

Geographic Information from Social Network Sites

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Introduction and Goal

- ◆ There is a increase in usage of Social Network Sites in terms of number of members and time spent. According to Pew Internet and American Life project 65% of adult internet users use SNSs in USA
- ◆ Increasing number of researchers from various disciplines are studying the SNSs to explore with different perspectives
- ◆ As Geographer my interest is to explore if SNSs contribute any significant geographical information
- ◆ Goal is to harvest Geographical information from SNSs

Geo awareness in SNS

flickr® from YAHOO!

Signed in as vjaybarve (2 new) Help Sign Out

Home You Organize & Create Contacts Groups Explore Upload Search

Actions Share

← Newer Older →

Edit photo location

GO

Map
Hybrid
Satellite

Shivakote

Avalahalli-Estate-RD

Ramagondanahalli

Anantapura

Bylakere

Yelahanka

pedabala-puram-RD

Based on the zoom level of the map, we'll save this photo's location as:
Bangalore

Photo location will be visible to:
Anyone (Recommended)

SAVE LOCATION CANCEL Remove this photo from the map

Bud

Click h To

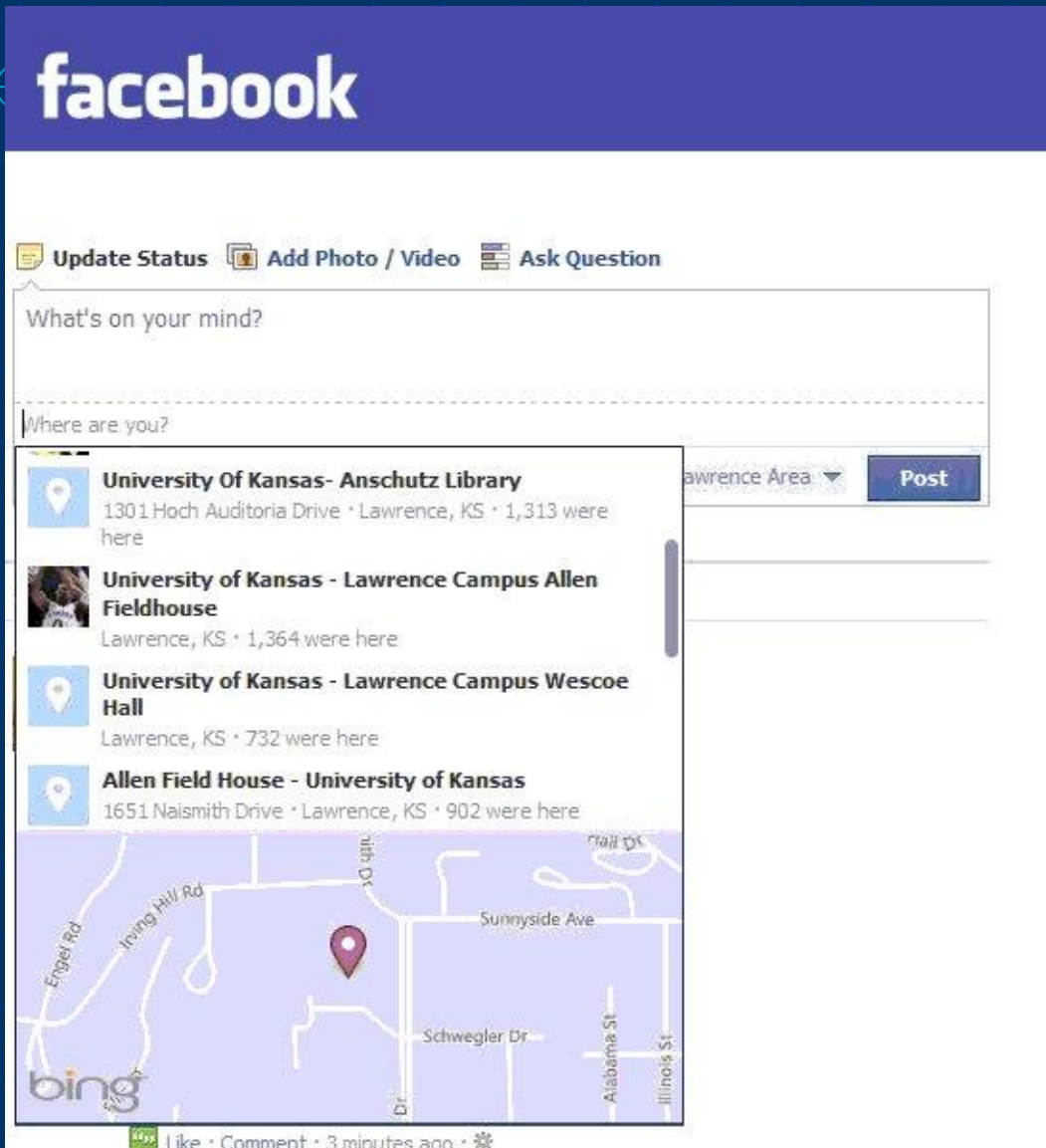
Comments and faves

Tags (add a tag)

Naseer Ommer | www.naseerommer.com pro (48 months ago)

india • bangalore • WildFlowerIndia •

Geo awareness in SNS



The image shows a screenshot of the Facebook mobile app interface for creating a post. At the top, the Facebook logo is displayed in white on a purple background. Below the logo, there are three options: "Update Status", "Add Photo / Video", and "Ask Question". A text input field contains the placeholder "What's on your mind?". Below this is a "Where are you?" section with a dropdown menu currently showing "Lawrence Area" and a "Post" button. A list of location suggestions is shown, each with a location pin icon, the name of the location, and the number of people who were there. The suggestions are:

- University Of Kansas- Anschutz Library**: 1301 Hoch Auditoria Drive · Lawrence, KS · 1,313 were here
- University of Kansas - Lawrence Campus Allen Fieldhouse**: Lawrence, KS · 1,364 were here
- University of Kansas - Lawrence Campus Wescoe Hall**: Lawrence, KS · 732 were here
- Allen Field House - University of Kansas**: 1651 Naismith Drive · Lawrence, KS · 902 were here

Below the list is a map from Bing showing the location of the suggestions in Lawrence, KS. The map includes labels for streets such as Engel Rd, Irving Hill Rd, Sunnyside Ave, Schwegler Dr, Alabama St, and Illinois St. At the bottom of the screenshot, there is a green "Like" button and the text "Comment · 3 minutes ago · ❄️".

Geo awareness in SNS

The image shows a browser window with a dark top bar containing the name '+Vijay' and navigation links for Gmail, Calendar, Documents, Photos, Sites, Web, and More. The main content area features the Google+ logo and a search bar. On the left, a profile card for 'Vijay' is visible, including a profile picture and a list of stream categories: Family, DiversityIndia, BioDivInfo, BCS-MCS, FRLHT, and More. The central 'Stream' section is a form for creating a post. It includes a text input field with a vertical cursor, a location field containing 'Lawrence, Kansas, USA', a visibility dropdown menu set to 'Public', and a '+ Add more people' option. A green 'Share' button is positioned at the bottom of the form. To the right of the text field are icons for adding photos, videos, links, and location pins.

Geo awareness in SNS

Panoramio

Sign up | Upload | Groups | Contest | Places | Tags

Forum Blog Sign in Help

Search place

Join groups of users who share your interests. Try **Panoramio Groups**. New! Learn more »

World Map > USA > KS > Lawrence

KU Campanile

See in Google Earth Share on:



by **Blake of the Bluffs**

This photo is selected for Google Earth [?] - ID: 10594516

in University of Kansas, 1800 Engel Rd, Lawrence, KS 66045-3821, USA

38° 57' 36.31" N 95° 14' 53.88" W
Misplaced? Suggest new location

©2011 Google - Terms of Use

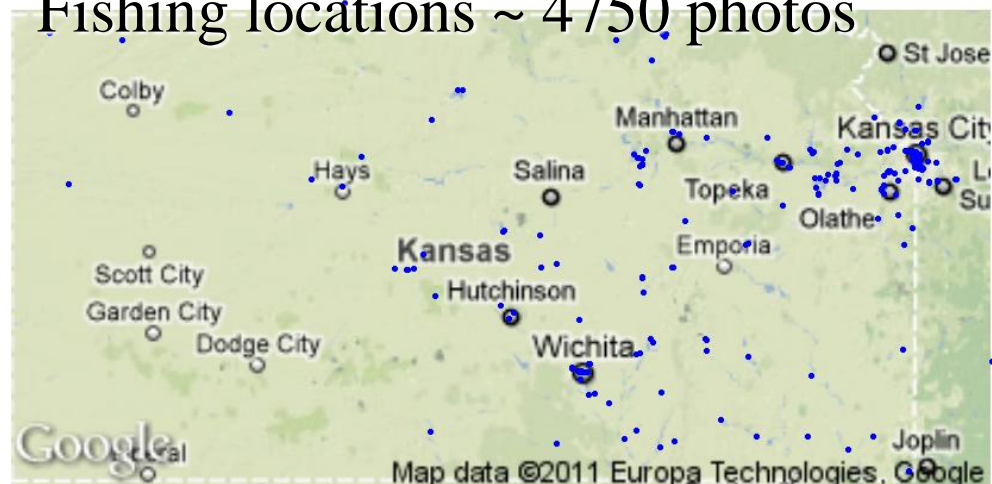
What information can be extracted

- ◆ SNS save locations of photos, events, updates
- ◆ This study focuses on photographs on Flickr
- ◆ All the details about the photo provided by the user can be extracted
- ◆ From photos we can explore places of interests like boating or fishing locations, or look for where a plant or animal can be seen ...

Boating locations ~ 2250 photos



Fishing locations ~ 4750 photos



Extracting data from SNS

- Most of the SNS provide us with APIs
- The API results are returned in XML or JSON
- Parse the results into .CSV to use with GIS software

```
http://api.flickr.com/services/rest/?method=flickr.photos.search&
  api_key=7e821c3288da47d4585889fbd53b0bca
  &text=Danaus+plexippus&extras=geo%2Curl_o%2C
  date_taken&format=rest
  &auth_token=72157628004133943-c725d8fe25d4b8b9
  &api_sig=35e904b393c4d3baa9535a5a05c78420
```


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```
<?xml version="1.0" encoding="utf-8" ?>
<rsp stat="ok">
  <photos page="1" pages="121" perpage="100" total="12034">
    <photo id="6342963416" owner="69658016@N03" secret="083caa7dc8" server="6034" farm="7" title=
    <photo id="6342191009" owner="16914249@N08" secret="2fda50c2fc" server="6225" farm="7" title=
    <photo id="6340599007" owner="54325292@N07" secret="55f52797ac" server="6234" farm="7" title=
    <photo id="6339537311" owner="31479663@N03" secret="ab55ac6468" server="6237" farm="7" title=
    <photo id="6340286234" owner="31479663@N03" secret="b44d96c998" server="6019" farm="7" title=
    <photo id="6339837074" owner="62788663@N04" secret="f95c77c0ac" server="6239" farm="7" title=
    <photo id="6338876950" owner="74999513@N00" secret="d7fe2cda44" server="6229" farm="7" title=
    <photo id="6337839570" owner="10789832@N00" secret="f9eda443d0" server="6037" farm="7" title=
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    <photo id="6332900945" owner="30913709@N08" secret="244371deda" server="6234" farm="7" title=
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    <photo id="6331620969" owner="91486426@N00" secret="6b88f58b71" server="6050" farm="7" title=
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  </photos>
</rsp>
```

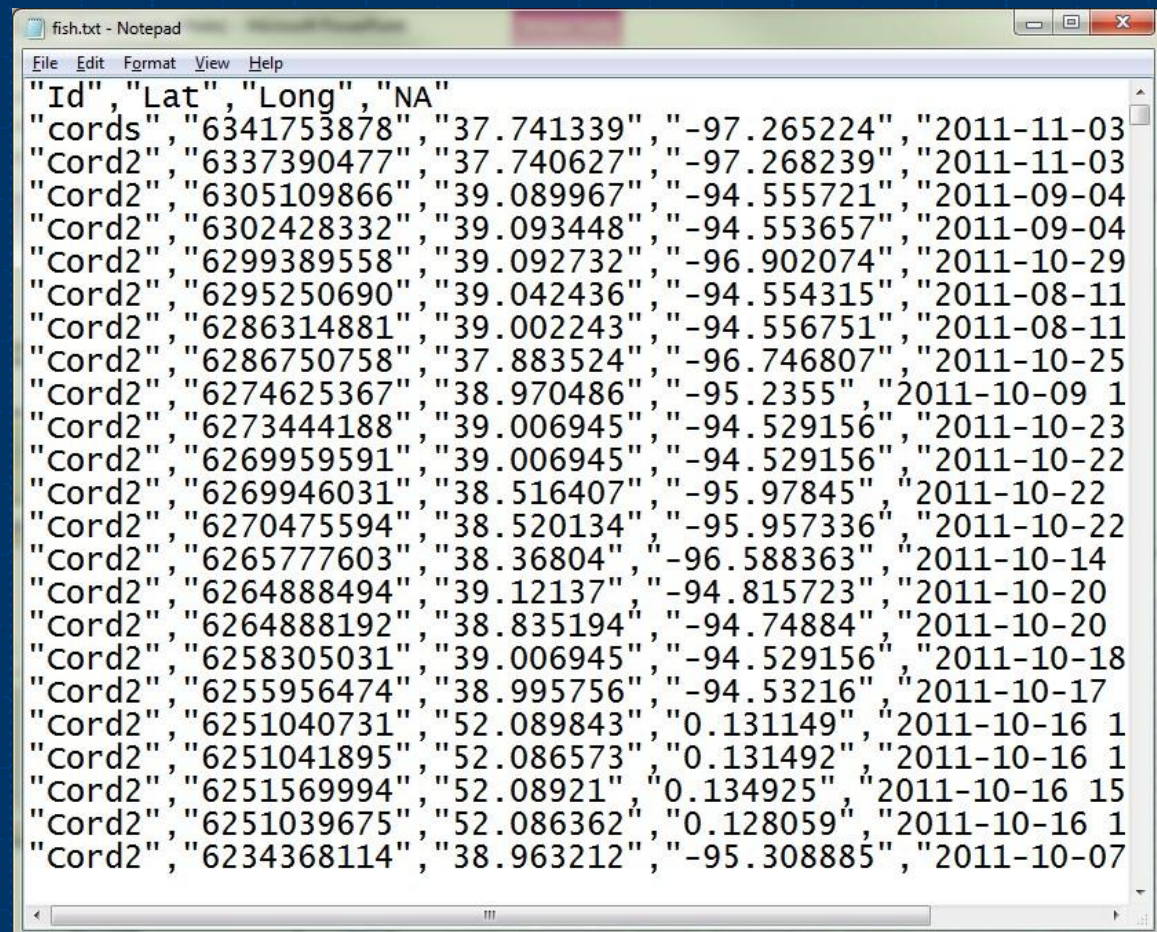
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```
{ "photos": { "page": 1, "pages": "121", "perpage": 100, "total": "12048",
  "photo": [
    { "id": "6342963416", "owner": "69658016@N03", "secret": "083caa7dc8", "server": "6034", "f
    { "id": "6342191009", "owner": "16914249@N08", "secret": "2fda50c2fc", "server": "6225", "f
    { "id": "6340599007", "owner": "54325292@N07", "secret": "55f52797ac", "server": "6234", "f
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    { "id": "6339837074", "owner": "62788663@N04", "secret": "f95c77c0ac", "server": "6239", "f
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    { "id": "6337839570", "owner": "10789832@N00", "secret": "f9eda443d0", "server": "6037", "f
    { "id": "6337516530", "owner": "49972751@N00", "secret": "83de8da612", "server": "6217", "f
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    { "id": "6336140602", "owner": "48311154@N02", "secret": "ae83bcc971", "server": "6223", "f
    { "id": "6336082056", "owner": "61135968@N00", "secret": "ce0c484779", "server": "6107", "f
    { "id": "6335319357", "owner": "45731371@N08", "secret": "6c8b1190a0", "server": "6228", "f
    { "id": "6335641224", "owner": "64681985@N07", "secret": "15f0737556", "server": "6104", "f
    { "id": "6334877610", "owner": "44541124@N03", "secret": "1bc386a6a5", "server": "6214", "f
    { "id": "6332900945", "owner": "30913709@N08", "secret": "244371deda", "server": "6234", "f
    { "id": "6329730013", "owner": "9324411@N08", "secret": "cab36efd35", "server": "6095", "fa
    { "id": "6332564227", "owner": "18250692@N06", "secret": "7cac1cf743", "server": "6218", "f
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    { "id": "6331620969", "owner": "91486426@N00", "secret": "6b88f58b71", "server": "6050", "f
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```


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```
fish.txt - Notepad
File Edit Format View Help
"Id","Lat","Long","NA"
"CORDS","6341753878","37.741339","-97.265224","2011-11-03"
"Cord2","6337390477","37.740627","-97.268239","2011-11-03"
"Cord2","6305109866","39.089967","-94.555721","2011-09-04"
"Cord2","6302428332","39.093448","-94.553657","2011-09-04"
"Cord2","6299389558","39.092732","-96.902074","2011-10-29"
"Cord2","6295250690","39.042436","-94.554315","2011-08-11"
"Cord2","6286314881","39.002243","-94.556751","2011-08-11"
"Cord2","6286750758","37.883524","-96.746807","2011-10-25"
"Cord2","6274625367","38.970486","-95.2355","2011-10-09 1"
"Cord2","6273444188","39.006945","-94.529156","2011-10-23"
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"Cord2","6265777603","38.36804","-96.588363","2011-10-14"
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"Cord2","6264888192","38.835194","-94.74884","2011-10-20"
"Cord2","6258305031","39.006945","-94.529156","2011-10-18"
"Cord2","6255956474","38.995756","-94.53216","2011-10-17"
"Cord2","6251040731","52.089843","0.131149","2011-10-16 1"
"Cord2","6251041895","52.086573","0.131492","2011-10-16 1"
"Cord2","6251569994","52.08921","0.134925","2011-10-16 15"
"Cord2","6251039675","52.086362","0.128059","2011-10-16 1"
"Cord2","6234368114","38.963212","-95.308885","2011-10-07"
```

Plotting it on the map

The *Monarch butterfly* (*Danaus plexippus*)

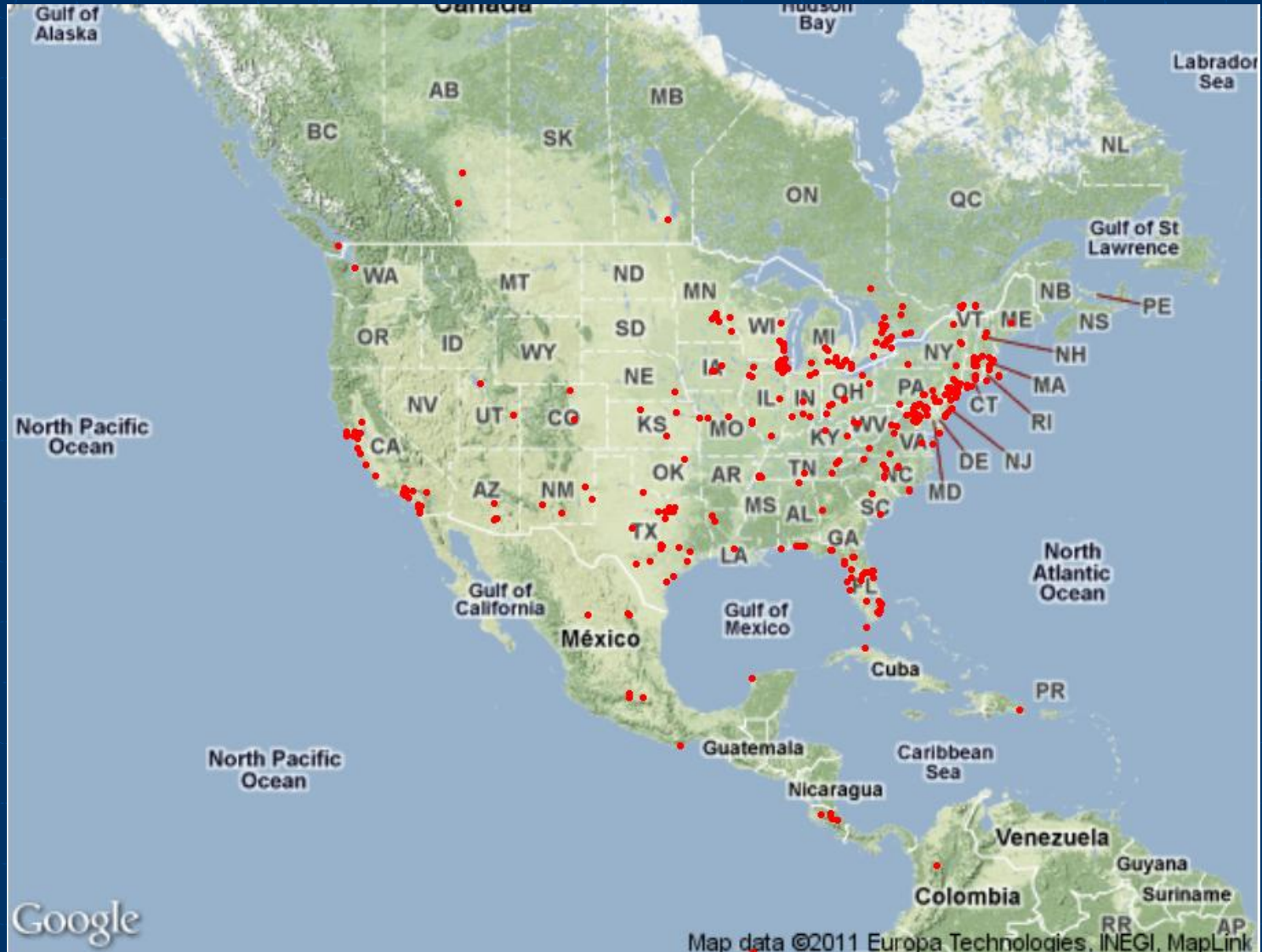


To show the seasonality points are color-coded based on the quarter of the year it was recorded.

Plotting it on the map

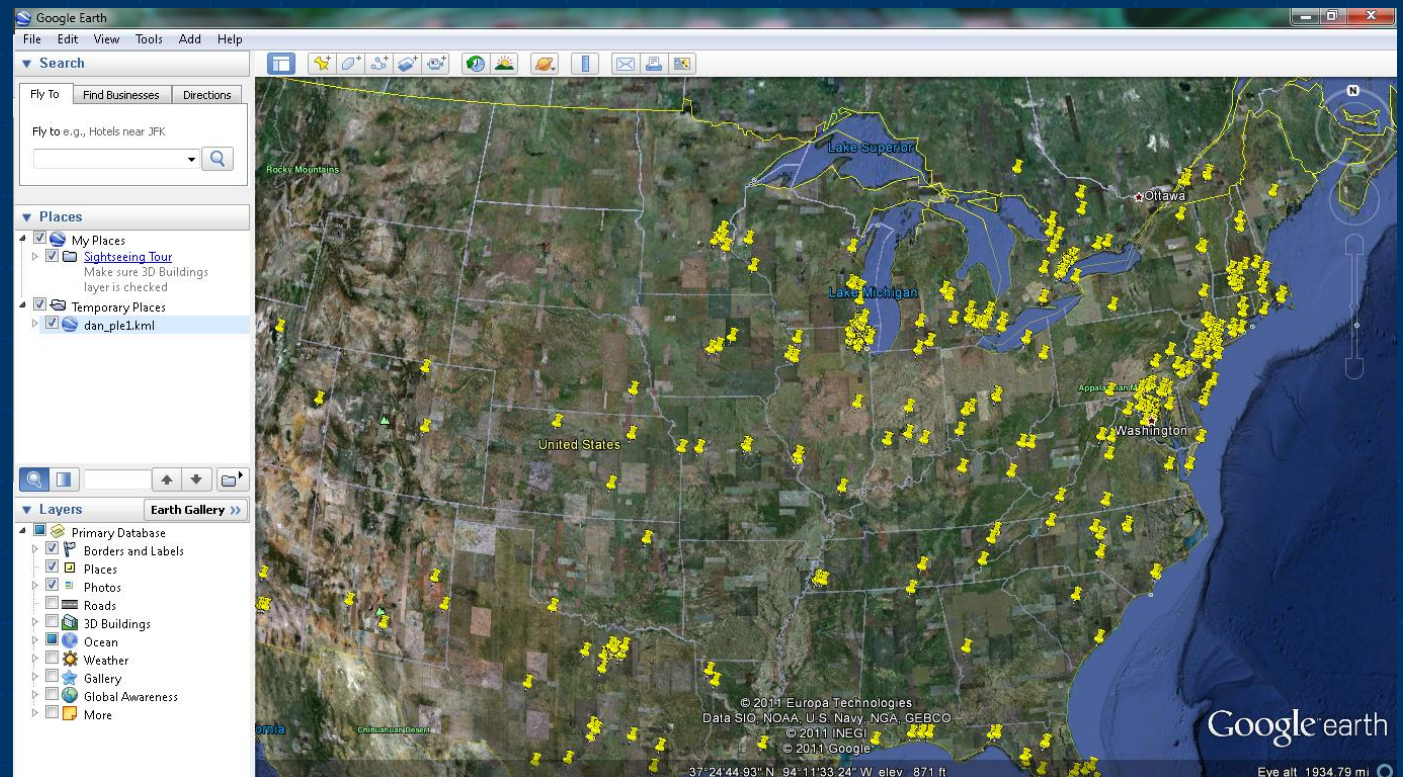
The *Monarch butterfly* (*Danaus plexippus*)

To show the seasonality points are color-coded based on the quarter of the year it was recorded.



Exporting it to KML

- To give interactivity and to explore the data in detail, let us map it on an interactive platform like Google Earth
- The location data extracted from Flickr was exported to KML using maptools and rgdal packages.



Tools and Technologies

SNSs



Formats

<?xml?>

JSON

JavaScript Object Notation

Tools



Visualization



Conclusions and Future

- ◆ Social Networks have mostly untapped potential to provide some interesting geographical information
- ◆ Tools like R could be used to extract and visualize “quick and dirty” maps
- ◆ Next steps are to extract data from other SNSs like Picasa, Panoramio, Facebook and Google+ and analyze / visualize it in more meaningful ways

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