width of corridor (m)			
Background of White Setting Corridor Area (WSA1)			
a	676,703.00	190,073.20	94.00m
b	642,883.10	181,310.00	52.50m
d	643,482.70	181,310.00	52.50m
w	643,482.70	181,310.00	52.50m
Width of corridor (m)			0.500km
Background of White Setting Corridor Area (WSA2)			
a	676,703.00	190,073.20	94.00m
b	642,883.10	181,310.00	52.50m
d	643,482.70	181,310.00	52.50m
w	643,482.70	181,310.00	52.50m
Width of corridor (m)			0.500km



London View (London Greater Authority, 2012) ;
Visual Assessment of London's unique Landscape
“as a support for visual impact assessment”

Anwendungsbeispiele: Assoziationen & Bedeutungszuschreibungen eines bestimmten Ortes





*Parameters making up landscape
quality (Daniel, 2001; p. 268)*

Ziele:

- Konzipierung des Ansatzes mit Schwerpunkt (Landschafts-)Interaktion & Bedeutungszuschreibung (*Experiential*); als Ergänzung zu bisherigen Ansätzen für eine ausgewogene(re) Beurteilung des Landschaftsbildes
- Darstellen aller Teilschritte der Datenerzeugung, Datenabfrage & Datenverarbeitung: *Interpretation/Weiterentwicklung durch Landschaftsplaner erfordert Verständnis des Verfahrens*
- Demonstration des Verfahrens an mehreren Anwendungsbeispielen: Vorteile/Nachteile zu anderen Ansätzen diskutieren

Verarbeitung

Daten abfragen:

Profile

Load

Select Profile ▼

Save As

Enter Profile Name

Query Period

min_taken_date

▼ 1/ 1/2010

max_taken_date

▼ 10/ 1/2011

min_upload_date

▼ 1/ 1/2000

max_upload_date

▼ 1/ 1/2000

Additional Criteria

accuracy

▼ 16

safe_search

▼ 3

content_type

▼ 1

Area

☐ Radial Geo Query

☒ Boundary Box

w/l

200

x

000

radius

10

lat

36.94989178681

long

-119.267578125

bottom-left:

lat

1.5503237522528

long

24.892128160997

top-right:

lat

2.3494598213672

long

13.643028089003

Additional Settings

per_page

250

sort

date-taken-desc ▼

tags

Extras

☒ description

☒ tags

☐ url_m

☐ license

☐ machine_tags

☐ url_z

☐ date_upload

☐ o_dims

☐ url_l

☒ date_taken

☒ views

☐ url_o

☒ owner name

☐ media

☐ icon_server

☐ path_alias

☐ original_format

☐ url_sq

☐ last_update

☐ url_t

☒ geo

☒ url_s

Connection Details:

User:

not connected

API Key:

not connected

Shared Secret:

not connected

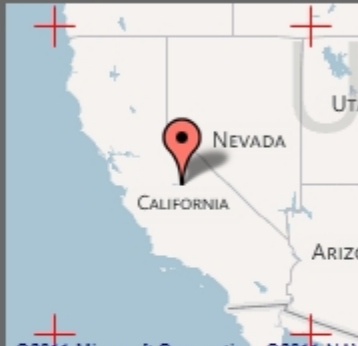
Auth Token:

not connected

Prob:

not connected

Show on Map



©2011 Microsoft Corporation, ©2011 NAV

LAT 36.94989178681 LONG -119.267578125

Run Query and Save Results

K1

Search

Export

Quantitative Analyse:

Geotag Database Tools

1. Fileimport

Folder:

Importname: Importspecification:

a) Loads and merges all *.txt files into one table.

b)

2. Processing A: Duplicates

Name Original: Column:

Copies table and removes duplicates in specified column.

Table:

Save As:

3. Processing B: Tags

Table:

a)

b)

Name:

Template:

Sort Out Global:

Sort Out InStr*:

Output:

Table:

Field:

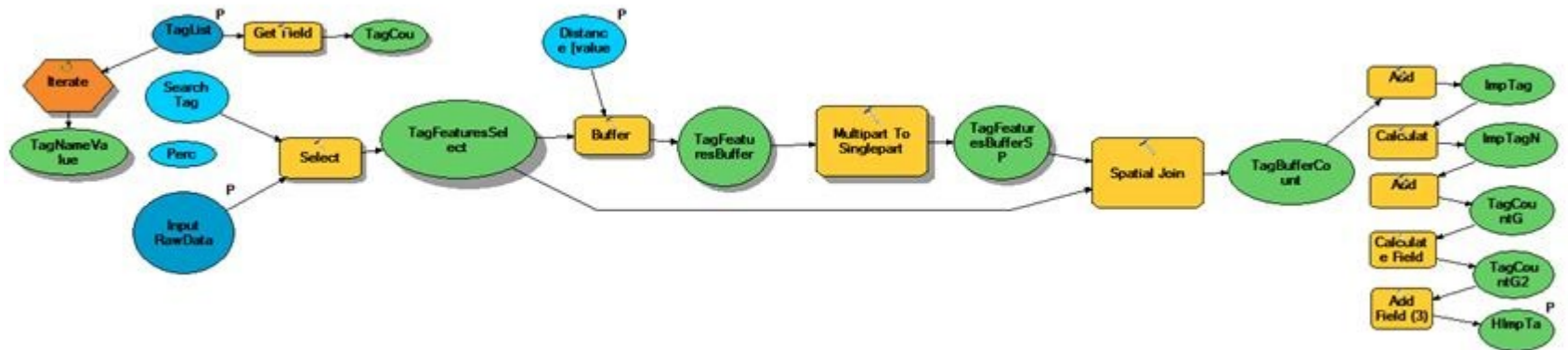
Output:

a) b)

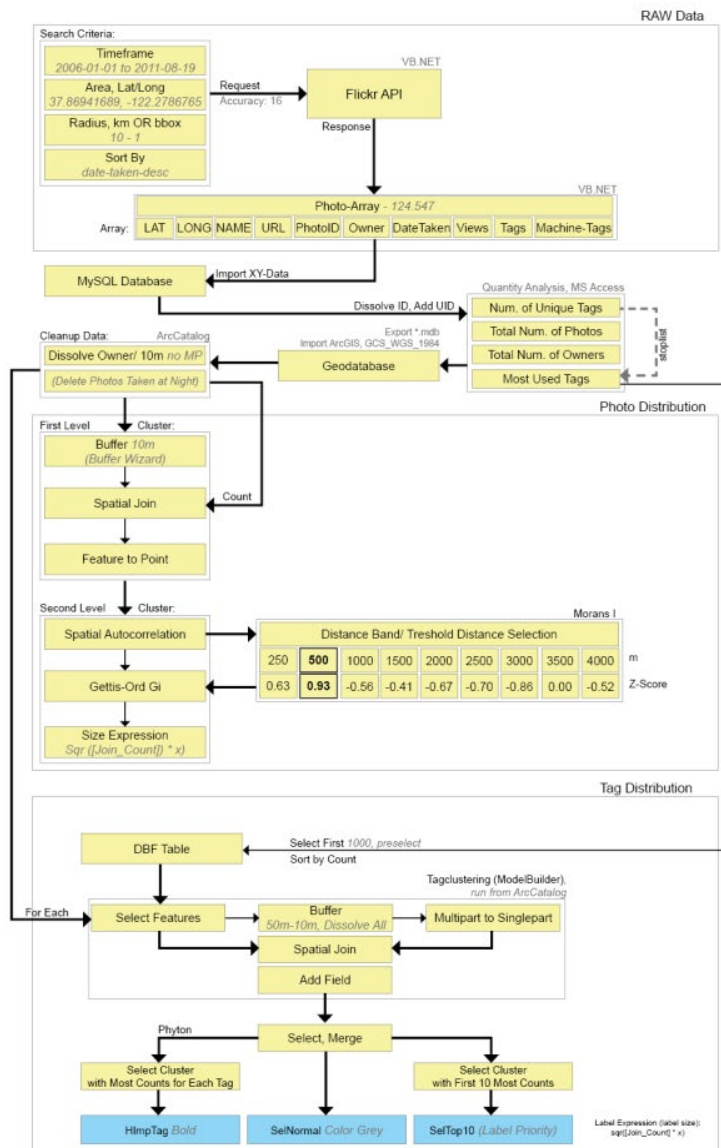
Table:

Save As:

Räumliche Analyse:



Appendix XI, Schematic Diagram:
Spatial Analysis and Visualization of Flickr Photo and Tag Distribution
ArcGIS/ VB.NET/ MS Access



Schema