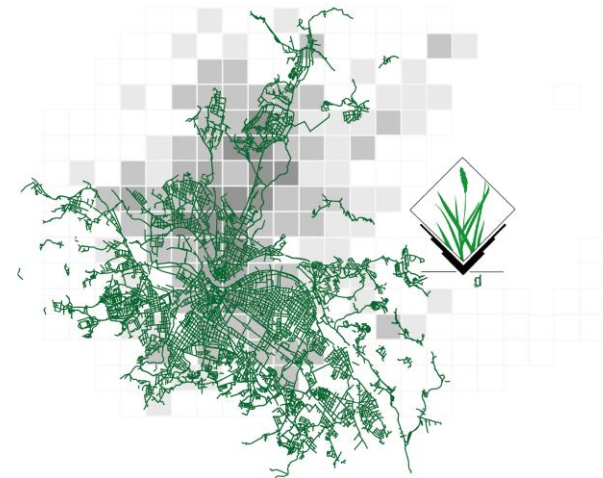


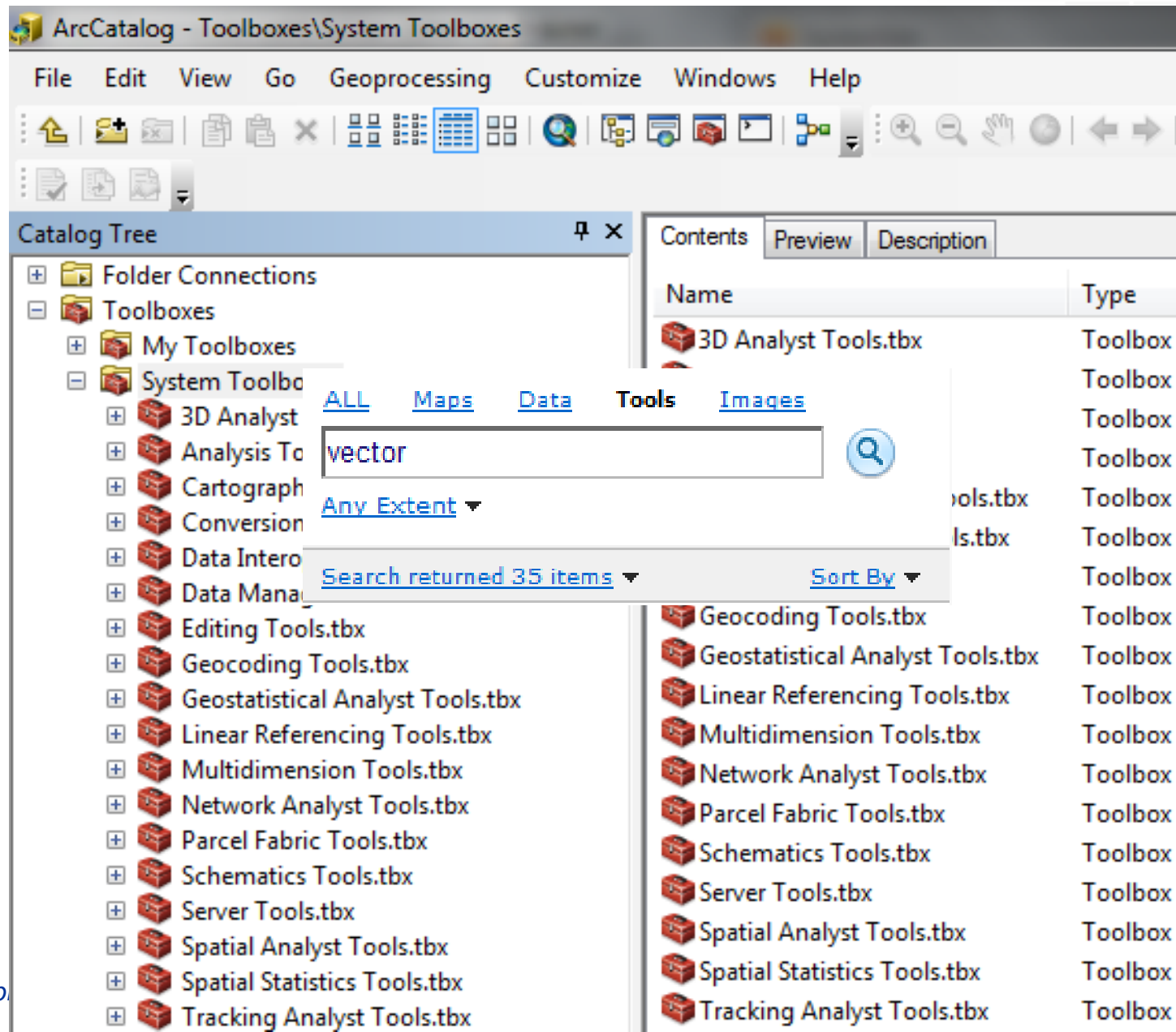
Geoprocessing Community Platform – Geoprocessing Appstore

AGILE 2015 workshop
„Geoprocessing on the Web –
science-driven and community-driven“

Johannes Brauner
2015-06-09



Motivation / goals



[Go back to help overview](#)

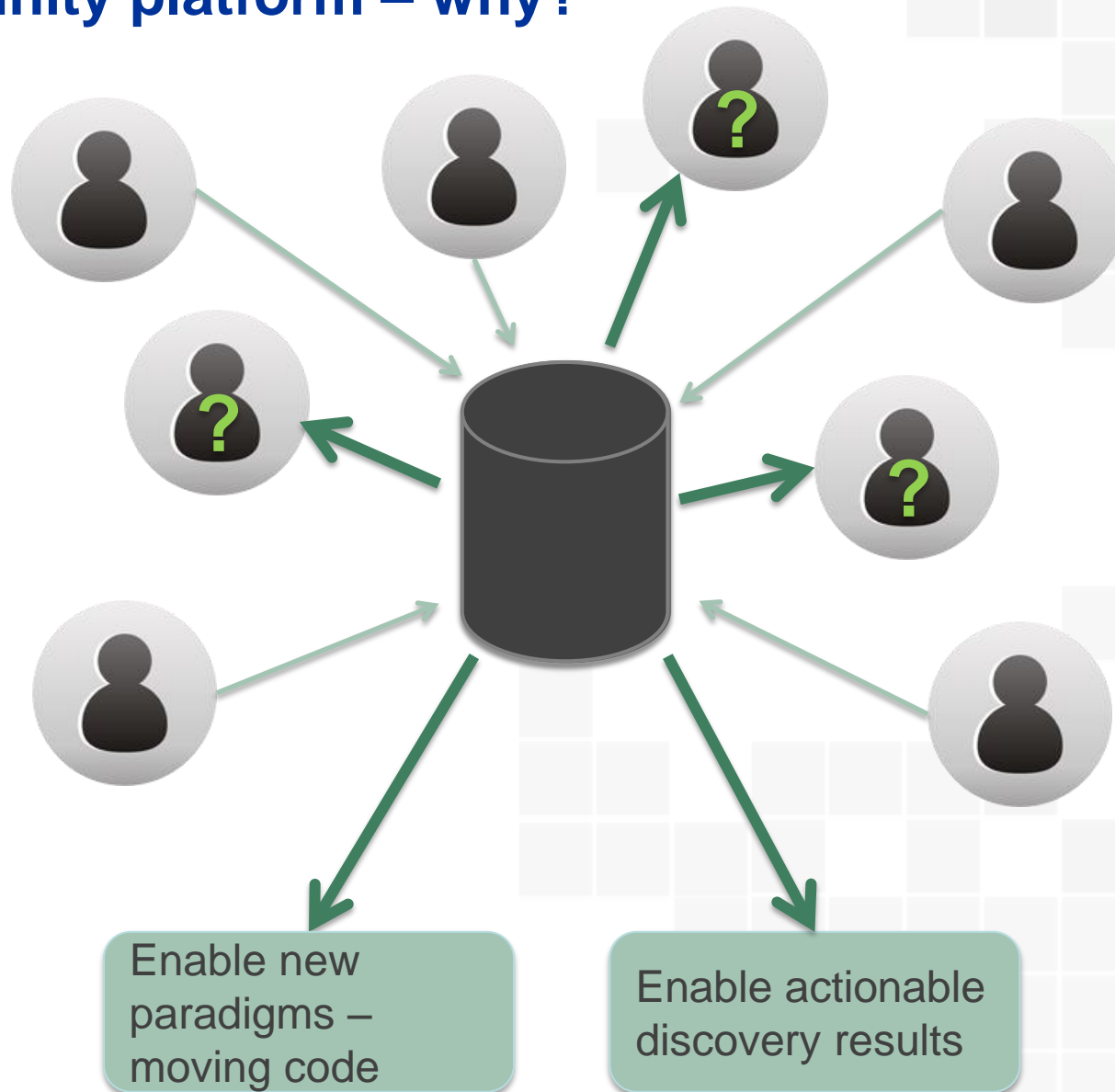
Vector commands:

v.buffer	Creates a buffer around vector features of given type.
v.build.all	Rebuilds topology on all vector maps in the current mapset.
v.build	Creates topology for vector map.
v.build.polylines	Builds polylines from lines or boundaries.
v.category	Attaches, deletes or reports vector categories to map geometry.
v.centroids	Adds missing centroids to closed boundaries.
v.class	Classifies attribute data, e.g. for thematic mapping
v.clean	Toolset for cleaning topology of vector map.
v.cluster	Cluster identification
v.colors	Creates/modifies the color table associated with a vector map.
v.colors.out	Exports the color table associated with a vector map.
v.db.addcolumn	Adds one or more columns to the attribute table connected to a given vector map.
v.db.addtable	Creates and connects a new attribute table to a given layer of an existing vector map.
v.db.connect	Prints/sets DB connection for a vector map to attribute table.
v.db.dropcolumn	Drops a column from the attribute table connected to a given vector map.

Motivation / goals

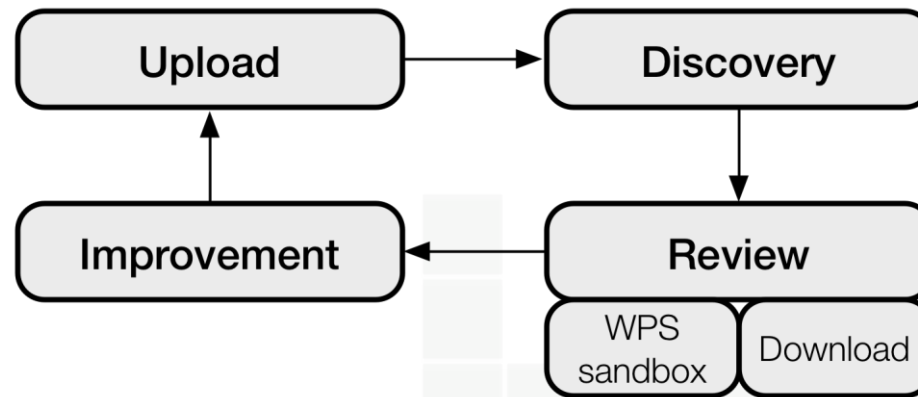
- *Improved discovery* of suitable geoprocessing functionality
- *Sustainable knowledge platform* for geoprocessing functionality
- *Central catalog/repository* for geoprocessing functionality

Community platform – why?



Geoprocessing Appstore – main features

- Algorithms:
 - Defined and described runtime environment
 - Powered by moving code



- Geoprocessing knowledge base
 - Geoperator thesaurus
 - Geoperator browser
- Central geoprocessing catalog

http://apps1.glues.geo.tu-dresden.de:8080/appstore/

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Geoprocessing Appstore

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Home

The Geoprocessing Appstore is a platform to share and find geoprocesses.


You can simply ...

Find Geoprocesses

Search


Most Recent Moving Code Packages

Calculation geometry relationships between input geometries

geoportal 
2015-02-06
12:59:50.052

Calculation of distance and topology relationships between input geometries

Calculation of koeppen climate classes

geoportal 
2015-02-03
10:30:02.318

Calculation of koeppen classes on the basis of a temperature- and a precipitation netCDF dataset.



z-Transformation for raster data (cell wise)

geoportal 
2014-11-03 12:33:56.19

Computes a z-transform cell by cell



Top Rated Moving Code Packages

Calculation of koeppen climate classes

geoportal | 1  0 
2015-02-03
10:30:02.318



Calculation of koeppen classes on the basis of a temperature- and a precipitation netCDF dataset.

z-Transformation for raster data (cell wise)

geoportal | 1  0 
2014-11-03 12:33:56.19

Computes a z-transform cell by cell

NDVI process

geoportal | 1  0 
2014-11-03 12:32:32.94

Computes the NDVI by $(NIR-RED)/(NIR+RED)$

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Search

Text:

WHAT IS YOUR GENERAL TASK?

WHAT DATA TYPE ARE YOU USING?

WHAT IS YOUR GIS PREFERENCE?

- ☐ GRASS
☐ ArcGIS
☐ PCRaster

WHICH SOFTWARE DO YOU HAVE INSTALLED?

- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Java 1.8 | <input type="checkbox"/> ArcGIS Analysis 10.3 |
| <input type="checkbox"/> Java 1.7 | <input type="checkbox"/> ArcGIS Analysis 10.2 |
| <input type="checkbox"/> Java 1.6 | <input type="checkbox"/> ArcGIS Analysis 10.1 |
| <input type="checkbox"/> Java 1.5 | <input type="checkbox"/> ArcGIS Analysis 10.0 |
| <input type="checkbox"/> Python 3.4 | |
| <input type="checkbox"/> Python 2.7 | |

WHAT ARE YOUR PREFERRED LANGUAGES AND LIBRARIES?

- | | |
|---------------------------------|--------------------------------------|
| <input type="checkbox"/> Java | <input type="checkbox"/> Arc Toolbox |
| <input type="checkbox"/> Python | <input type="checkbox"/> GDAL |
| <input type="checkbox"/> C# | <input type="checkbox"/> R |

WHERE SHOULD YOUR PROCESS BE ONLINE AVAILABLE?

- ☐ ArcGIS Online
☐ Web Processing Service (WPS)

<http://apps1.glues.geo.tu-dresden.de:8080/appstore/>

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Browse algorithms

You can choose more than one keyword by holding the Strg key!

Geooperators

Legacy GIS

GRASS

Functionality classes

Keywords

Menu structure

ArcGIS

Toolboxes

Abstract

Geodata

Raster

Raster to raster

Vector

Vector to vector

Geoinformatics

Map Algebra

LocalFUNCTION operations

FocalFUNCTION operations

Egenhofer operators

Overlay

Text:

Filter

Clear

1 results

Showing 1-1

z-Transformation for raster data (cell wise)

Computes a z-transform cell by cell The containertype of the described process is <http://gis.geo.tu-dresden.de/movingcode/containerregistry/pythonscript-2.5> The platform of the described process is <http://gis.geo.tu-dresden.de/movingcode/platformregistry/platform/java-1.6>

Details

Metadata

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Capabilities

ALL AVAILABLE PROCESSES

Show Description

data* ☐ asReference

output_result ☐ request this output ☐ asReference

Title	52°North WPS 3.3.2-SNAPSHOT
Abstract	Service based on the 52°North implementation of WPS 1.0.0
Keywords	WPS geospatial geoprocessing
Type	WPS
Version	1.0.0
Fees	NONE
Access constraints	NONE
Provider name	52North
Provider site	http://www.52north.org/

Full capabilities

Geooperators Browser

Toggle wizard mode

Search by keyword

40 Geooperators

Geodata	Name▲	Description	Categories	Related geooperator(s)
Geodata (40) ▼ Vector (24) ▼ Vector to vector (21) Vector to attribute table (2) Vector to raster (1) Raster (13) ▼ Raster to raster (11) Raster 3D to raster 3D (1) Raster to vector (1) Attribute table (3) Raster_3D (1)	Buffer	Creates buffer polygons around input features to a specified distance.	Analysis toolbox, ArcGIS, Modeling suitability, movement, and interaction, Legacy GIS, Formal, Vector to vector, Technical, Pragmatic, Modeling paths, Vector, Geodata, Unary, Available in operating system, Available online, Windows, Proximity toolset, Transport route planning, and OGC Web Processing Service	Multiple ring buffer , v.buffer , v.parallel
Legacy GIS Legacy GIS (40) ▼ ArcGIS (24) ▼ Toolboxes (24) ▼ Analysis toolbox (17) ▼ Proximity toolset (7) Overlay toolset (5) Statistics toolset (3) Extract toolset (2) Spatial analyst toolbox (4) Distance toolset (2) Map Algebra toolset (1) Reclass toolset (1) Conversion toolset (2) ▼ From raster toolset (1) To raster toolset (1) Data management toolbox (1) ▼ Projections and transformations toolset (1) GRASS (15) ▼ Functionality classes (15) ▼ Vector - functionality class (7)	Clip	Extracts input features that overlay the clip features.	Legacy GIS, Vector, Windows, ArcGIS online, Geodata, ArcGIS, Available online, Modeling suitability, movement, and interaction, Available in operating system, Pragmatic, Analysis toolbox, Transport route planning, Vector to vector, Modeling paths, and Technical	v.select , v.extract , v.overlay
	Cost distance	Calculates the least accumulative cost distance for each cell to the nearest source over a cost surface.	Modeling suitability, movement, and interaction, Legacy GIS, ArcGIS, Pragmatic, Geodata, Distance toolset, Modeling paths, Transport route planning, Spatial analyst toolbox, Raster to raster, and Raster	Cost path
	Cost path	Calculates the least-cost path from a source to a destination.	Pragmatic, Modeling paths, Spatial analyst toolbox, ArcGIS, Distance toolset, Raster to raster, Transport route planning, Legacy GIS, Geodata, Raster, and Modeling suitability, movement, and interaction	Cost distance
	Create Thiessen polygons	Creates Thiessen polygons from point features. Each Thiessen polygon contains only a single point input feature. Any location within a Thiessen polygon is closer to its associated point than to any other point input feature.	Vector, Analysis toolbox, ArcGIS, Proximity toolset, Geodata, Vector to vector, and Legacy GIS	v.voronoi
	db.univar	Calculates univariate statistics on selected table column.	Statistics - keywords, Attribute table - keywords, Legacy GIS, Geodata, Database - functionality class, Attribute table, GRASS, and Database - keywords	Summary statistics

Integration of content into the Geoprocessing Appstore

- Motivation
 - How can the community best be involved?
- Community portal requirements
 - Which functionality is required in general?
- What is missing from the Appstore to support the community process?
- Integration of content requires *formalized* metadata:
 - Hierarchical WPS Profiles (WPS 2.0)
 - Geoperator thesaurus (SKOS/RDF)

Thank you!

- Remaining schedule:
 - (Hierarchical) WPS Profiles in WPS 2.0
(Barbara Hofer)
 - Geooperators
(Johannes Brauner)
 - Lunch break
 - Geoprocessing for data fusion
(Introduction from Stefan Wiemann)
 - Hands-on WPS Profiles / geooperators / community building
(Break-out teams)
 - Wrap-up