

GIS Our Waterways



Using Open Source GIS to Develop Interactive Maps for Our Qiantang River

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MEMBER

June 15th, 2011 Sacramento



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WATERKEEPER®



Most beautiful city in China

Hangzhou



Thousand Islands

Lake

Qiantang River Bridge

First Chinese-designed Modern Bridge

Long History Profound Culture

Six Harmonies Pagoda



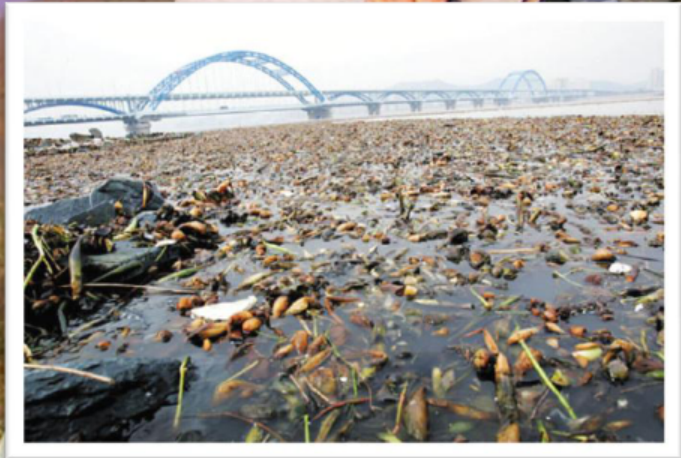
World's Largest Tide Bore

Qiantang River Tide



World's Longest Bridge

Hangzhou Bay **B**ridge

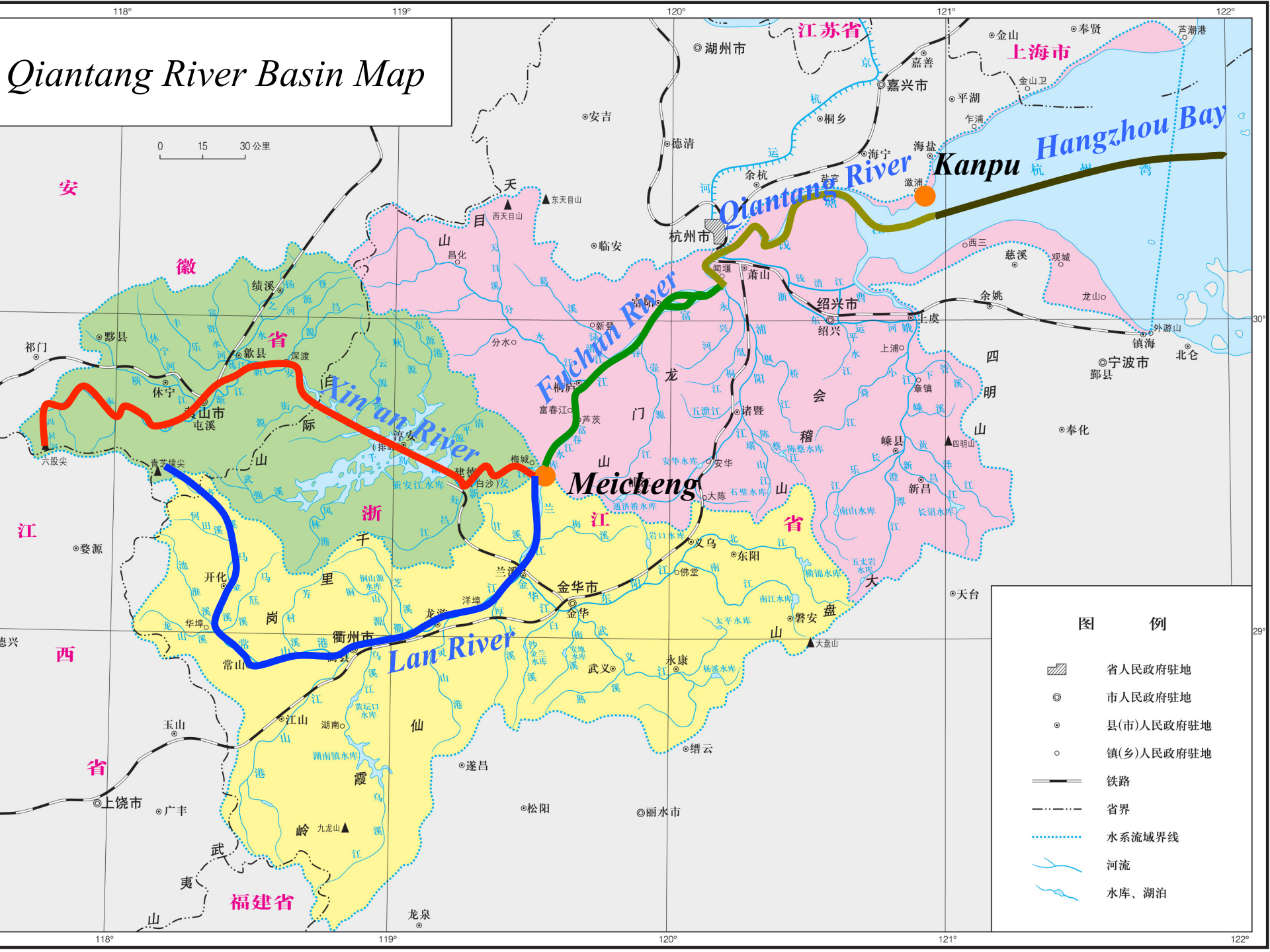


Environmental Disaster










China's Most Economically Developed Region

Qiantang River Basin Map

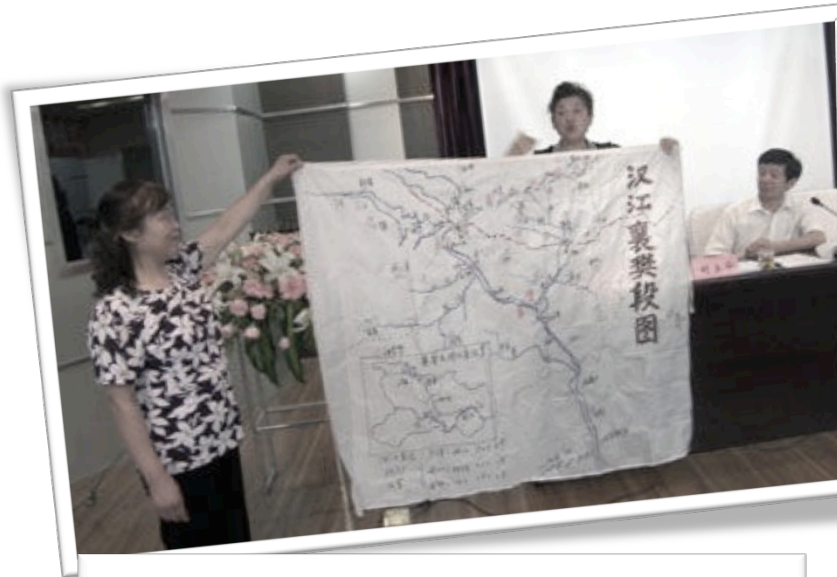
0 15 30公里



图例

-  省人民政府驻地
-  市人民政府驻地
-  县(市)人民政府驻地
-  镇(乡)人民政府驻地
-  铁路
-  省界
-  水系流域界线
-  河流
-  水库、湖泊

Why We Need Maps



Trend I: Specialization



➔ A type of map or chart especially designed to show a particular theme connected with a specific geographic area.

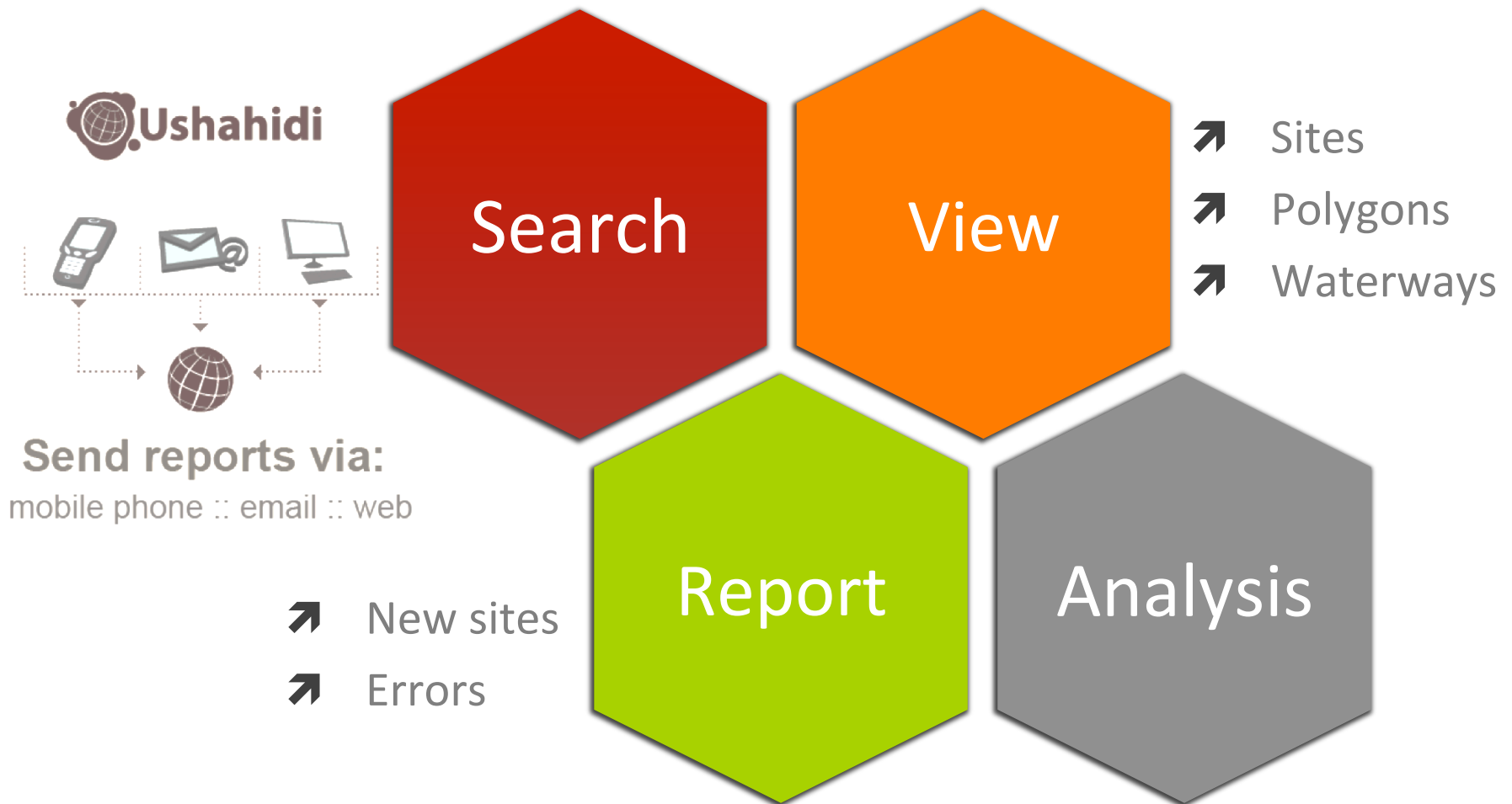


Trend II: Digitization

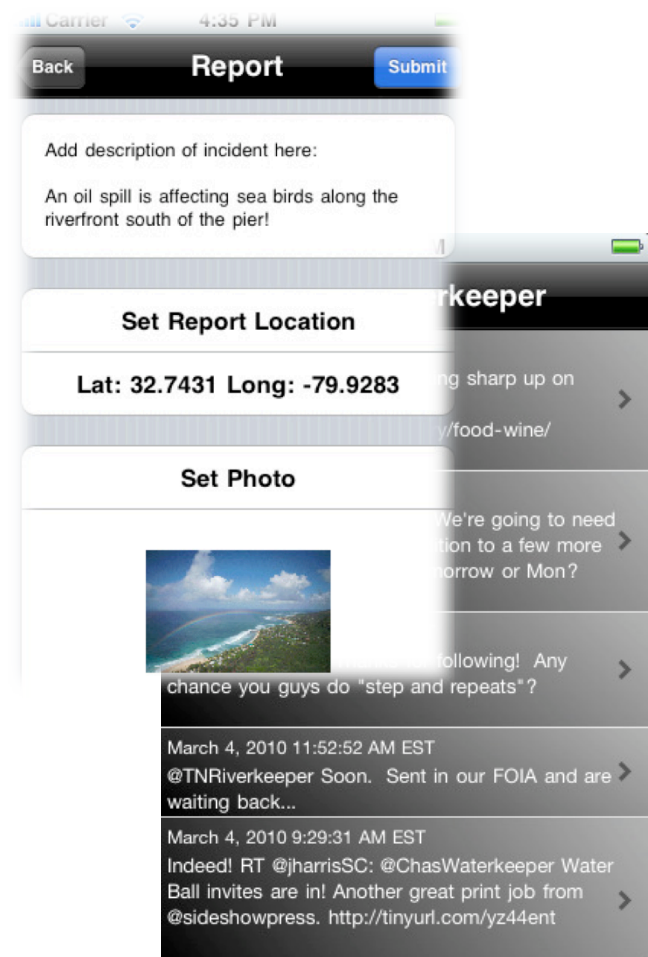
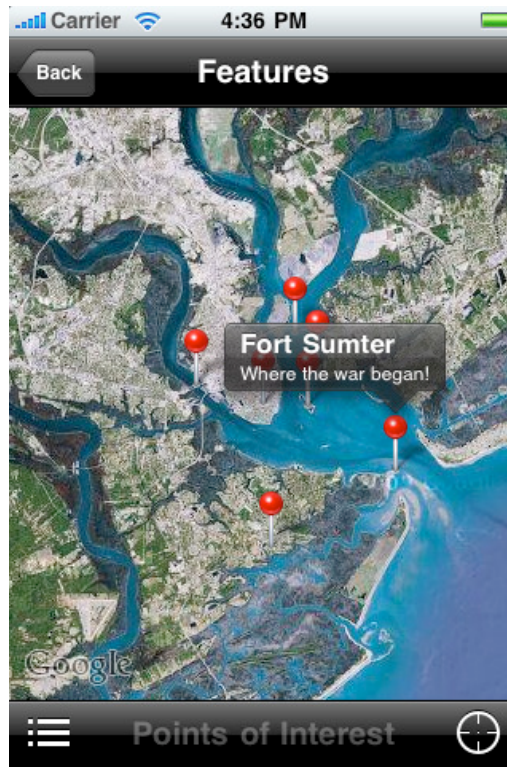


- ➔ Computerized maps are commercially available, allowing users to zoom in or zoom out (respectively meaning to increase or decrease the scale), sometimes by replacing one map with another of different scale, centered where possible on the same point.
- ➔ The map may also have layers which are partly raster graphics and partly vector graphics.

Trend III: Interaction



Charleston Waterkeeper Case



Three Practices

Google maps

Get Directions **My Maps**

[Create new map](#)

Google

My Maps

```
function searchLocationsNear(address) {
  var address = document.getElementById('addressInput').value;
  geocoder.getLatLng(address, function(latlng) {
    if (!latlng) {
      alert(address + ' not found');
    } else {
      searchLocationsNear(latlng);
    }
  });
}
```

```
function searchLocationsNear(center) {
  var radius = document.getElementById('radiusSelect').value;
  var typeSelect = document.getElementById('searchType').value;
```

```
map.clearOverlays();

var sidebar = document.getElementById('sidebar');
sidebar.innerHTML = '';
if (markers.length == 0) {
  sidebar.innerHTML = 'No results found';
} else {
  for (var i = 0; i < markers.length; i++) {
    var marker = createMarker(markers[i].getAttribute('lat'),
    markers[i].getAttribute('lng'),
    markers[i].getAttribute('distance'));
    var point = new GLatLng(parseFloat(markers[i].getAttribute('lat')),
    parseFloat(markers[i].getAttribute('lng')));
    var marker = createMarker(point, name, address, type);
    map.addOverlay(marker);
    var sidebarEntry = createSidebarEntry(marker, name, address, distance);
    sidebar.appendChild(sidebarEntry);
    bounds.extend(point);
  }
  map.setCenter(bounds.getCenter(), map.getBoundsZoomLevel(bounds));
}

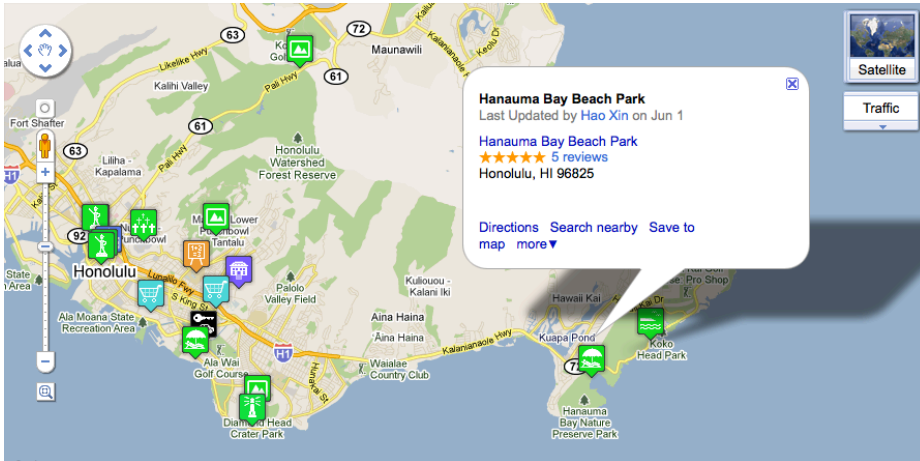
function createMarker(point, name, address, type) {
  var marker = new GMarker(point, customIcons[type]);
  var html = '<div> ' + name + '</div><br/>' + address;
  GEvent.addListener(marker, 'click', function() {
    marker.openInfoWindowHtml(html);
  });
  return marker;
}
```

API-Customized
Web Map

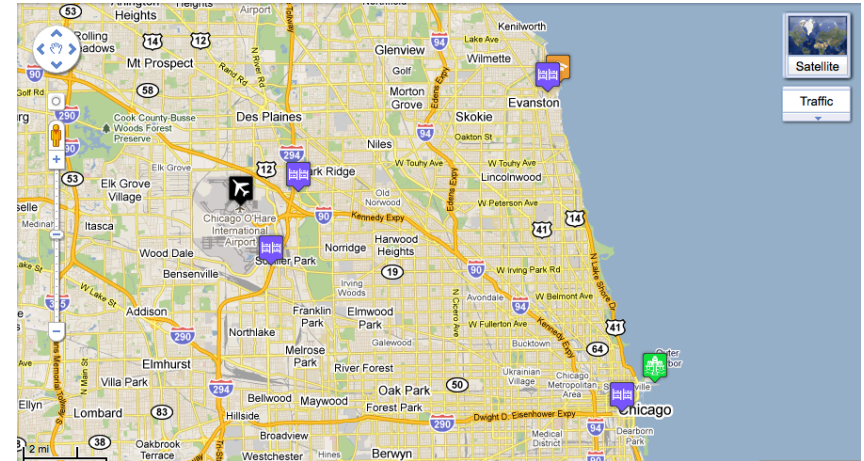
Ushahidi
Platforms



Application I: Google My Maps



➤ *My Hawaii Trip (June 2011)*



➤ *Chicago Conference (June 2011)*



➤ *Hangzhou Bicycle Map*



➤ *Chinese NGO Map*

Application III: Ushahidi



- The first Ushahidi platform was launched during Kenya's post-election violence in January 2008. Ushahidi means "witness" in Swahili. The Ushahidi platform is free and open source.



- The software allows individuals and groups to collaborate in creating live multi-media maps for all kinds of projects. For example, the Ushahidi platform has been used for projects focusing on local governance, **environmental monitoring**, public health mapping, human rights monitoring, citizen-based election observation, nonviolent protests, disaster response and crisis mapping.



Comparison

Options		Google My Maps	API -Customized Web Map	Ushahidi Crowd Map
Data	Database	Google	Varies	Ushahidi
	Base Map	Google Maps	Varies	Varies
Function	Add Report	X	X	X
	Show KML Feature		X	X
	Customized Form		X	X (Limited)
	Search		X	X
	Analysis		X	X
Management	Security	High	Varies	High
	Administrator's Knowledge Requirement	Using Google Maps	APIs, JavaScript, PHP, HTML...	Using Crowd Map
	Time for Setting-UP	Short	Long	Short
Share	Way of Share	Cooperators	Owner + Visitors	Owner + Visitors
	User Account	Required	Not Required	Not Required

Pollution Sites

钱塘江水地图

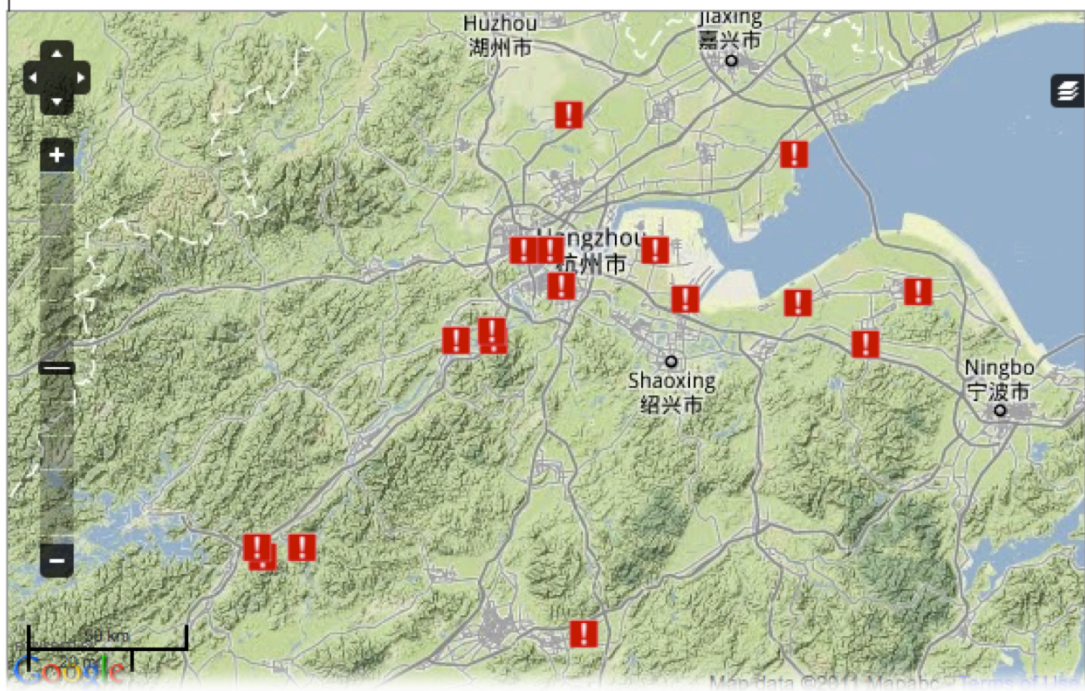
致力于水环境信息公开

[+ 报道新灾情](#)

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分类过滤 [HIDE]



- 全部分类
- 污染源
- 水质监测点
- 重点监测企业

可以通过那些方式报道灾情?

1. 发送短信至 [0571-85900500](tel:0571-85900500)
2. 发送邮件至 qtriver@gmail.com
3. 在网站上报道新灾情

Water Monitoring Sites

钱塘江水地图

致力于水环境信息公开

📍 报道新灾情

主页

最新报道

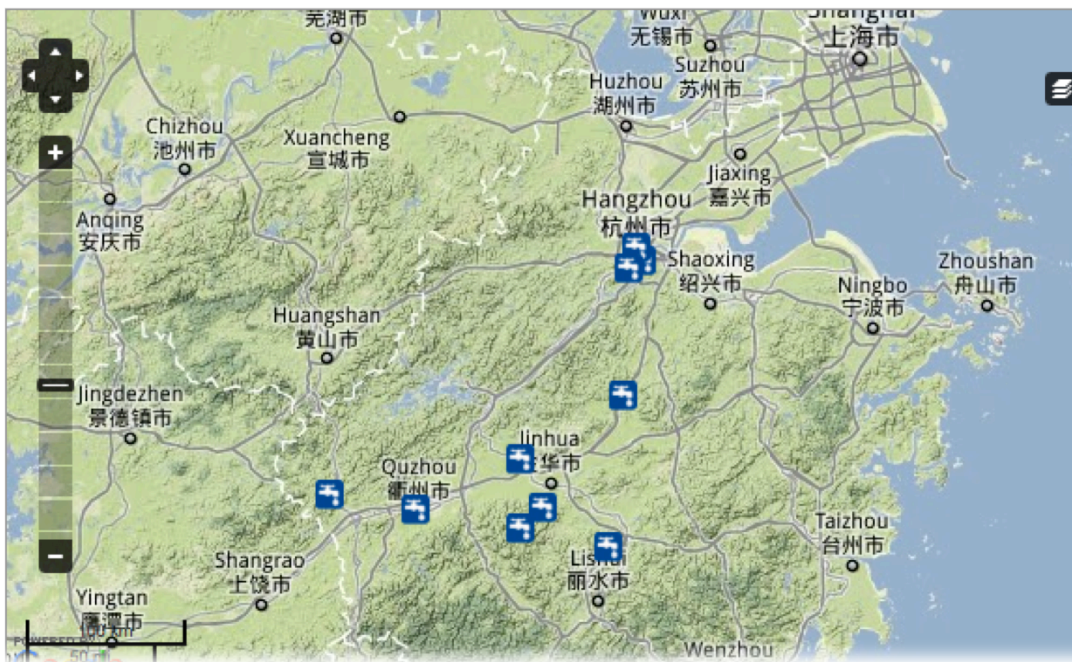
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分类过滤 [HIDE]



全部分类

! 污染源

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Create & Use

CROWDMAP OSMA

Home FAQ Features About Contact Us

Crowdmap allows you to...

- 1 Collect information from cell phones, news and the web.
- 2 Aggregate that information into a single platform.
- 3 Visualize it on a map and timeline.

Sign Up For Free

钱塘江水地图

Get Help
Wiki FAQ Forum Search

Home Disaster Reports Short Message/Weibo Browse Data Addons Settings Manage Users

Overview

最新报道 时间线 显示: 今天 | 一个月内 | 一季度 | 其他

快速入口	数量
最新报道 未激活	28 (0)
分类	4
位置	38
新闻订阅	91
短信/邮件/微博	0

HOME REPORTS **SUBMIT A REPORT** GET ALERTS CONTACT US

What Exactly Is Crowdmap?

What Can I Do With Crowdmap?

- ➔ Open "crowdmap.com"
- ➔ Sign up for free

Submit a New Report

Report Title

Description

Date & Time: Today at 1:52 pm (Asia/Shanghai) [+ Modify Date](#)

Categories

- 水质监测点
- 污染源
- 重点监测企业

pH值

Find a location near you

Select a City

City, State and/or Country [Find Location](#)

* Search for your location using a location name of latitude,longitude coordinates (format: 38.19,-85.61), or click on the map to pinpoint the correct location.



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Thank you!