

# Web Services Examples

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# GRASS Web Service

- **Enables GRASS GIS functionality from outside environment**
- **Based on GRASS Links MapServer code**
- **Language PERL**

# GRASS Web Service - Erossion

- **Request – point coordinates in S-JTSK**
- **Response – code for erossion risk (1 - no risk, 2 - minimal risk, 3 - serious risk, -99 - no value available for selected location)**

# GRASS Web Service – Erossion

```
use SOAP::Transport::HTTP;
```

```
use FileHandle;
```

```
sub getRisk {
```

```
    ...
```

```
    my ($class, $x, $y) = @_;
```

```
    print LF "" . (system "r.what input=risk  
        east_north=$x,$y >> log.log");
```

```
    .....
```

```
}
```

# Erossion – Client - PHP4

```
require_once('nusoap/lib/nusoap.php');
```

```
$client = new soapclient
```

```
('http://158.196.143.103/wsdl/erossion.wsdl',  
true, $proxyhost, $proxyport, $proxyusername,  
$proxypassword);
```

```
$parameters = array('520920.1', '1145345.1');
```

```
$result = $client->call('getRisk', $parameters, "", "",  
false, true);
```



WSCO Open Source

Web Services Catalog for Orchestration Open Source

# Gazeteer Client

## Příklad zjištění erozního rizika

Název obce:

Typ služby:  Služby:  HOTOVO

Typ služby:  Služby:  HOTOVO

Typ služby:  Služby:  HOTOVO

Mezivýsledek: 1

Cena: 2 Euro

Rychlost: maximálně 0h 12m

[Počítej pro novou oblast](#)

**V zadané oblasti je malé erozní riziko!**

## Author: Martin Prager

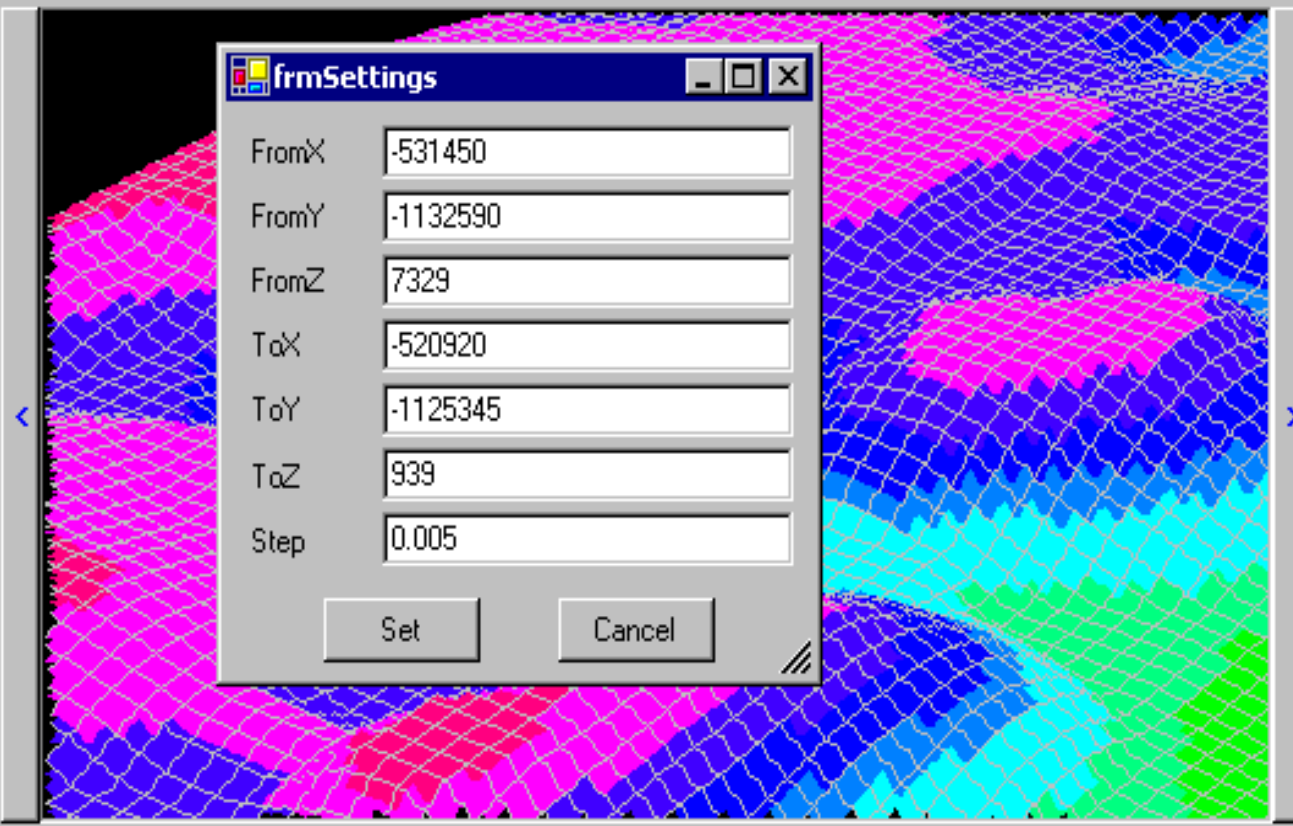
[\[úvod\]](#) - [\[vyhledávání\]](#) - [\[registrace\]](#) - [\[ukazka\]](#)

Správce: Jan Růžička, [jan.ruzicka@vsb.cz](mailto:jan.ruzicka@vsb.cz)

GRASS Web Services Client

Services Help

Buffer



frmSettings

FromX: -531450  
FromY: -1132590  
FromZ: 7329  
ToX: -520920  
ToY: -1125345  
ToZ: 939  
Step: 0.005

Set Cancel

L4: Get response from service: <http://158.196.143.103/tmp/grass/200412131811475006/map.png>  
L4: Get response from service: <http://158.196.143.103/tmp/grass/200412131811486114/map.png>  
Moving left by 0.005 radians ...  
Angle for view: 0.637649993444543  
Coordinates for view: -531450, -1132590, 7329, -521180, -1124981, 939  
Angle for view: 0.662649993444543  
Coordinates for view: -531450, -1132590, 7329, -521373, -1124727, 939  
Connecting to the server ....  
Ready for connections ...  
L4: Get response from service: <http://158.196.143.103/tmp/grass/200412131811494940/map.png>

# PostGIS Web Service

- **Find feature in the data warehouse gazeteer**
- **Language PERL**



# PostGIS Web Service - Gazeteer

- **Request – feature class, feature class attribute, feature class attribute search string**
- **Response – first feature geometry in WKT (Well Known Text) format**

# PostGIS Web Service - Gazeteer

```
use SOAP::Transport::HTTP;
use FileHandle;
use DBI;
sub getXY {

    $dbh = DBI->connect
        ('dbi:Pg:dbname=grassteam;host=gislinb', $login,
        $pwd) or die $DBI::errstr;

    $SQL="SELECT AsText(the_geom) as g FROM $layer
        WHERE $field like '%$name%'";

    $sth = $dbh->prepare($SQL); $sth->execute();

    @row = $sth->fetchrow_array();

    $rslt .= "$row[0];";
```

# Gazeteer – Client - PHP4

```
require_once('nusoap/lib/nusoap.php');
```

```
$client = new soapclient
```

```
('http://158.196.143.103/wsdl/gazeteer.wsdl',  
true, $proxyhost, $proxyport, $proxyusername,  
$proxypassword);
```

```
$parameters = array('obce32633', 'nazob_a',  
'Hranice');
```

```
$result = $client->call('getXY', $parameters, "", "",  
false, true);
```

# Gazeteer – Client - Result

**POINT(490335.517825306 5409501.99293516);**



WSCO Open Source

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# Gazeteer Client

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# Gazeteer Client



- Main MENU
  - News
  - Register
  - Log in
  - Help
  - Your comments
- Home
- Case study
- Organisation
- Person
- Document
- Picture Book

Development version



## Case study by map



Data source: <http://redlands.geographynetwork.com/> (Powered by ESRI)  
 Data source downloaded by JUMP Plugin  
 Search is based on SOAP Web Service (thank's to Tonda Orlik) and PostGIS

# GeoTools Web Service

- **Allows Statistical Classification for cartography purposes**
- **NaturalBreaks (Jenks), QuantileBreaks, EqualInterval Breaks**

# GeoTools Web Service – Cartography

- **Request – values for classification**
- **Response - breaks**



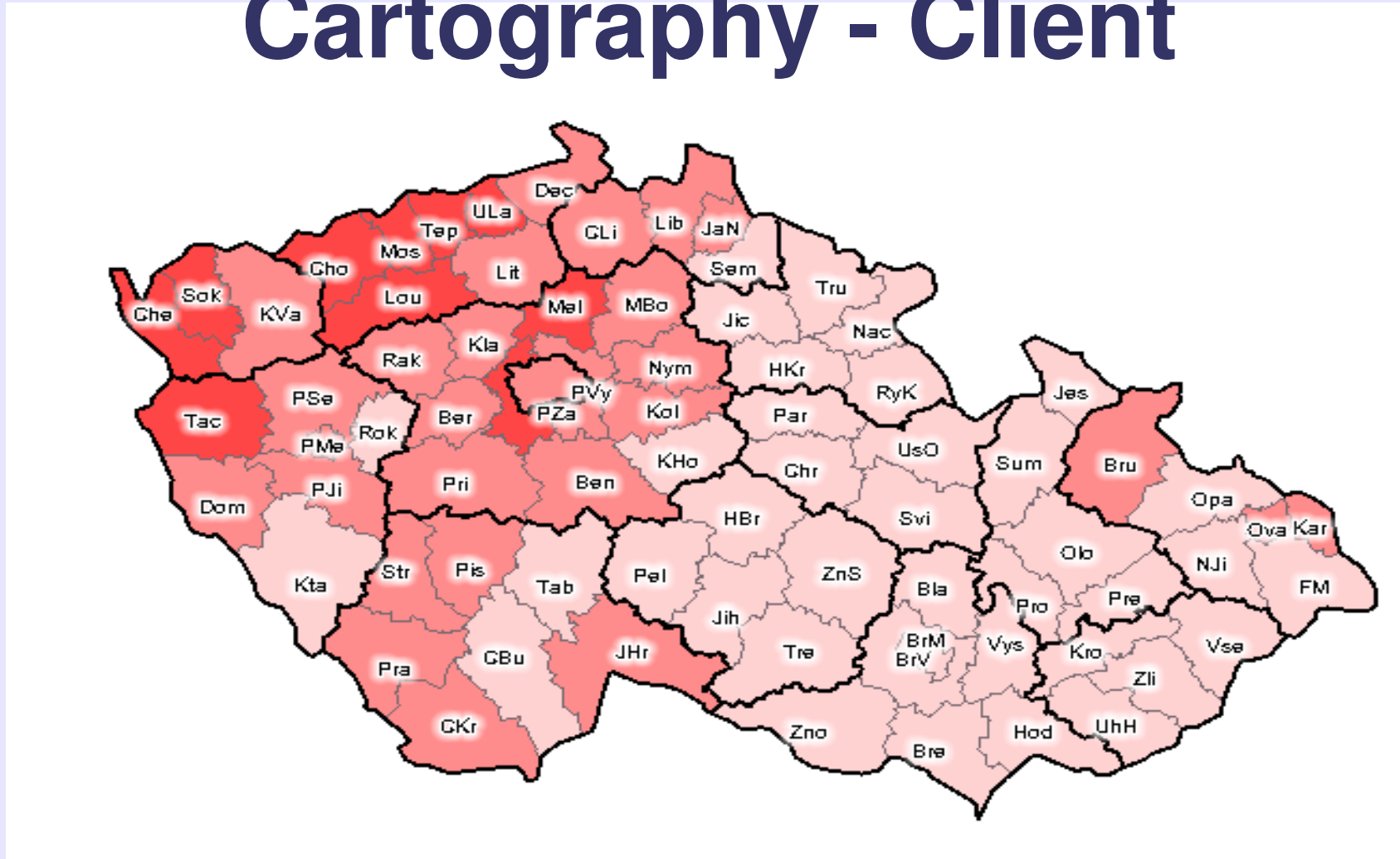
# GeoTools Web Service – Cartography

```
import uk.ac.leeds.ccg.geotools.classification.*;
public String getNaturalBreaks(String data, int
    breakscount) {
    NaturalBreaks nb = new NaturalBreaks
    (new SimpleGeoData(getHashtable(data)),
    breakscount);
    return getBreaks(nb);
}
```

# **GeoTools Web Service – Cartography - Client**

- **On-line atlas of the security events (fires, accidents, etc.)**

# GeoTools Web Service – Cartography - Client



**Author: Tomáš Urbančík**