



DIVA-GIS + ICIS Integration

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General Overview

What is DIVA-GIS ?

DIVA-GIS is a free and Open Source geographic information system (GIS) application that is used specially on GIS support for genebank curators & breeders.

From where download DIVA-GIS installer ? www.diva-gis.com

DIVA-GIS Home

Dashboard > DIVA-GIS > Home

View [Browse Space](#)

Labels: (None)
[Toggle Navigation Tree](#)

Navigation

- [Acknowledgements](#)
- [Documentation](#)
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- [Recent updates](#)
- [References](#)
- [Screenshots](#)
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What is DIVA-GIS?

A free and open source geographic information system (GIS) to make maps of species distribution data and analyze these data. DIVA-GIS was specifically developed at [CIP](#) for use with genebank data such as available through national or international genebank documentation systems and [SINGER](#).

DIVA-GIS is developed at CIP (International Potato Center, Peru). See [acknowledgements](#) on details for development team, funding and collaborations. Download the latest [DIVA-GIS installers](#). Contact: [r dot simon at CGIAR dot org](mailto:r.dot.simon@cgiar.org)

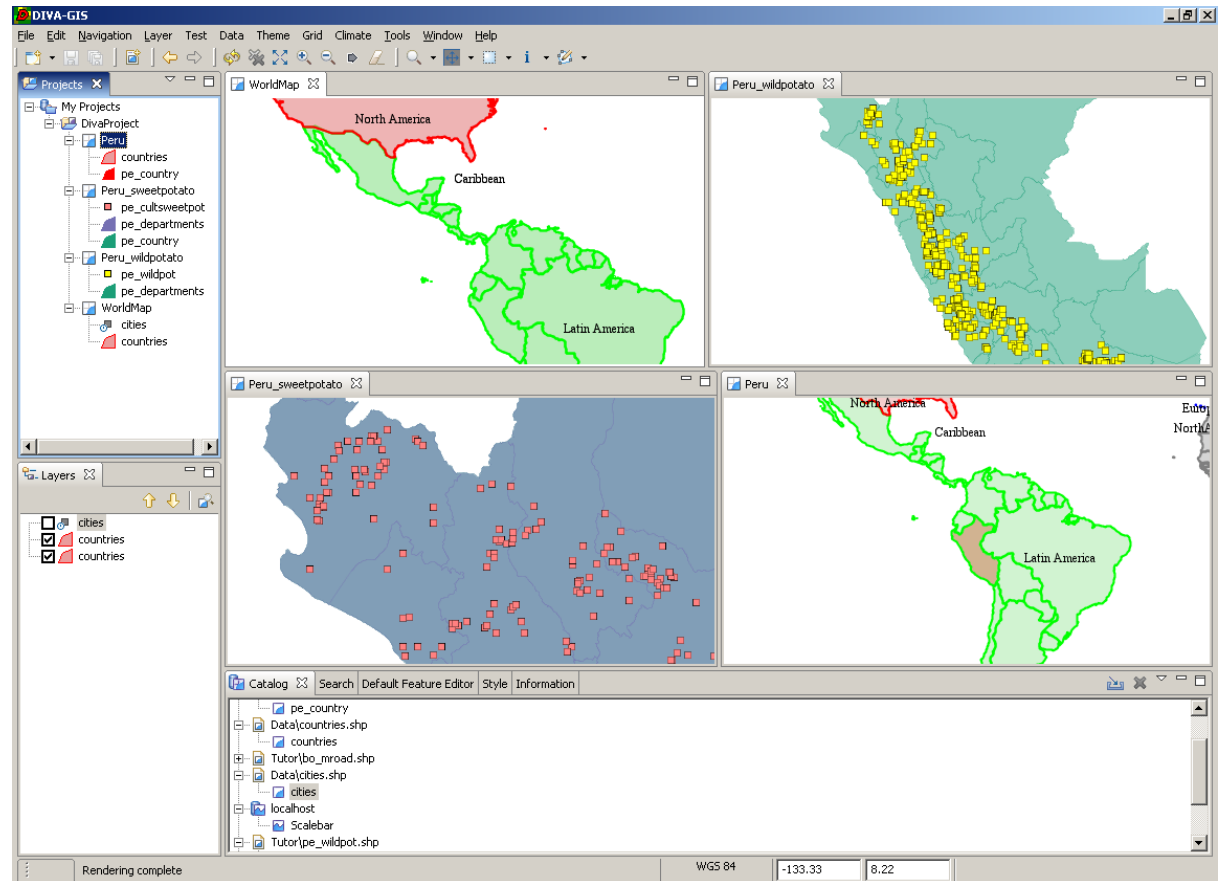
News

Title	Author	Date Posted
Issue tracking for general public	Reinhard Simon	May 07, 2006 00:46
DIVA-GIS 6.0 close to release	Reinhard Simon	Apr 27, 2006 17:54
Update on Sourceforge!	Reinhard Simon	Apr 14, 2006 18:34
New doc available!	Reinhard Simon	Mar 31, 2006 22:55
New Release	Reinhard	Mar 15, 2006

DIVA-GIS Overview

DIVA-GIS was originally designed to enhance the data quality of accessions in genebank collections by providing and verifying location data (georeferencing) of collection sites.

Mapping and Spatial analysis with DIVA-GIS can also be used to identify geographic areas of interest, for example: highly diverse (environmentally, taxonomically, or genetically), well represented or not in current collections, distributions of species and others.



DIVA-GIS Historic

Borland



75% Migrated
from Delphi

DIVA-
GIS
1.0 in
Delphi

DIVA-
GIS
2.0 in
Delphi

DIVA-
GIS
3.2 in
Delphi

DIVA-
GIS 4
in
Java

DIVA-
GIS 5
in
Java

DIVA-
GIS 6
in
Java

1999

2000

2001-2002

2005

2006

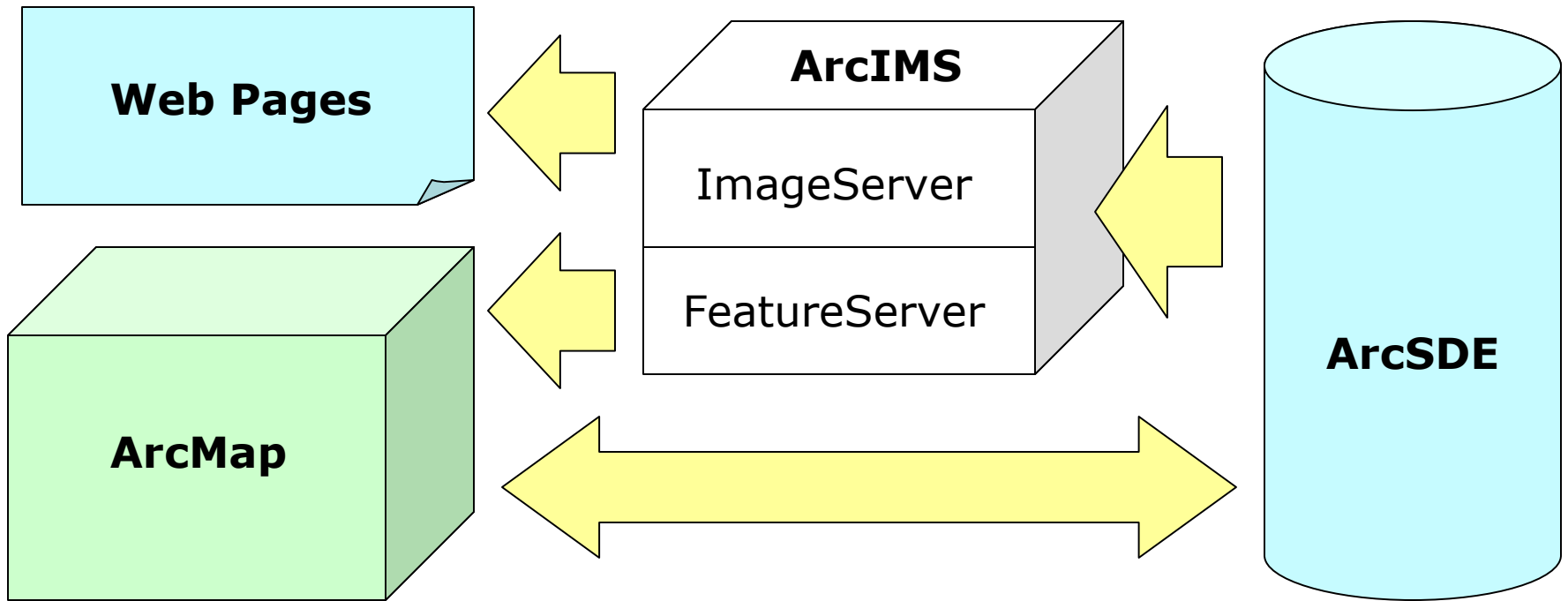
GIS Framework selection process

OpenMap: en el 2003
Deegree: en el 2003 – 2004
Jump: en el 2004

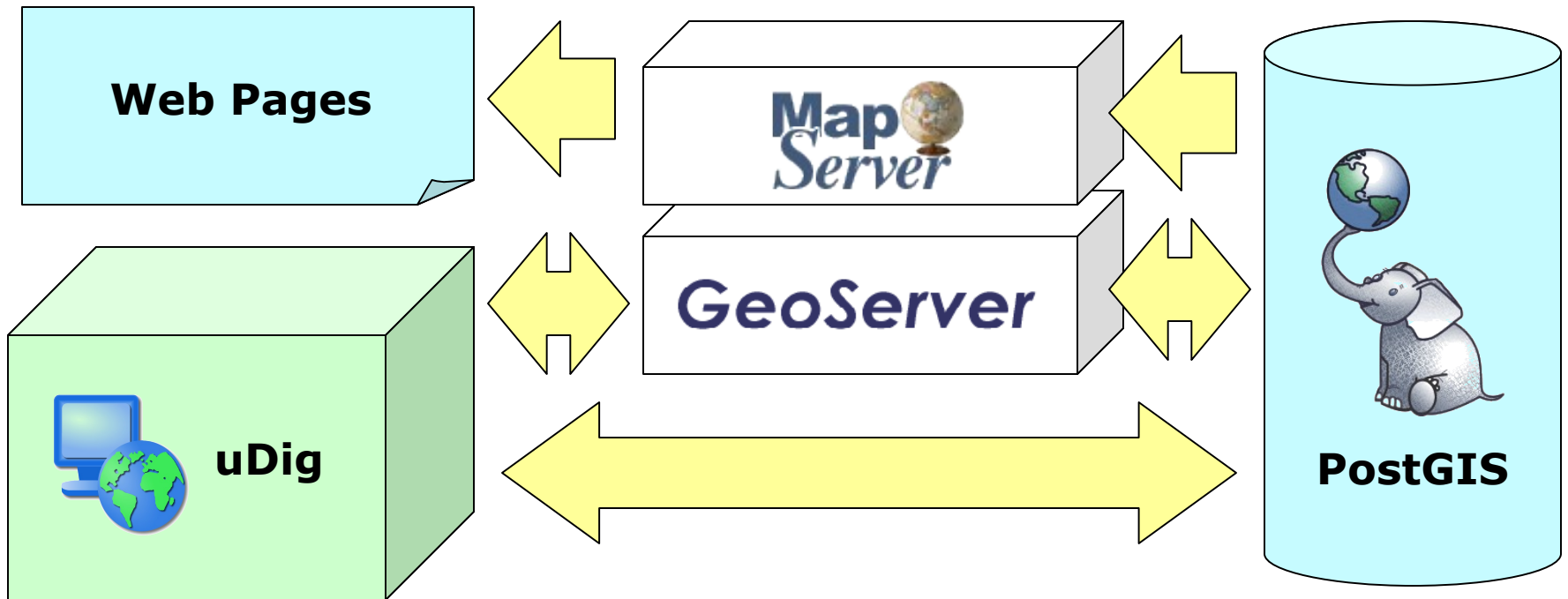
uDig+Geotools: 2005

- “Integrated Client”
 - Ability to directly view WMS
 - Ability to directly edit WFS
 - Ability to search catalogues
 - Ability to integrate standard GIS data
 - Hides complexity of network access
- “Standard GIS Functionality”
 - Ability to directly edit GIS data
 - Ability to connect to PostGIS, Mapserver, GeoServer
 - Ability to create paper cartography
 - Ability to integrate with proprietary infrastructures
- Facilities for development
 - DIVA is reusing a uDIG construction to communicate between plug-ins (BlackBoard), [View Eclipse Demo](#)

ESRI Map Server Storage Architecture, commercial product



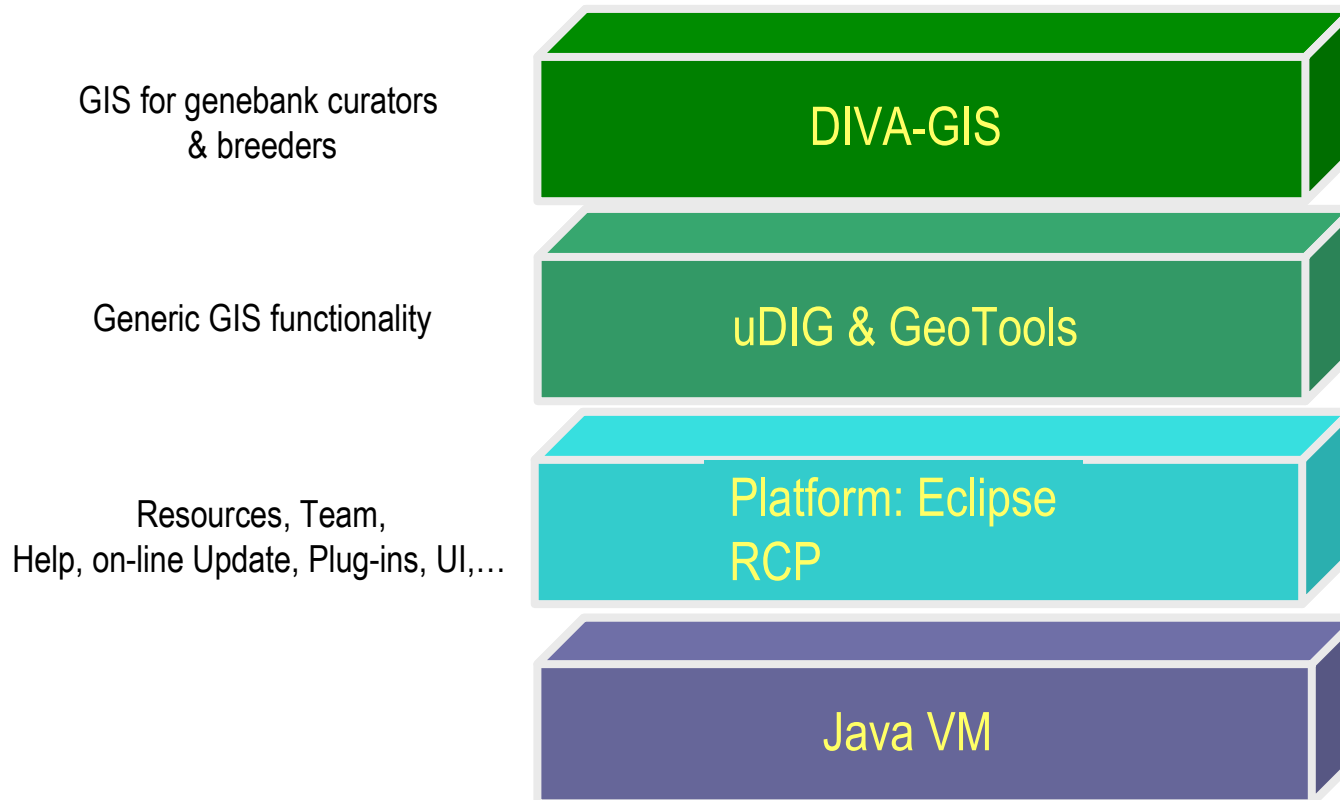
Open Source Map Server Storage Architecture



Demo on-line catalog (WMS)

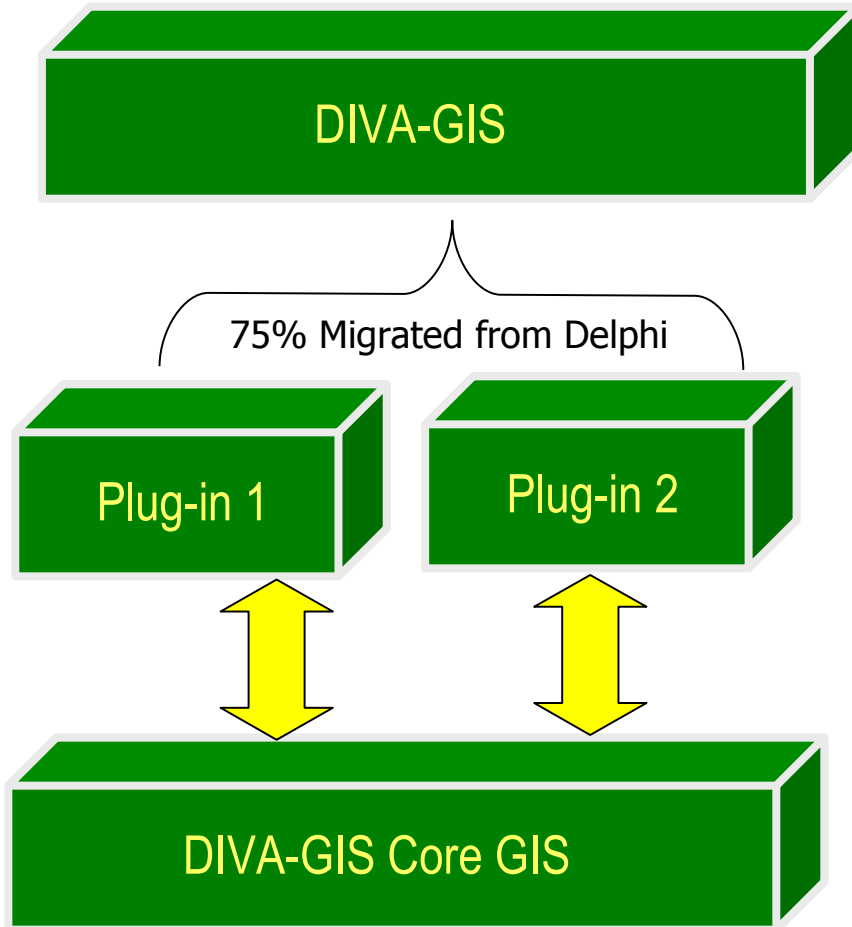
[videos_demo_diva\4_Video WMS y WFS\Video WMS y WFS.html](#)

DIVA-GIS/uDig Architecture



Modified from Eclipse site

DIVA-GIS Development Strategy, iterative development with Eclipse RCP Update Manager

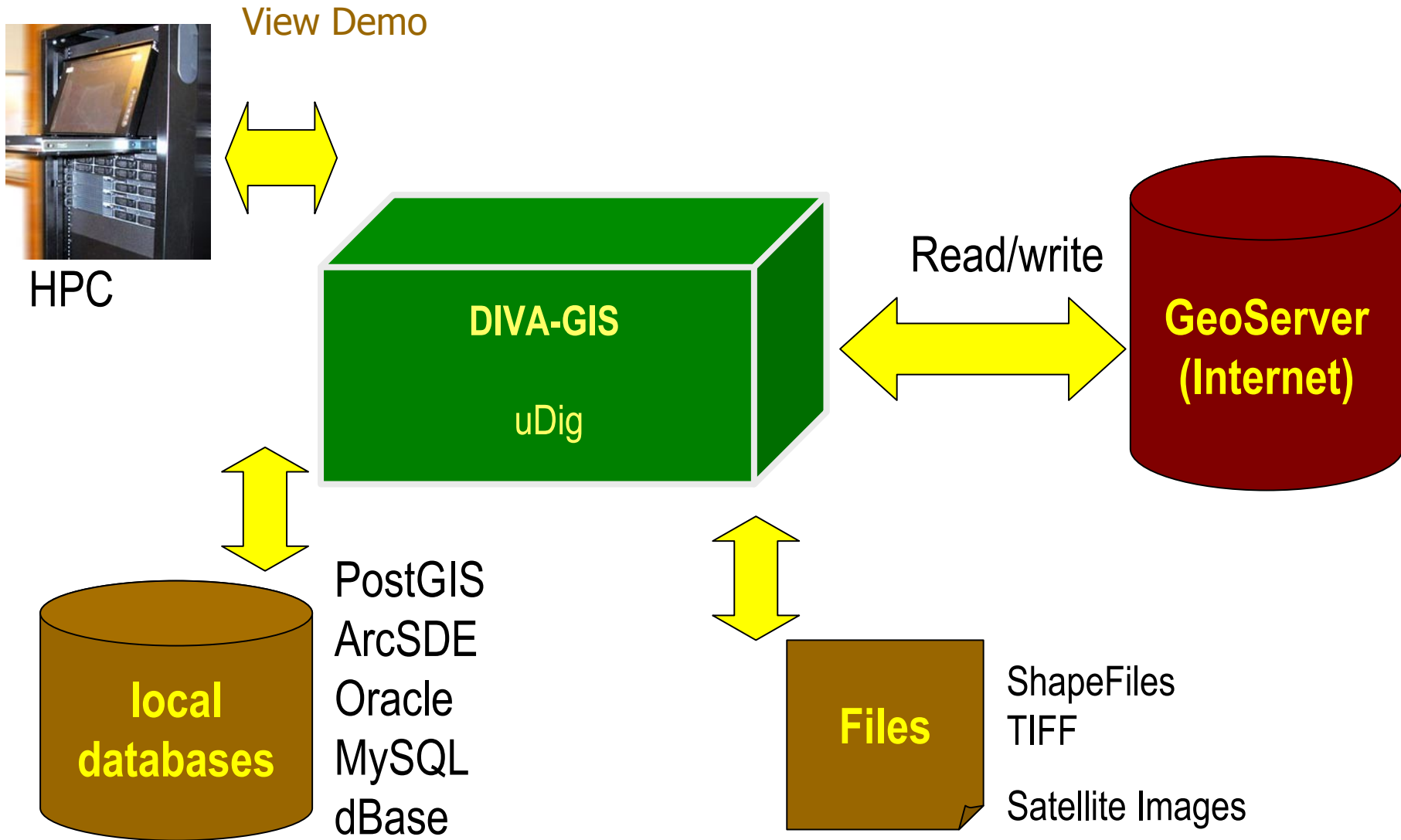


Benefits of an iterative approach

Compared to the traditional waterfall process, the iterative process has the following advantages:

- Risks are mitigated earlier
- Change is more manageable
- Higher level of reuse
- The project team can learn along the way
- Better overall quality

DIVA-GIS connectivity to a variety data sources

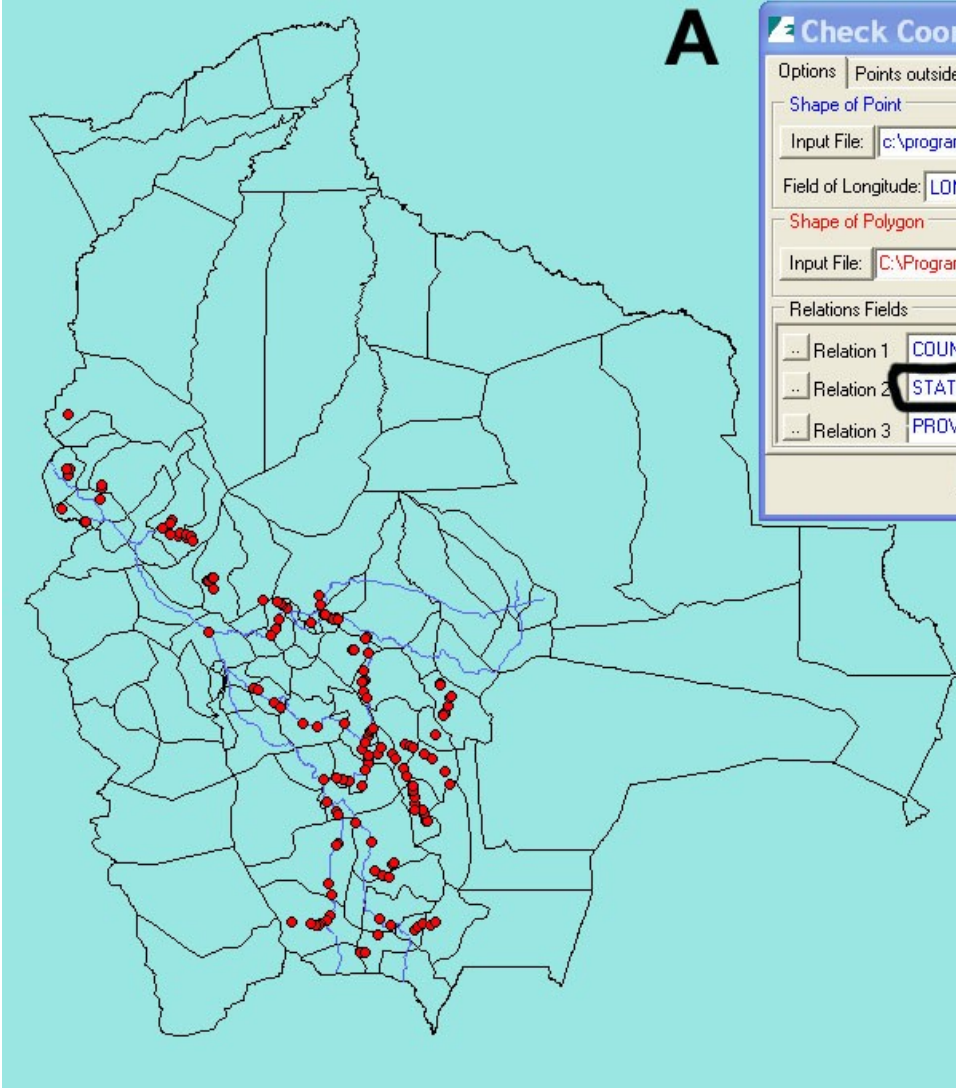


DIVA-GIS Open Source, where is the code ?

1. In the CVS repository of Cropforge (Private Access = GCP Members)
 2. In the SVN repository of Refractions-uDIG (Private Access = uDIG Staff+ CIP Staff)
 3. In Source Forge web site (Public Access) <http://sourceforge.net/projects/divagis>
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Diva-GIS Cleaning Geodata– Coordinate Check

A



Check Coordinates

Options | Points outside all polygons | Points do not match relations | Points do not match with X, Y

Shape of Point

Input File: c:\program files\diva-gis\tutor\bol_wildpot-6.shp

Field of Longitude: LONGITUDE .. Field of Latitude: LATITUDE ..

Shape of Polygon

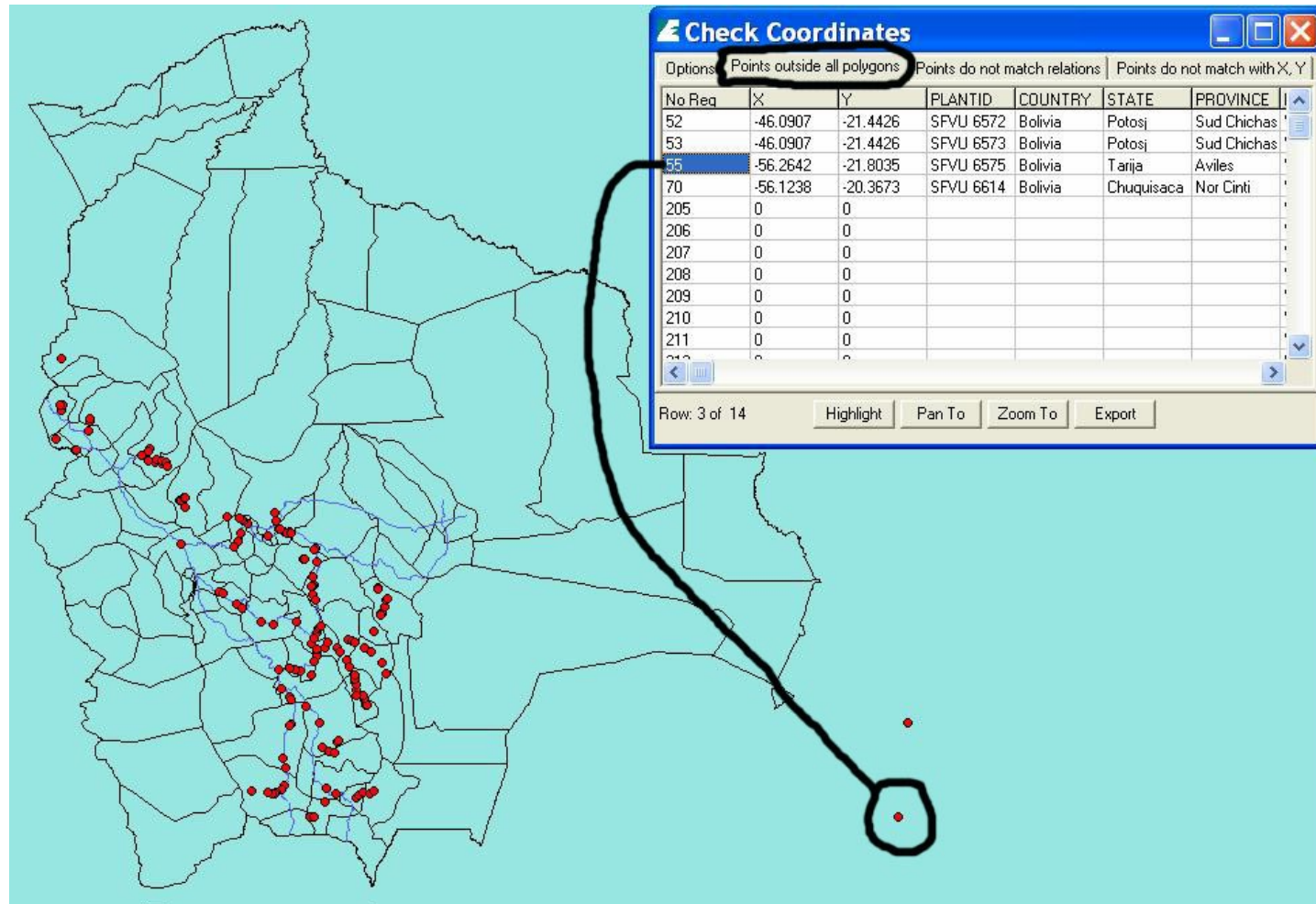
Input File: C:\Program Files\DIVA-GIS\tutor\bo_provinces.shp

Relations Fields

Relation 1	COUNTRY	=	COUNTRY
Relation 2	STATE	=	DEPARTMENT
Relation 3	PROVINCE	=	PROVINCE

Apply Close

Diva-GIS Cleaning Geodata—Points outside Polygon



Diva-GIS Cleaning Geodata–Mismatched Provinces

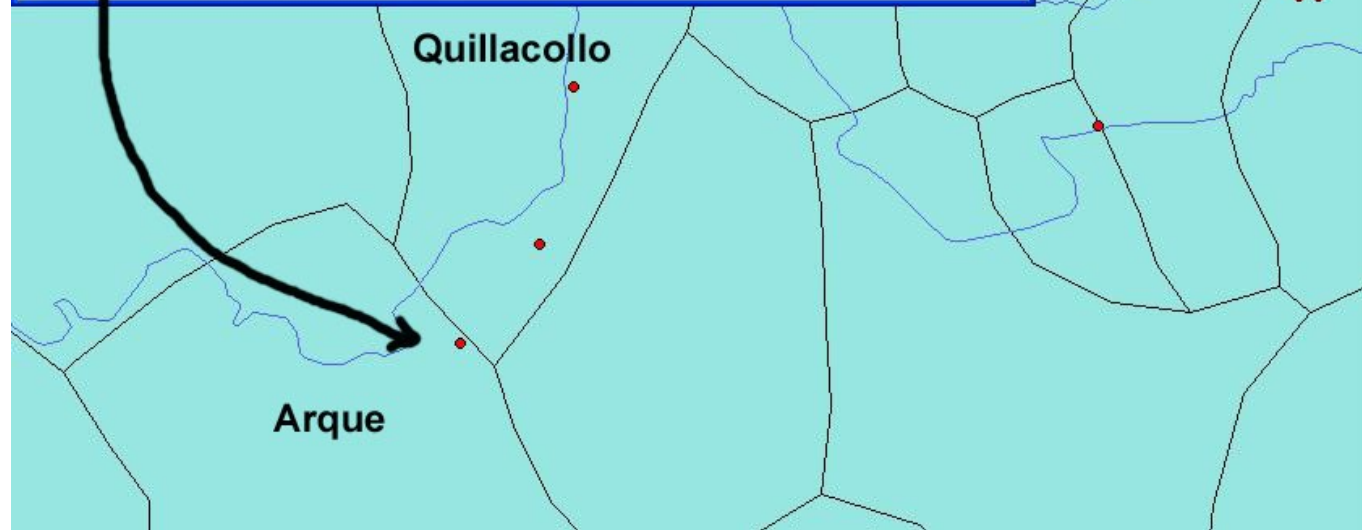
Check Coordinates

Options | Points outside all polygons | Points do not match relations | Points do not match with X, Y

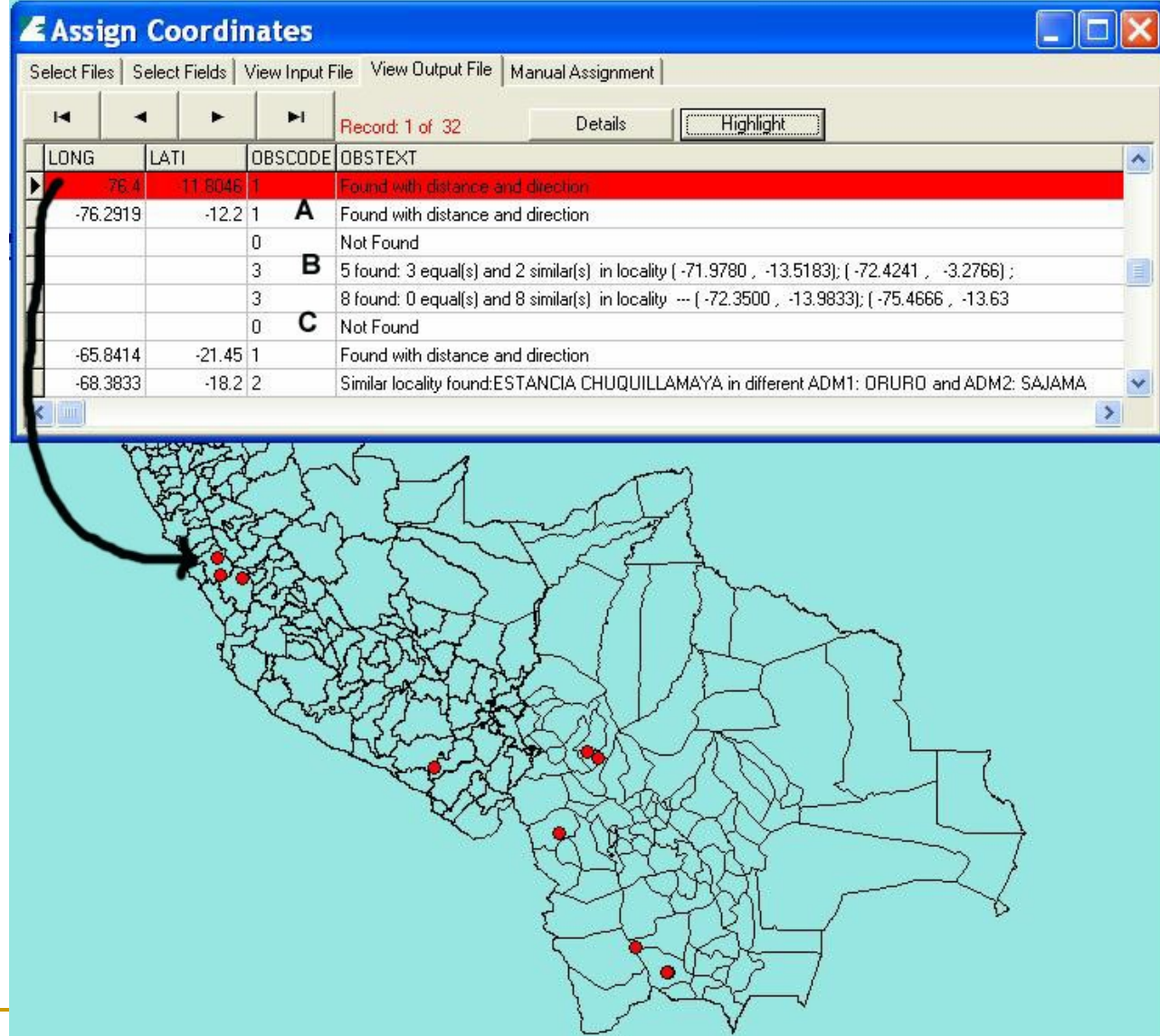
No Req	X	Y	Point:COUN	Polyg:COUN	Point:PROVI	Polyg:PROVI	PLANTID	STATE	L
1	-65.9049	-17.5248	Bolivia	BOLIVIA	Punata	Jordan	SFVU 6500	Cochabamba	"
2	-65.5868	-17.477	Bolivia	BOLIVIA	Tiraque	Arani	SFVU 6501	Cochabamba	"
3	-65.6535	-17.477	Bolivia	BOLIVIA	Tiraque	Arani	SFVU 6502	Cochabamba	"
6	-66.429	-17.7026	Bolivia	BOLIVIA	Quillacollo	Arque	SFVU 6507	Cochabamba	"
7	-66.6593	-18.3842	Bolivia	BOLIVIA	Dalence	Bustillos	SFVU 6509	Oruro	"
8	-66.6593	-18.3842	Bolivia	BOLIVIA	Dalence	Bustillos	SFVU 6510	Oruro	"
9	-66.6075	-18.3947	Bolivia	BOLIVIA	Dalence	Bustillos	SFVU 6511	Oruro	"
10	-66.6075	-18.3947	Bolivia	BOLIVIA	Dalence	Bustillos	SFVU 6512	Oruro	"
22	-65.1704	-19.3092	Bolivia	BOLIVIA	Oropeza	Yamparaez	SFVU 6527	Chuquisaca	"
23	-65.1672	-19.3546	Bolivia	BOLIVIA	Saavedra	Linares	SFVU 6528	Potosi	"
54	-65.2642	-21.8035	Bolivia	BOLIVIA	Aviles	Avilez	SFVU 6574	Tarja	"

Row: 4 of 37

Highlight | Pan To | Zoom To | Export



Diva-GIS Cleaning Geodata—Assign Coordinates



The screenshot displays the 'Assign Coordinates' software interface. The window title is 'Assign Coordinates'. The menu bar includes 'Select Files', 'Select Fields', 'View Input File', 'View Output File', and 'Manual Assignment'. The status bar shows 'Record: 1 of 32' and a 'Highlight' button. The main data table is as follows:

LONG	LATI	OBSCODE	DBSTEXT
-76.4	-11.8046	1	Found with distance and direction
-76.2919	-12.2	1	Found with distance and direction
		0	Not Found
		3	B 5 found: 3 equal(s) and 2 similar(s) in locality (-71.9780 , -13.5183); (-72.4241 , -3.2766) ;
		3	8 found: 0 equal(s) and 8 similar(s) in locality --- (-72.3500 , -13.9833); (-75.4666 , -13.63
		0	C Not Found
-65.8414	-21.45	1	Found with distance and direction
-68.3833	-18.2	2	Similar locality found:ESTANCIA CHUQUILLAMAYA in different ADM1: DRURO and ADM2: SAJAMA

Below the table is a map of Peru with several red dots indicating specific locations. A black arrow points from the first row of the table to a red dot on the map in the western coastal region.

Diva-GIS Cleaning Geodata–Multiple possibilities

Assign Coordinates

Select Files | Select Fields | View Input File | View Output File | Manual Assignment

Draw all points | Clear all points | Assign | Highlight | Record: 1 of 5

ADM1	ADM2	NAME	LAT	LONG
AREQUIPA	CAYLLOMA	CUSCO PUQUIO	-15.1775	-71.7594
CUZCO	QUISPICANCHI	CUSCO	-13.5183	-71.9780
JUNIN	JUNIN	HACIENDA RUC	-11.1052	-75.9030
LORETO	MAYNAS	CUSCO	-3.2766	-72.4241
SAN MARTIN	BELLAVISTA	CUSCO	-7.2583	-76.4766

The map below the table shows the geographical distribution of these points in Peru. Red dots represent the locations, and yellow arrows indicate the mapping process from the table to the map.

DIVA-GIS Demos

1. DIVA_intro_I
 2. Intro II and Check Coordinates
 3. Intro III_Select Records_Climate
 4. Checking Connection Configurations
 5. Import ICIS Data
 6. Analysis Richness
 7. Export Features
 8. Change Styles and Reprojections
 9. Structure output to Shapefile
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