

Level 2/ Edge Matching / Introduction

Edge Matching – Basic Concepts



Author(s)/Organisation(s):

Anders Östman, University of Gävle

Sources:

Overview of the module

- Lecture 1 & Reading 1: Overview of basic edge matching concepts
- Exercise 1: Installing the software
- Exercise 2: Line cleaning
- Exercise 3: Alignment with reference data
- Exercise 4: Alignment by distributing error
- Self test

Content of this lecture

- What is edge matching and data harmonisation?
- Edge matching problems
- How does it works
- Examples
 - Installing software
 - Line cleaning
 - Alignment with reference data
 - Alignment by distributing errors

What is data harmonisation?

- Two datasets are said to be in harmony with each other if there are no major conflicts or tensions between them
- A data harmonisation procedure consists of three steps
 - Identification (and quantification) of conflicts and tensions
 - Removal (or reduction) of conflicts and tensions
 - Reporting of harmonisation effect

Edge Matching

- Old problem, dating back from times when map sheets were digitised
- Occurs at borders between data sets
- Geometric and other conditions to be fulfilled

Connections

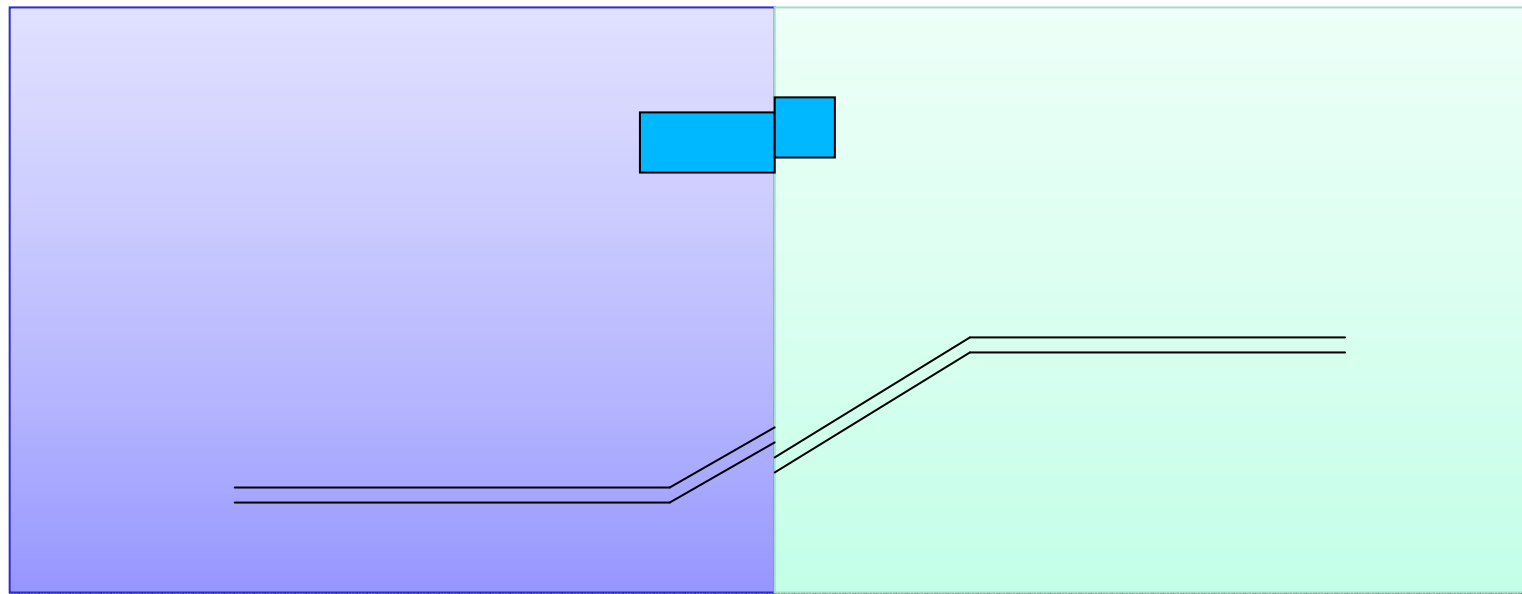
Smoothness

90-degrees corners (for buildings etc)

Conditions often solved by least squares adjustment or similar (averaging etc)

Level 2/ Edge Matching / Introduction

Edge matching



Level 2/ Edge Matching / Introduction

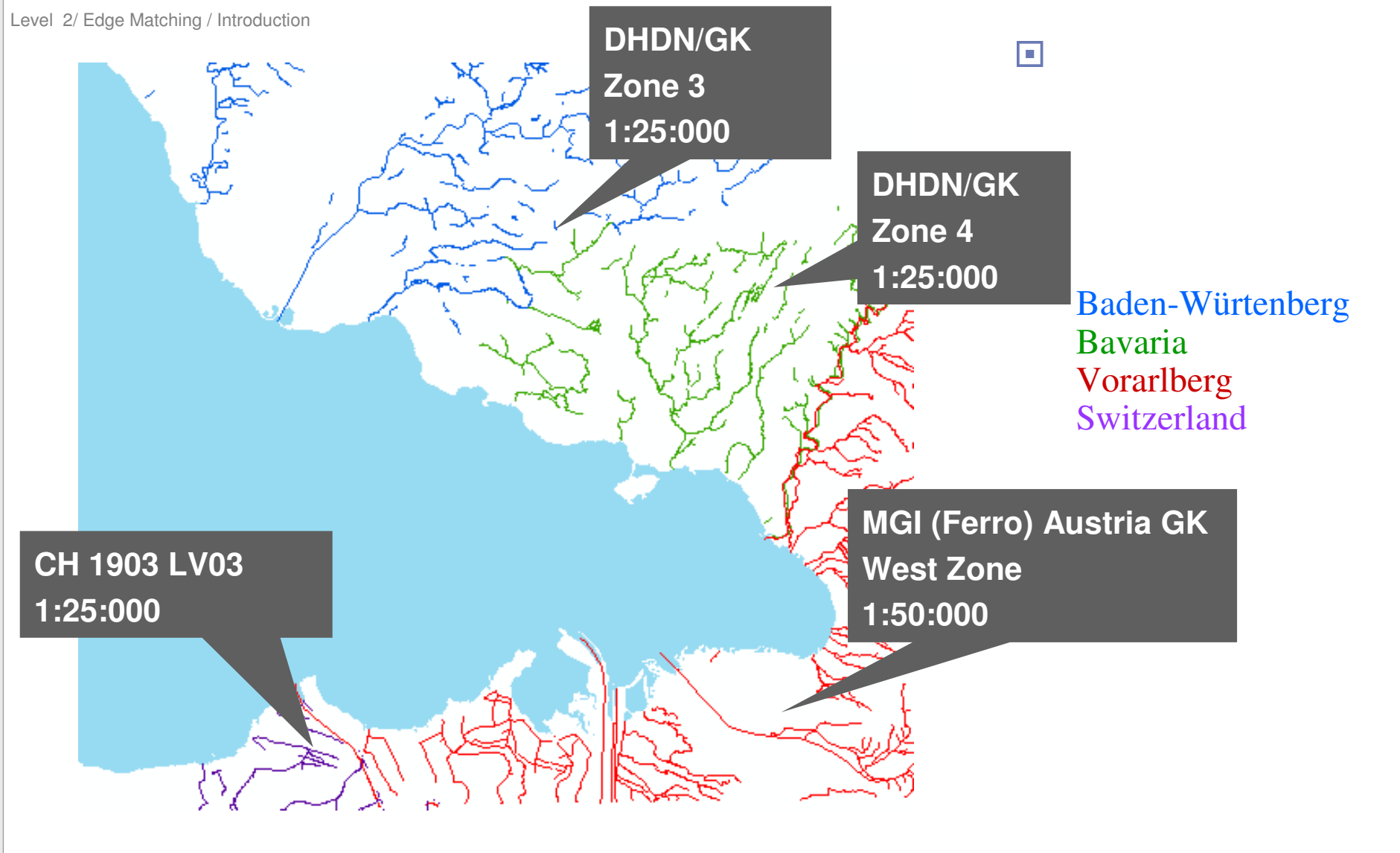
A generalised problem formulation

Problem: The same feature is represented more than once

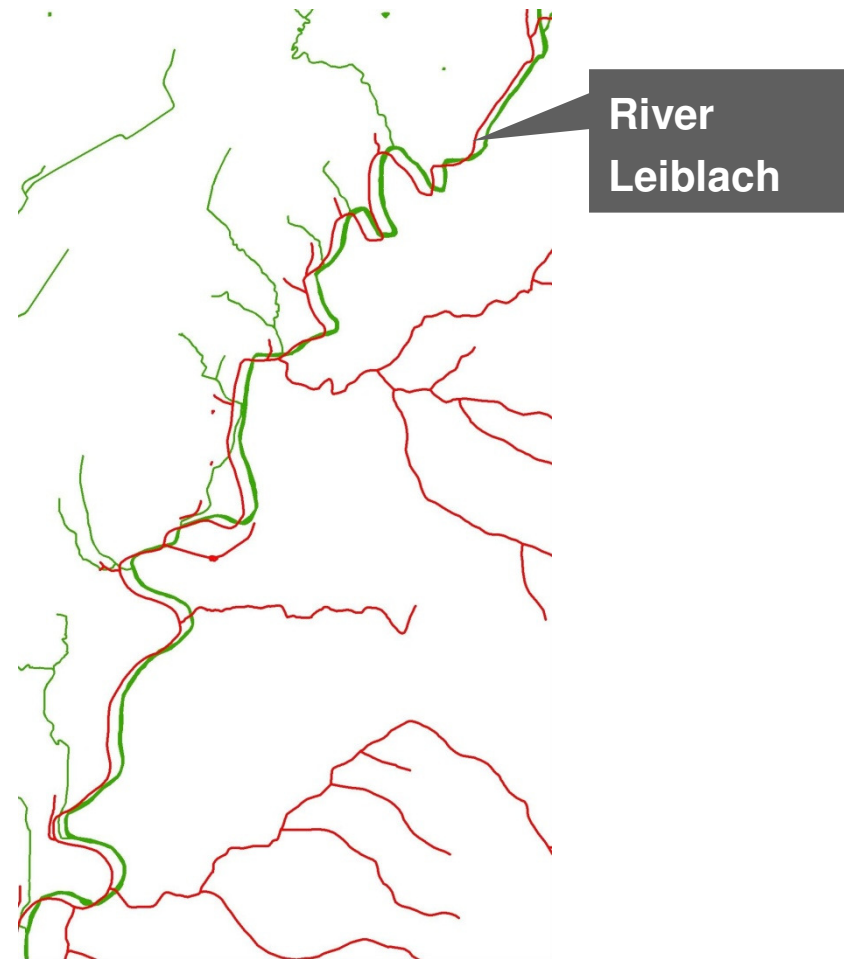
Matching: Finding the occurrences of the same feature

Solution: Aligning the different occurrences into one

Level 2/ Edge Matching / Introduction

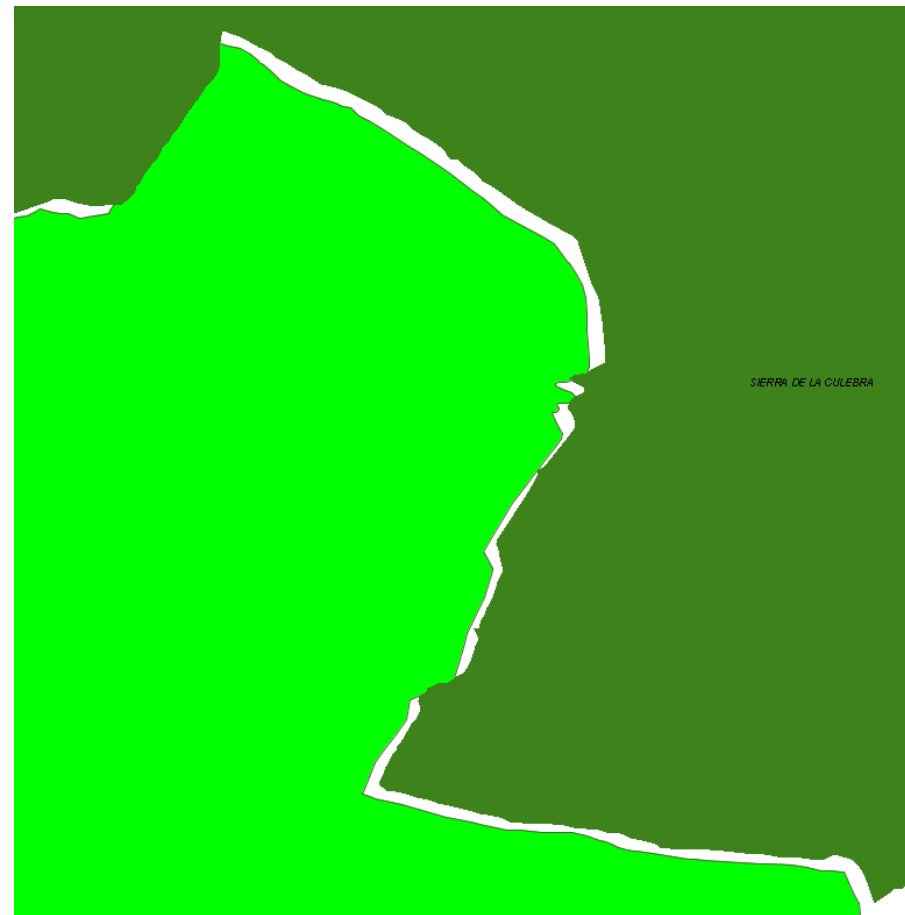
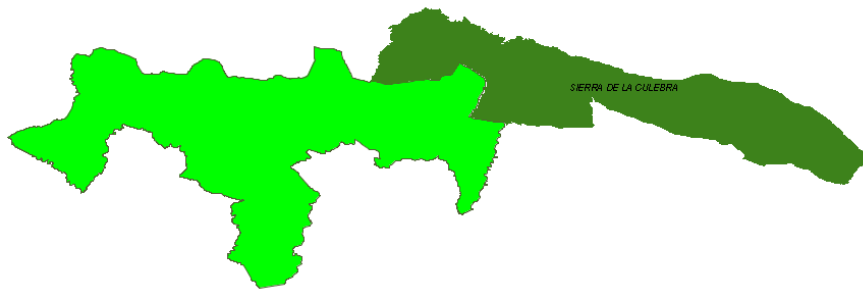


Level 2/ Edge Matching / Introduction



Level 2/ Edge Matching / Introduction

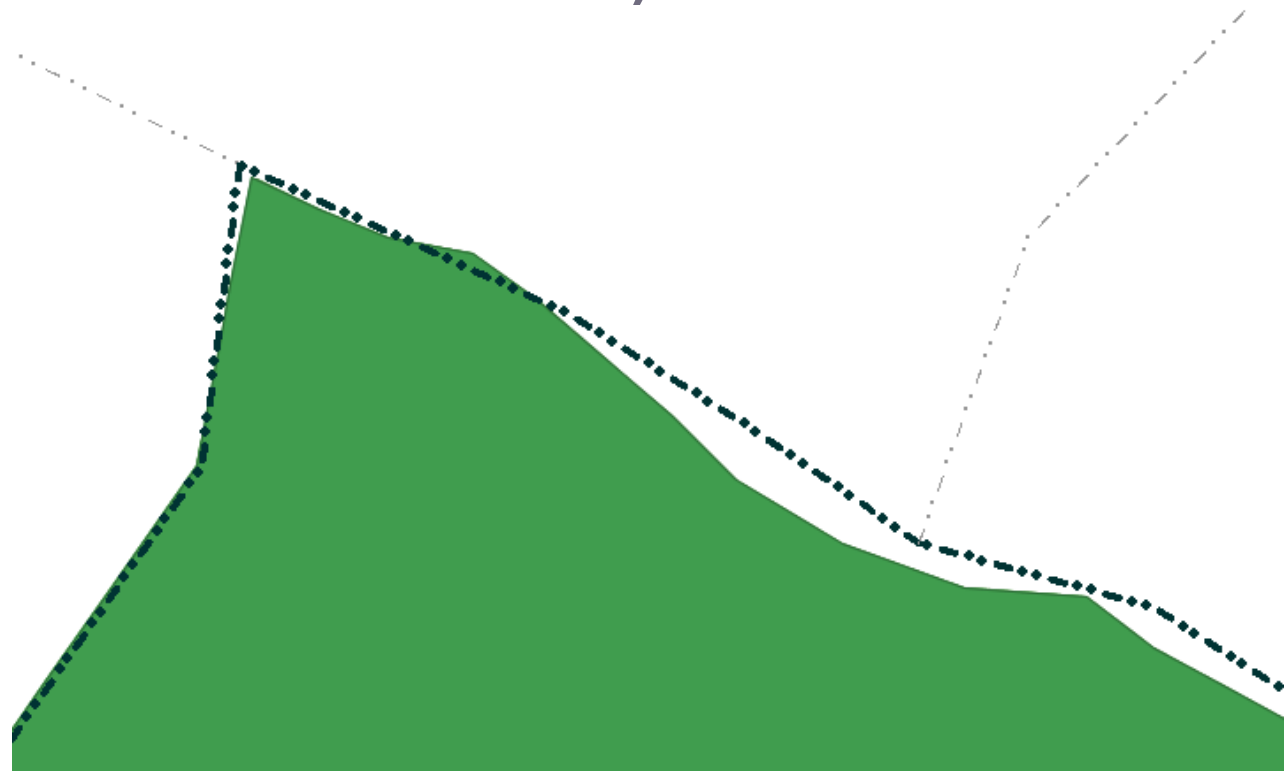
A protected area in Portugal (light green) and Spain (dark green)



Level 2/ Edge Matching / Introduction

Intra-thematic consistency

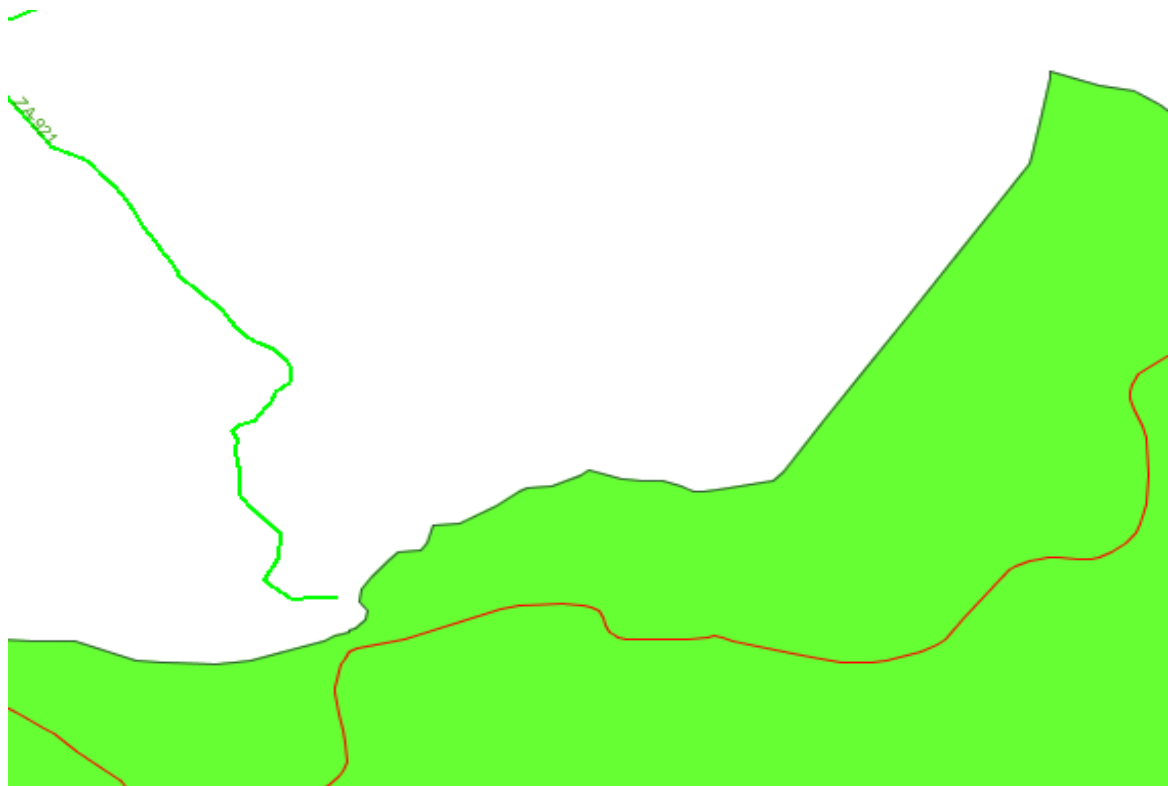
A protected area in Portugal (dark green) and administrative borders (dotted line)



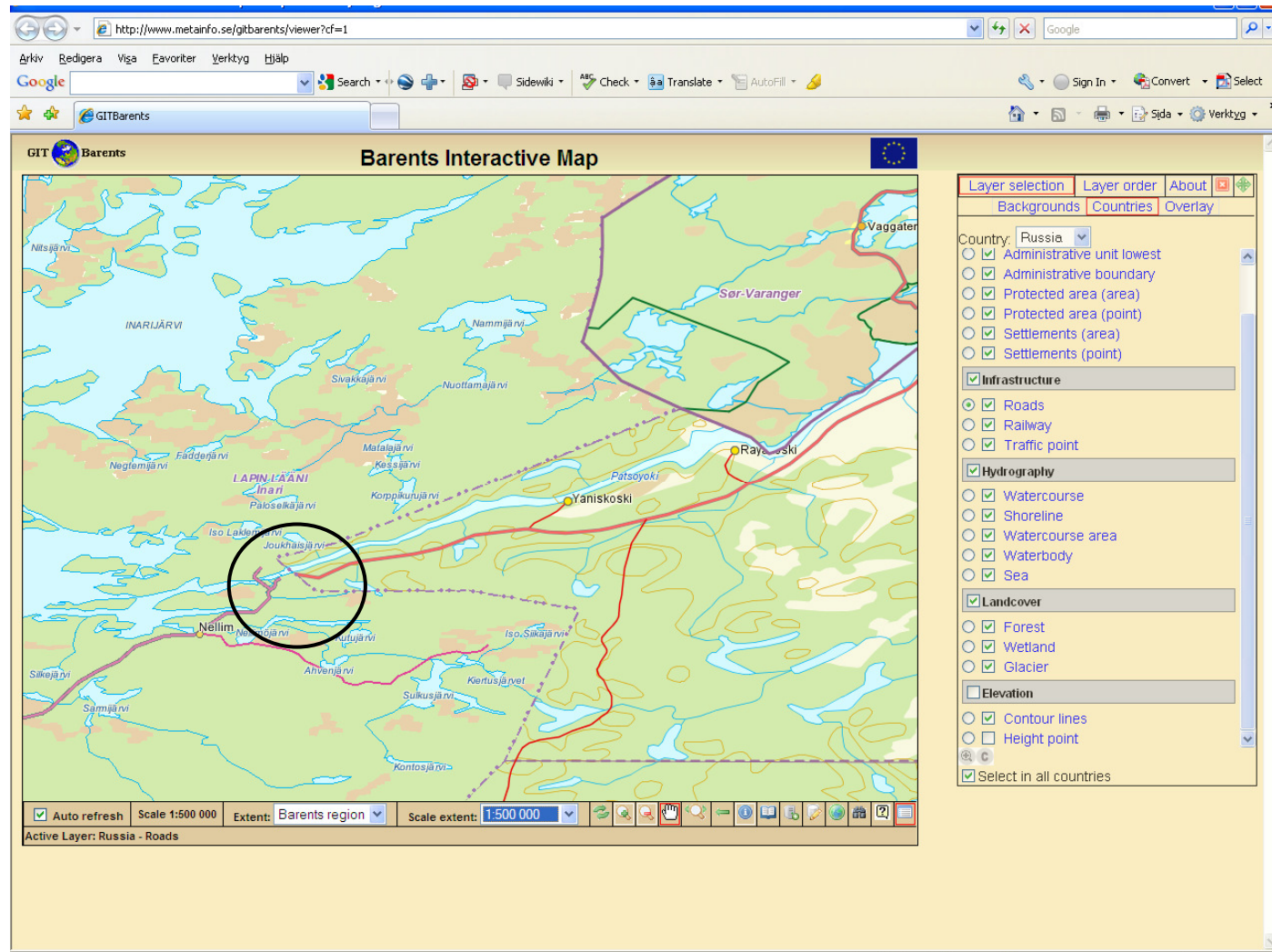
Level 2/ Edge Matching / Introduction

Topology

A road in Portugal (red line) and a road in Spain (green line)



Level 2/ Edge Matching / Introduction

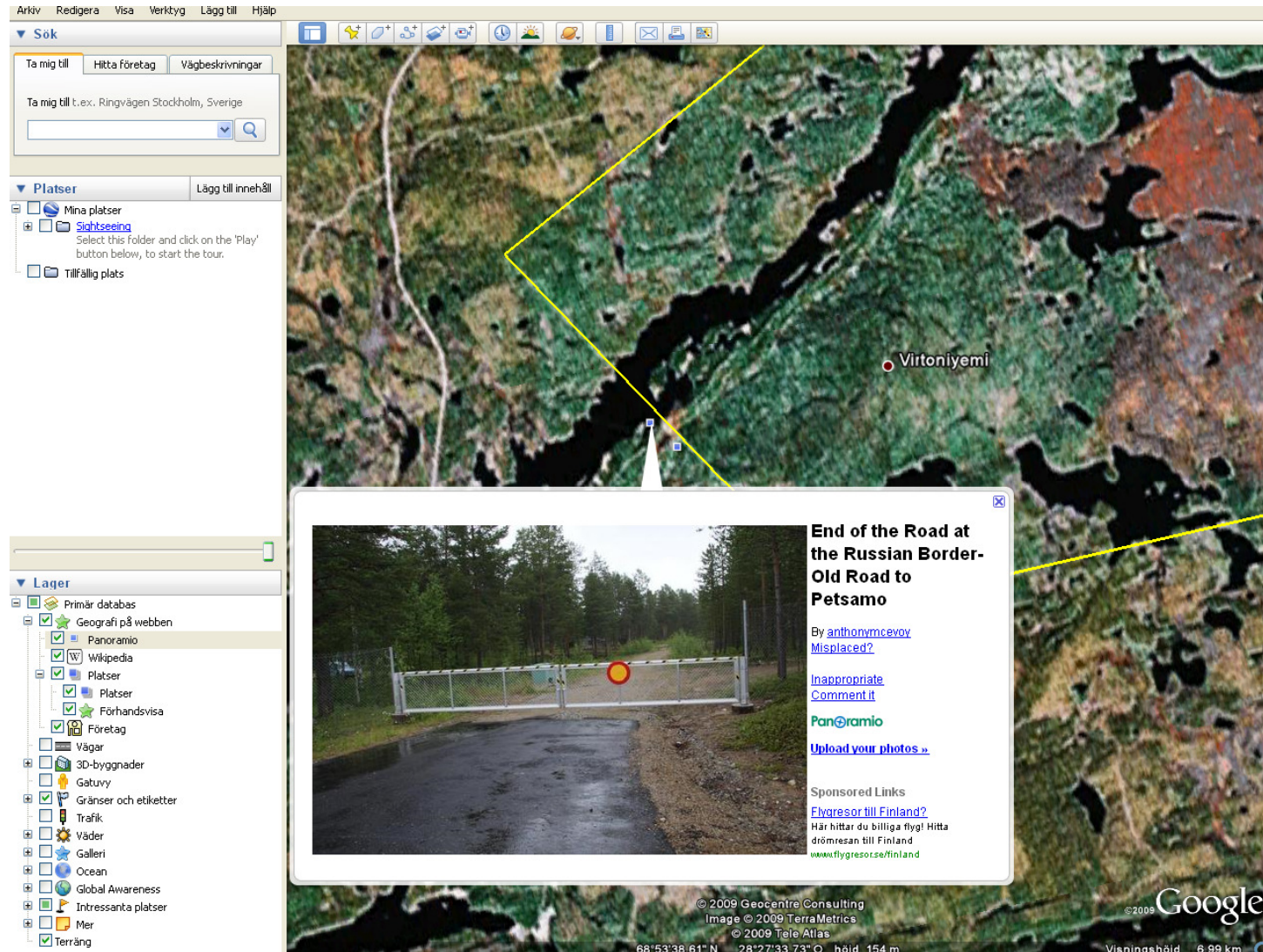


The screenshot shows a web browser window displaying the "Barents Interactive Map". The browser's address bar contains the URL "http://www.metainfo.se/gitbarents/viewer?cf=1". The map interface includes a toolbar at the top with navigation and search options. The main map area shows a geographical view of the Barents region, with a black circle highlighting a specific area. On the right side, there is a "Layer selection" panel with the following options:

- Country: Russia (selected)
- Administrative unit lowest (checked)
- Administrative boundary (checked)
- Protected area (area) (unchecked)
- Protected area (point) (checked)
- Settlements (area) (checked)
- Settlements (point) (checked)
- Infrastructure (checked)
 - Roads (checked)
 - Railway (checked)
 - Traffic point (checked)
- Hydrography (checked)
 - Watercourse (checked)
 - Shoreline (checked)
 - Watercourse area (checked)
 - Waterbody (checked)
 - Sea (checked)
- Landcover (checked)
 - Forest (checked)
 - Wetland (checked)
 - Glacier (checked)
- Elevation (unchecked)
 - Contour lines (checked)
 - Height point (unchecked)
- Select in all countries (checked)

The bottom status bar indicates "Active Layer: Russia - Roads" and "Scale: 1:500 000".

Level 2/ Edge Matching / Introduction



Arkiv Redigera Visa Verktyg Lägg till Hjälp

Sök

Ta mig till

Ta mig till t.ex. Ringvägen Stockholm, Sverige

Platser

Mina platser

- Sightseeing
Select this folder and click on the 'Play' button below, to start the tour.
- Tillfällig plats

Lager

- Primär databas
- Geografi på webben
 - Panorama
 - Wikipedia
- Platser
 - Platser
 - Förhandsvisa
 - Företag
- Vägar
- 3D-byggnader
- Gatuvy
- Gränser och etiketter
- Trafik
- Väder
- Galleri
- Ocean
- Global Awareness
- Intressanta platser
- Mer
- Terräng

End of the Road at the Russian Border - Old Road to Petsamo

By [anthonymcevov](#)
[Misplaced?](#)

[Inappropriate](#)
[Comment it](#)

[Pan@ramio](#)

[Upload your photos »](#)

Sponsored Links

[Flygresor till Finland?](#)
Här hittar du billiga flyg! Hitta drömesan till Finland
www.flygresor.se/finland

© 2009 Geocentre Consulting
Image © 2009 TerraMetrics
© 2009 Tele Atlas

68°53'38.61" N 28°27'33.73" O höjd 154 m

© 2009 Google
Visningshöjd 6.99 km

Level 2/ Edge Matching / Introduction

Installation

