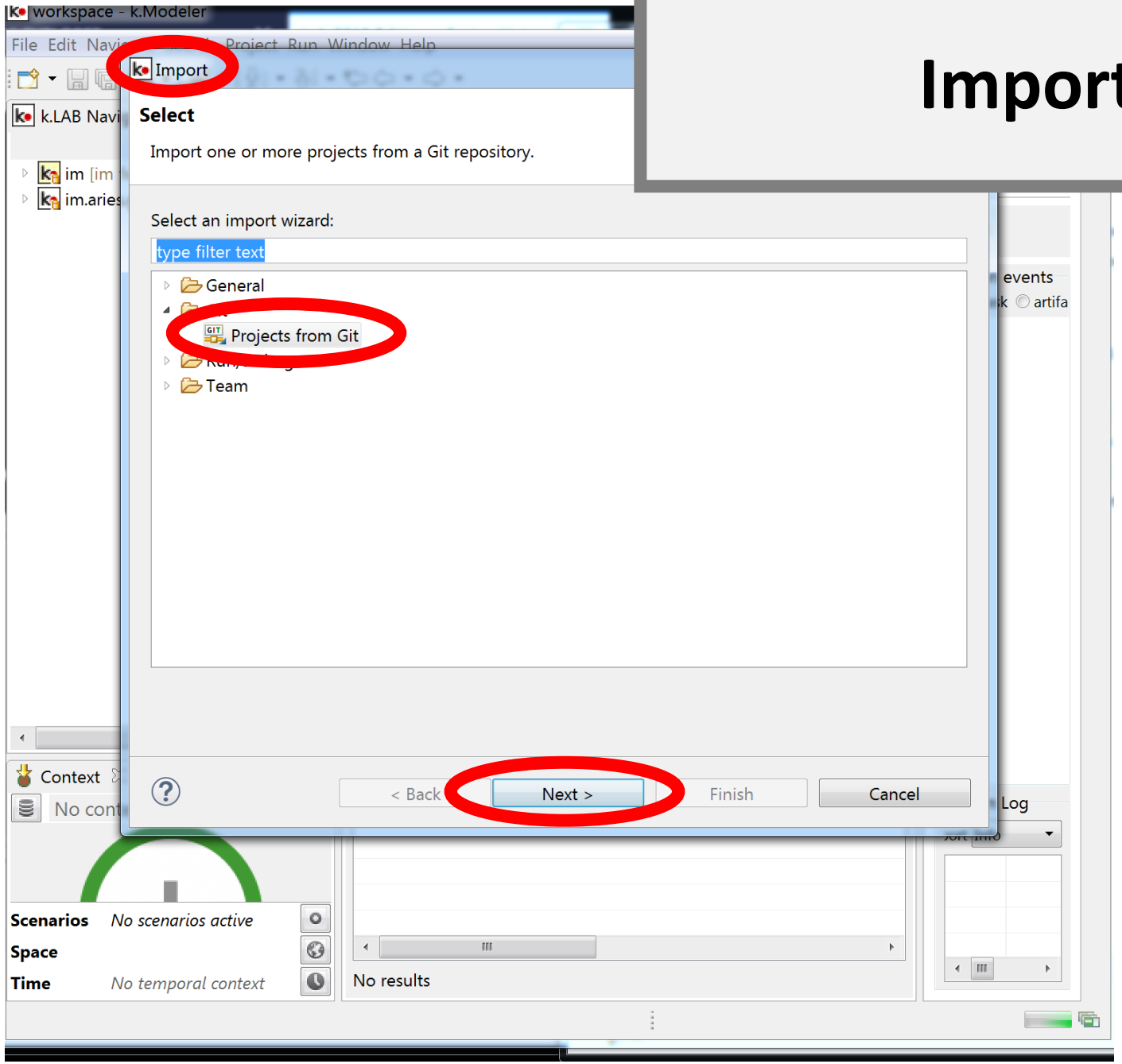
Data annotation exercise

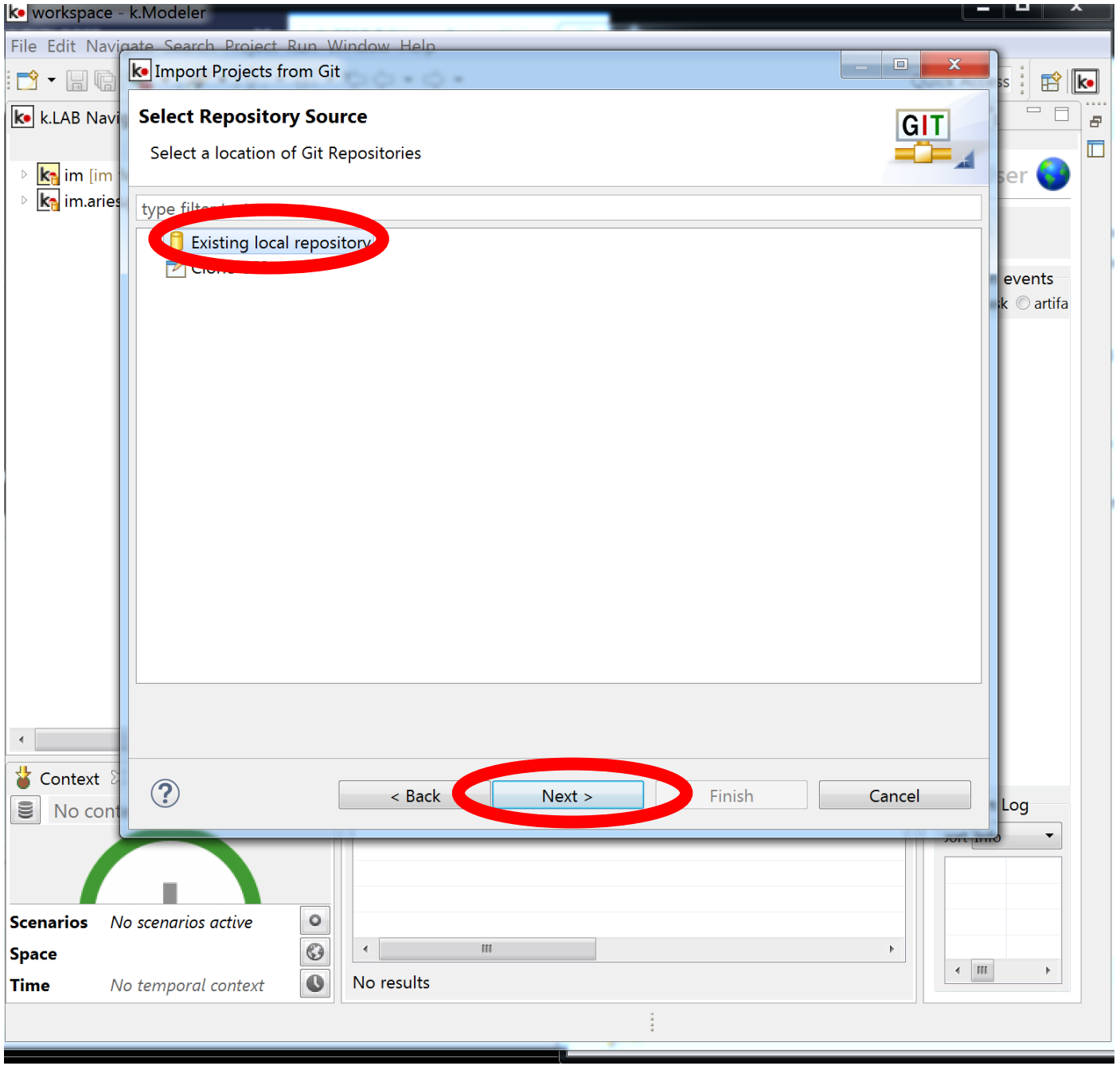
bc³
BASQUE CENTRE
FOR CLIMATE CHANGE
Klima Aldaketa Ikergai

Download data for Uganda

- https://springuniversity.bc3research.org/isu-2019/

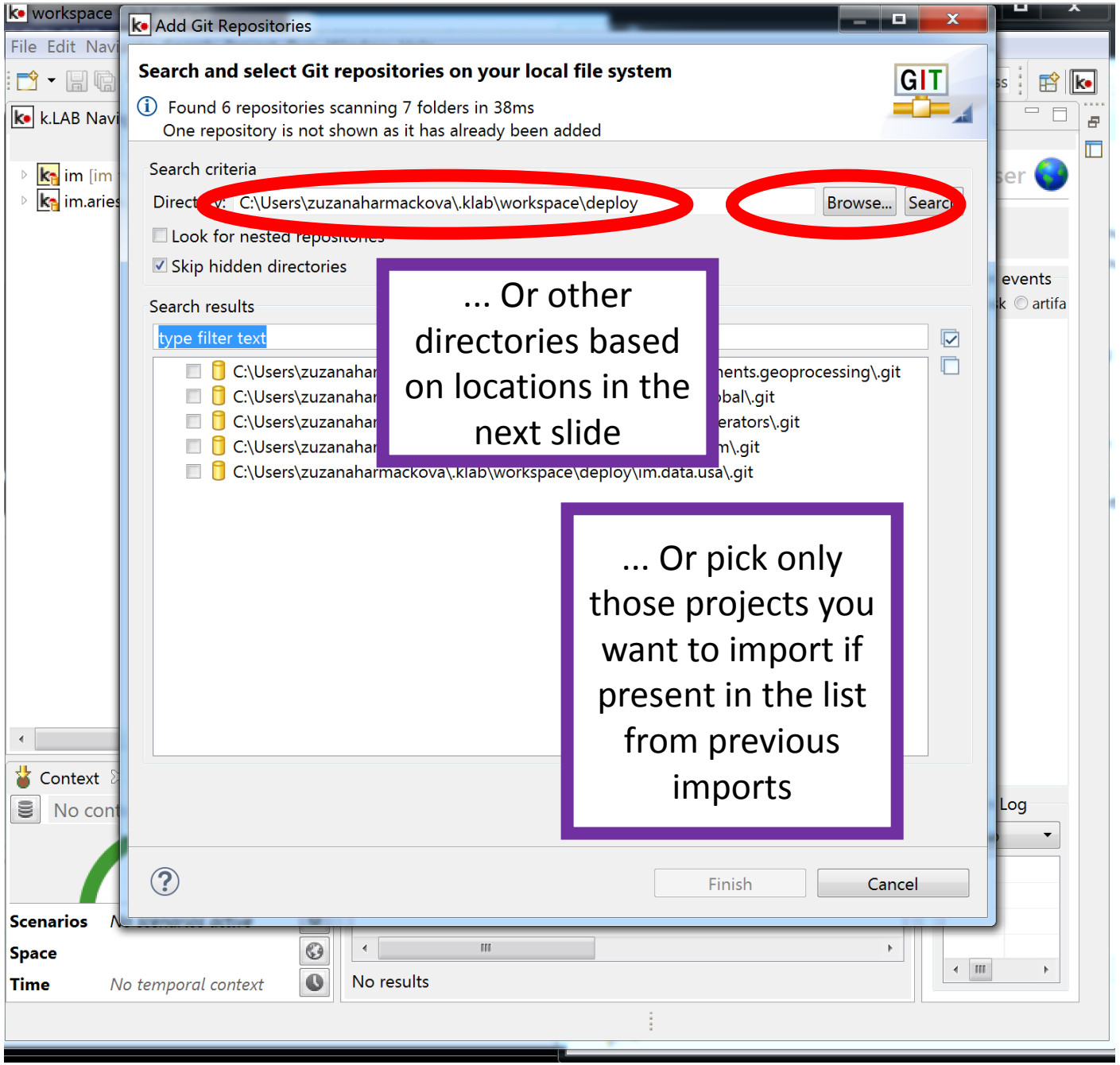
Import a project




workspace - k.Modeler
File Edit Navigate Search Project Run Window Help
k.LAB Navi
im [im
im.aries
Import Projects from Git
Select Repository Source
Select a location of Git Repositories
GIT
type filter
Existing local repository
< Back
Next >
Finish
Cancel
events
artifa
Log
Context
No cont
Scenarios No scenarios active
Space
Time No temporal context
No results

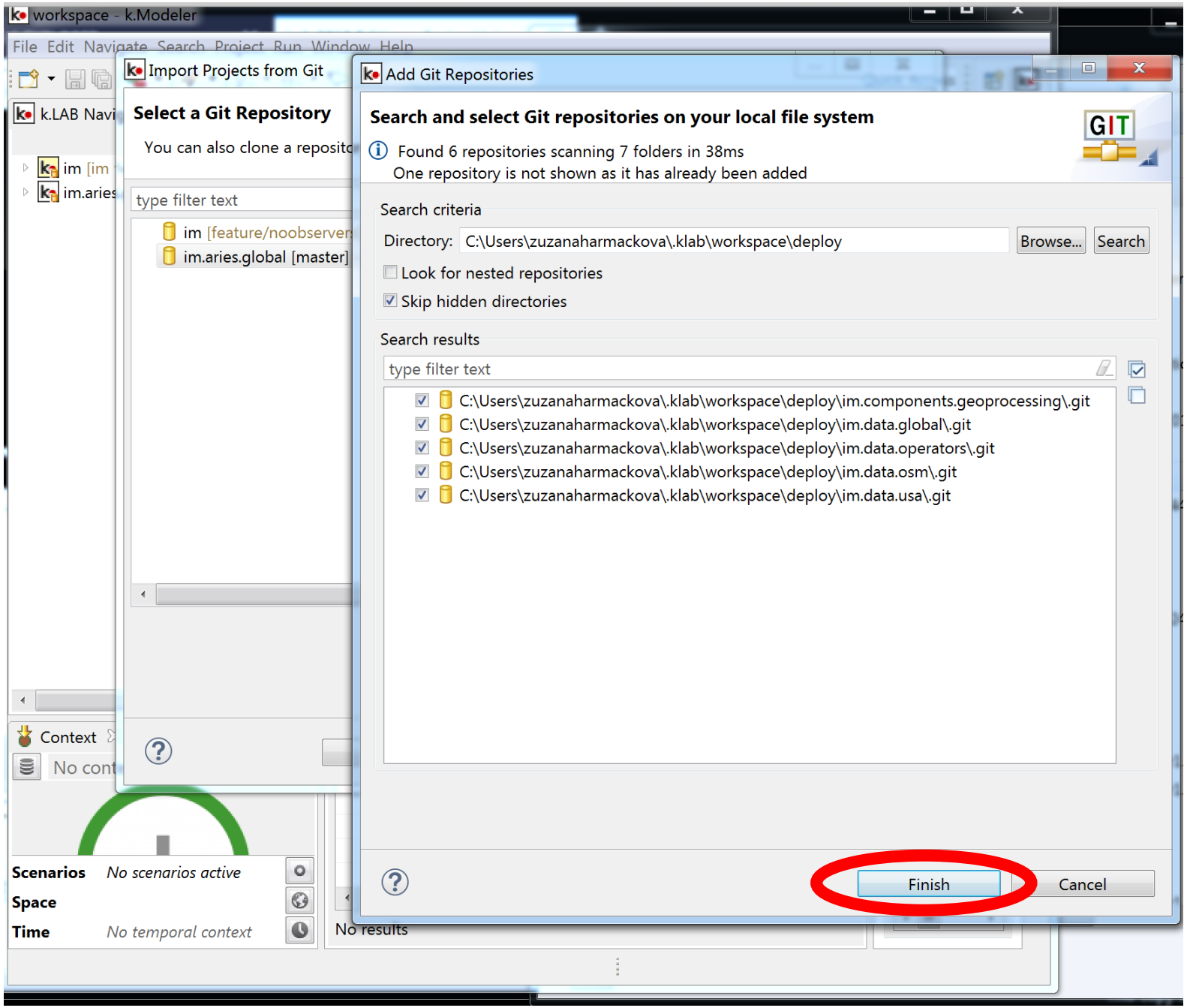
Pathname to projects

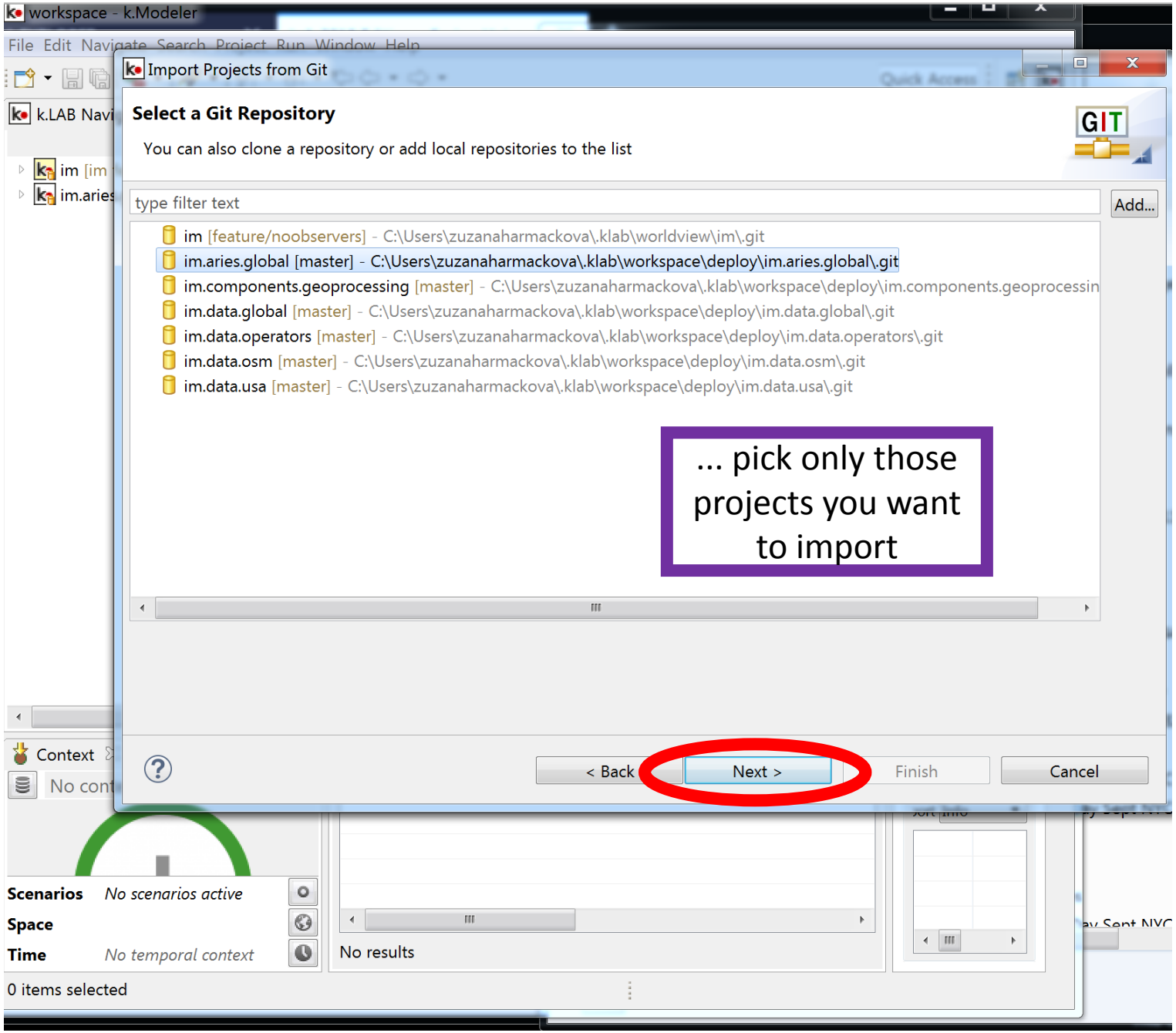
- C:\Users\bvoigt\.klab

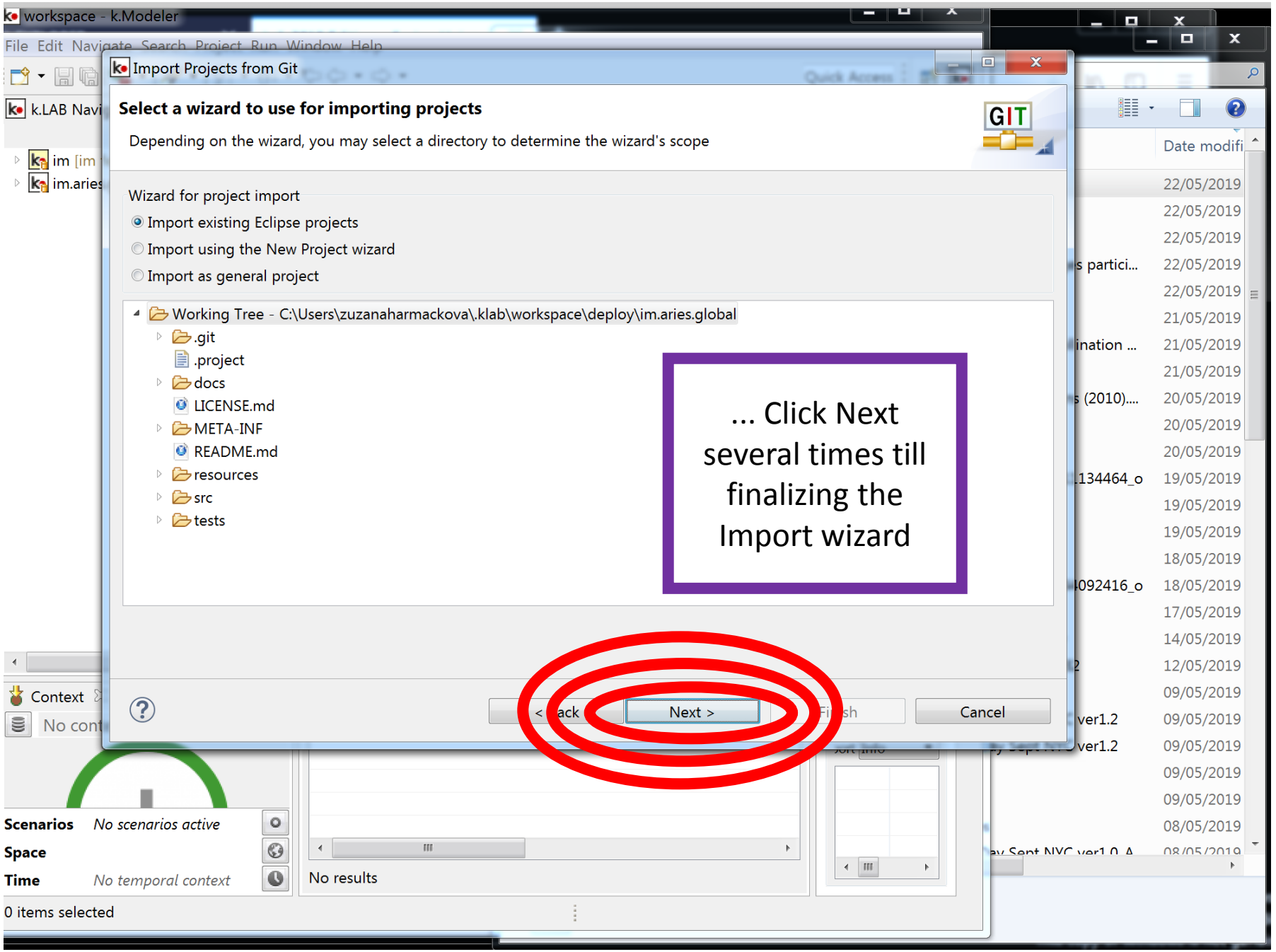

workspace
File Edit Navi
k.LAB Navi
im [im
im.aries
Add Git Repositories
Search and select Git repositories on your local file system
Found 6 repositories scanning 7 folders in 38ms
One repository is not shown as it has already been added
GIT
Search criteria
Direct v: C:\Users\zuzanaharmackova\.klab\workspace\deploy
Browse...
Searc
Look for nested repositories
Skip hidden directories
Search results
type filter text
C:\Users\zuzanahar ments.geoprocessing\.git
C:\Users\zuzanahar bal\.git
C:\Users\zuzanahar erators\.git
C:\Users\zuzanahar m\.git
C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.data.usa\.git
... Or other directories based on locations in the next slide
... Or pick only those projects you want to import if present in the list from previous imports
Finish
Cancel
Context
No cont
Scenarios
Space
Time
No temporal context
No results
events
artifa
Log

Projects to import

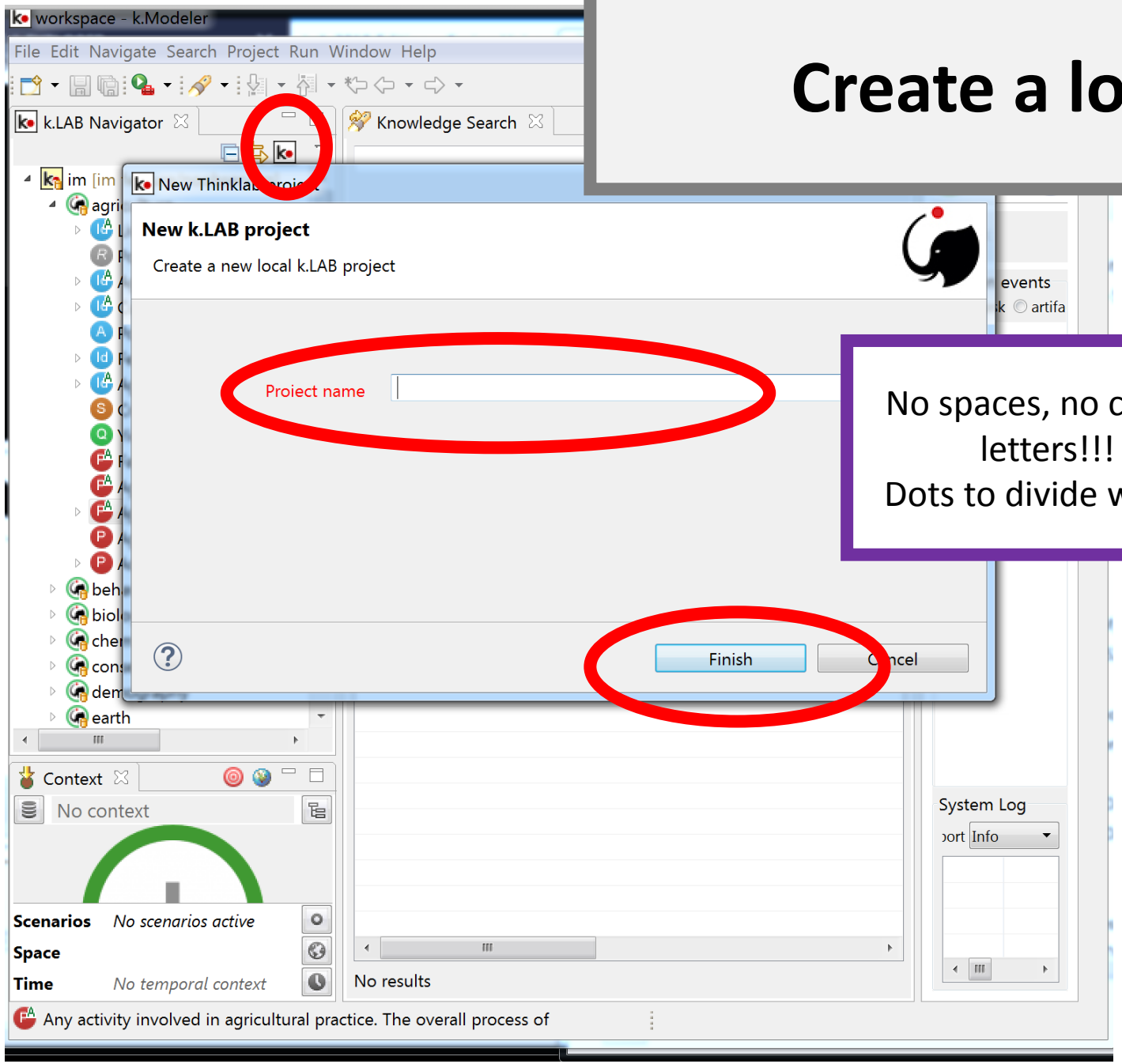
- C:\Users\bvoigt\.klab
- Worldview
  - im.git
  - im.aries.git
- Deploy
  - im.aries.global.git
  - im.components.geoprocessing.git
  - im.data.usa.git
  - im.data.osm.git


workspace - k.Modeler
File Edit Navigate Search Project Run Window Help
k.LAB Navi
im [im
im.aries
Import Projects from Git
Select a Git Repository
You can also clone a reposit
type filter text
im [feature/noobserver
im.aries.global [master]
Add Git Repositories
Search and select Git repositories on your local file system
Found 6 repositories scanning 7 folders in 38ms
One repository is not shown as it has already been added
GIT
Search criteria
Directory: C:\Users\zuzanaharmackova\.klab\workspace\deploy
Browse...
Search
Look for nested repositories
Skip hidden directories
Search results
type filter text
C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.components.geoprocessing\.git
C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.data.global\.git
C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.data.operators\.git
C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.data.osm\.git
C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.data.usa\.git
Finish
Cancel
Context
No cont
Scenarios No scenarios active
Space
Time No temporal context
No results

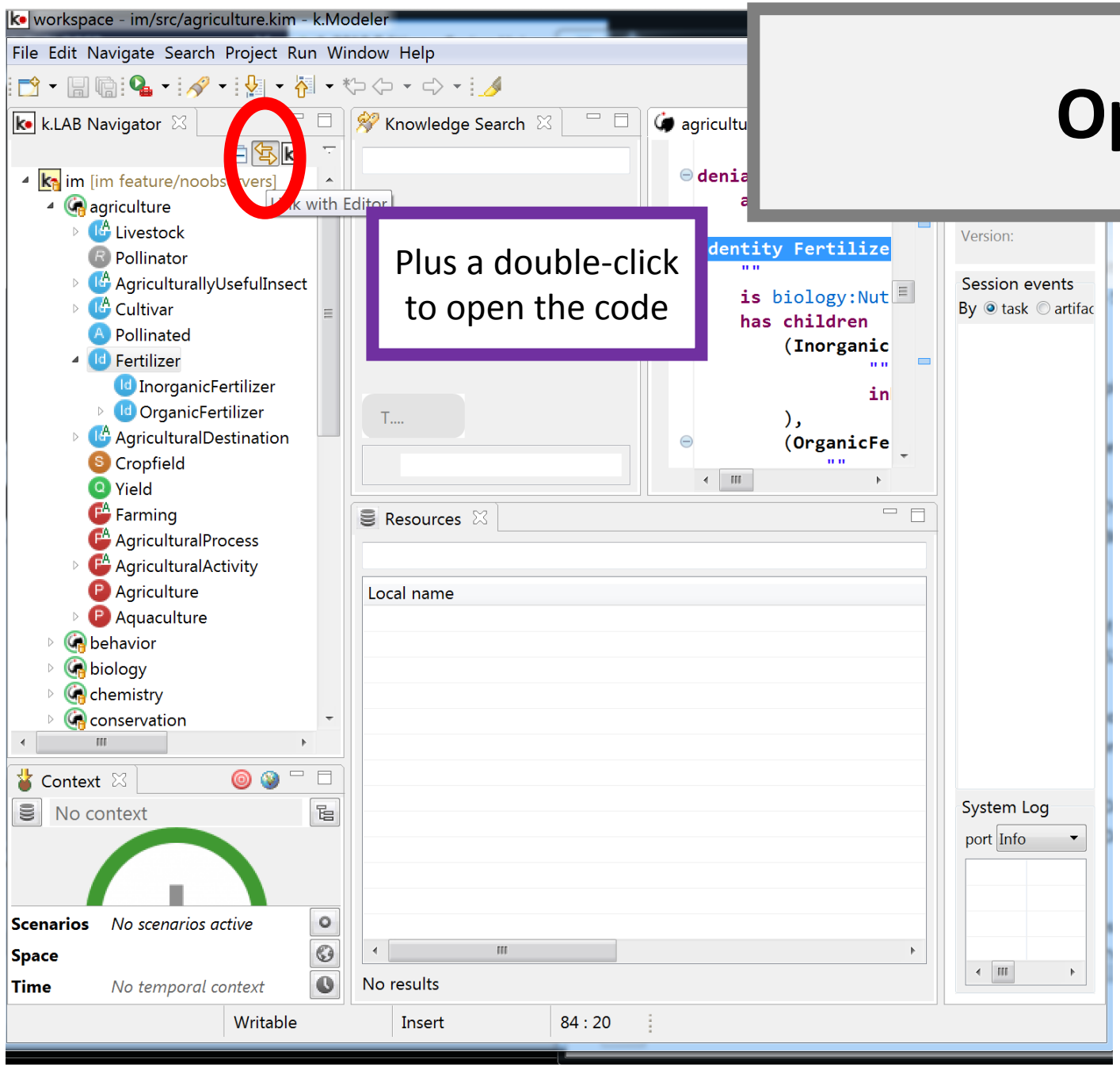

workspace - k.Modeler
File Edit Navigate Search Project Run Window Help
k.LAB Navi
im [im
im.aries
Import Projects from Git
Select a Git Repository
You can also clone a repository or add local repositories to the list
GIT
type filter text
Add...
im [feature/noobservers] - C:\Users\zuzanaharmackova\.klab\worldview\im\.git
im.aries.global [master] - C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.aries.global\.git
im.components.geoprocessing [master] - C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.components.geoprocessin
im.data.global [master] - C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.data.global\.git
im.data.operators [master] - C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.data.operators\.git
im.data.osm [master] - C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.data.osm\.git
im.data.usa [master] - C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.data.usa\.git
... pick only those projects you want to import
< Back
Next >
Finish
Cancel
Context
No cont
Scenarios No scenarios active
Space
Time No temporal context
No results
0 items selected


workspace - k.Modeler
File Edit Navigate Search Project Run Window Help
Import Projects from Git
Select a wizard to use for importing projects
Depending on the wizard, you may select a directory to determine the wizard's scope
GIT
Wizard for project import
Import existing Eclipse projects
Import using the New Project wizard
Import as general project
Working Tree - C:\Users\zuzanaharmackova\.klab\workspace\deploy\im.aries.global
.git
.project
docs
LICENSE.md
META-INF
README.md
resources
src
tests
... Click Next several times till finalizing the Import wizard
< Back
Next >
Finish
Cancel
Context
Scenarios No scenarios active
Space
Time No temporal context
No results
0 items selected
Date modifi

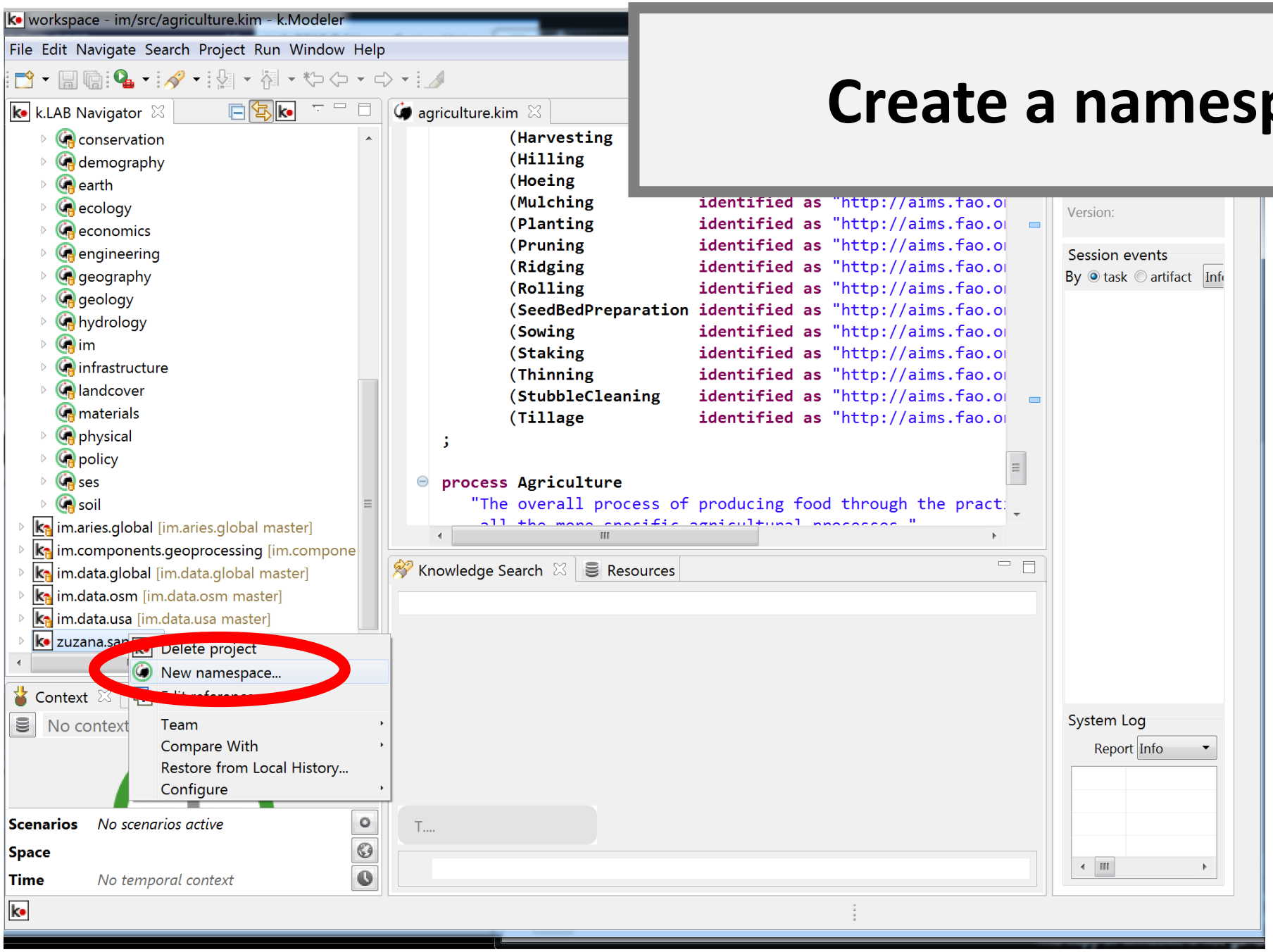
Create a local project

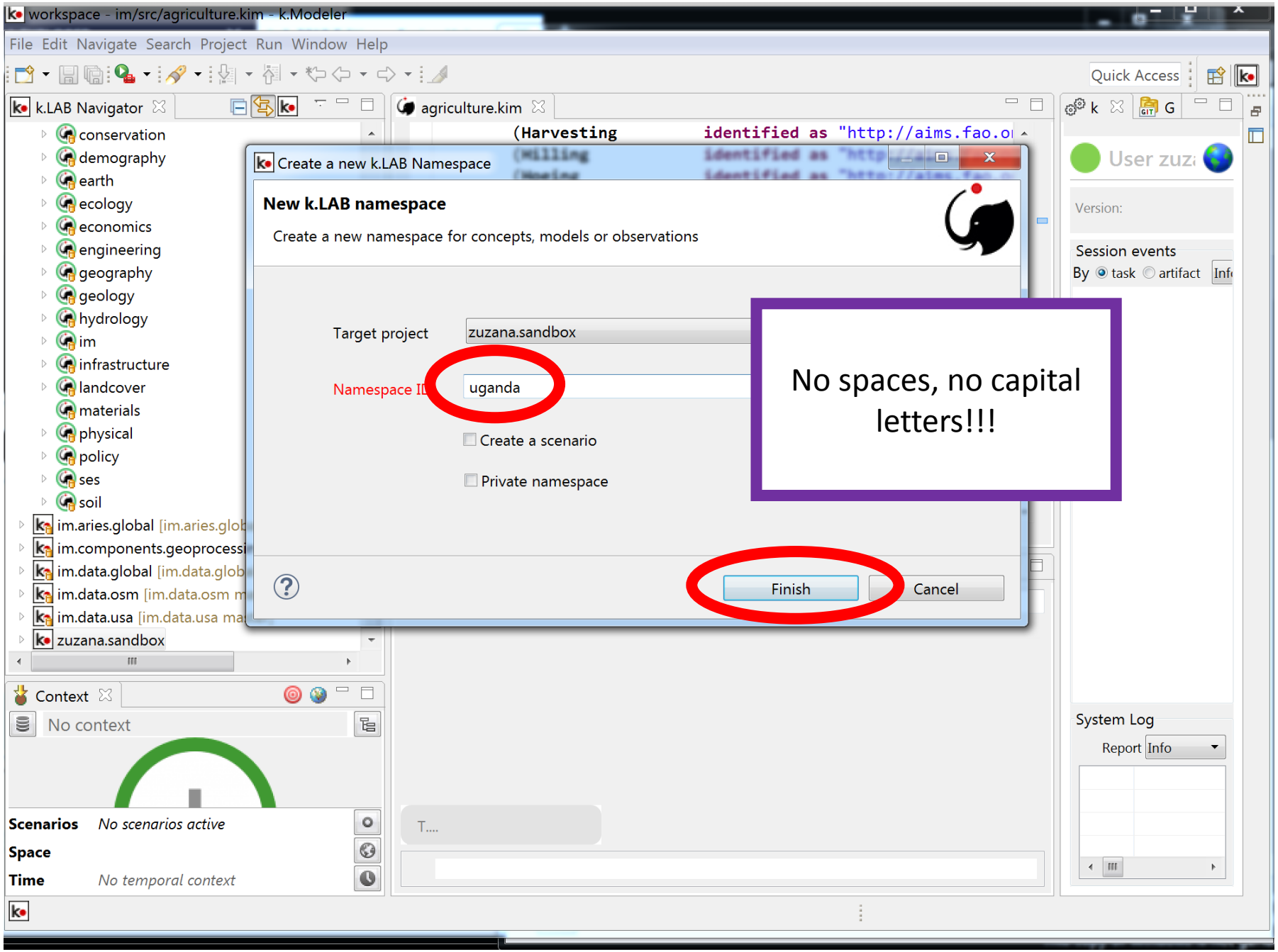


Open the code

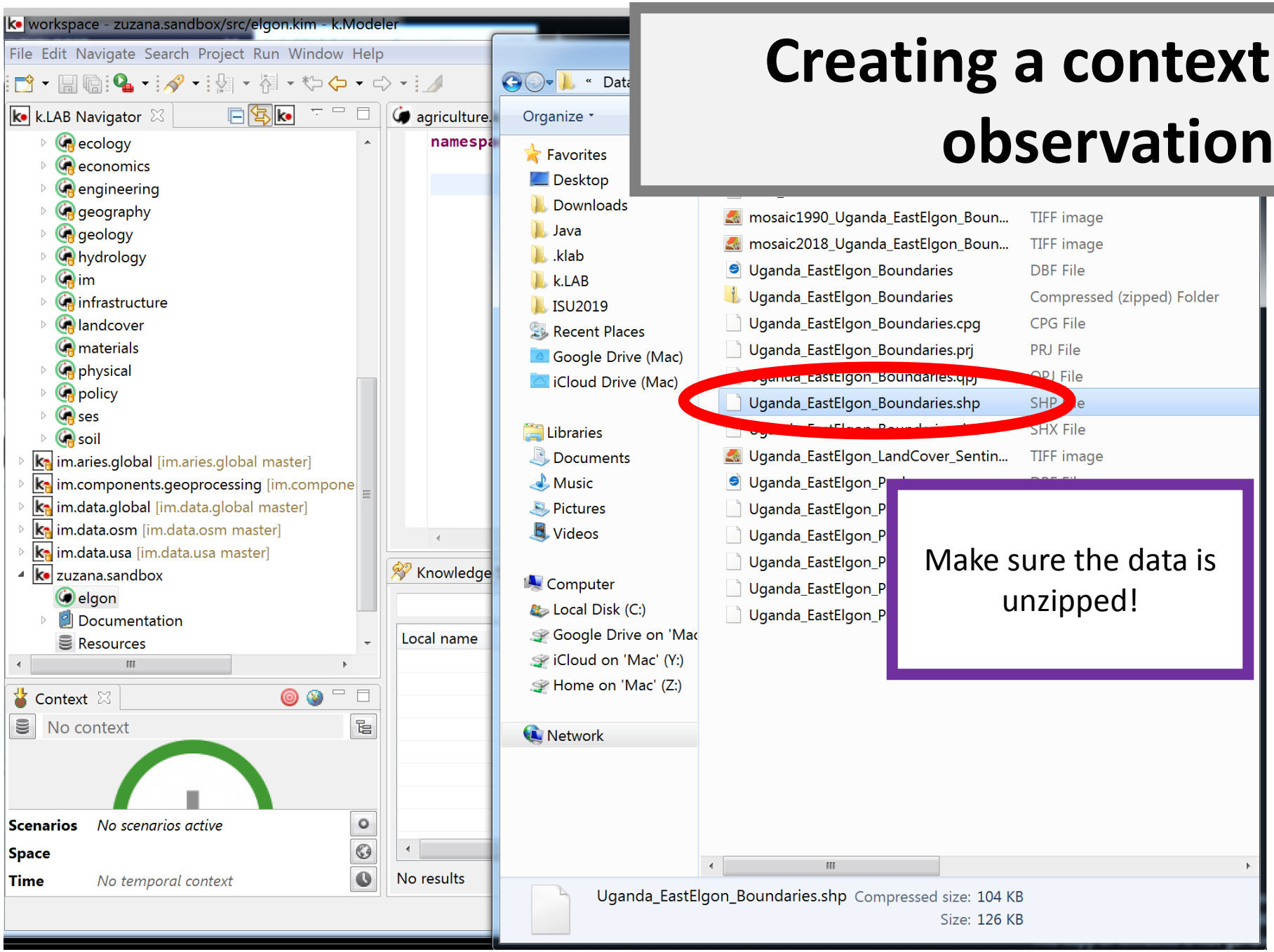


Create a namespace

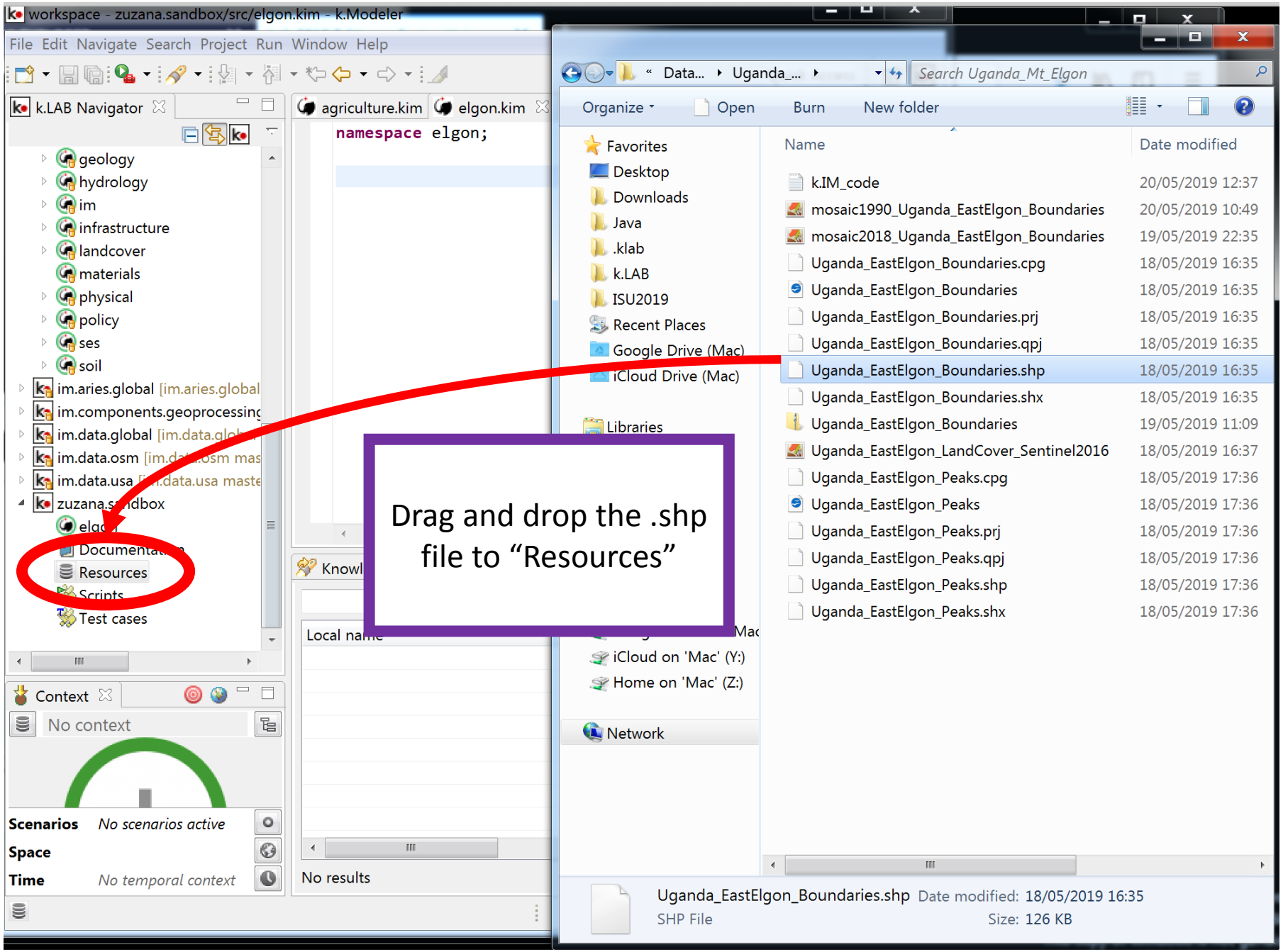



workspace - im/src/agriculture.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
conservation
demography
earth
ecology
economics
engineering
geography
geology
hydrology
im
infrastructure
landcover
materials
physical
policy
ses
soil
im.aries.global
im.components.geoprocessi
im.data.global
im.data.osm
im.data.usa
zuzana.sandbox
agriculture.kim
(Harvesting identified as "http://aims.fao.o
Create a new k.LAB Namespace
New k.LAB namespace
Create a new namespace for concepts, models or observations
Target project
zuzana.sandbox
Namespace ID
uganda
Create a scenario
Private namespace
Finish
Cancel
No spaces, no capital letters!!!
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
User zuz
Version:
Session events
By task artifact
System Log
Report Info

Creating a context for an observation



Make sure the data is unzipped!


workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
k.LAB Navigator
agriculture.kim
elgon.kim
namespace elgon;
geology
hydrology
im
infrastructure
landcover
materials
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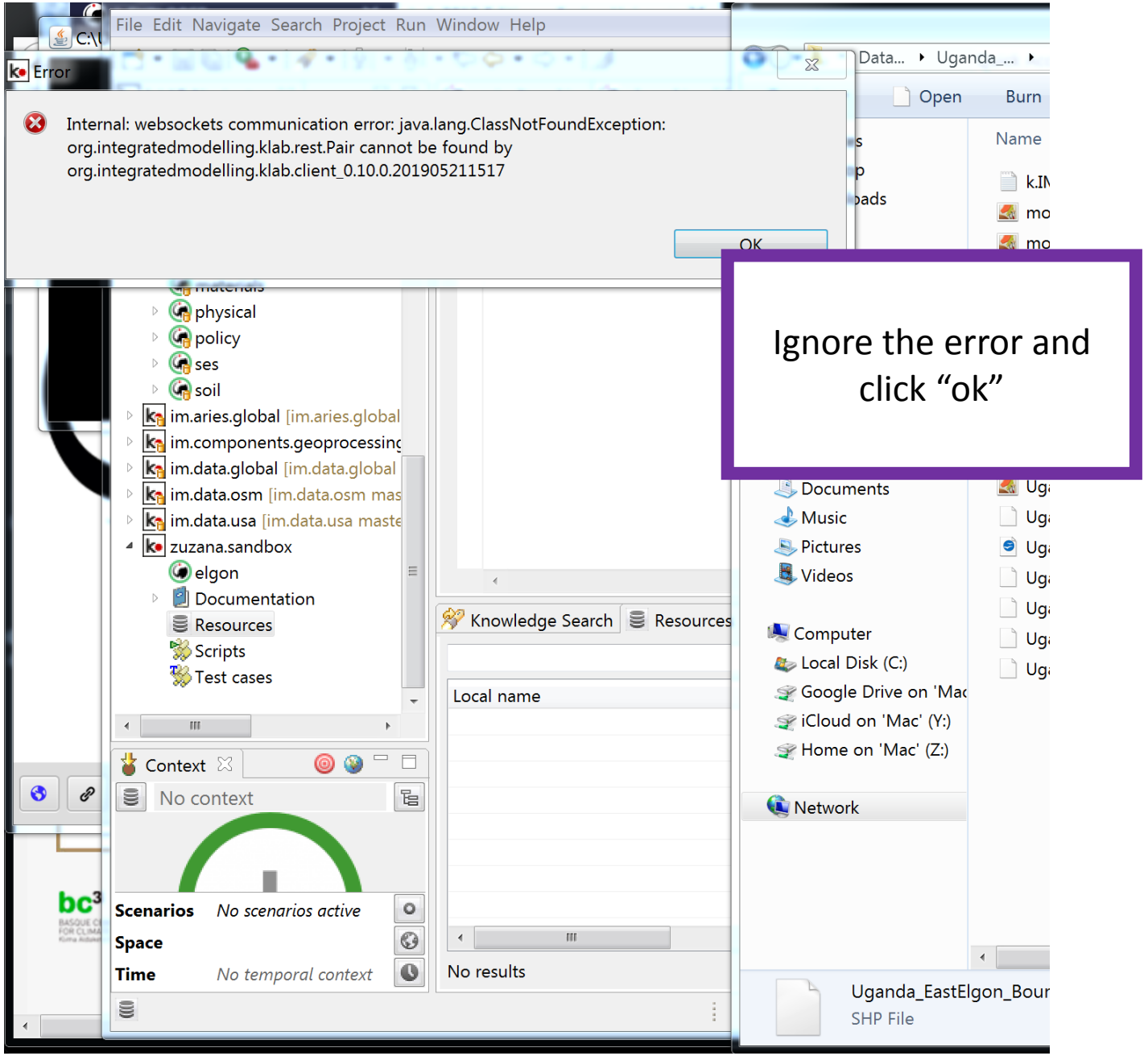
soil
im.aries.global
im.components.geoprocessing
im.data.global
im.data.osm
im.data.usa
zuzana.sandbox
Resources
Scripts
Test cases
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
No results
Data... Uganda_...
Search Uganda_Mt_Elgon
Organize
Open
Burn
New folder
Favorites
Desktop
Downloads
Java
.klab
k.LAB
ISU2019
Recent Places
Google Drive (Mac)
iCloud Drive (Mac)
Libraries
iCloud on 'Mac' (Y:)
Home on 'Mac' (Z:)
Network
Name
Date modified
k.IM_code 20/05/2019 12:37
mosaic1990_Uganda_EastElgon_Boundaries 20/05/2019 10:49
mosaic2018_Uganda_EastElgon_Boundaries 19/05/2019 22:35
Uganda_EastElgon_Boundaries.cpg 18/05/2019 16:35
Uganda_EastElgon_Boundaries 18/05/2019 16:35
Uganda_EastElgon_Boundaries.prj 18/05/2019 16:35
Uganda_EastElgon_Boundaries.qpj 18/05/2019 16:35
Uganda_EastElgon_Boundaries.shp 18/05/2019 16:35
Uganda_EastElgon_Boundaries.shx 18/05/2019 16:35
Uganda_EastElgon_Boundaries 19/05/2019 11:09
Uganda_EastElgon_LandCover_Sentinel2016 18/05/2019 16:37
Uganda_EastElgon_Peaks.cpg 18/05/2019 17:36
Uganda_EastElgon_Peaks 18/05/2019 17:36
Uganda_EastElgon_Peaks.prj 18/05/2019 17:36
Uganda_EastElgon_Peaks.qpj 18/05/2019 17:36
Uganda_EastElgon_Peaks.shp 18/05/2019 17:36
Uganda_EastElgon_Peaks.shx 18/05/2019 17:36
Uganda_EastElgon_Boundaries.shp Date modified: 18/05/2019 16:35
SHP File Size: 126 KB
Drag and drop the .shp file to “Resources”


File Edit Navigate Search Project Run Window Help
Error
Internal: websockets communication error: java.lang.ClassNotFoundException:
org.integratedmodelling.klab.rest.Pair cannot be found by
org.integratedmodelling.klab.client_0.10.0.201905211517
OK
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im.data.global [im.data.global
im.data.osm [im.data.osm mas
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Scripts
Test cases
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Scenarios No scenarios active
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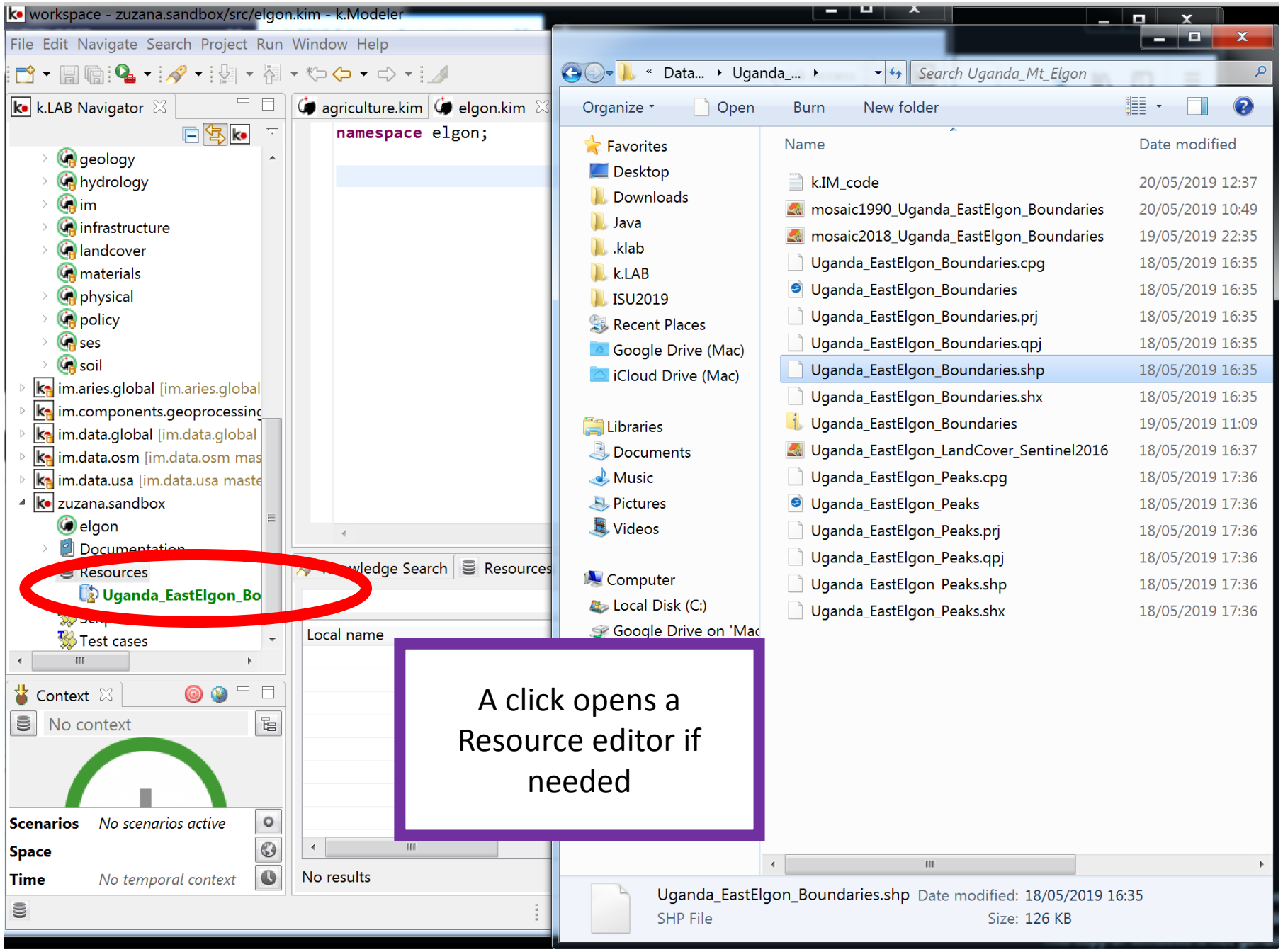
Resources
Local name
No results
Data... Uganda_...
Open
Burn
Name
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
Google Drive on 'Mac
iCloud on 'Mac' (Y:)
Home on 'Mac' (Z:)
Network
Uganda_EastElgon_Bour
SHP File
Ignore the error and click “ok”


workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
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Documentation
Resources
Uganda_EastElgon_Bo
Test cases
agriculture.kim
elgon.kim
namespace elgon;
Resources
Local name
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Context
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Scenarios No scenarios active
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Data... Uganda_...
Search Uganda_Mt_Elgon
Organize
Open
Burn
New folder
Favorites
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.klab
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Recent Places
Google Drive (Mac)
iCloud Drive (Mac)
Libraries
Documents
Music
Pictures
Videos
Computer
Local Disk (C:)
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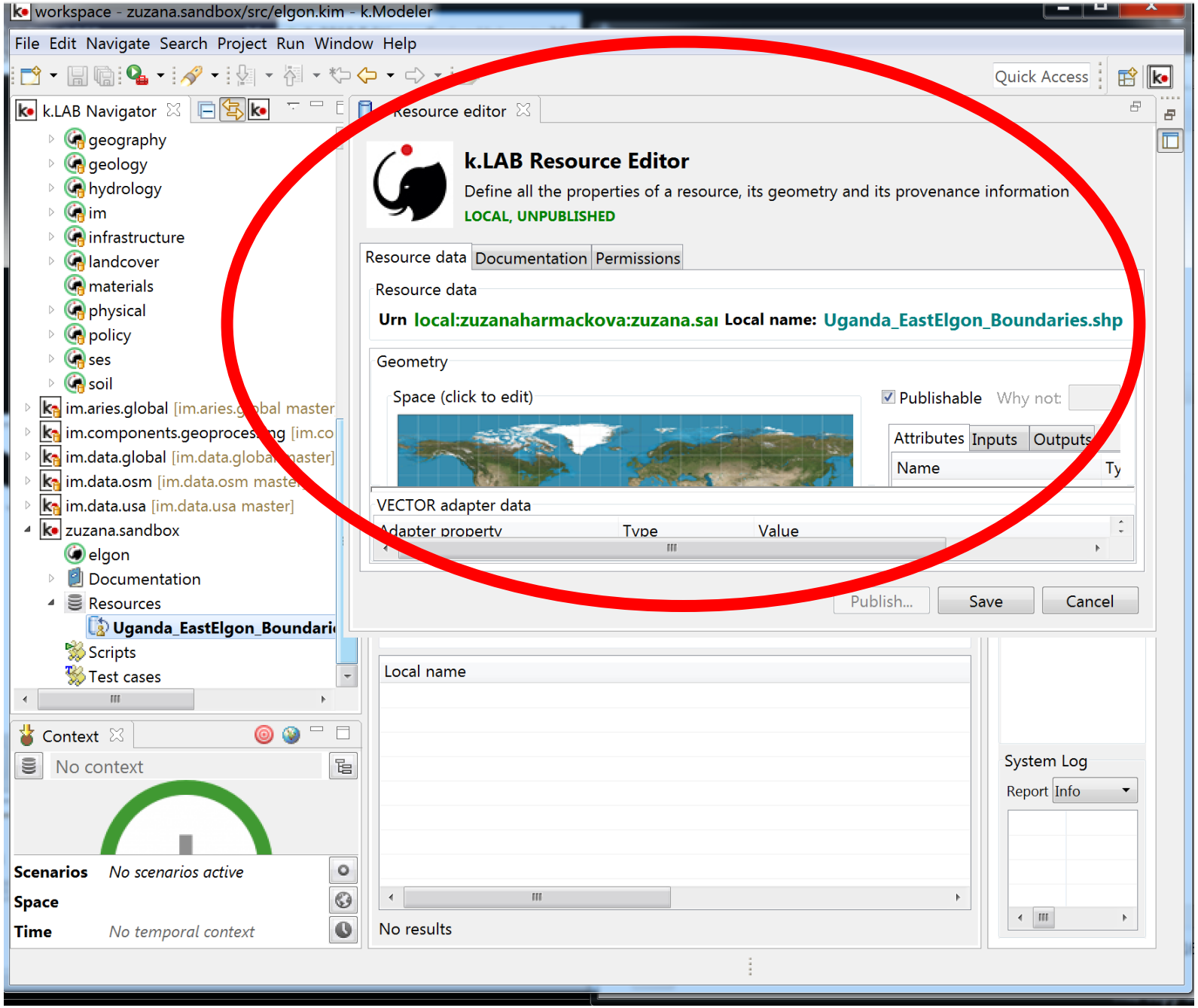
Date modified
k.IM_code 20/05/2019 12:37
mosaic1990_Uganda_EastElgon_Boundaries 20/05/2019 10:49
mosaic2018_Uganda_EastElgon_Boundaries 19/05/2019 22:35
Uganda_EastElgon_Boundaries.cpg 18/05/2019 16:35
Uganda_EastElgon_Boundaries 18/05/2019 16:35
Uganda_EastElgon_Boundaries.prj 18/05/2019 16:35
Uganda_EastElgon_Boundaries.qpj 18/05/2019 16:35
Uganda_EastElgon_Boundaries.shp 18/05/2019 16:35
Uganda_EastElgon_Boundaries.shx 18/05/2019 16:35
Uganda_EastElgon_Boundaries 19/05/2019 11:09
Uganda_EastElgon_LandCover_Sentinel2016 18/05/2019 16:37
Uganda_EastElgon_Peaks.cpg 18/05/2019 17:36
Uganda_EastElgon_Peaks 18/05/2019 17:36
Uganda_EastElgon_Peaks.prj 18/05/2019 17:36
Uganda_EastElgon_Peaks.qpj 18/05/2019 17:36
Uganda_EastElgon_Peaks.shp 18/05/2019 17:36
Uganda_EastElgon_Peaks.shx 18/05/2019 17:36
Uganda_EastElgon_Boundaries.shp Date modified: 18/05/2019 16:35
SHP File Size: 126 KB
A click opens a Resource editor if needed


workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
geography
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Documentation
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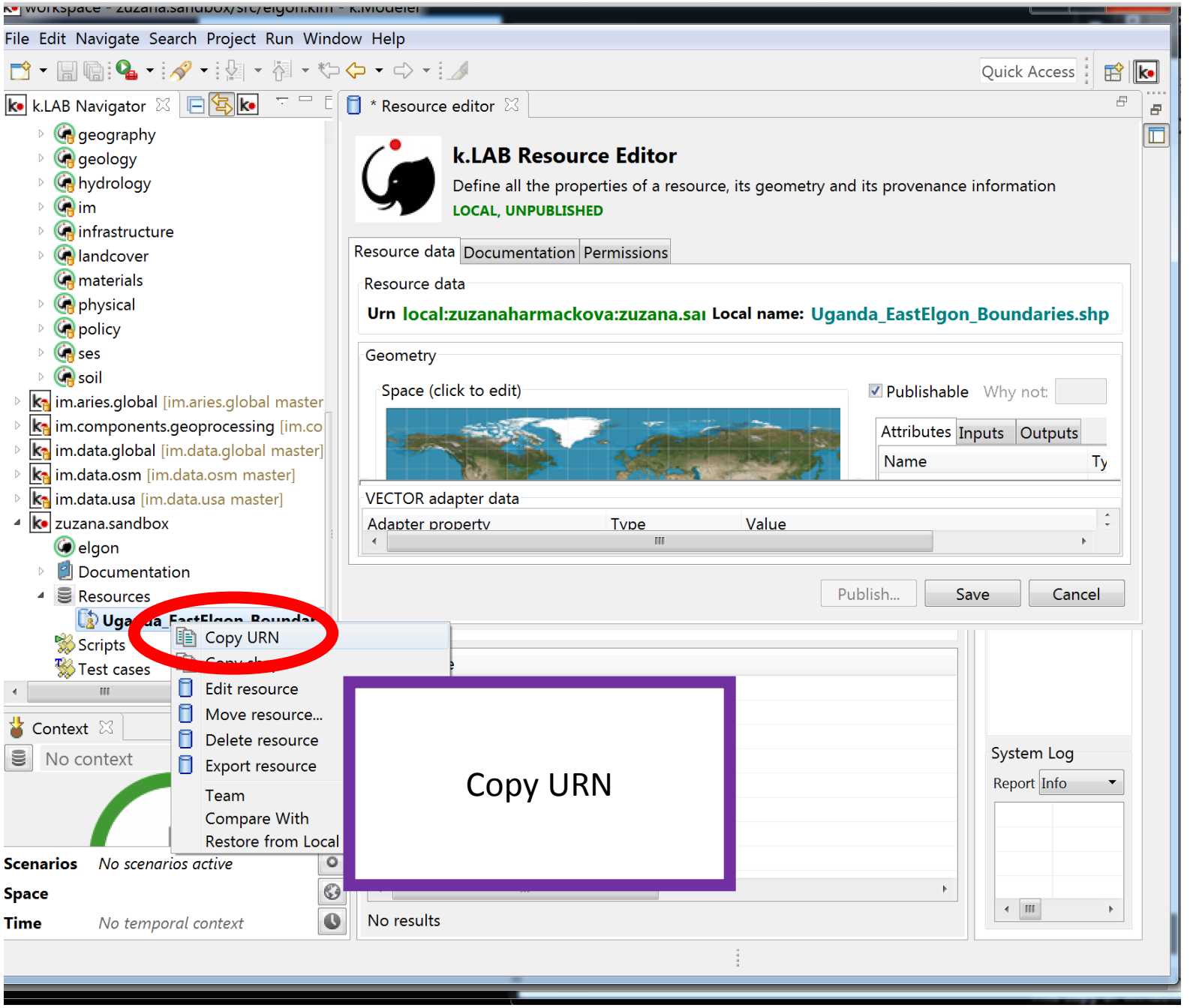
Scripts
Test cases
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Resource editor
k.LAB Resource Editor
Define all the properties of a resource, its geometry and its provenance information
LOCAL, UNPUBLISHED
Resource data
Documentation
Permissions
Resource data
Urn local:zuzanaharmackova:zuzana.sai
Local name: Uganda_EastElgon_Boundaries.shp
Geometry
Space (click to edit)
Publishable
Why not:
Attributes
Inputs
Outputs
Name
Ty
VECTOR adapter data
Adapter property
Type
Value
Publish...
Save
Cancel
Local name
No results
System Log
Report Info


File Edit Navigate Search Project Run Window Help
Quick Access
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im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
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Resources
Scripts
Test cases
Copy URN
Edit resource
Move resource...
Delete resource
Export resource
Team
Compare With
Restore from Local
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
* Resource editor
k.LAB Resource Editor
Define all the properties of a resource, its geometry and its provenance information
LOCAL, UNPUBLISHED
Resource data
Documentation
Permissions
Resource data
Urn local:zuzanaharmackova:zuzana.sa Local name: Uganda_EastElgon_Boundaries.shp
Geometry
Space (click to edit)
Publishable
Why not:
Attributes
Inputs
Outputs
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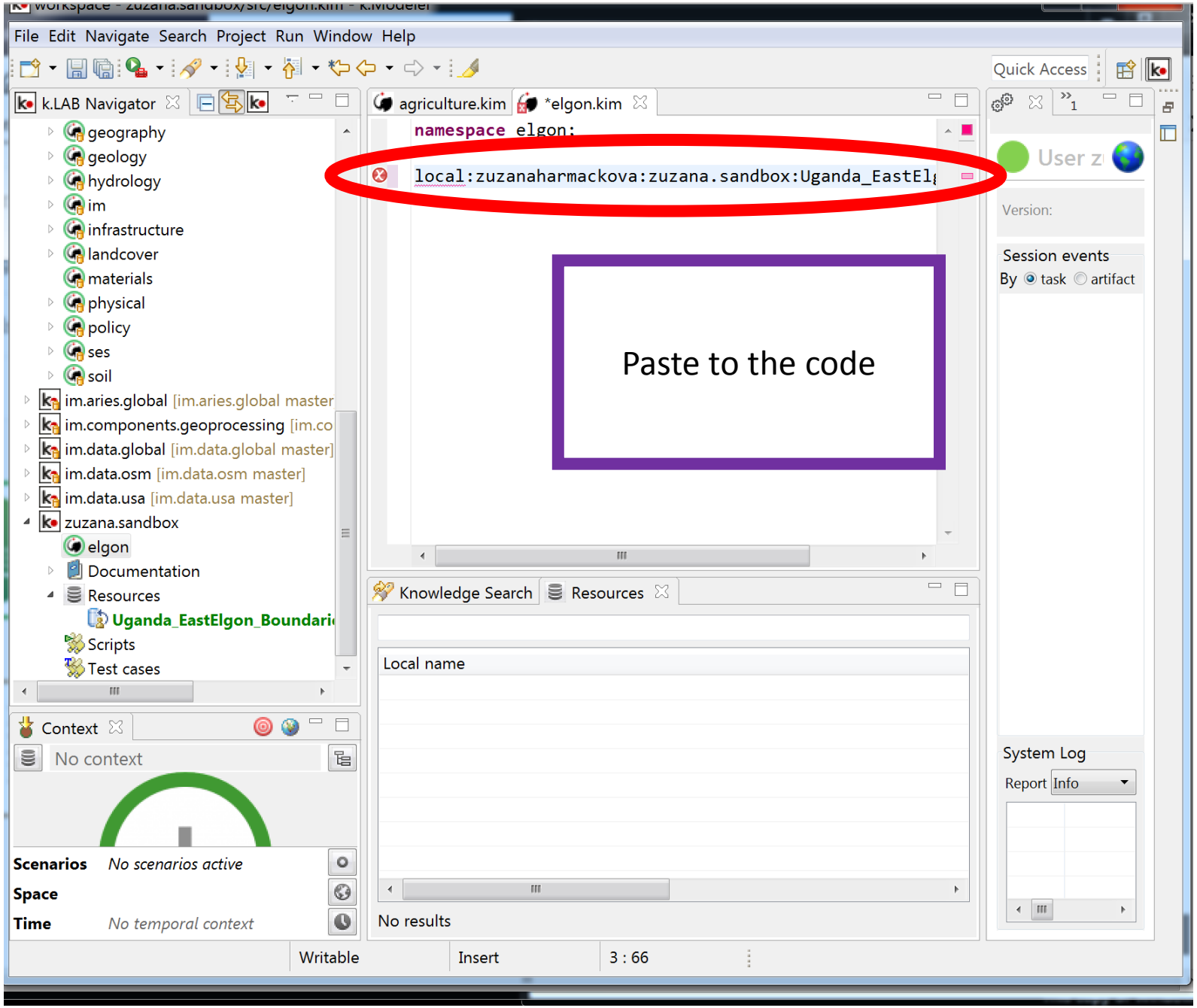
Ty
VECTOR adapter data
Adapter property
Type
Value
Publish...
Save
Cancel
No results
System Log
Report Info
Copy URN


File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
agriculture.kim
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namespace elgon;
local:zuzanaharmackova:zuzana.sandbox:Uganda_EastEl
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im.components.geoprocessing [im.co
im.data.global [im.data.global master]
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im.data.usa [im.data.usa master]
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Scripts
Test cases
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No results
Context
No context
Scenarios
No scenarios active
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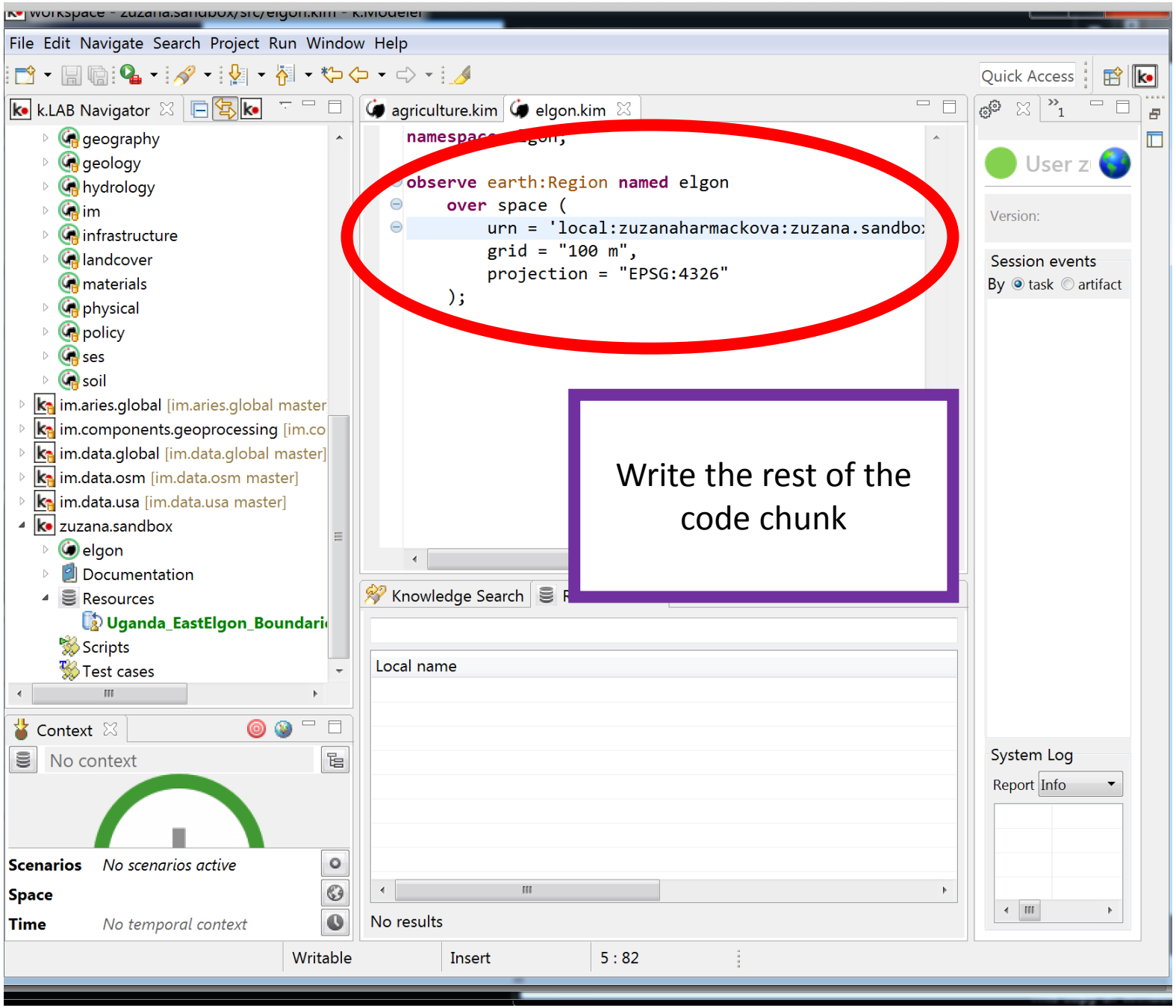
User z
Version:
Session events
By task artifact
System Log
Report Info
Writable
Insert
3 : 66


File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
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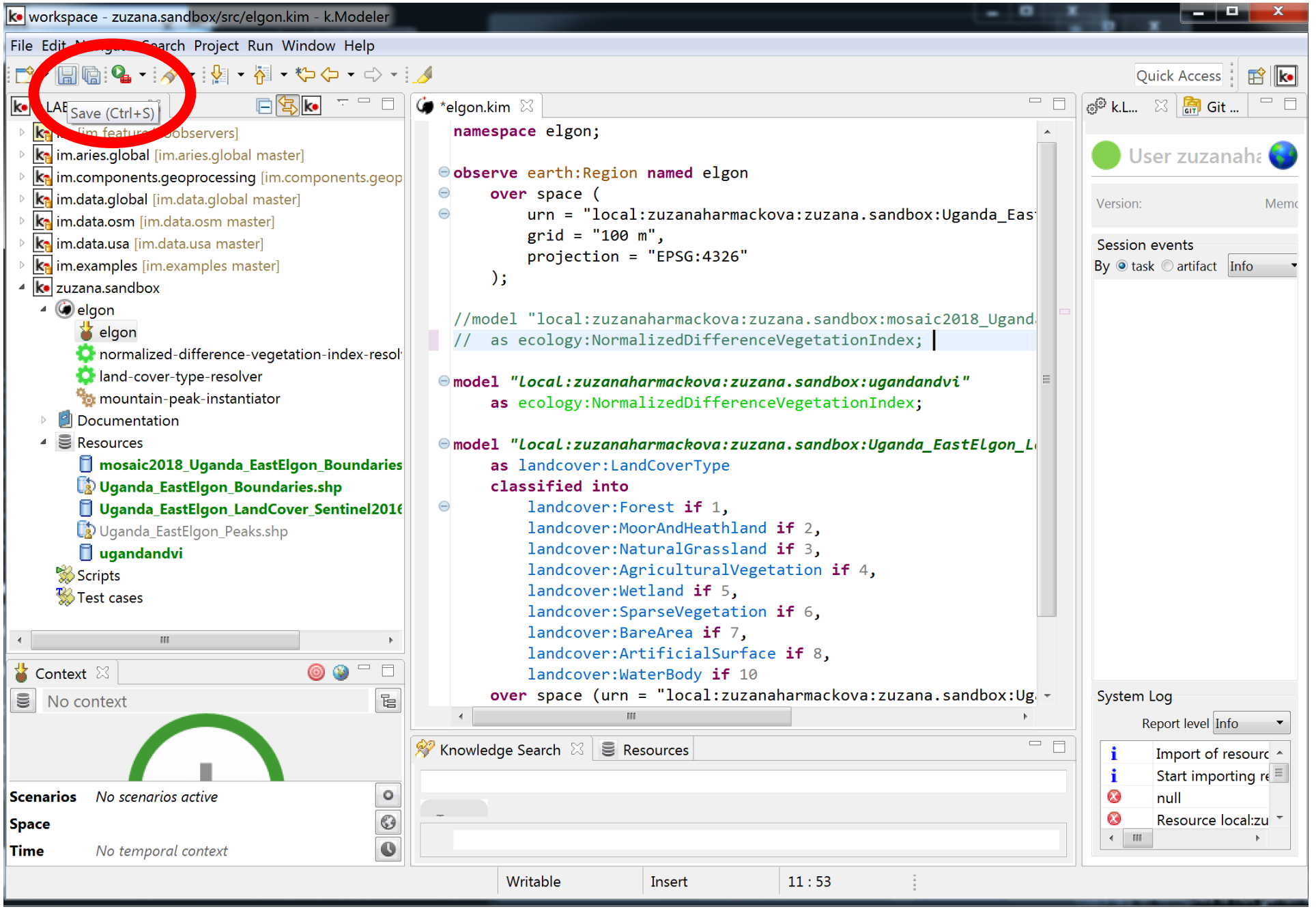
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
zuzana.sandbox
elgon
Documentation
Resources
Uganda_EastElgon_Boundari
Scripts
Test cases
agriculture.kim
elgon.kim
observe earth:Region named elgon
over space (
urn = 'local:zuzanaharmackova:zuzana.sandbo
grid = "100 m",
projection = "EPSG:4326"
);
Write the rest of the code chunk
Knowledge Search
Local name
No results
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Version:
Session events
By task artifact
System Log
Report Info
Writable
Insert
5 : 82


workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Search Project Run Window Help
Save (Ctrl+S)
Quick Access
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.geop
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
elgon
normalized-difference-vegetation-index-resol
land-cover-type-resolver
mountain-peak-instantiator
Documentation
Resources
mosaic2018_Uganda_EastElgon_Boundaries
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2016
Uganda_EastElgon_Peaks.shp
ugandandvi
Scripts
Test cases
*elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_Eas
grid = "100 m",
projection = "EPSG:4326"
);
//model "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Ugand
// as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:ugandandvi"
as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_L
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
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Version:
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By task artifact
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System Log
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Resource local:zu
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Scenarios No scenarios active
Space
Time No temporal context
Knowledge Search
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Writable
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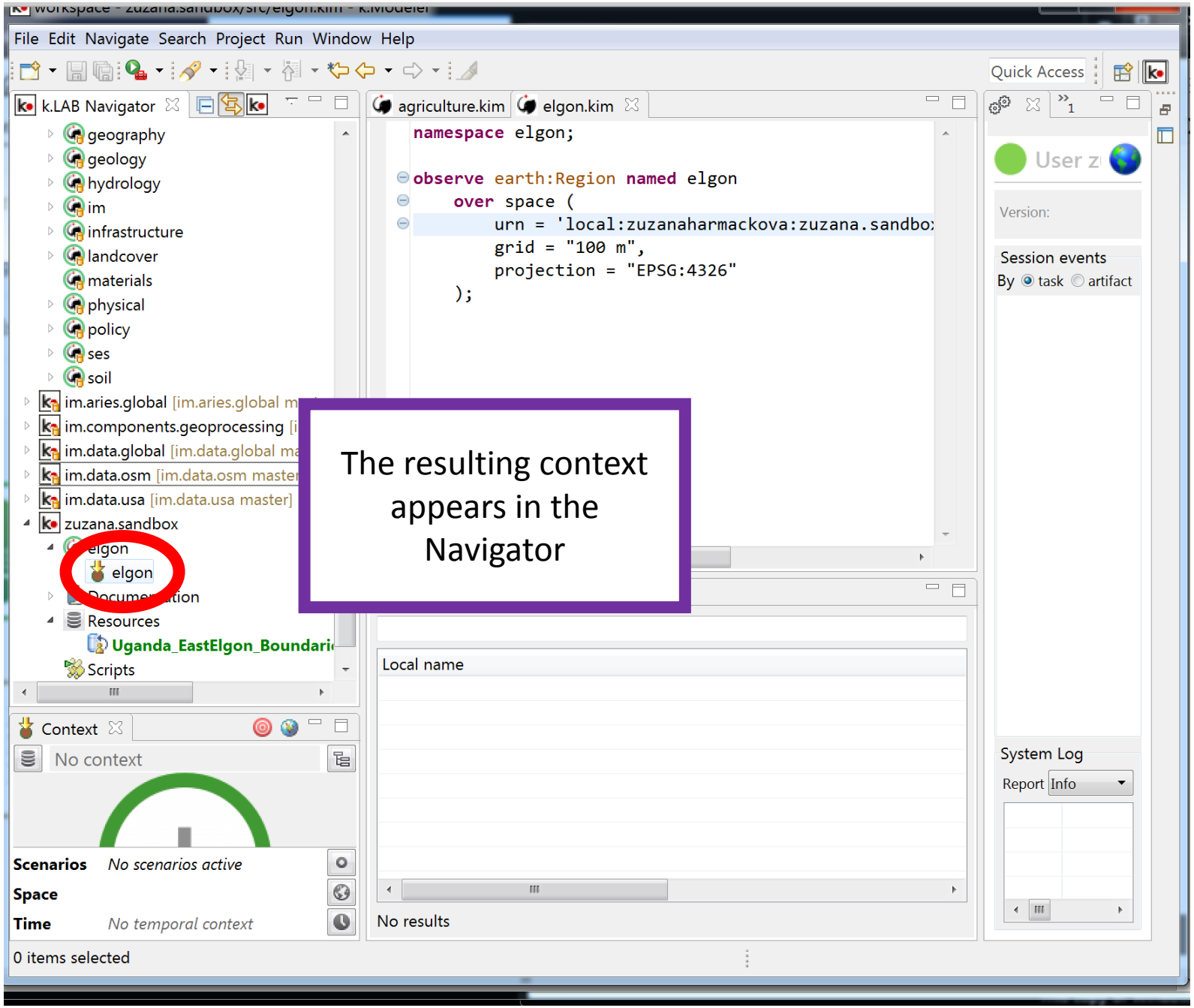
11 : 53


File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
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Resources
Scripts
agriculture.kim
elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = 'local:zuzanaharmackova:zuzana.sandbo
grid = "100 m",
projection = "EPSG:4326"
);
The resulting context appears in the Navigator
Local name
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Space
Time No temporal context
0 items selected
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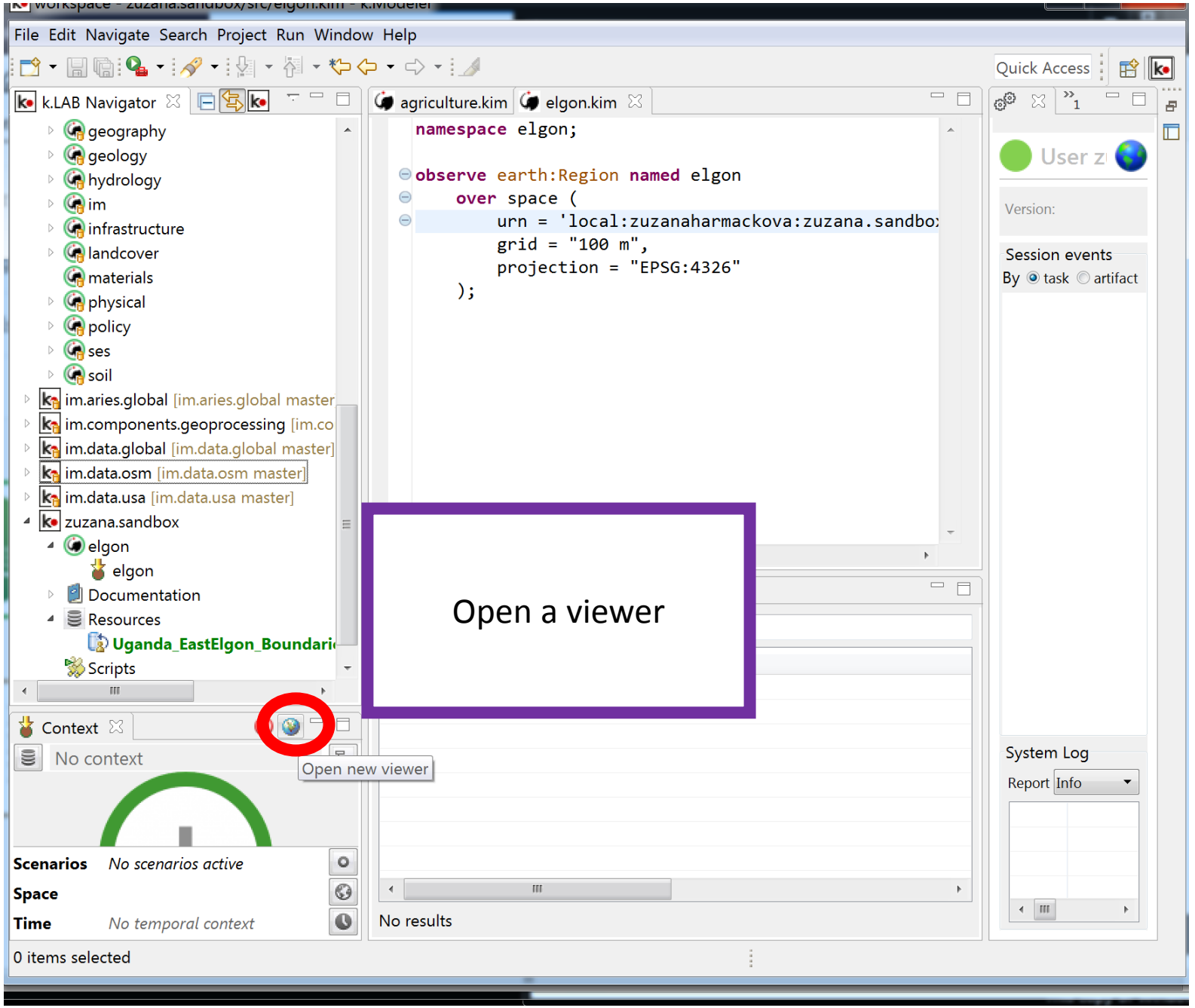
By task artifact
System Log
Report Info


File Edit Navigate Search Project Run Window Help
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zuzana.sandbox
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Documentation
Resources
Uganda_EastElgon_Boundari
Scripts
agriculture.kim
elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = 'local:zuzanaharmackova:zuzana.sandbo
grid = "100 m",
projection = "EPSG:4326"
);
Open a viewer
Context
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Open new viewer
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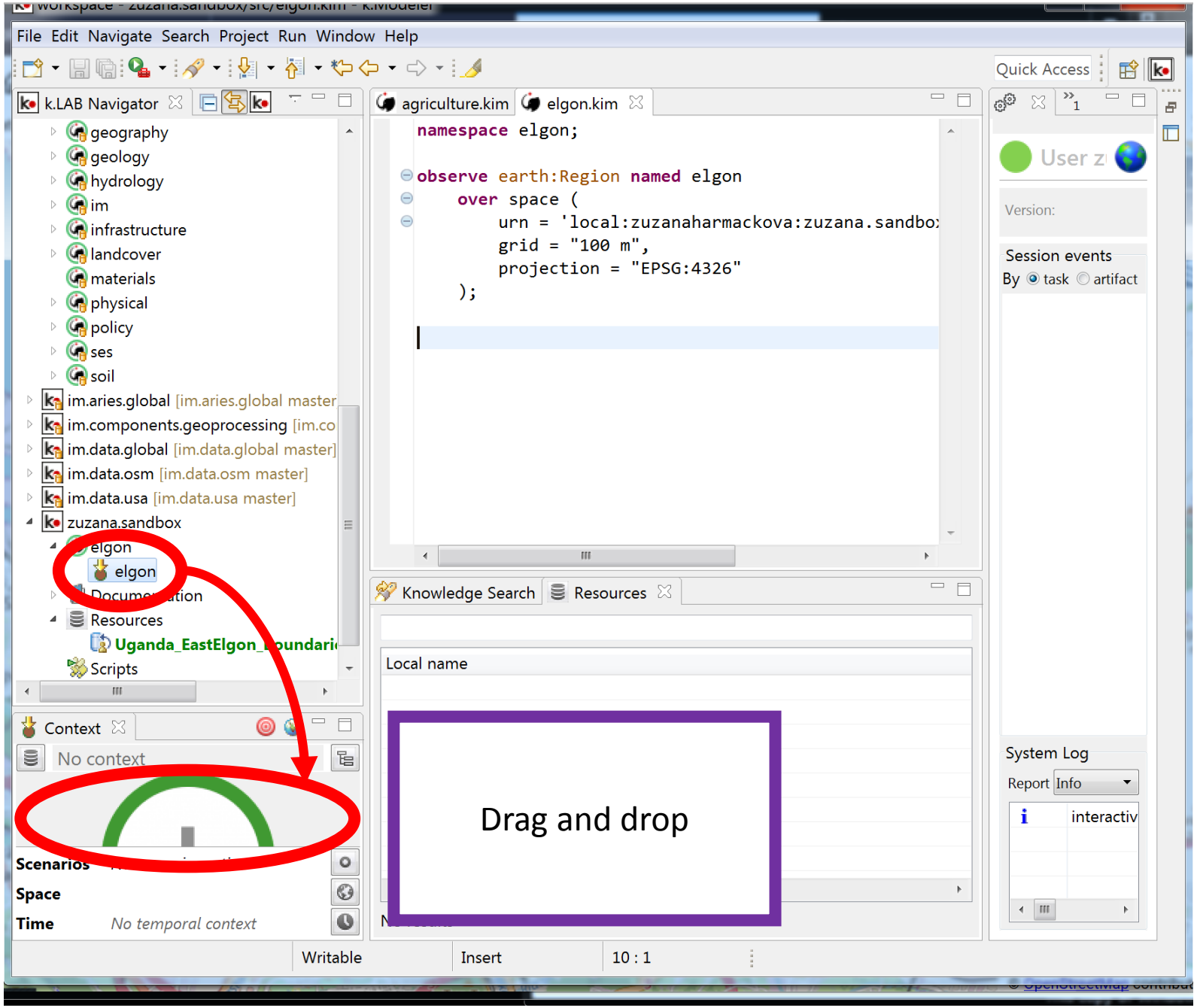
Report Info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im.data.usa [im.data.usa master]
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Resources
Scripts
agriculture.kim
elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = 'local:zuzanaharmackova:zuzana.sandbo
grid = "100 m",
projection = "EPSG:4326"
);
Knowledge Search
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Version:
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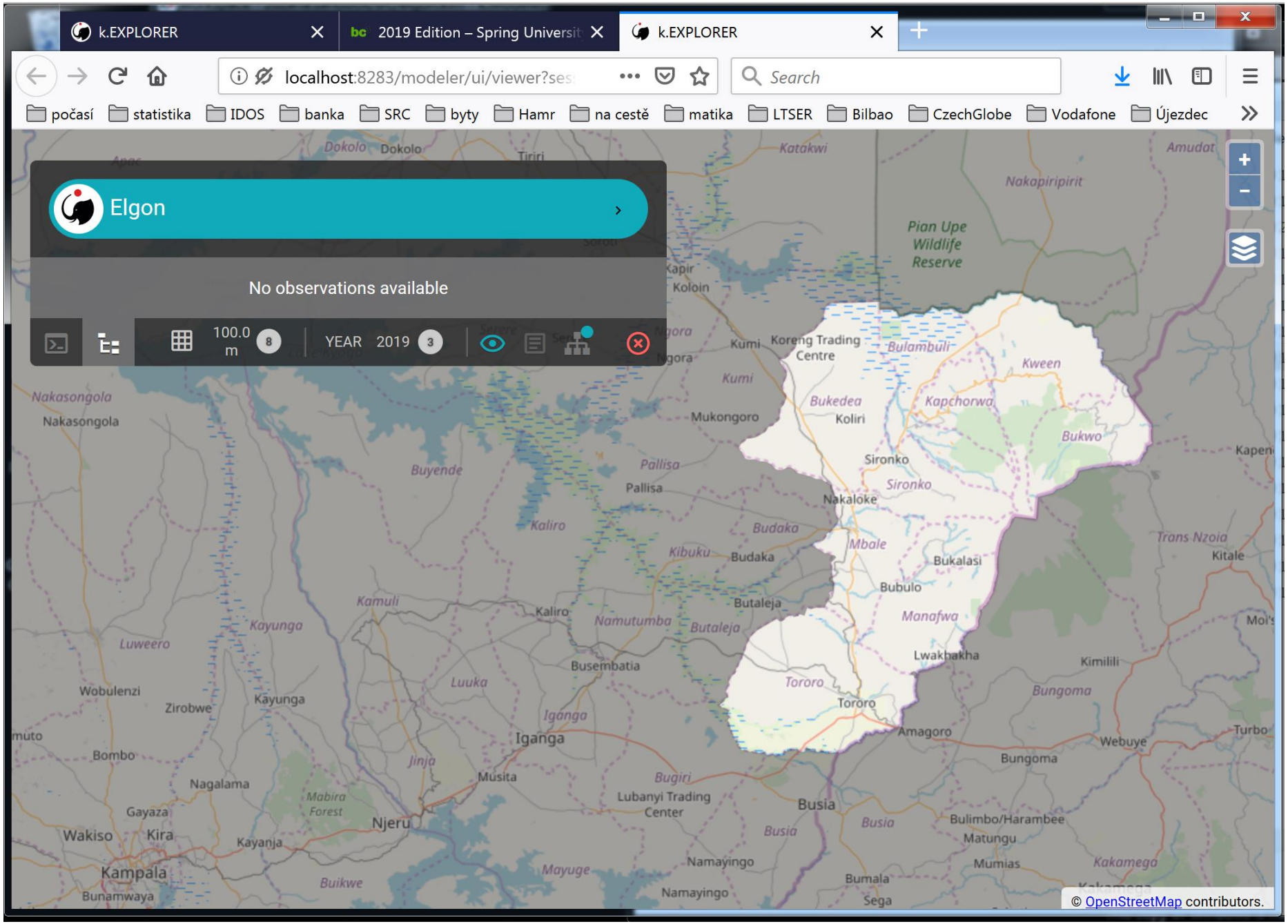
10 : 1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Koreng Trading Centre
Bulambuli
Kween
Bukedea
Koliri
Kapchorwa
Bukwo
Mukongoro
Nakasongola
Sironko
Pallisa
Buyende
Kaliro
Nakaloke
Budaka
Kibuku
Mbale
Bukalasi
Bubulo
Butaleja
Manafwa
Kamuli
Namutumba
Kayunga
Luweero
Busembatia
Lwakhakha
Kimilili
Tororo
Bungoma
Wobulenzi
Zirobwe
Luuka
Iganga
Amagoro
Webuye
Turbo
Bombo
Jinja
Musita
Bungoma
Nagalama
Bugiri
Mabira Forest
Lubanyi Trading Center
Busia
Gayaza
Njeru
Bulimbo/Harambee
Matungu
Wakiso
Kira
Kayanja
Kampala
Namayingo
Mumias
Kakamega
Mayuge
Buikwe
Bumala
Bunamwaya
Sega
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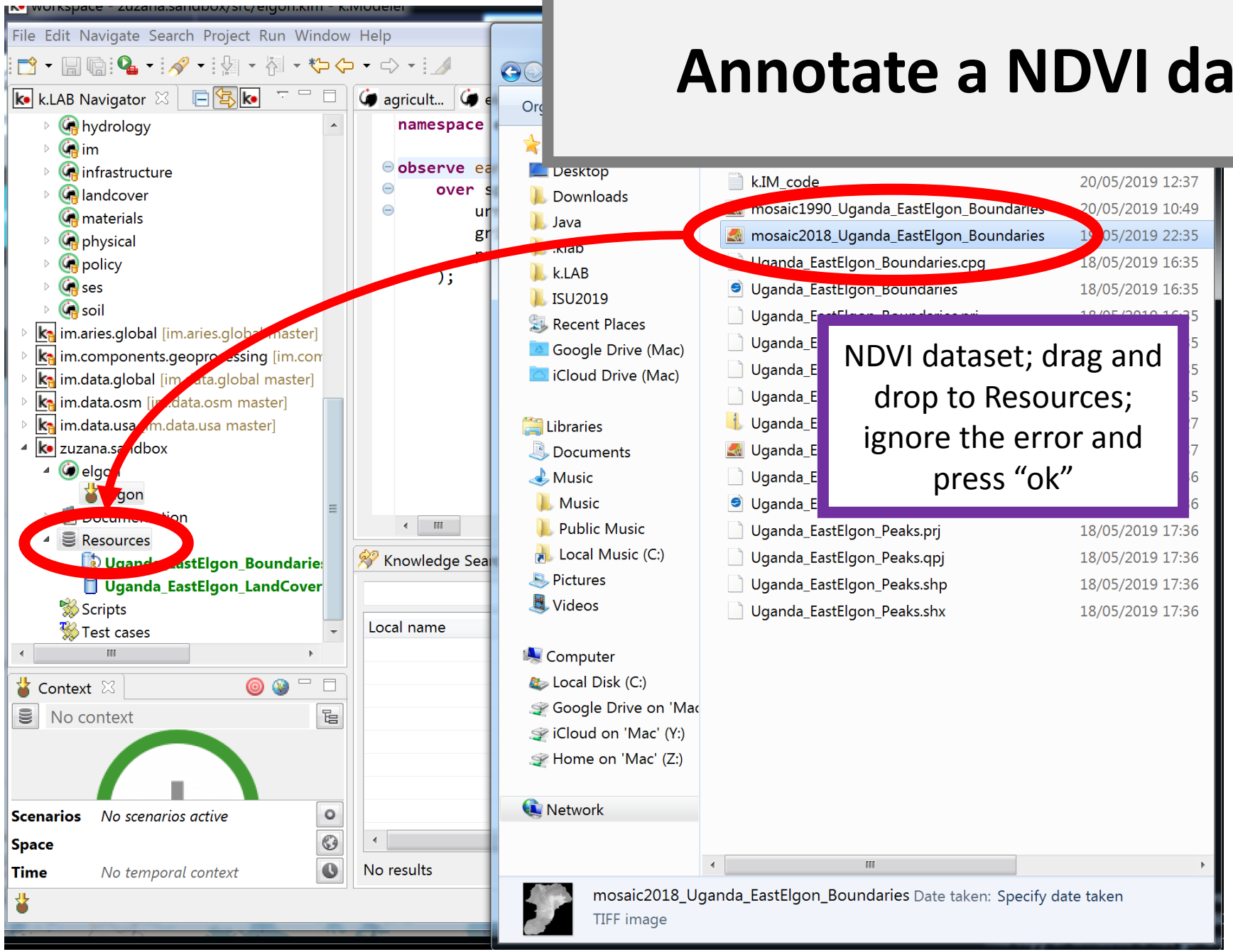
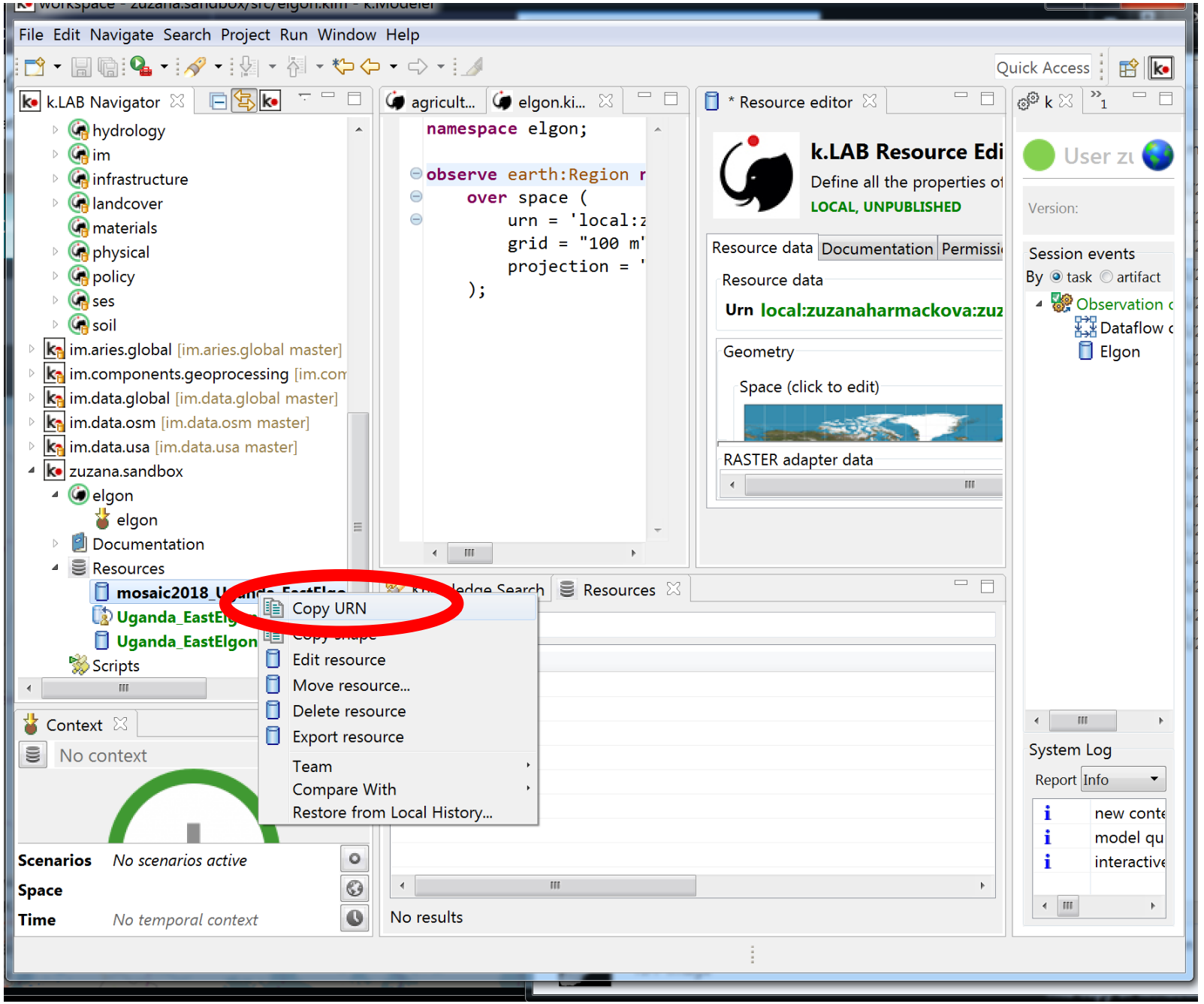
Annotate a NDVI dataset



NDVI dataset; drag and drop to Resources; ignore the error and press “ok”


File Edit Navigate Search Project Run Window Help
Quick Access
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im.aries.global [im.aries.global master]
im.components.geoprocessing [im.com
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im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
zuzana.sandbox
elgon
elgon
Documentation
Resources
Uganda_EastElgon
Scripts
agricult...
elgon.ki...
namespace elgon;
observe earth:Region r
over space (
urn = 'local:z
grid = "100 m'
projection = '
);
* Resource editor
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Resource data
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Resource data
Urn local:zuzanaharmackova:zuz
Geometry
Space (click to edit)
RASTER adapter data
Copy URN
Edit resource
Move resource...
Delete resource
Export resource
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Compare With
Restore from Local History...
Resources
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Context
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Scenarios No scenarios active
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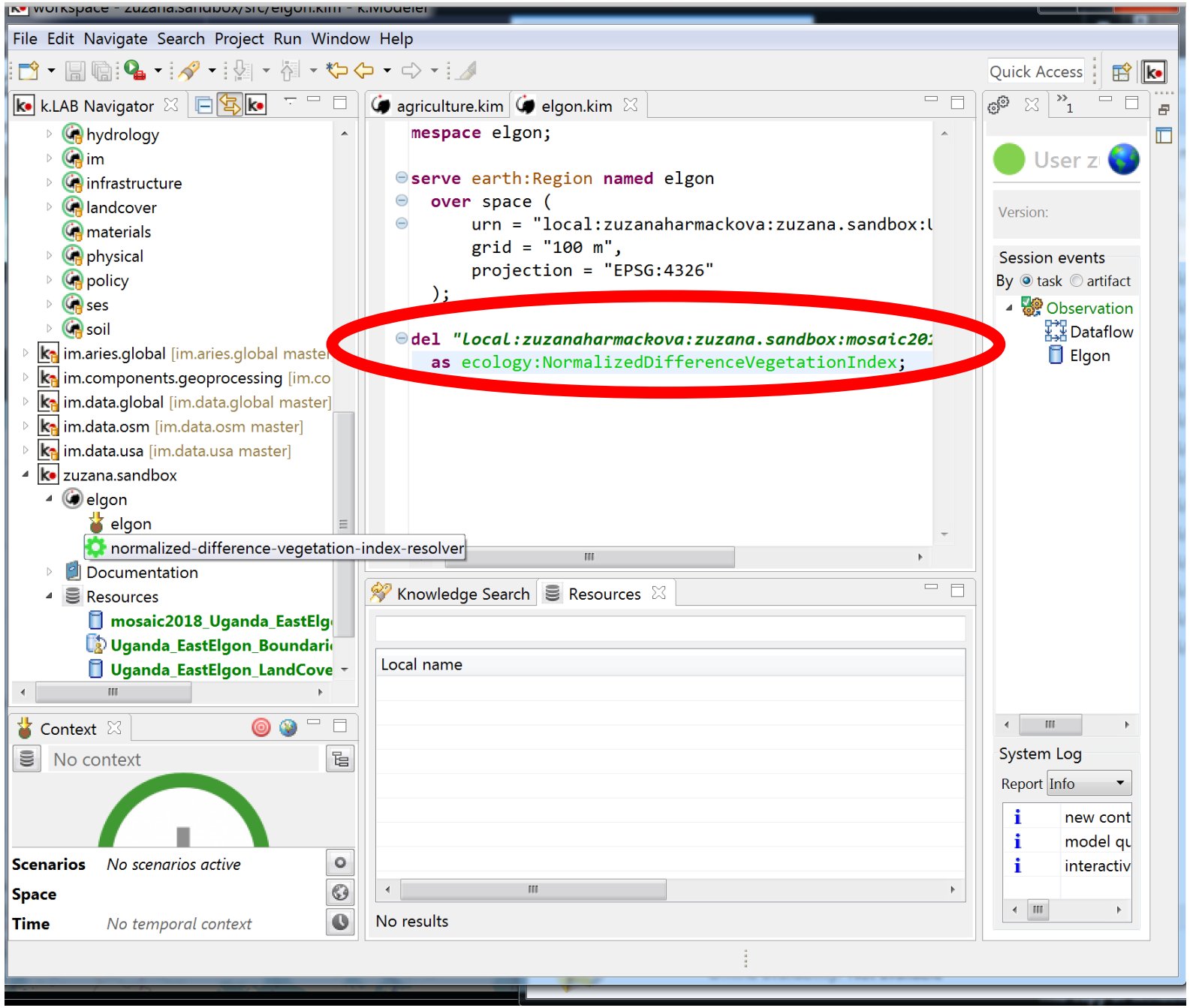
File Edit Navigate Search Project Run Window Help
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Documentation
Resources
mosaic2018_Uganda_EastElg
Uganda_EastElgon_Boundari
Uganda_EastElgon_LandCove
agriculture.kim
elgon.kim
mespace elgon;
serve earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:
grid = "100 m",
projection = "EPSG:4326"
);
del "local:zuzanaharmackova:zuzana.sandbox:mosaic20
as ecology:NormalizedDifferenceVegetationIndex;
Knowledge Search
Resources
Local name
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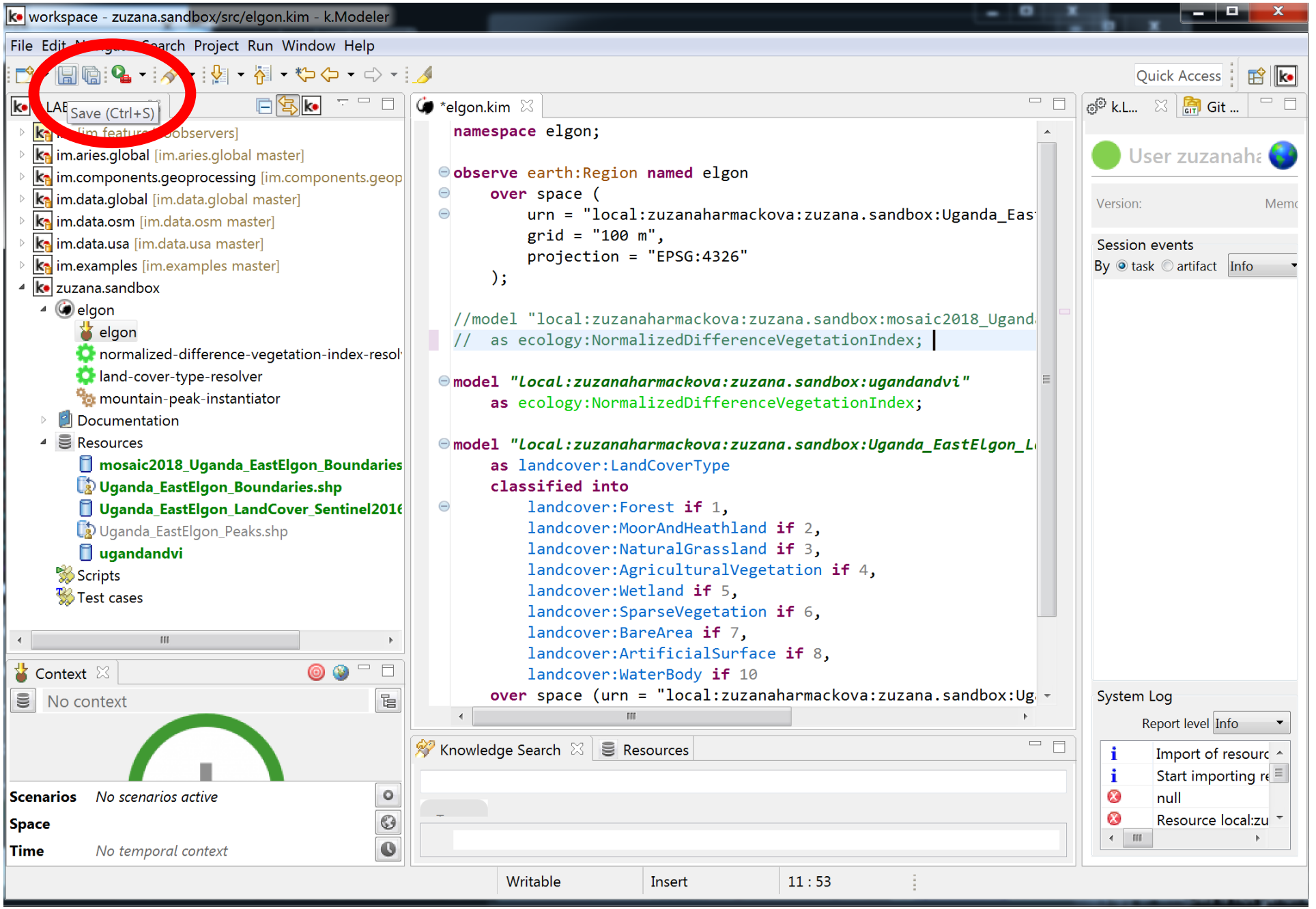
workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
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Quick Access
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land-cover-type-resolver
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Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2016
Uganda_EastElgon_Peaks.shp
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Scripts
Test cases
*elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_Eas
grid = "100 m",
projection = "EPSG:4326"
);
//model "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Ugand
// as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:ugandandvi"
as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_L
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
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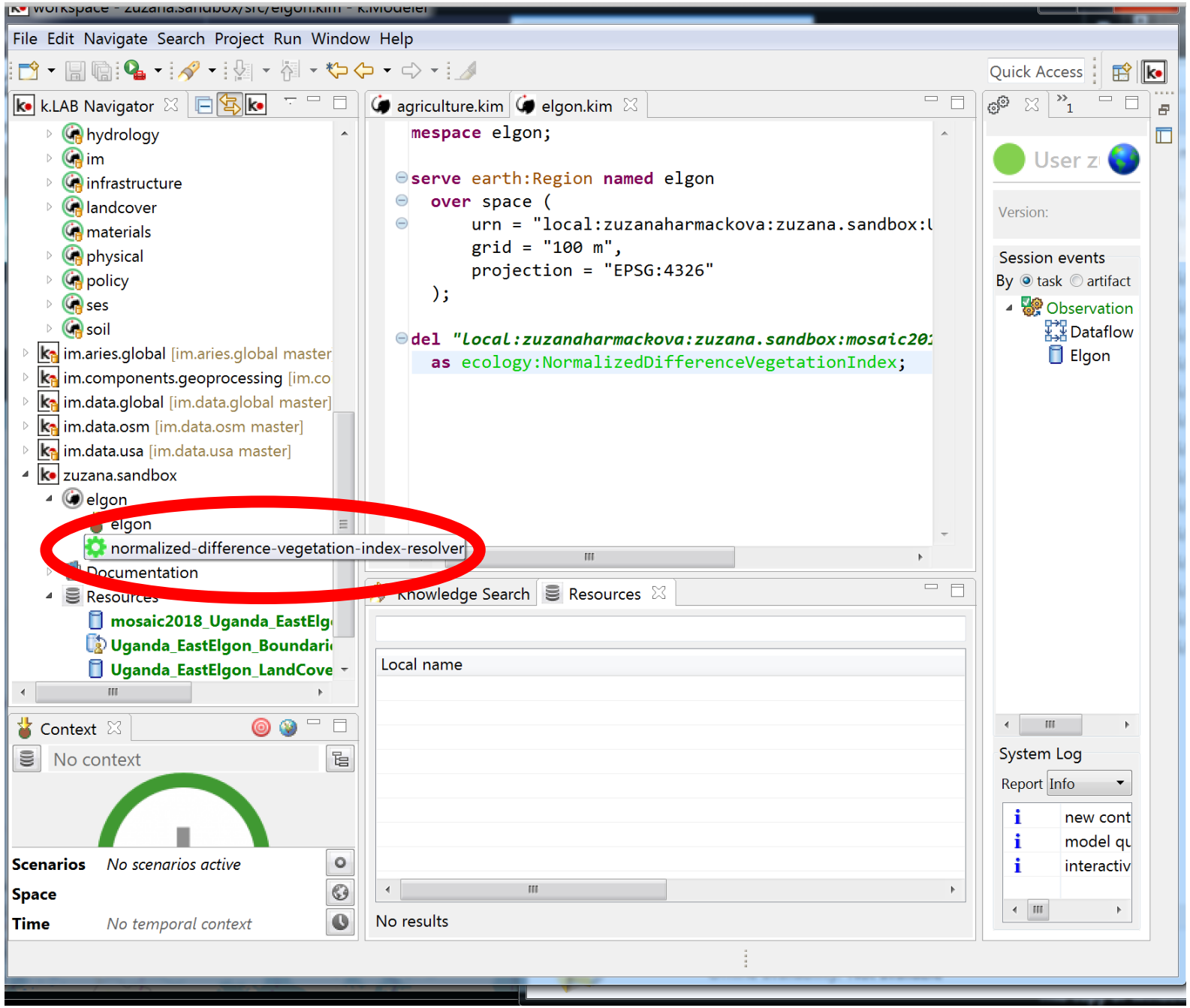
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mespace elgon;
serve earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:
grid = "100 m",
projection = "EPSG:4326"
);
del "local:zuzanaharmackova:zuzana.sandbox:mosaic20
as ecology:NormalizedDifferenceVegetationIndex;
Knowledge Search
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Context
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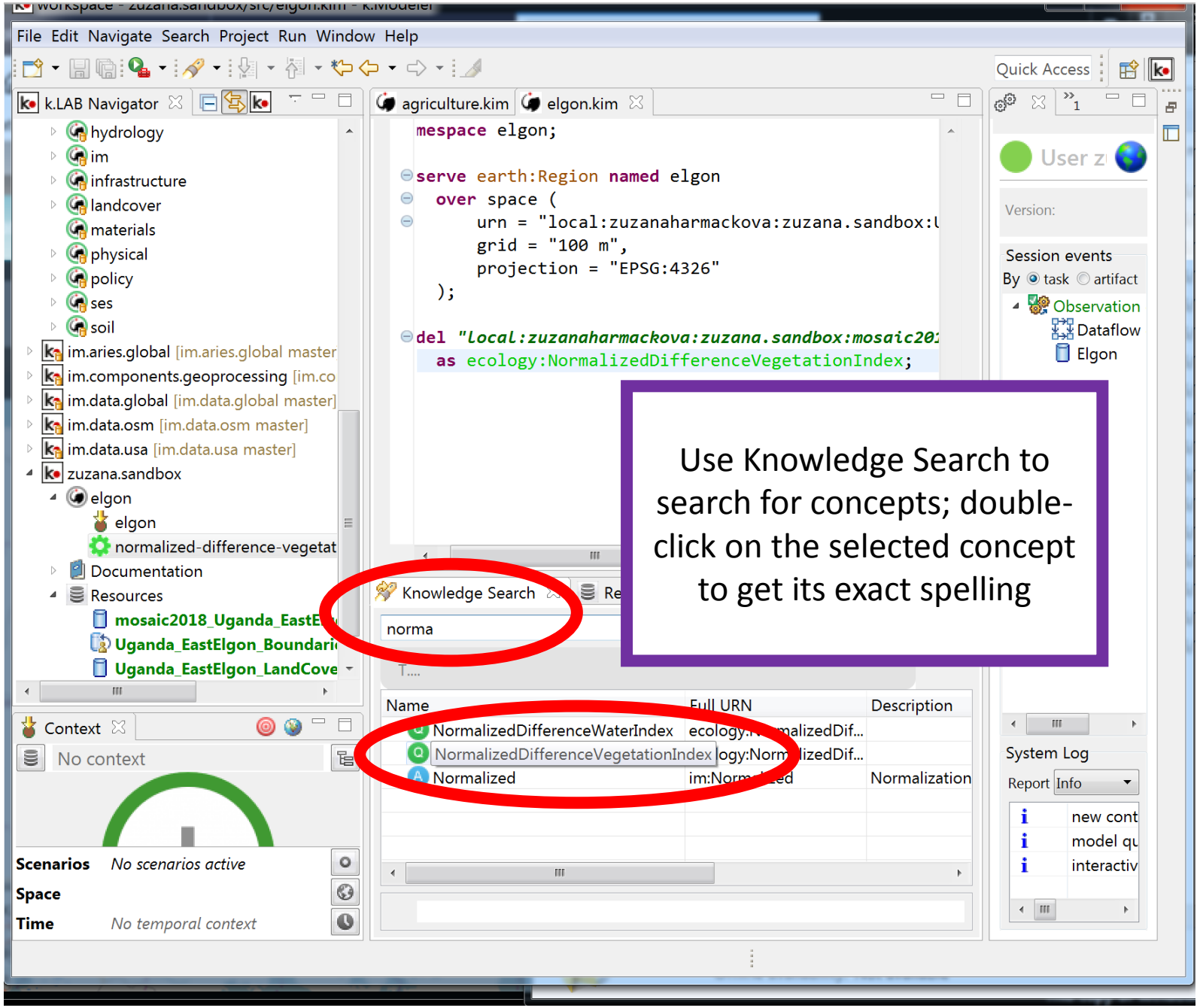
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serve earth:Region named elgon
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grid = "100 m",
projection = "EPSG:4326"
);
del "local:zuzanaharmackova:zuzana.sandbox:mosaic20
as ecology:NormalizedDifferenceVegetationIndex;
Use Knowledge Search to search for concepts; double-click on the selected concept to get its exact spelling
Knowledge Search
norma
Name
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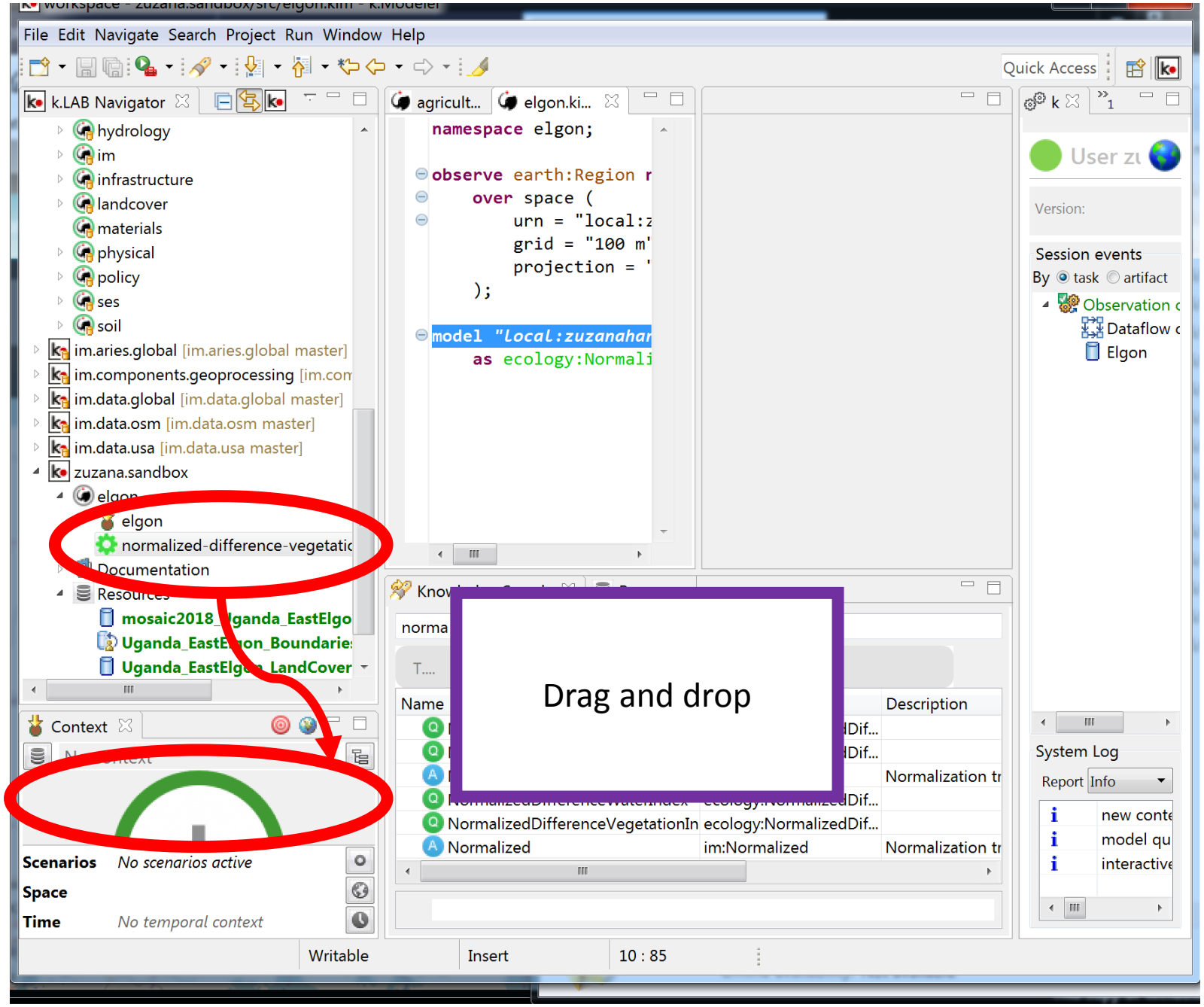
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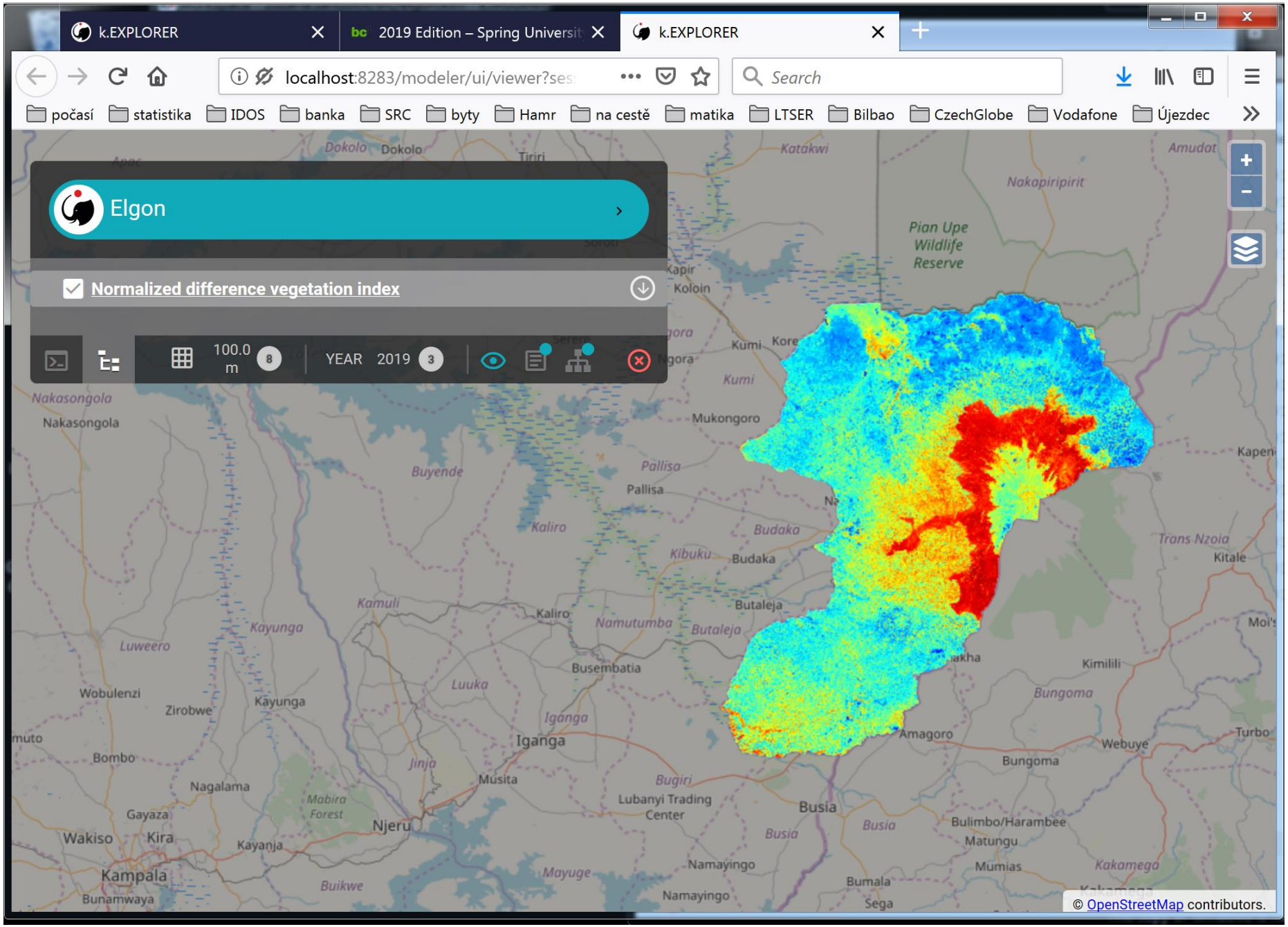
10 : 85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Kayunga
Luweero
Namutumba
Butaleja
Busembatia
Kimilili
Bungoma
Wobulenzi
Zirobwe
Luuka
Iganga
Amagoro
Webuye
Turbo
Bombo
Jinja
Musita
Bugiri
Nagalama
Mabira Forest
Lubanyi Trading Center
Busia
Gayaza
Njeru
Wakiso
Kira
Kayanja
Bulimbo/Harambee
Matungu
Mumias
Kakamega
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Mayuge
Namayingo
Bumala
Sega
Bunamwaya
Buikwe
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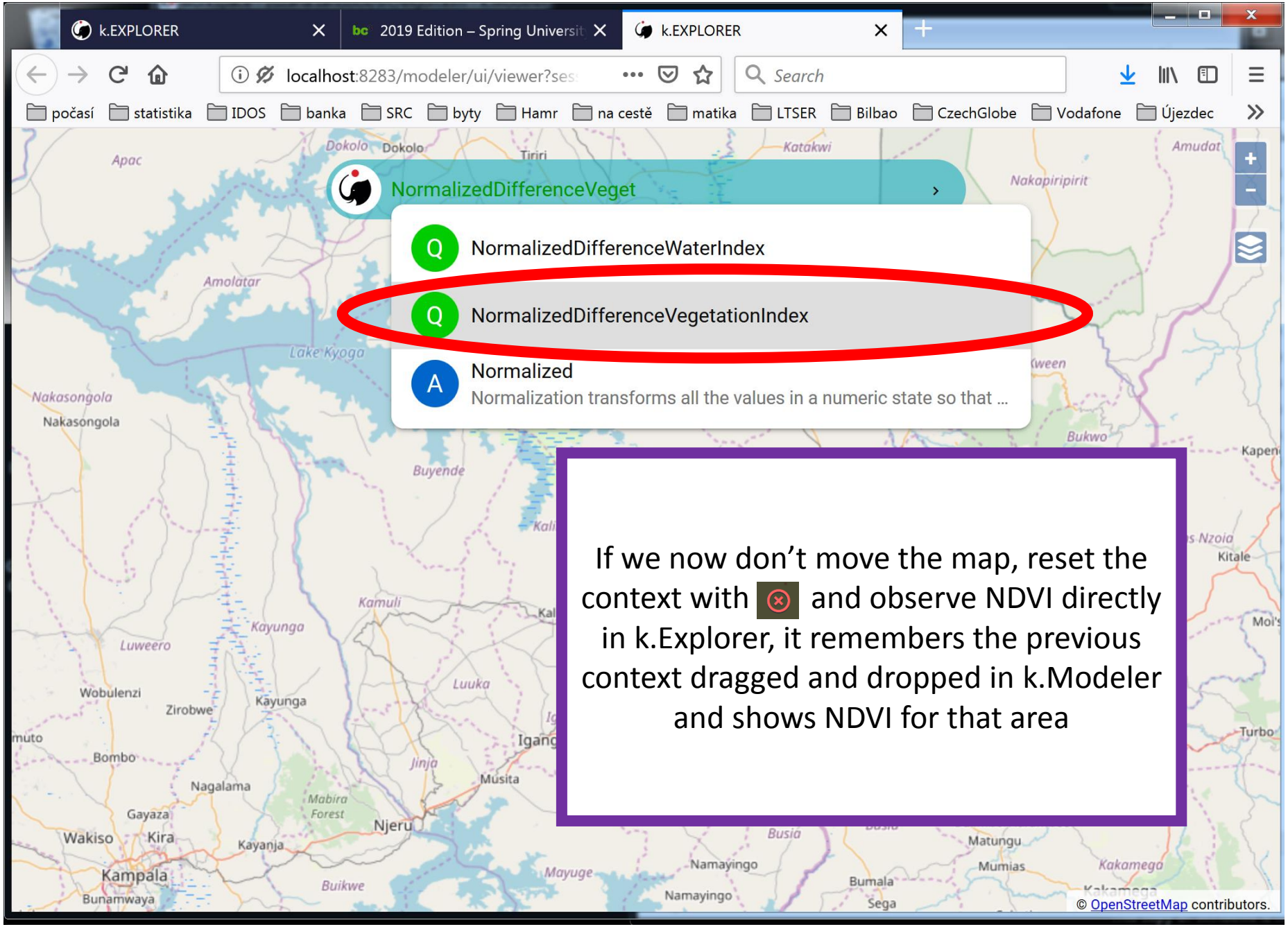
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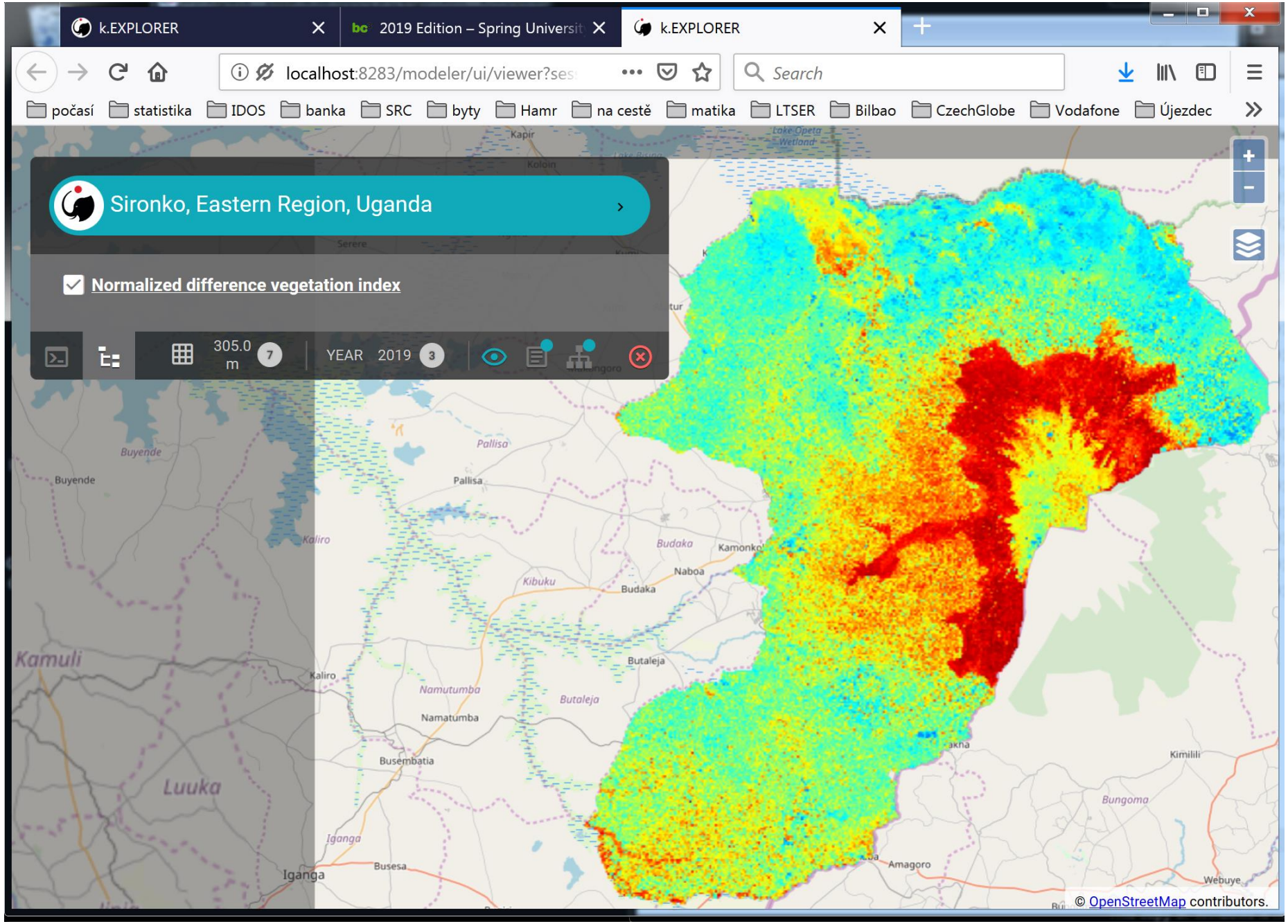
Vodafone
Újezdec
NormalizedDifferenceVeget
NormalizedDifferenceWaterIndex
NormalizedDifferenceVegetationIndex
Normalized
Normalization transforms all the values in a numeric state so that ...
If we now don't move the map, reset the context with ⊗ and observe NDVI directly in k.Explorer, it remembers the previous context dragged and dropped in k.Modeler and shows NDVI for that area
© OpenStreetMap contributors.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Sironko, Eastern Region, Uganda
Normalized difference vegetation index
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Kapir
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Butaleja
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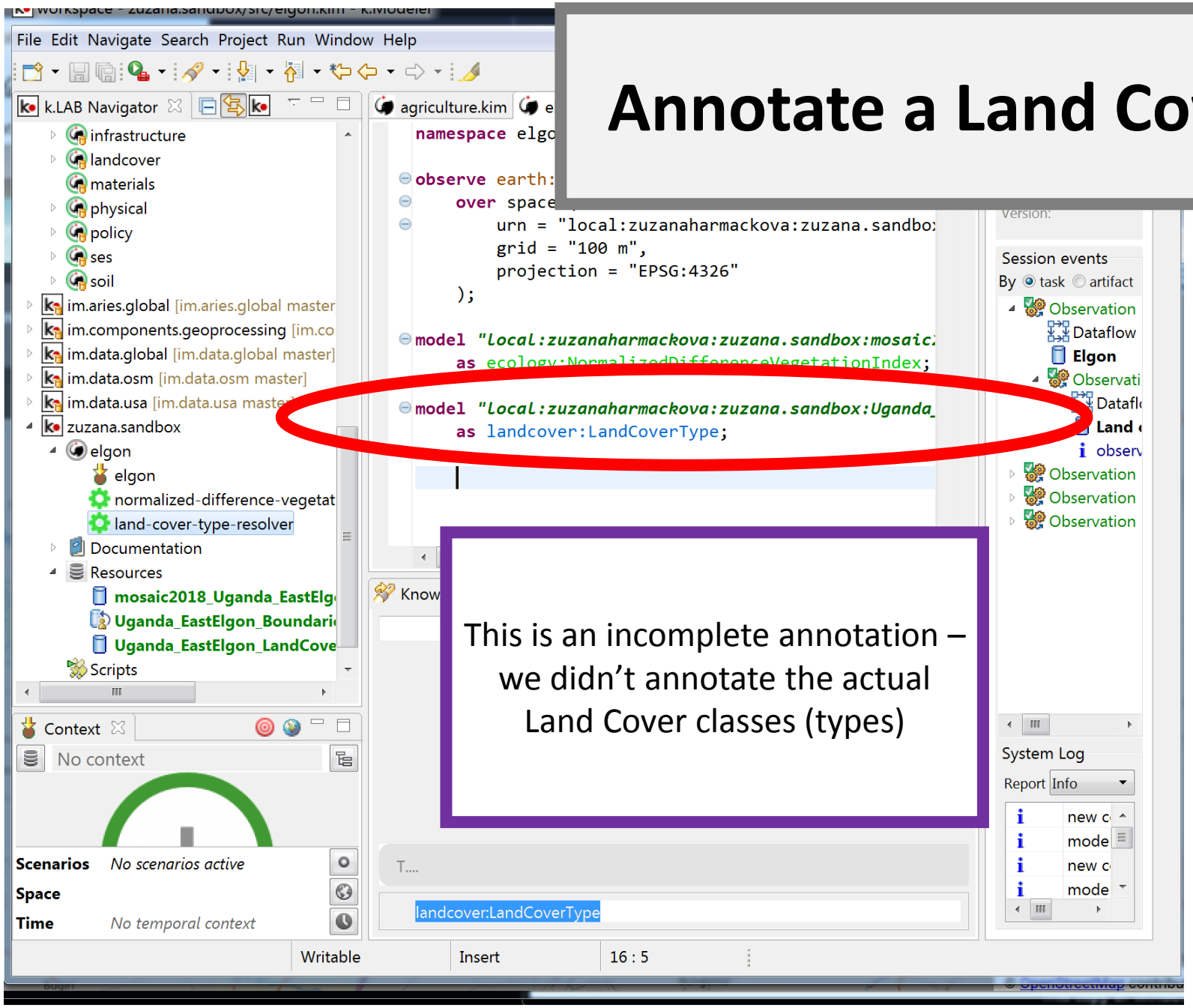
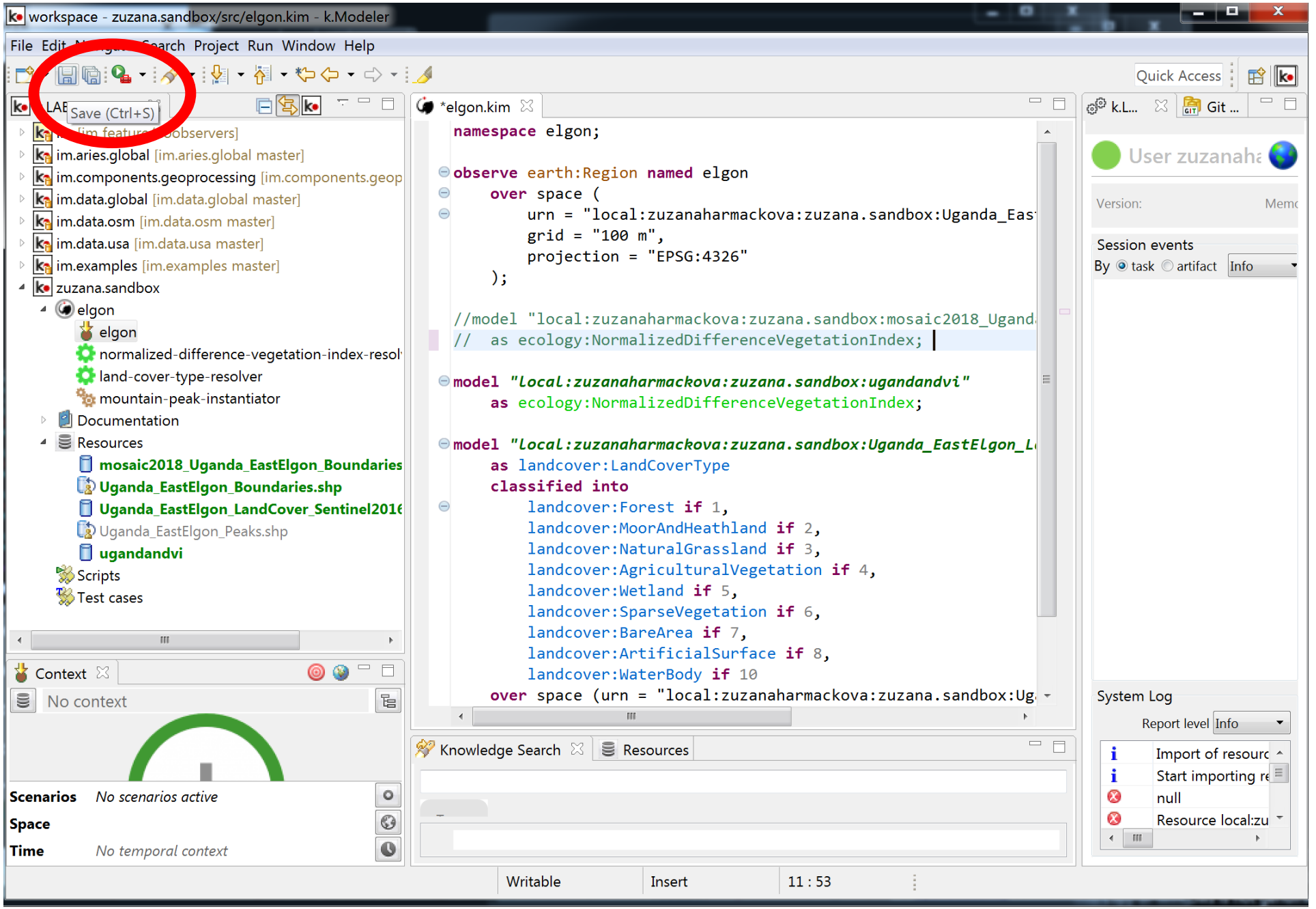
Iganga
Busesa
Kimilili
Bungoma
Amagoro
Webuye
© OpenStreetMap contributors.

Annotate a Land Cover dataset



This is an incomplete annotation – we didn't annotate the actual Land Cover classes (types)


workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Search Project Run Window Help
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Quick Access
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mountain-peak-instantiator
Documentation
Resources
mosaic2018_Uganda_EastElgon_Boundaries
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2016
Uganda_EastElgon_Peaks.shp
ugandandvi
Scripts
Test cases
*elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_Eas
grid = "100 m",
projection = "EPSG:4326"
);
//model "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Ugand
// as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:ugandandvi"
as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_L
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
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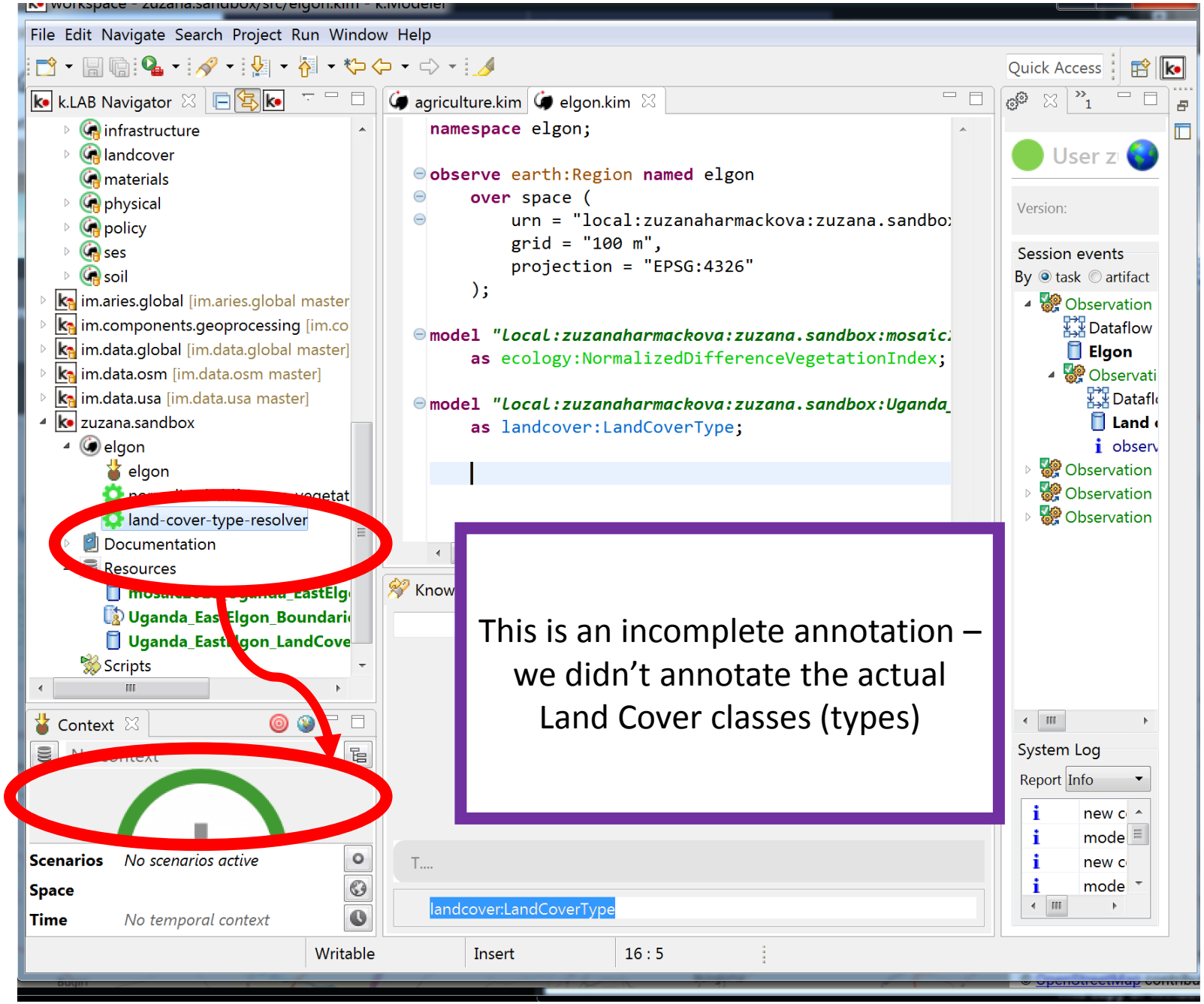
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Documentation
Resources
Scripts
agriculture.kim
elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
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grid = "100 m",
projection = "EPSG:4326"
);
model "local:zuzanaharmackova:zuzana.sandbox:mosaic
as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_
as landcover:LandCoverType;
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Report Info
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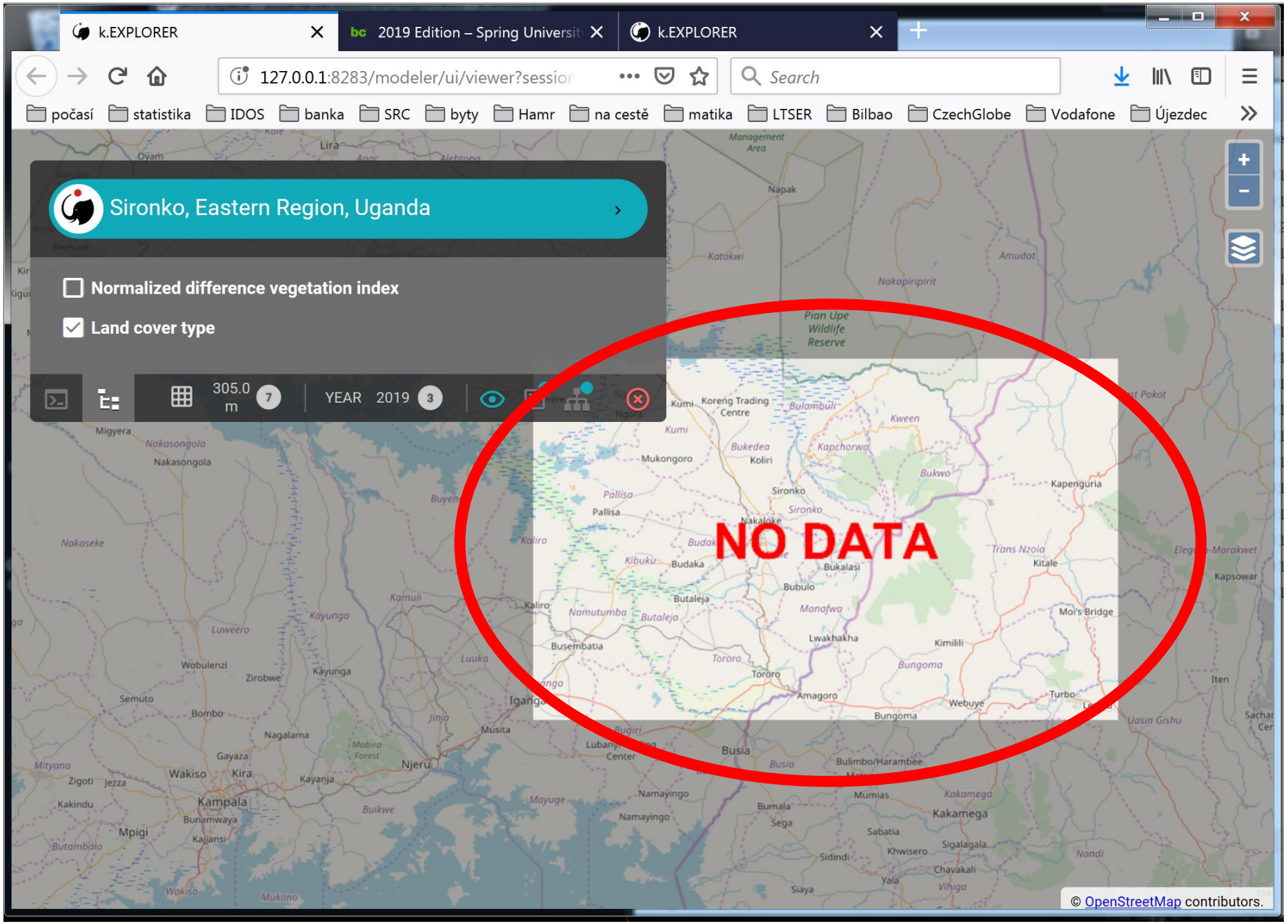
16 : 5
This is an incomplete annotation – we didn't annotate the actual Land Cover classes (types)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Vodafone
Újezdec
Sironko, Eastern Region, Uganda
Normalized difference vegetation index
Land cover type
305.0 m
7
YEAR 2019
3
NO DATA
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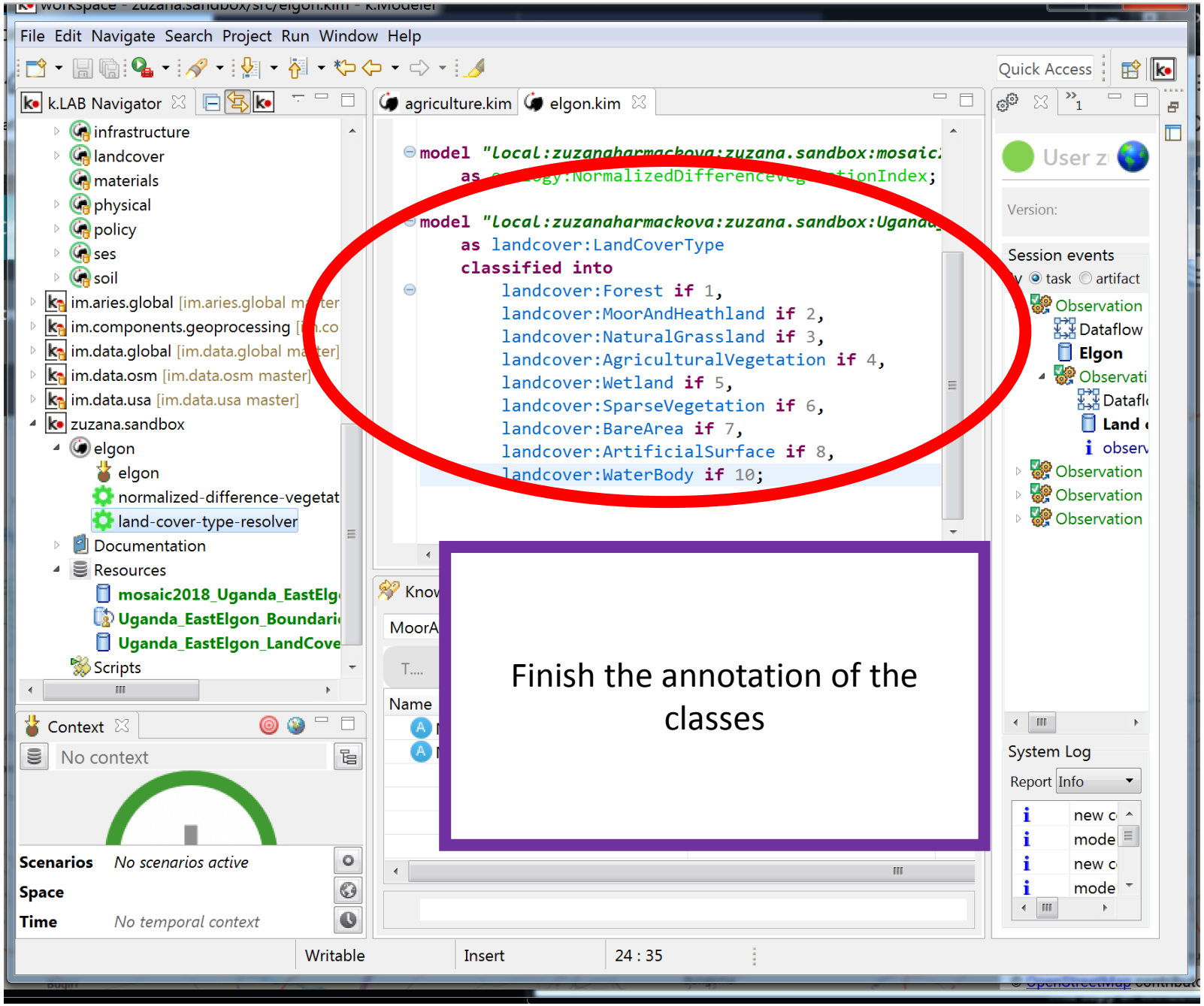
Land Cover Classes

- Forest – 1
- Moor & HeathLand – 2
- Natural Grassland – 3
- Agricultural Vegetation – 4
- Wetland – 5
- Sparse Vegetation – 6
- Bare Area – 7
- Artificial Surface – 8
- Water Body - 10

We need to annotate the data so that individual Land Cover classes from the dataset are recognised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Documentation
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mosaic2018_Uganda_EastElg
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Scripts
agriculture.kim
elgon.kim
model "local:zuzanaharmackova:zuzana.sandbox:mosaic
as ology:NormalizedDifferenceVe tionIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10;
Finish the annotation of the classes
Context
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Scenarios No scenarios active
Space
Time No temporal context
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System Log
Report Info
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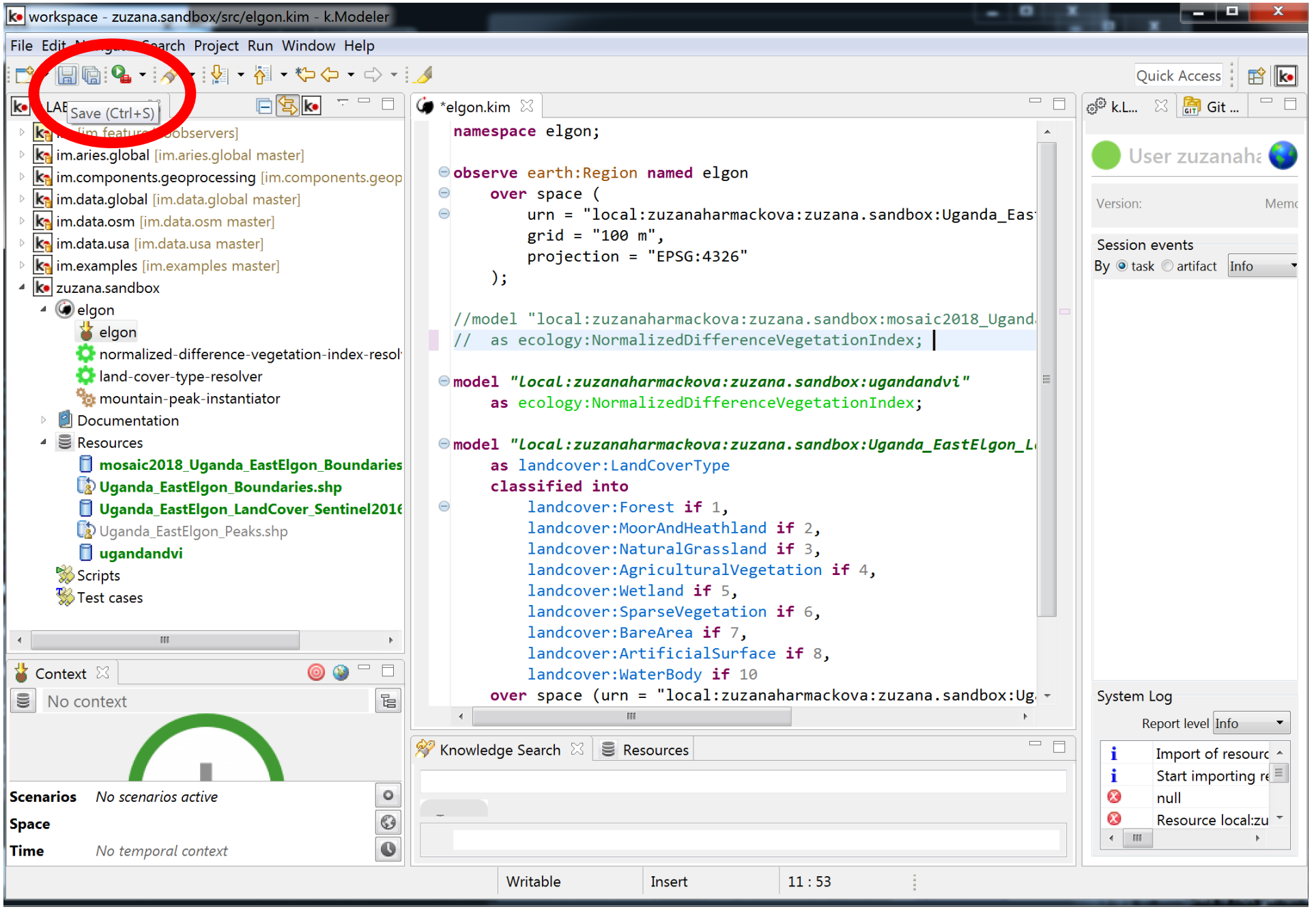
24 : 35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Documentation
Resources
mosaic2018_Uganda_EastElgon_Boundaries
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2016
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Scripts
Test cases
*elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_Eas
grid = "100 m",
projection = "EPSG:4326"
);
//model "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Ugand
// as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:ugandandvi"
as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_L
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
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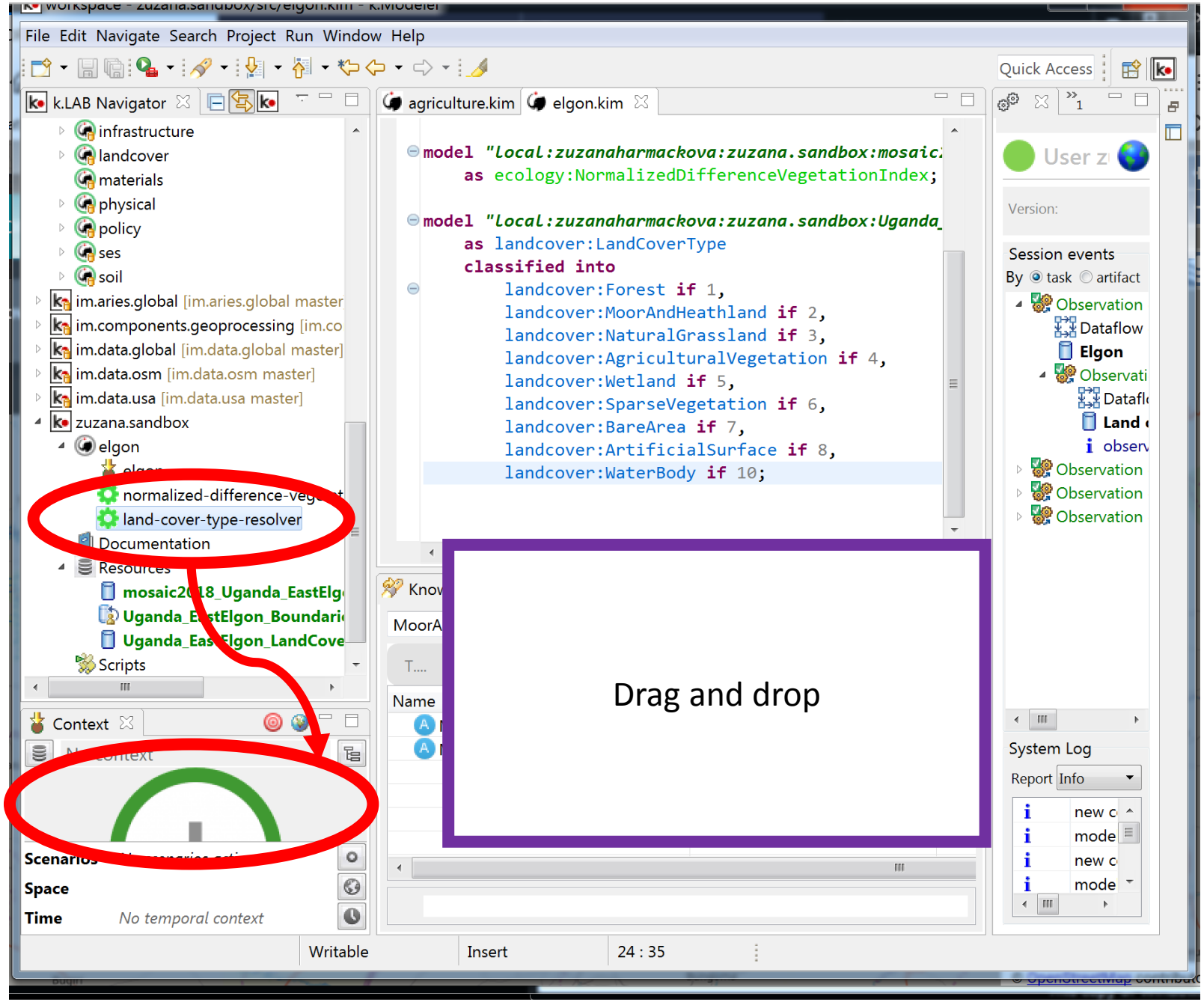
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elgon.kim
model "local:zuzanaharmackova:zuzana.sandbox:mosaic
as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10;
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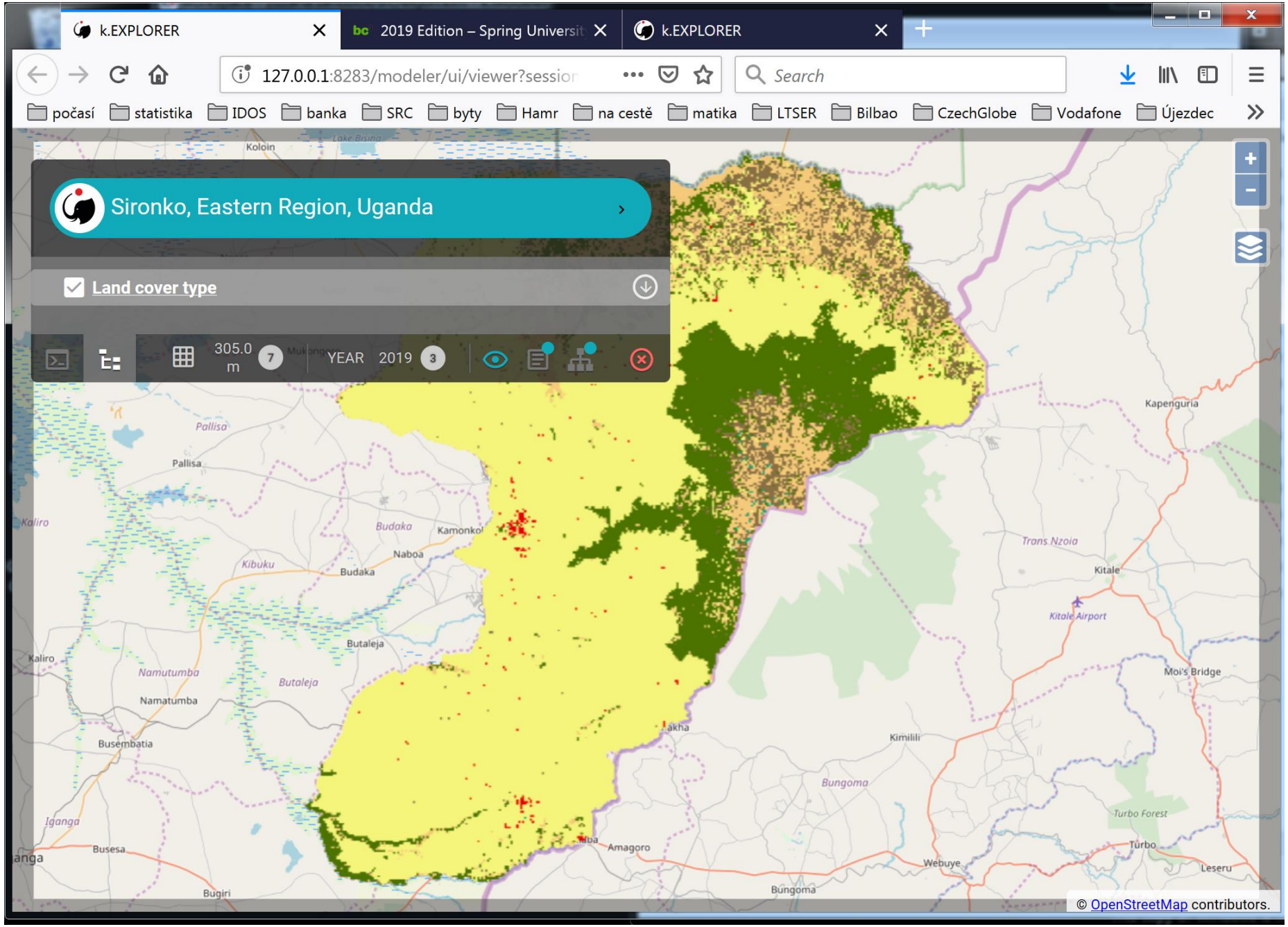
24 : 35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Moi's Bridge
Kimilili
Turbo Forest
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Leseru
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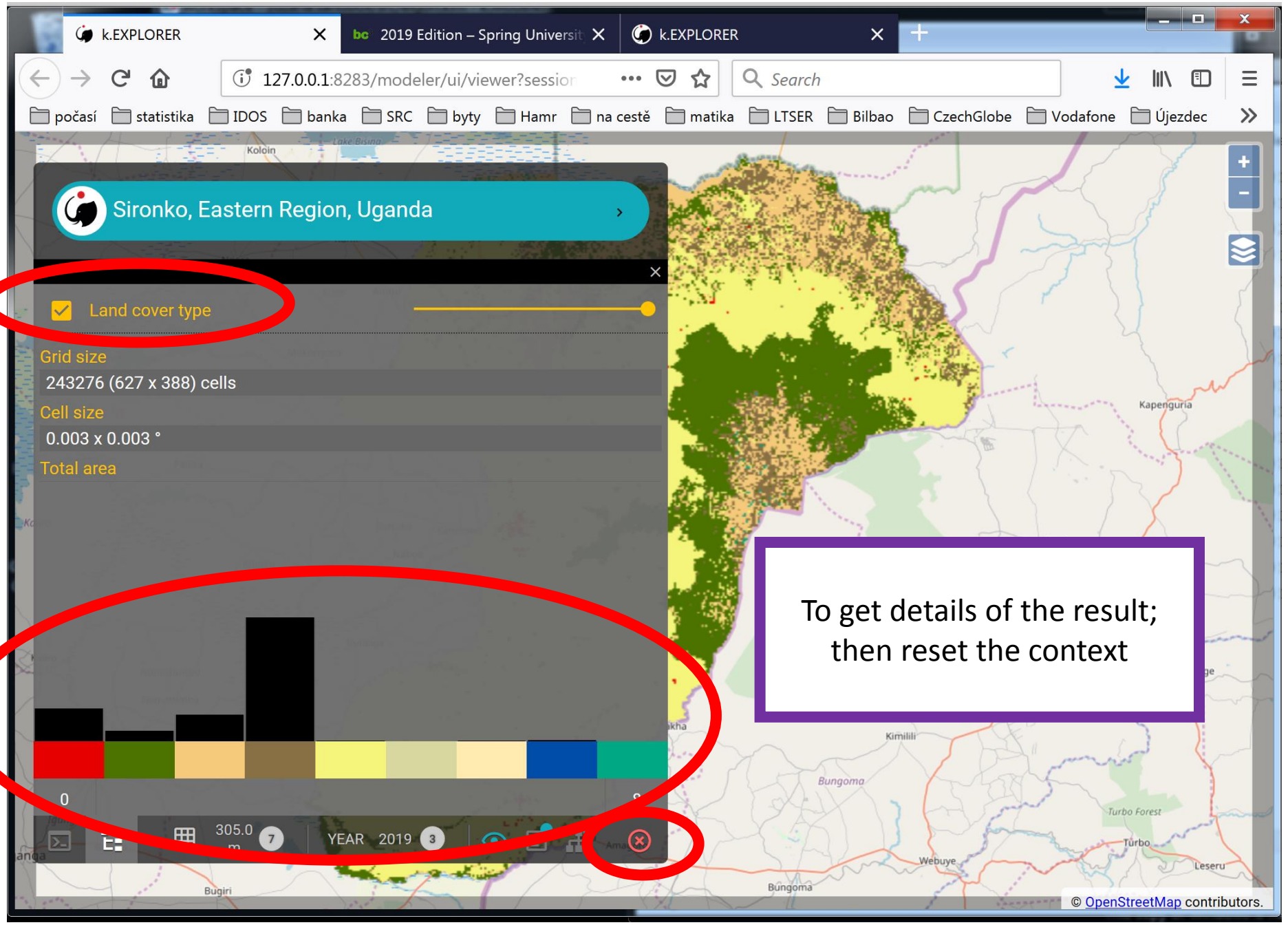
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Sironko, Eastern Region, Uganda
Land cover type
Grid size
243276 (627 x 388) cells
Cell size
0.003 x 0.003 °
Total area
0
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then reset the context
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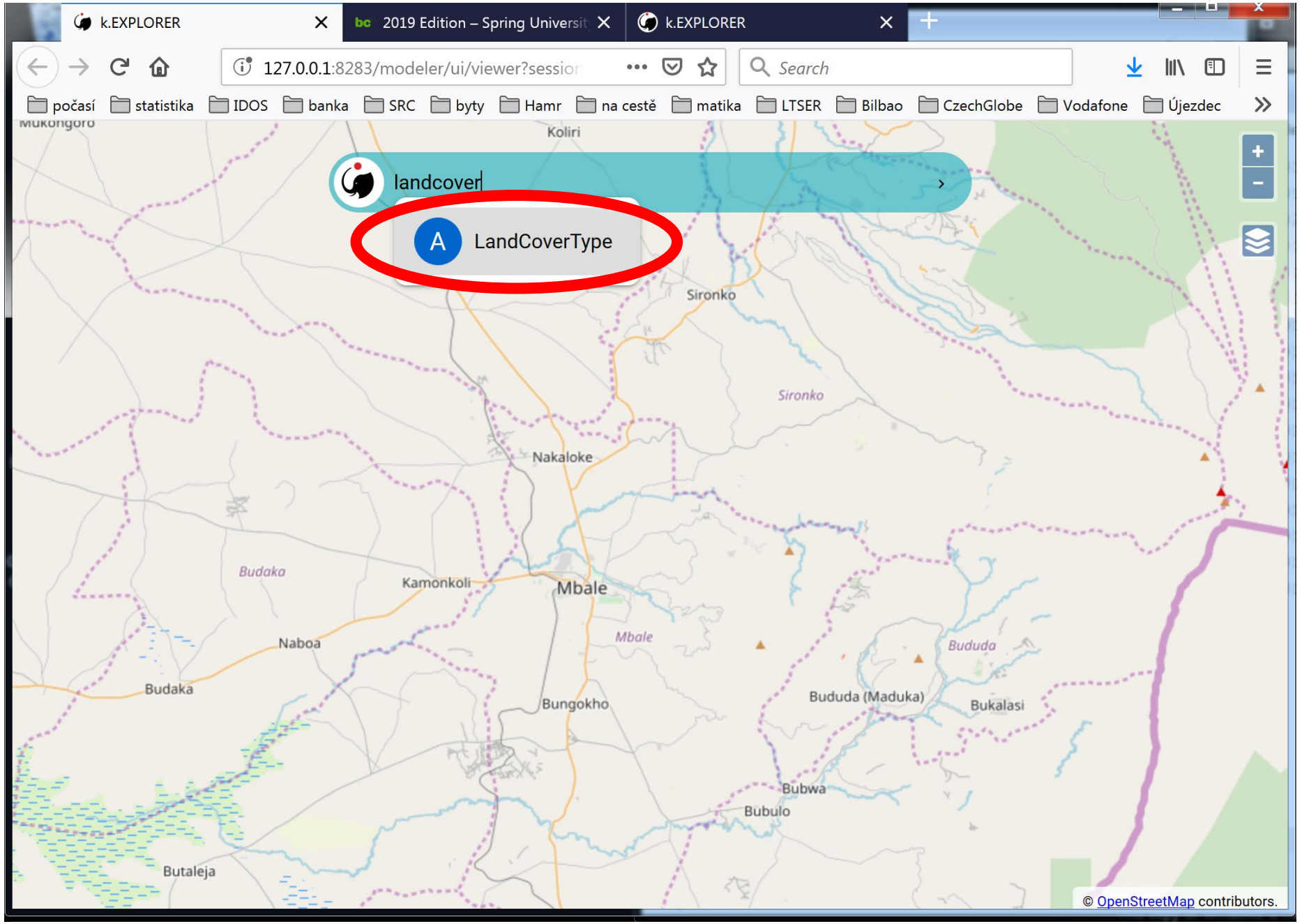
Kimilili
Bungoma
Turbo Forest
Turbo
Webuye
Leseru
Bugiri
Búngoma
© OpenStreetMap contributors.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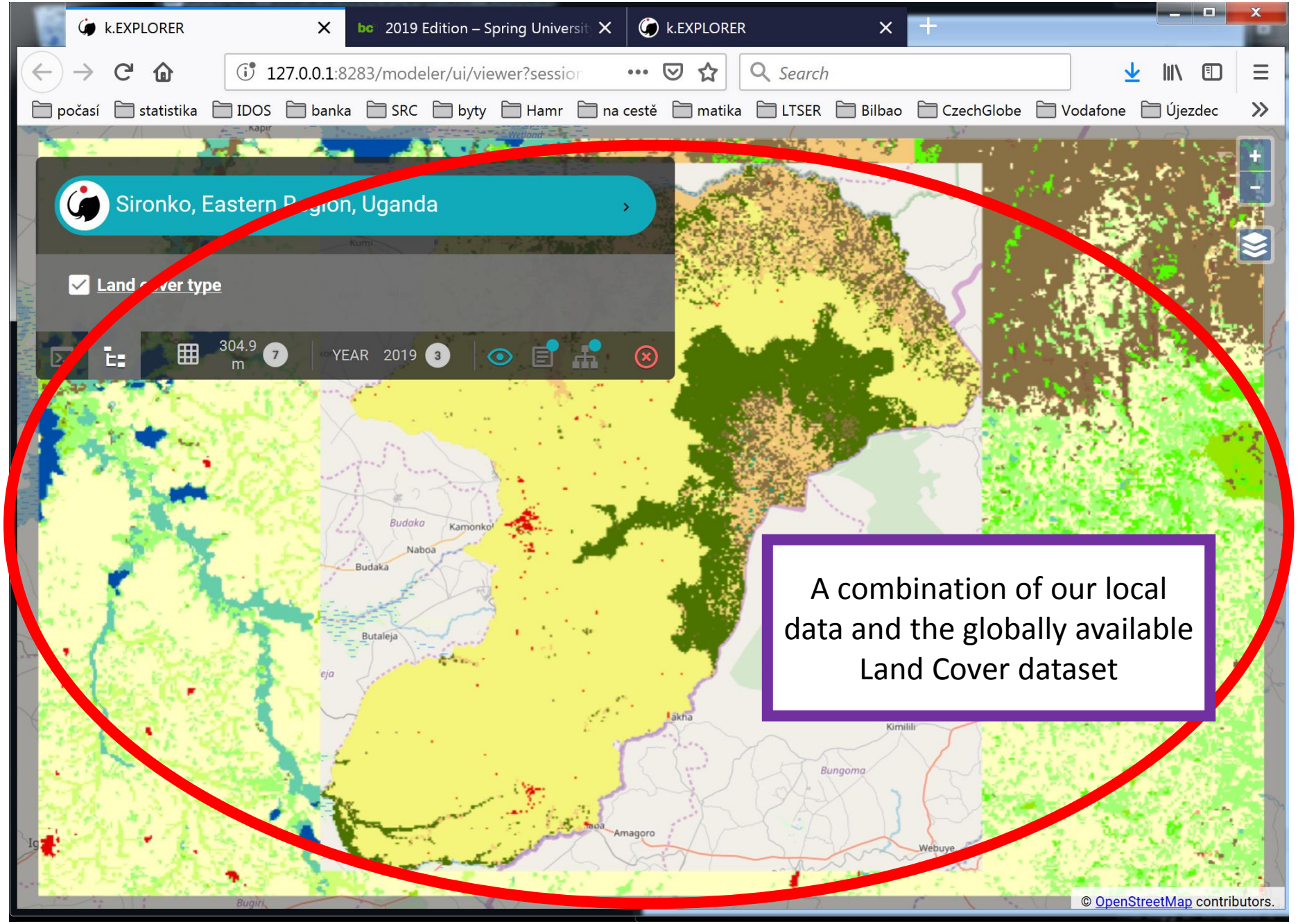
Butaleja
© OpenStreetMap contributors.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Újezdec
Sironko, Eastern Region, Uganda
Land cover type
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YEAR 2019
3
Budaka
Kamonko
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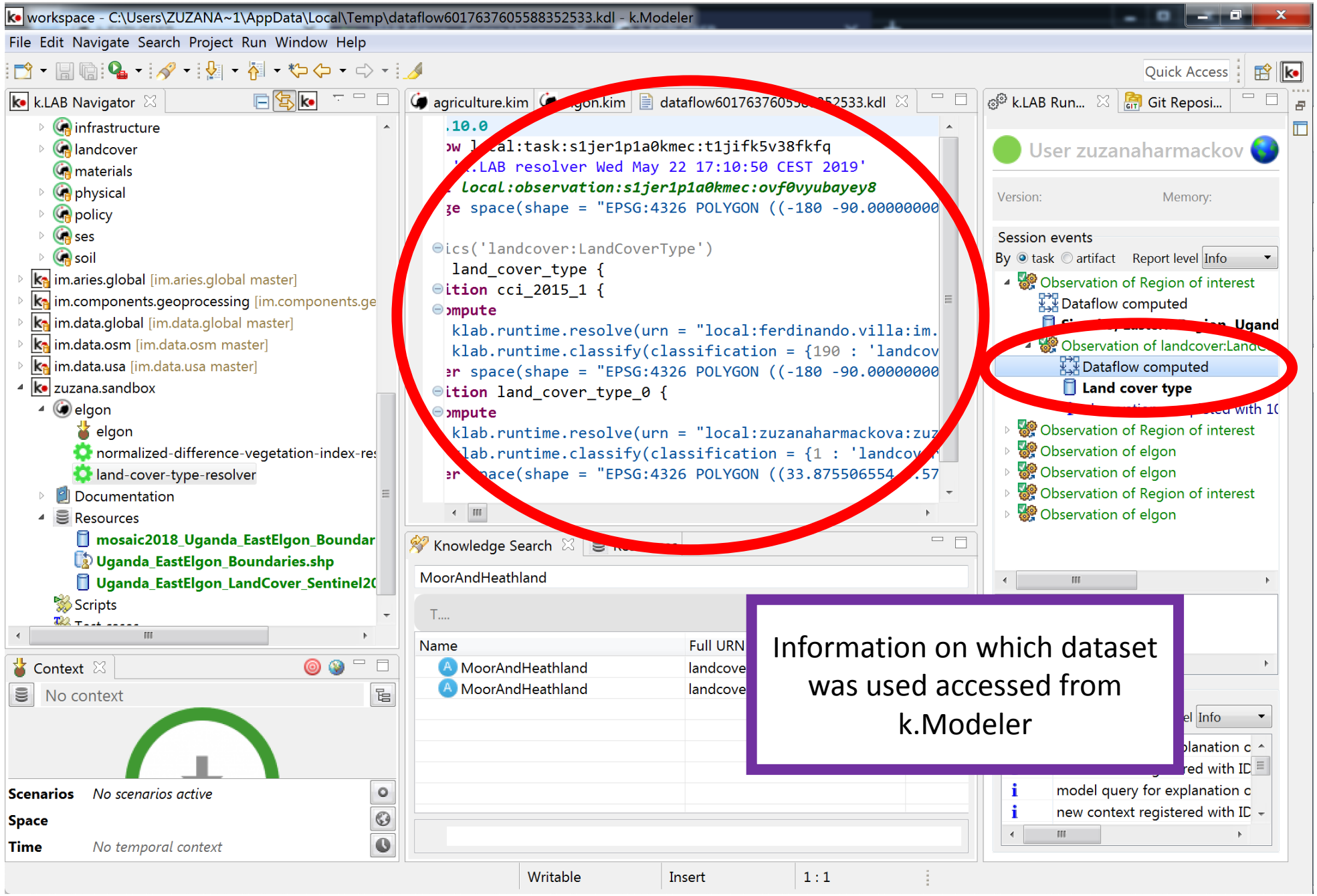
Budaka
Butaleja
Kimilili
Bungoma
Amagoro
Webuye
A combination of our local data and the globally available Land Cover dataset
© OpenStreetMap contributors.


workspace - C:\Users\ZUZANA~1\AppData\Local\Temp\dataflow6017637605588352533.kdl - k.Modeler
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ge space(shape = "EPSG:4326 POLYGON ((-180 -90.00000000
ics('landcover:LandCoverType')
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ition cci_2015_1 {
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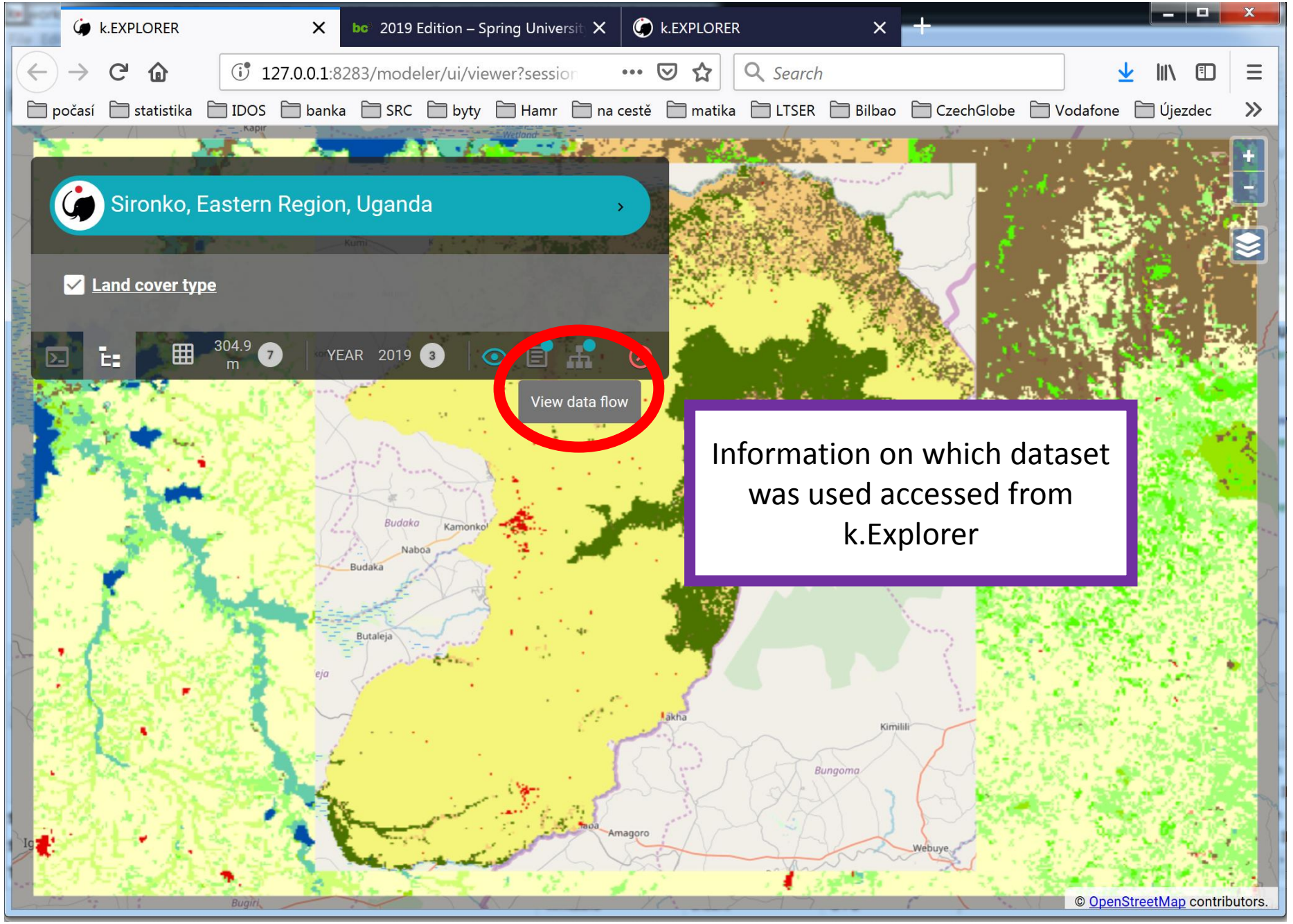
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Sironko, Eastern Region, Uganda
Land cover type
304.9 m
YEAR 2019
View data flow
Information on which dataset was used accessed from k.Explorer
Budaka
Kamonko
Naboa
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Butaleja
Kimilili
Bungoma
Amagoro
Webuye
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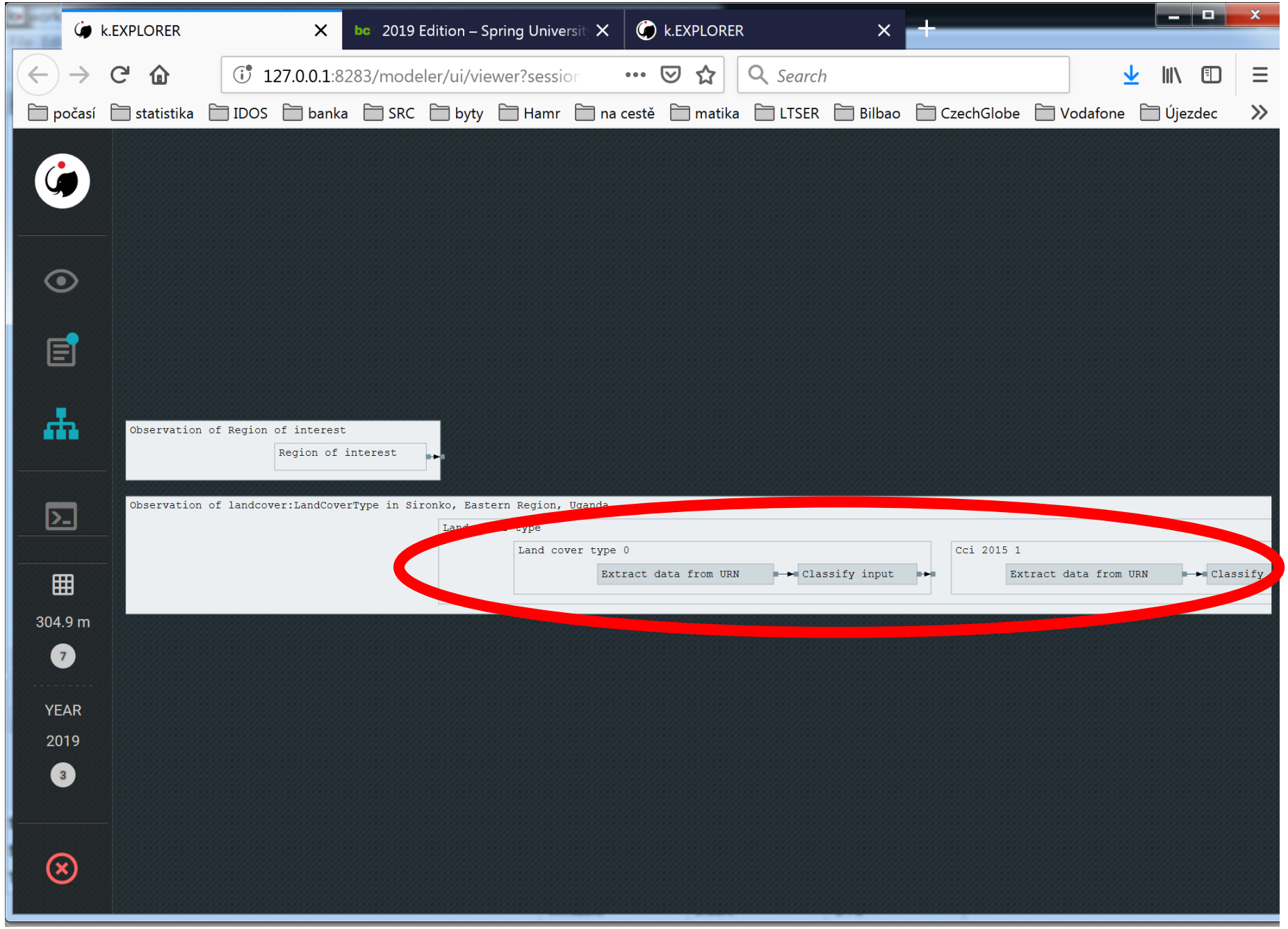
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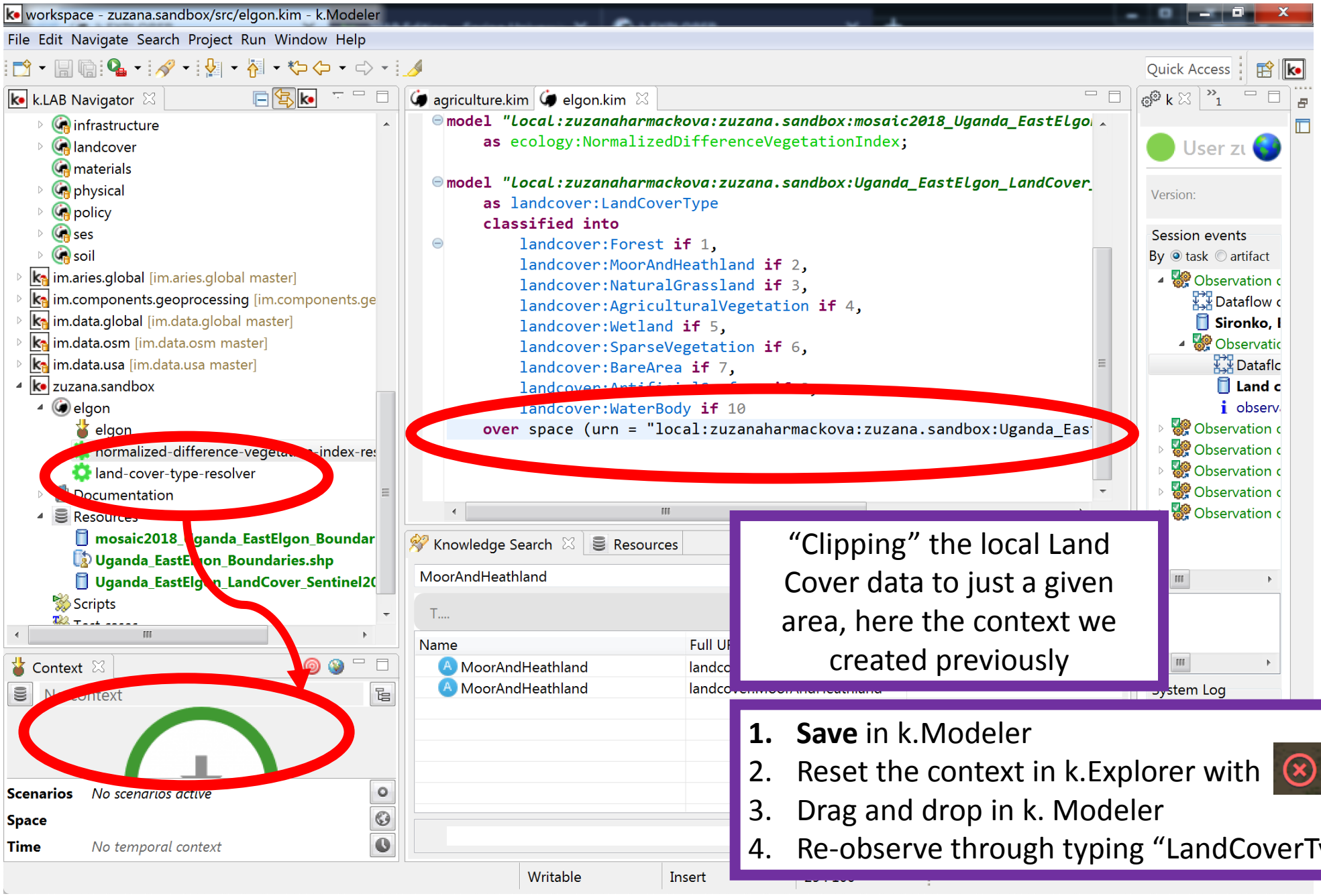
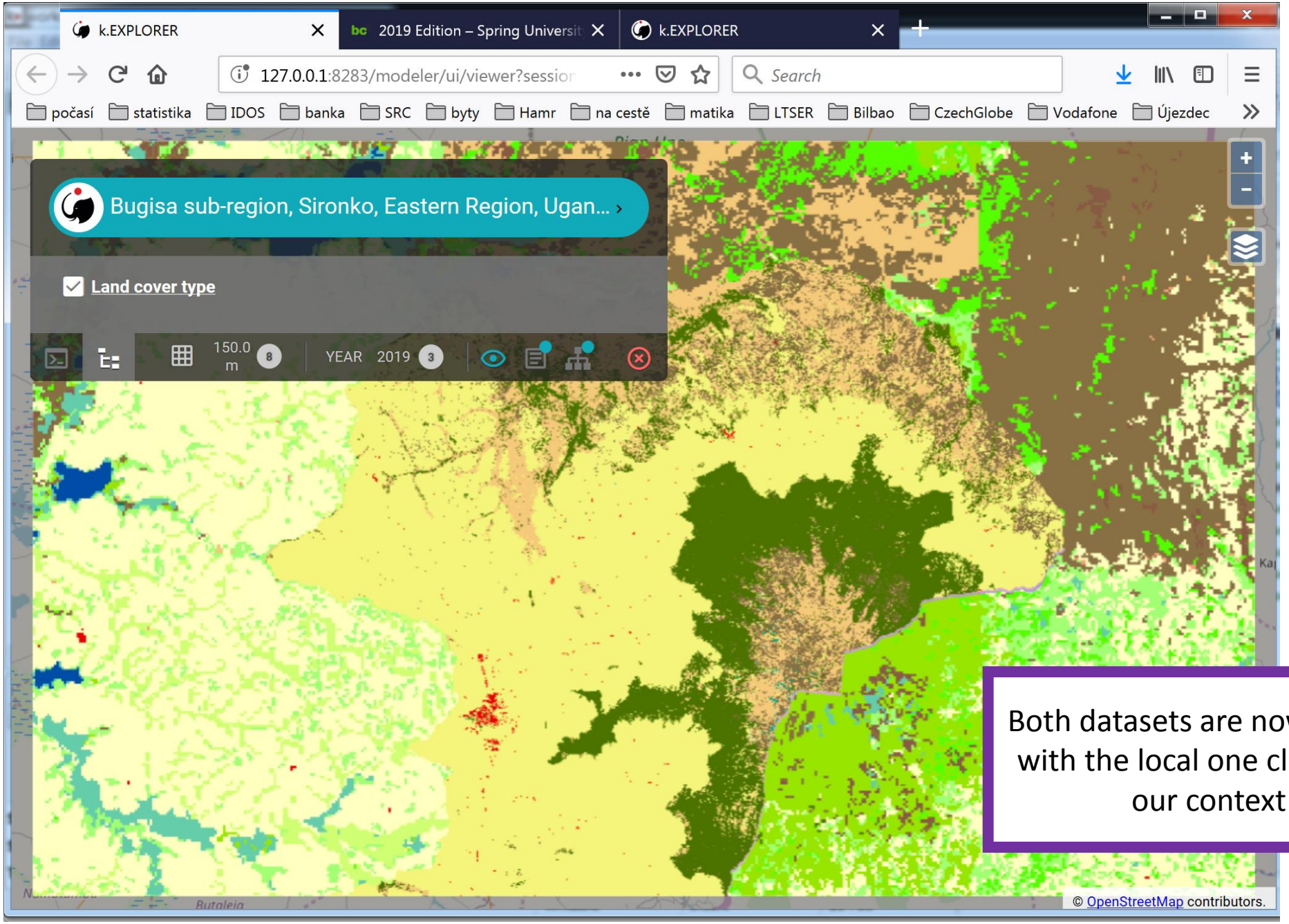
Újezdec
Observation of Region of interest
Region of interest
Observation of landcover:LandCoverType in Sironko, Eastern Region, Uganda
Land cover type 0
Extract data from URN
Classify input
Cci 2015 1
Extract data from URN
Classify
304.9 m
7
YEAR
2019
3



"Clipping" the local Land Cover data to just a given area, here the context we created previously

1. **Save** in k.Modeler
2. Reset the context in k.Explorer with
3. Drag and drop in k. Modeler
4. Re-observe through typing "LandCoverType" in k.Explorer



Both datasets are now visible, with the local one clipped to our context

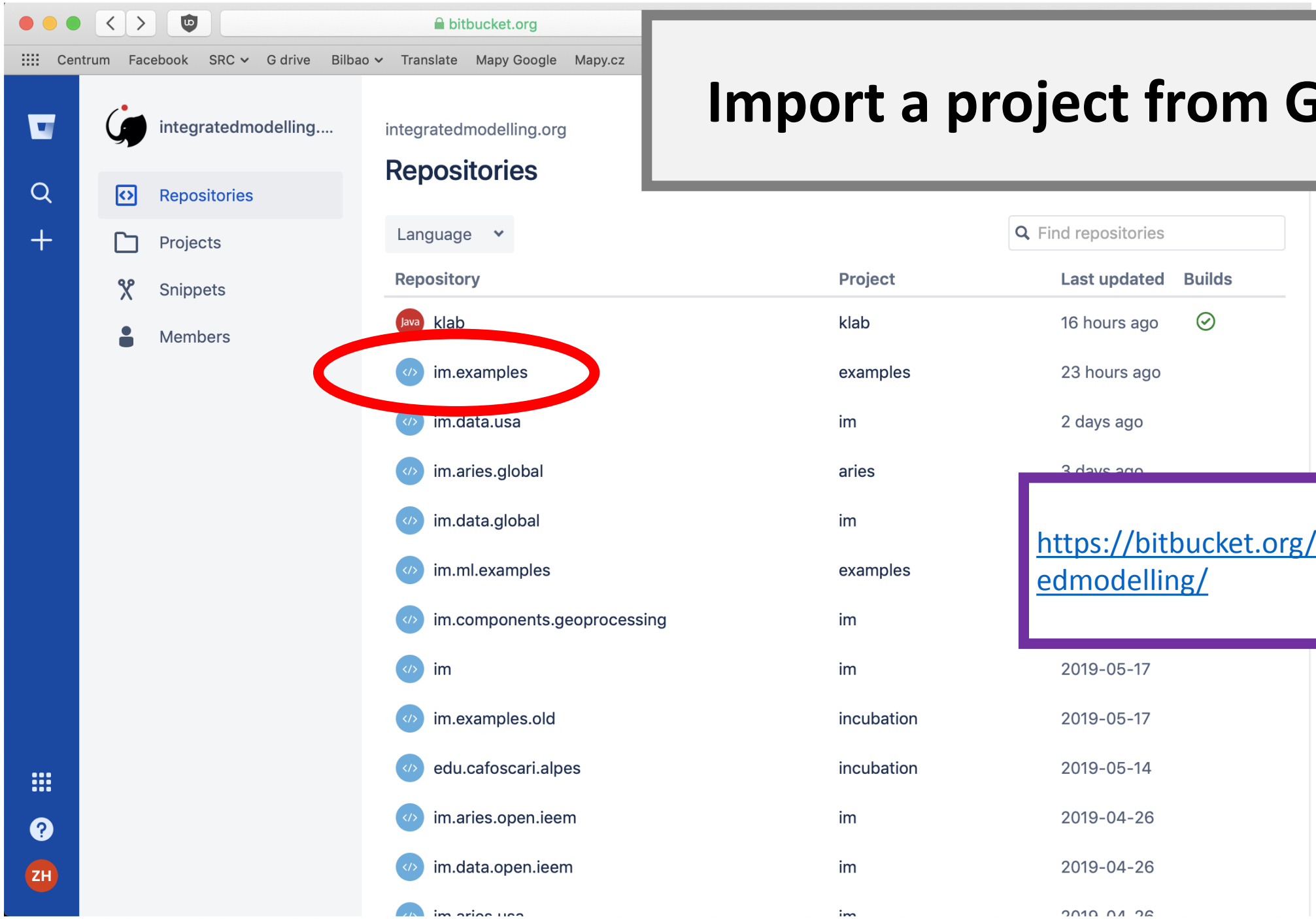
Resulting code

```
namespace elgon;

observe earth:Region named elgon
        over space (
                urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_Boundaries",
                grid = "100 m",
                projection = "EPSG:4326"
        );

model "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Uganda_EastElgon_Boundaries"
        as ecology:NormalizedDifferenceVegetationIndex;

model "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_LandCover_Sentinel2016"
        as landcover:LandCoverType
        classified into
                landcover:Forest if 1,
                landcover:MoorAndHeathland if 2,
                landcover:NaturalGrassland if 3,
                landcover:AgriculturalVegetation if 4,
                landcover:Wetland if 5,
                landcover:SparseVegetation if 6,
                landcover:BareArea if 7,
                landcover:ArtificialSurface if 8,
                landcover:WaterBody if 10
        over space (urn =
"local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_Boundaries#subregion=ELGON");
```

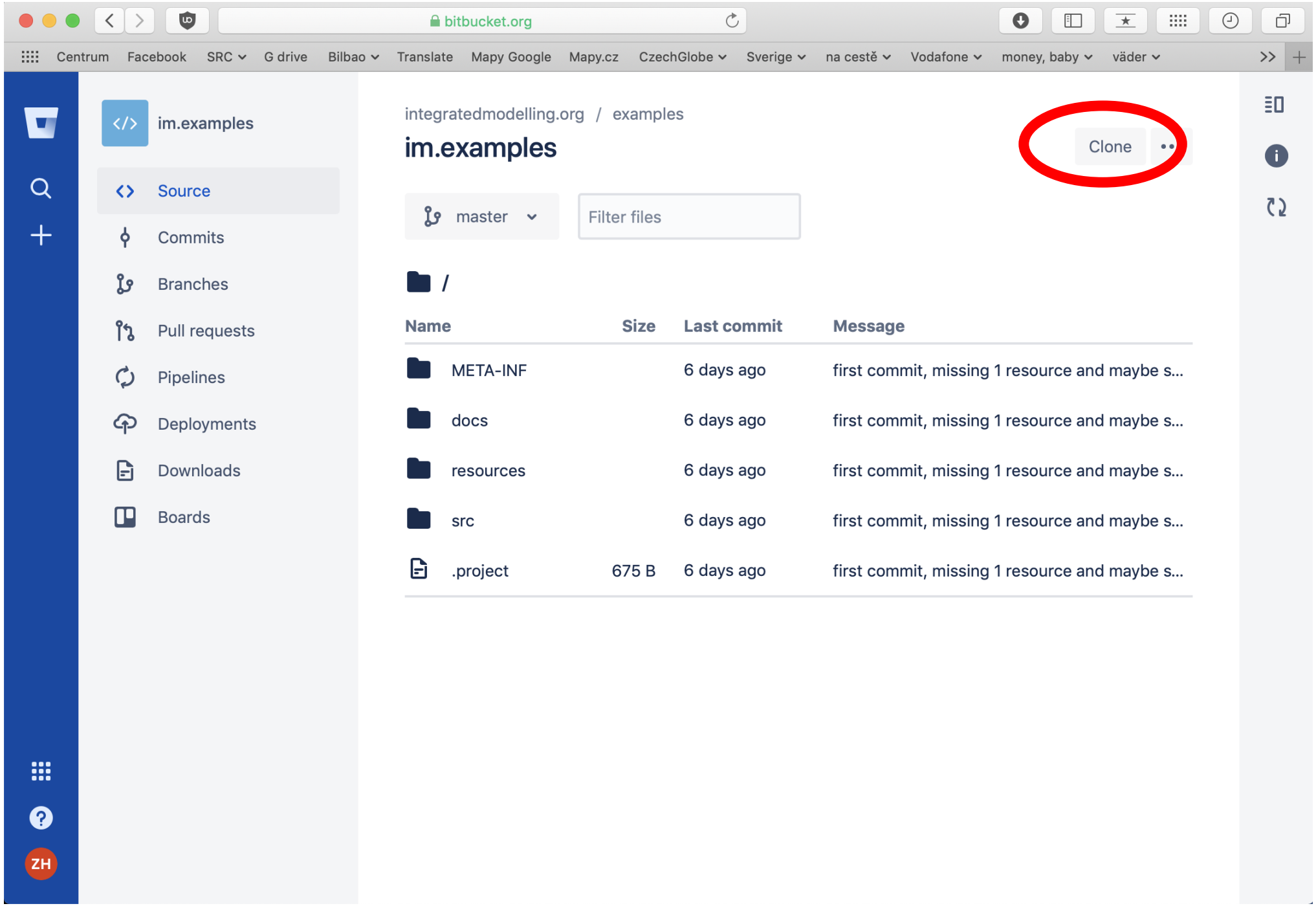
MCA exercise

bc3
BASQUE CENTRE
FOR CLIMATE CHANGE
Klima Aldaketa Ikergai

Import a project from GitHub



https://bitbucket.org/integratedmodelling/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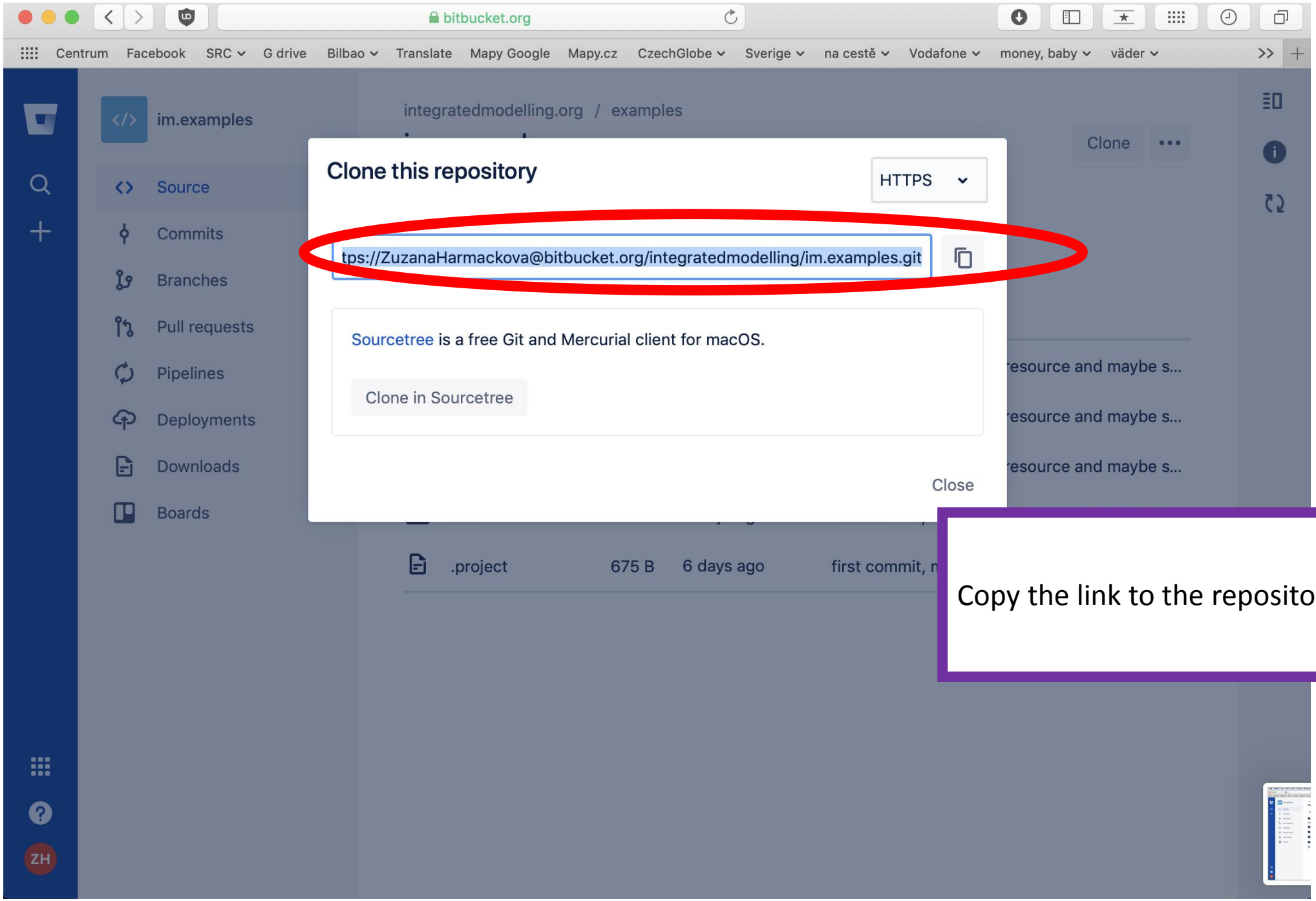
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Mapy.cz
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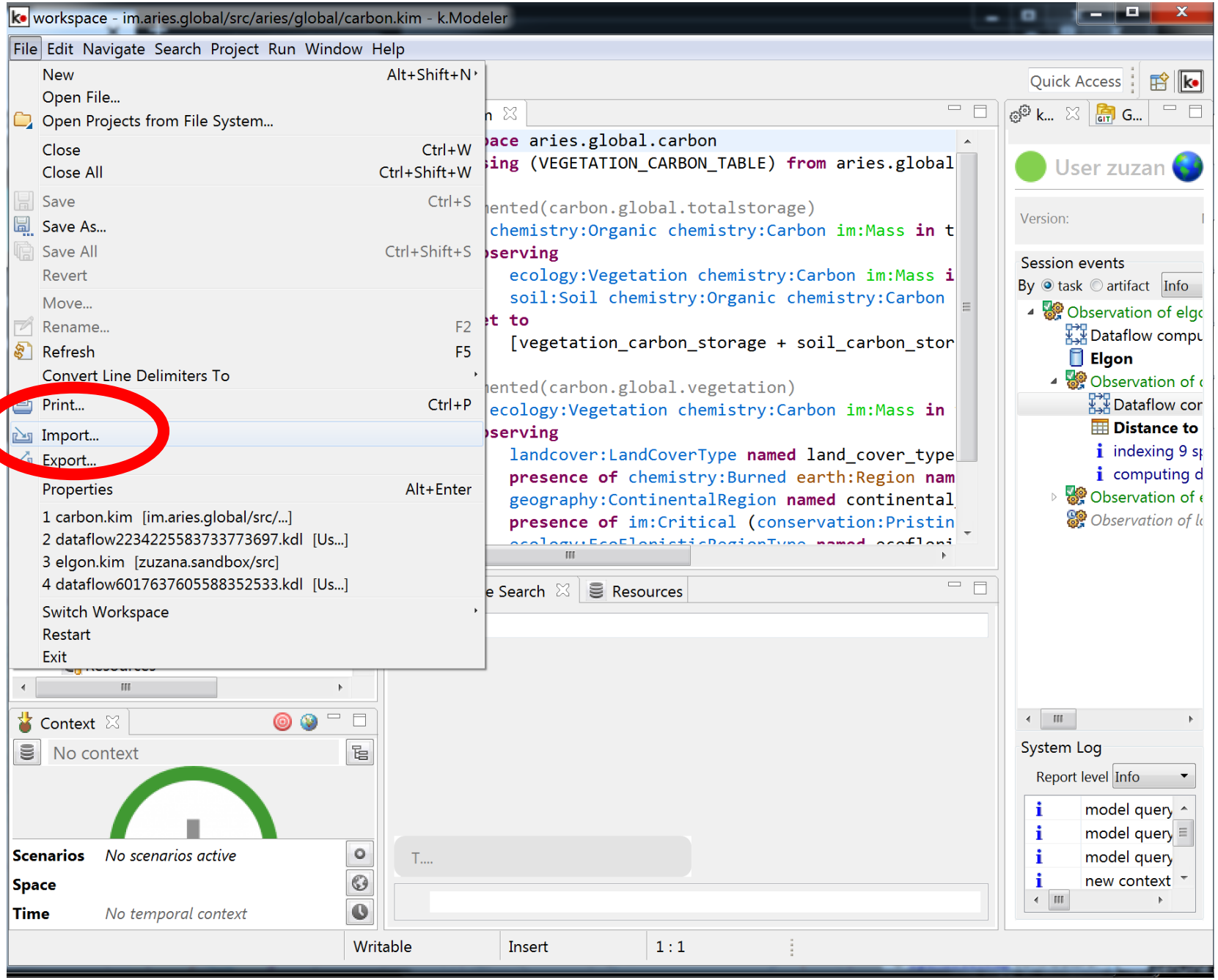
Sverige
na cestě
Vodafone
money, baby
väder
im.examples
integratedmodelling.org / examples
Clone
Source
Commits
Branches
Pull requests
Pipelines
Deployments
Downloads
Boards
Clone this repository
HTTPS
tps://ZuzanaHarmackova@bitbucket.org/integratedmodelling/im.examples.git
Sourcetree is a free Git and Mercurial client for macOS.
Clone in Sourcetree
Close
.project
675 B
6 days ago
first commit,
ZH
Copy the link to the repository


workspace - im.aries.global/src/aries/global/carbon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
New Alt+Shift+N
Open File...
Open Projects from File System...
Close Ctrl+W
Close All Ctrl+Shift+W
Save Ctrl+S
Save As...
Save All Ctrl+Shift+S
Revert
Move...
Rename... F2
Refresh F5
Convert Line Delimiters To
Print... Ctrl+P
Import...
Export...
Properties Alt+Enter
1 carbon.kim [im.aries.global/src/...]
2 dataflow2234225583733773697.kdl [Us...]
3 elgon.kim [zuzana.sandbox/src]
4 dataflow6017637605588352533.kdl [Us...]
Switch Workspace
Restart
Exit
Quick Access
ace aries.global.carbon
sing (VEGETATION_CARBON_TABLE) from aries.global
nented(carbon.global.totalstorage)
chemistry:Organic chemistry:Carbon im:Mass in t
serving
ecology:Vegetation chemistry:Carbon im:Mass i
soil:Soil chemistry:Organic chemistry:Carbon
t to
[vegetation_carbon_storage + soil_carbon_stor
nented(carbon.global.vegetation)
ecology:Vegetation chemistry:Carbon im:Mass in
serving
landcover:LandCoverType named land_cover_type
presence of chemistry:Burned earth:Region nam
geography:ContinentalRegion named continental
presence of im:Critical (conservation:Pristin
Search
Resources
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
User zuzan
Version:
Session events
By task artifact Info
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System Log
Report level Info
model query
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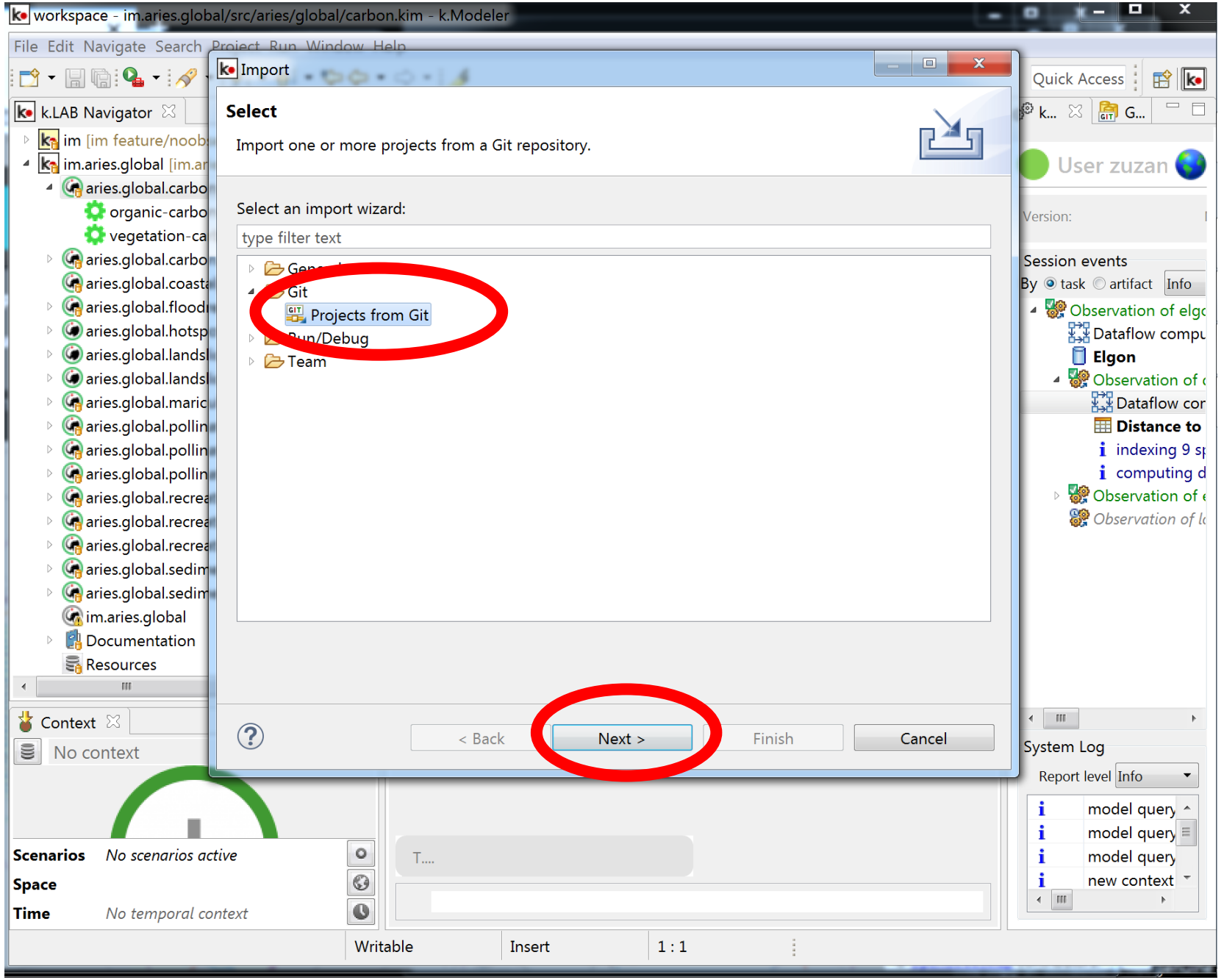
workspace - im.aries.global/src/aries/global/carbon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Import
Select
Import one or more projects from a Git repository.
Select an import wizard:
type filter text
Git
Projects from Git
Run/Debug
Team
< Back
Next >
Finish
Cancel
k.LAB Navigator
Context
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Scenarios No scenarios active
Space
Time No temporal context
Quick Access
User zuzan
Session events
By task artifact Info
Observation of elgo
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System Log
Report level Info
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new context
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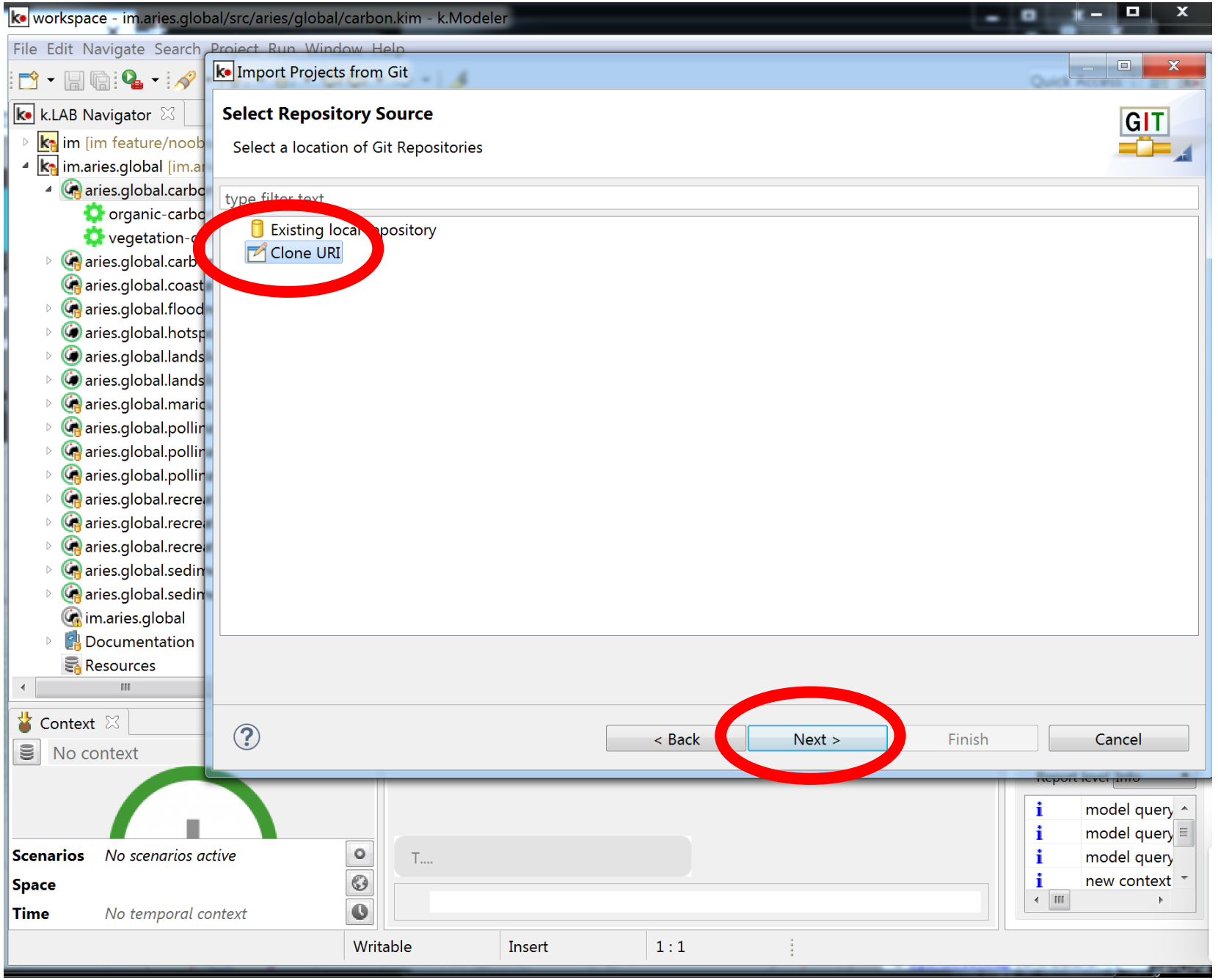
workspace - im.aries.global/src/aries/global/carbon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
k.LAB Navigator
Import Projects from Git
Select Repository Source
Select a location of Git Repositories
GIT
type filter text
Existing local repository
Clone URI
< Back
Next >
Finish
Cancel
Context
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Scenarios No scenarios active
Space
Time No temporal context
model query
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new context
Writable
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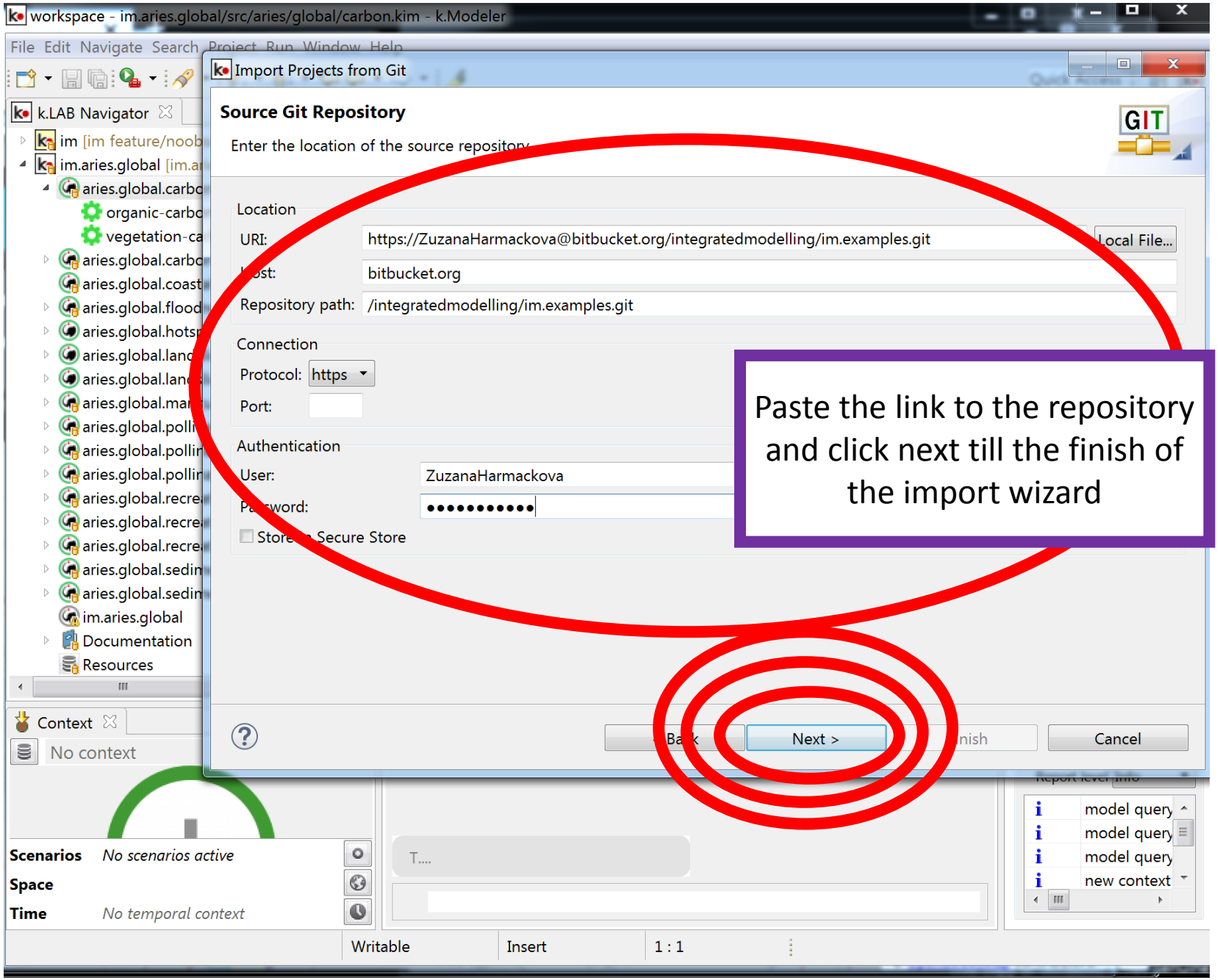
workspace - im.aries.global/src/aries/global/carbon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
k.LAB Navigator
Import Projects from Git
Source Git Repository
Enter the location of the source repository
GIT
Location
URI: https://ZuzanaHarmackova@bitbucket.org/integratedmodelling/im.examples.git
Local File...
bitbucket.org
Repository path: /integratedmodelling/im.examples.git
Connection
Protocol: https
Port:
Authentication
User: ZuzanaHarmackova
Secure Store
Paste the link to the repository and click next till the finish of the import wizard
Next >
Cancel
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Scenarios No scenarios active
Space
Time No temporal context
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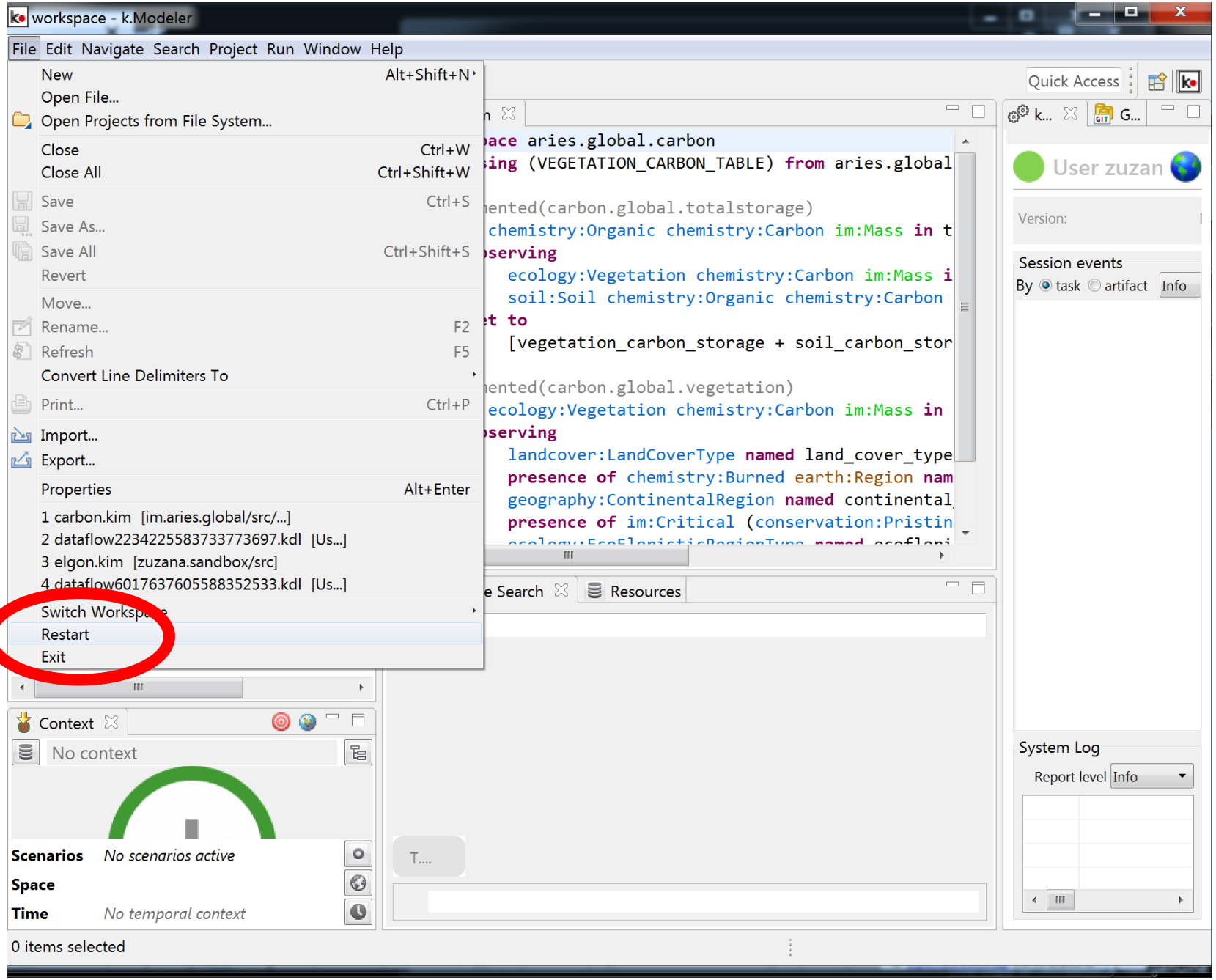
Insert
1 : 1


workspace - k.Modeler
File Edit Navigate Search Project Run Window Help
New Alt+Shift+N
Open File...
Open Projects from File System...
Close Ctrl+W
Close All Ctrl+Shift+W
Save Ctrl+S
Save As...
Save All Ctrl+Shift+S
Revert
Move...
Rename... F2
Refresh F5
Convert Line Delimiters To
Print... Ctrl+P
Import...
Export...
Properties Alt+Enter
1 carbon.kim [im.aries.global/src/...]
2 dataflow2234225583733773697.kdl [Us...]
3 elgon.kim [zuzana.sandbox/src]
4 dataflow6017637605588352533.kdl [Us...]
Switch Workspace
Restart
Exit
Quick Access
ace aries.global.carbon
sing (VEGETATION_CARBON_TABLE) from aries.global
nented(carbon.global.totalstorage)
chemistry:Organic chemistry:Carbon im:Mass in t
serving
ecology:Vegetation chemistry:Carbon im:Mass i
soil:Soil chemistry:Organic chemistry:Carbon
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[vegetation_carbon_storage + soil_carbon_stor
nented(carbon.global.vegetation)
ecology:Vegetation chemistry:Carbon im:Mass in
serving
landcover:LandCoverType named land_cover_type
presence of chemistry:Burned earth:Region nam
geography:ContinentalRegion named continental
presence of im:Critical (conservation:Pristin
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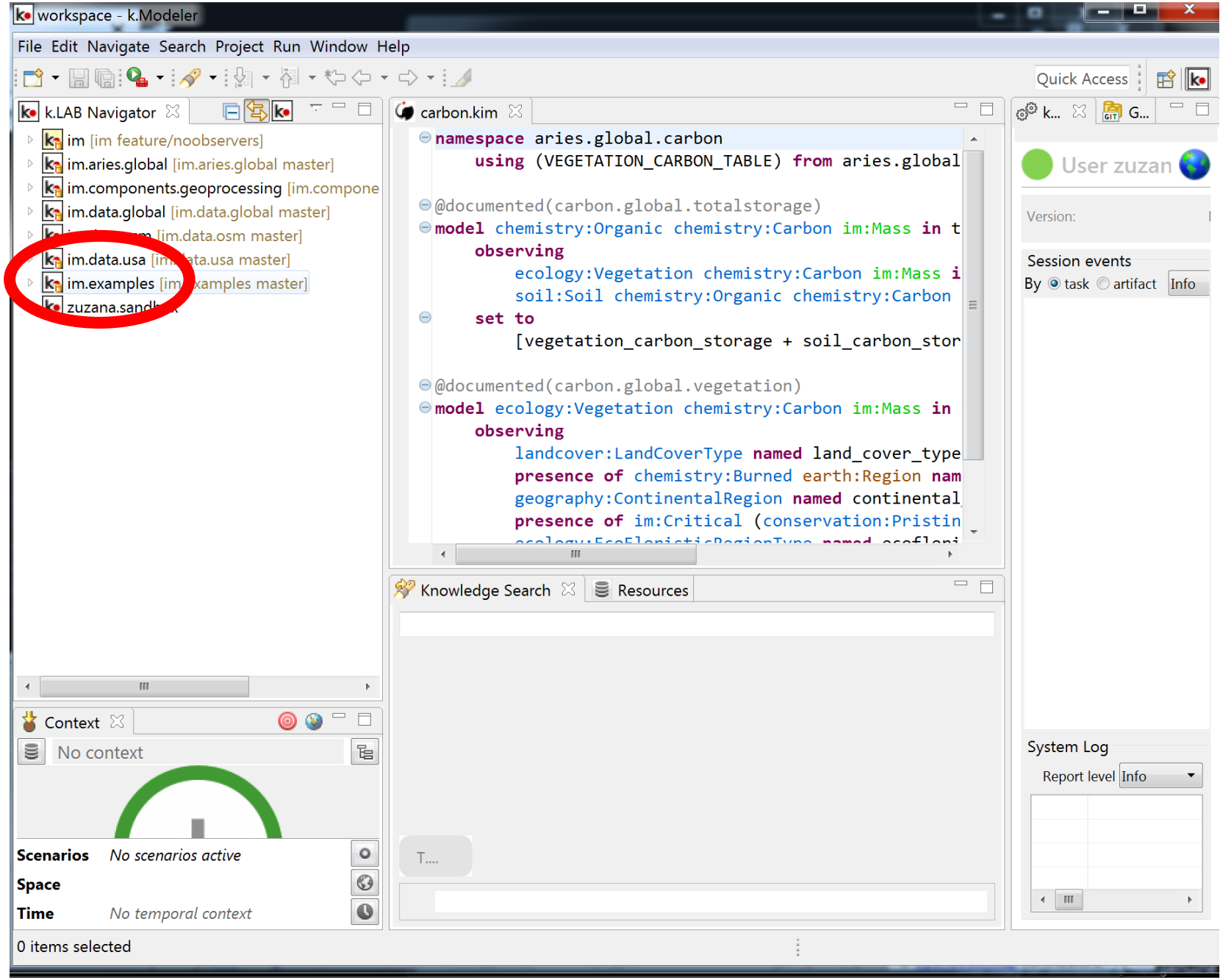
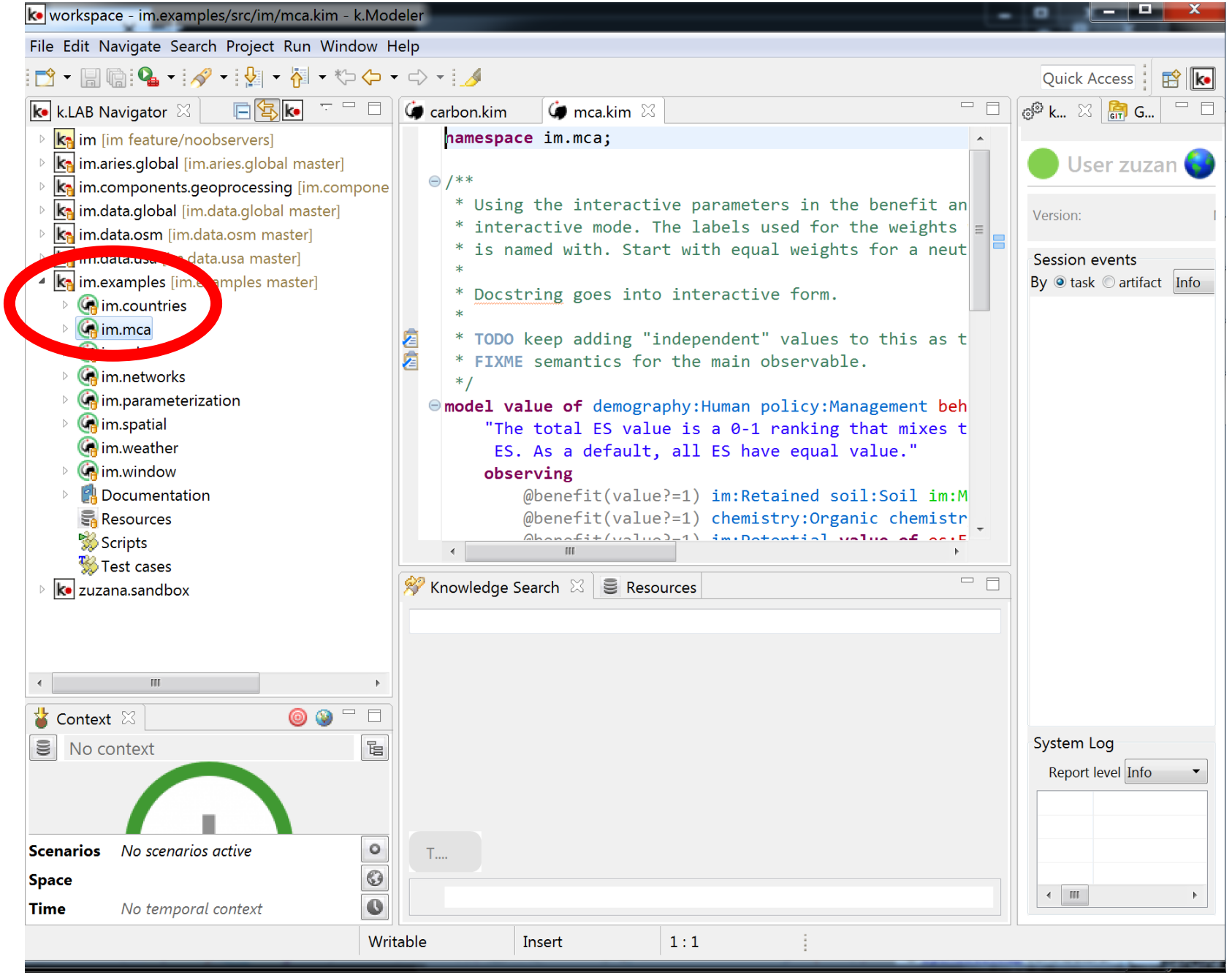
Scenarios No scenarios active
Space
Time No temporal context
User zuzan
Version:
Session events
By task artifact Info
System Log
Report level Info
0 items selected


workspace - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.compone
im.data.global [im.data.global master]
im.data.osm master]
im.data.usa
im.examples
zuzana.sandb
carbon.kim
namespace aries.global.carbon
using (VEGETATION_CARBON_TABLE) from aries.global
@documented(carbon.global.totalstorage)
model chemistry:Organic chemistry:Carbon im:Mass in t
observing
ecology:Vegetation chemistry:Carbon im:Mass i
soil:Soil chemistry:Organic chemistry:Carbon
set to
[vegetation_carbon_storage + soil_carbon_stor
@documented(carbon.global.vegetation)
model ecology:Vegetation chemistry:Carbon im:Mass in
observing
landcover:LandCoverType named land_cover_type
presence of chemistry:Burned earth:Region nam
geography:ContinentalRegion named continental
presence of im:Critical (conservation:Pristin
Knowledge Search
Resources
User zuzan
Version:
Session events
By task artifact
Info
System Log
Report level
Info
Context
No context
Scenarios
No scenarios active
Space
Time
No temporal context
0 items selected


workspace - im.examples/src/im/mca.kim - k.Modeler
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k.LAB Navigator
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im.examples [im.examples master]
im.countries
im.mca
im.networks
im.parameterization
im.spatial
im.weather
im.window
Documentation
Resources
Scripts
Test cases
zuzana.sandbox
carbon.kim
mca.kim
namespace im.mca;
/**
* Using the interactive parameters in the benefit an
* interactive mode. The labels used for the weights
* is named with. Start with equal weights for a neut
*
* Docstring goes into interactive form.
*
* TODO keep adding "independent" values to this as t
* FIXME semantics for the main observable.
*/
model value of demography:Human policy:Management beh
"The total ES value is a 0-1 ranking that mixes t
ES. As a default, all ES have equal value."
observing
@benefit(value?=1) im:Retained soil:Soil im:M
@benefit(value?=1) chemistry:Organic chemistr
Knowledge Search
Resources
User zuzan
Version:
Session events
By task artifact Info
System Log
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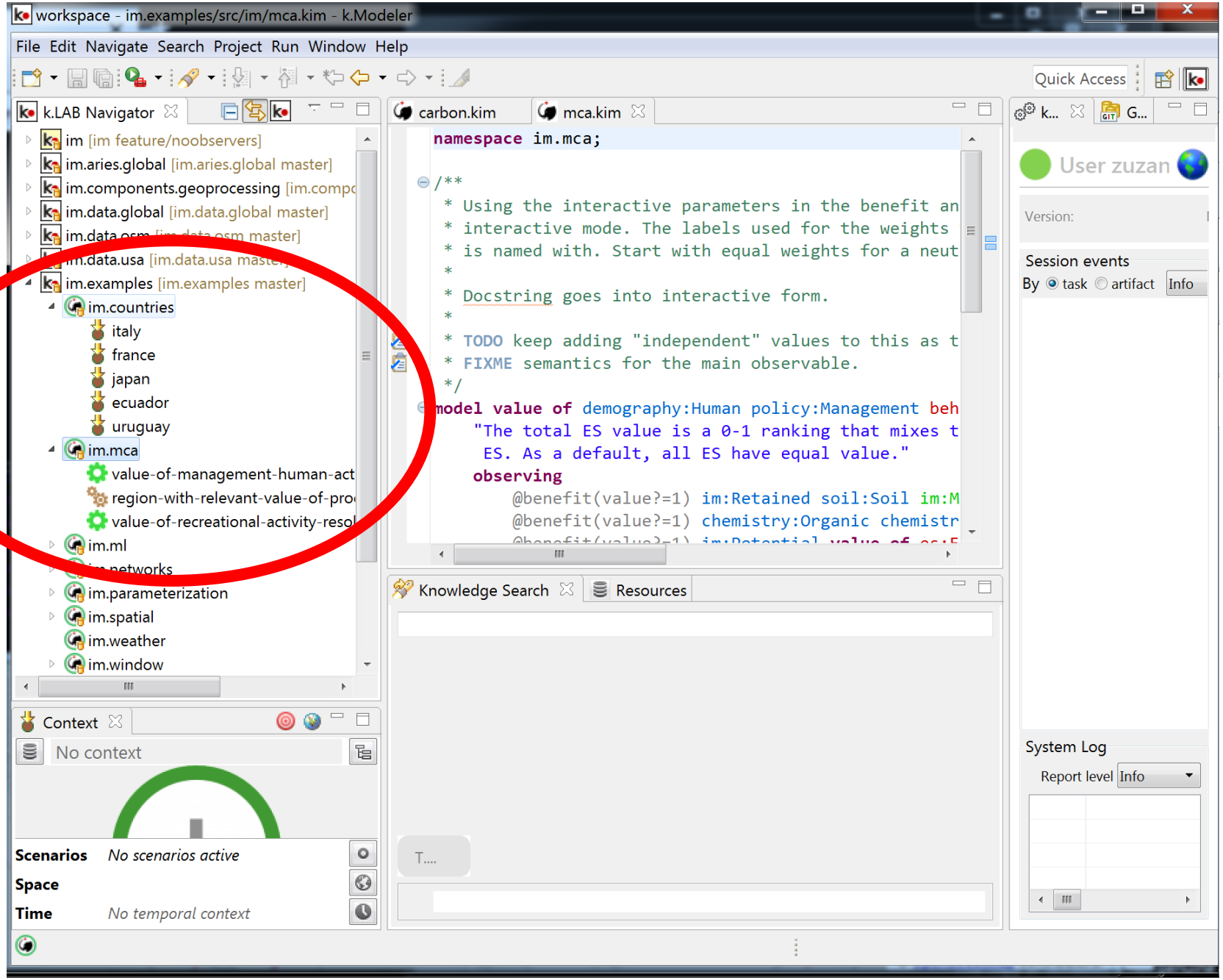
workspace - im.examples/src/im/mca.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
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im.countries
italy
france
japan
ecuador
uruguay
im.mca
value-of-management-human-act
region-with-relevant-value-of-pro
value-of-recreational-activity-resol
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im.networks
im.parameterization
im.spatial
im.weather
im.window
carbon.kim
mca.kim
namespace im.mca;
/**
* Using the interactive parameters in the benefit an
* interactive mode. The labels used for the weights
* is named with. Start with equal weights for a neut
*
* Docstring goes into interactive form.
*
* TODO keep adding "independent" values to this as t
* FIXME semantics for the main observable.
*/
model value of demography:Human policy:Management beh
"The total ES value is a 0-1 ranking that mixes t
ES. As a default, all ES have equal value."
observing
@benefit(value?=1) im:Retained soil:Soil im:M
@benefit(value?=1) chemistry:Organic chemistr
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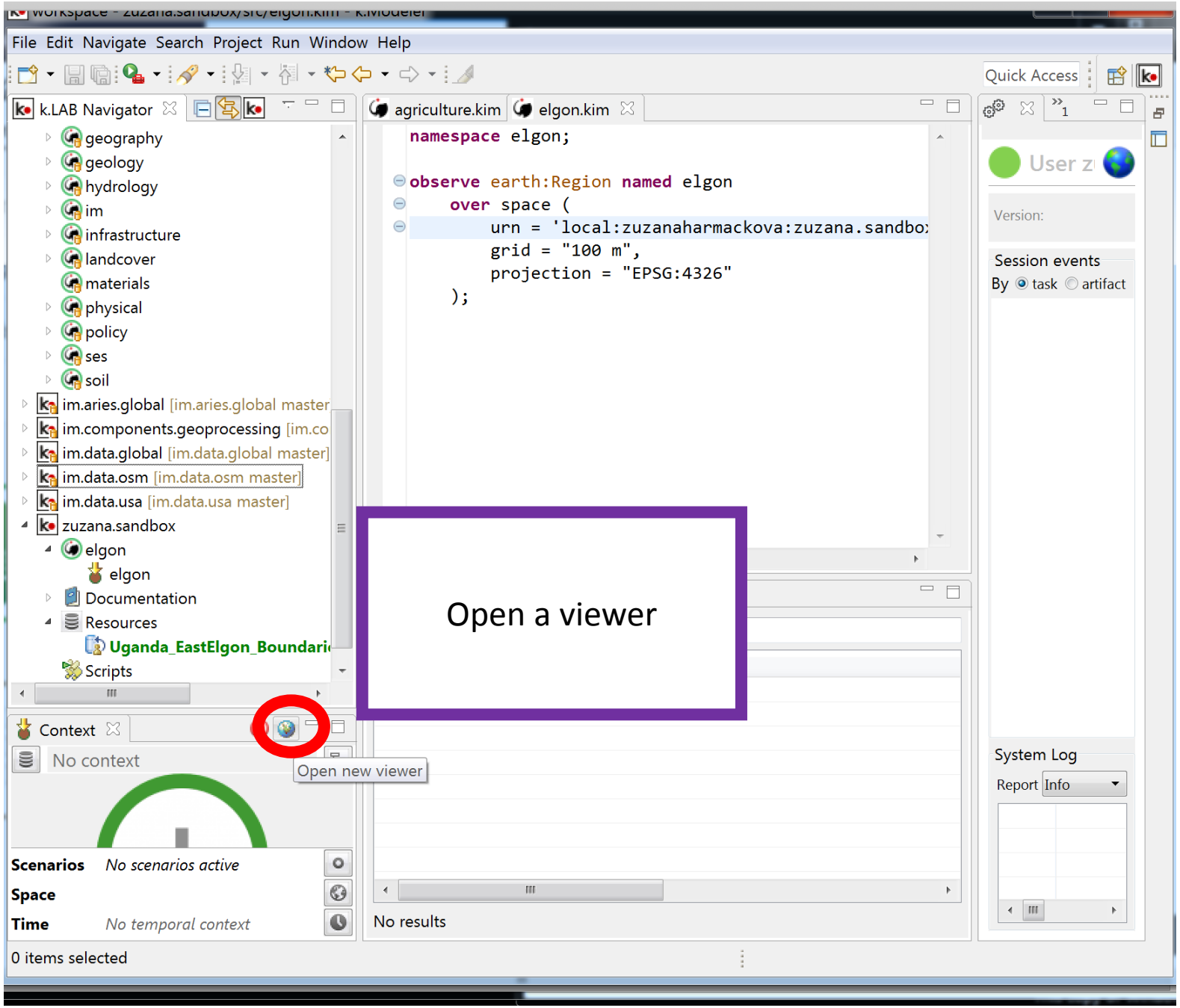
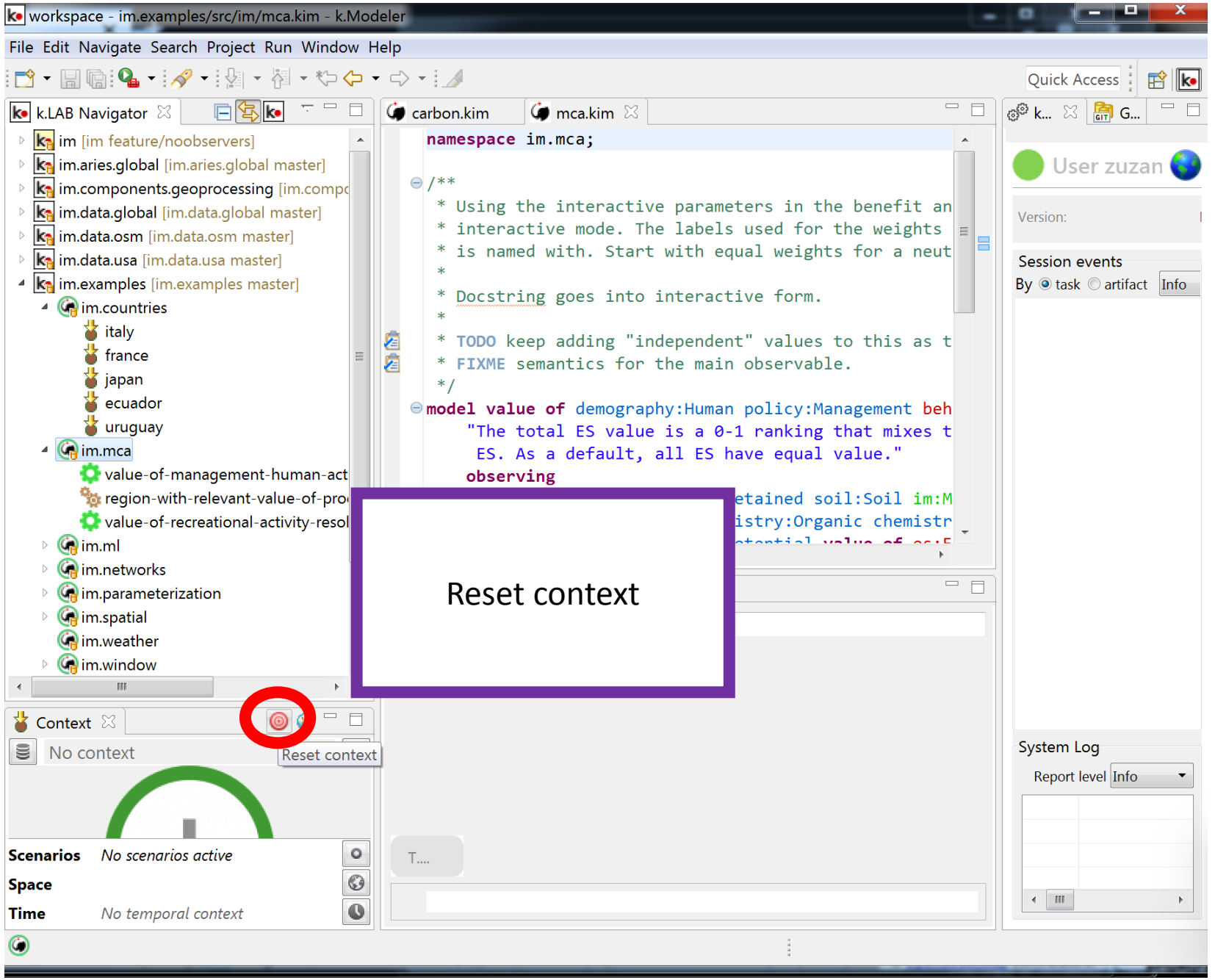
Scenarios No scenarios active
Space
Time No temporal context
User zuzan
Version:
Session events
By task artifact Info
System Log
Report level Info


File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
geography
geology
hydrology
im
infrastructure
landcover
materials
physical
policy
ses
soil
im.aries.global [im.aries.global master
im.components.geoprocessing [im.co
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
zuzana.sandbox
elgon
elgon
Documentation
Resources
Uganda_EastElgon_Boundari
Scripts
agriculture.kim
elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = 'local:zuzanaharmackova:zuzana.sandbo
grid = "100 m",
projection = "EPSG:4326"
);
Open a viewer
Context
No context
Open new viewer
Scenarios No scenarios active
Space
Time No temporal context
No results
0 items selected
Version:
Session events
By task artifact
System Log
Report Info


workspace - im.examples/src/im/mca.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
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im.data.usa [im.data.usa master]
im.examples [im.examples master]
im.countries
italy
france
japan
ecuador
uruguay
im.mca
value-of-management-human-act
region-with-relevant-value-of-pro
value-of-recreational-activity-resol
im.ml
im.networks
im.parameterization
im.spatial
im.weather
im.window
carbon.kim
mca.kim
namespace im.mca;
/**
* Using the interactive parameters in the benefit an
* interactive mode. The labels used for the weights
* is named with. Start with equal weights for a neut
*
* Docstring goes into interactive form.
*
* TODO keep adding "independent" values to this as t
* FIXME semantics for the main observable.
*/
model value of demography:Human policy:Management beh
"The total ES value is a 0-1 ranking that mixes t
ES. As a default, all ES have equal value."
observing
etained soil:Soil im:M
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Reset context
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Reset context
Scenarios No scenarios active
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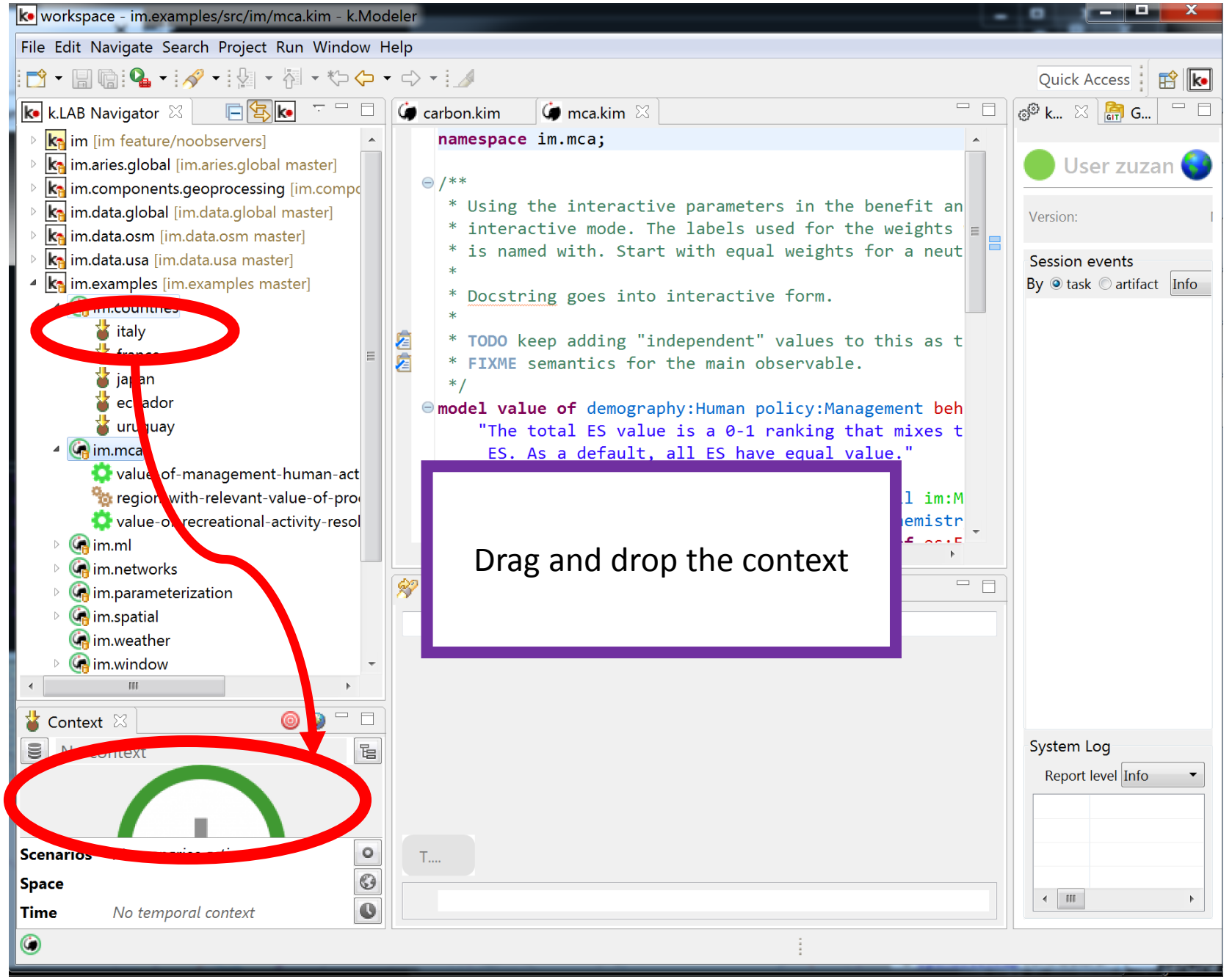
Time No temporal context
User zuzan
Version:
Session events
By task artifact Info
System Log
Report level Info


workspace - im.examples/src/im/mca.kim - k.Modeler
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im.networks
im.parameterization
im.spatial
im.weather
im.window
Context
Scenarios
Space
Time
No temporal context
carbon.kim
mca.kim
namespace im.mca;
/**
* Using the interactive parameters in the benefit an
* interactive mode. The labels used for the weights
* is named with. Start with equal weights for a neut
*
* Docstring goes into interactive form.
*
* TODO keep adding "independent" values to this as t
* FIXME semantics for the main observable.
*/
model value of demography:Human policy:Management beh
"The total ES value is a 0-1 ranking that mixes t
ES. As a default, all ES have equal value."
Drag and drop the context
User zuzan
Version:
Session events
By task artifact
Info
System Log
Report level
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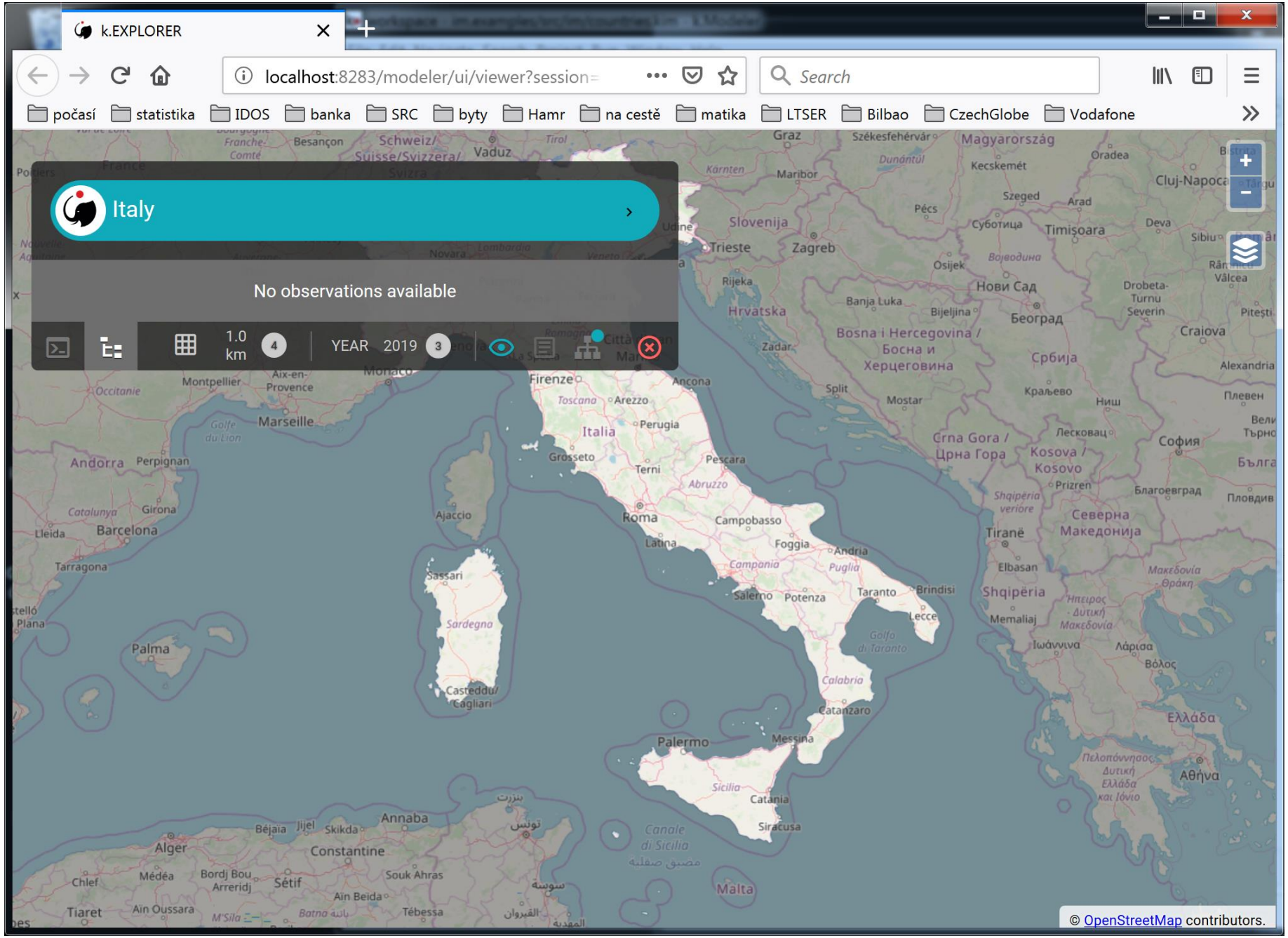
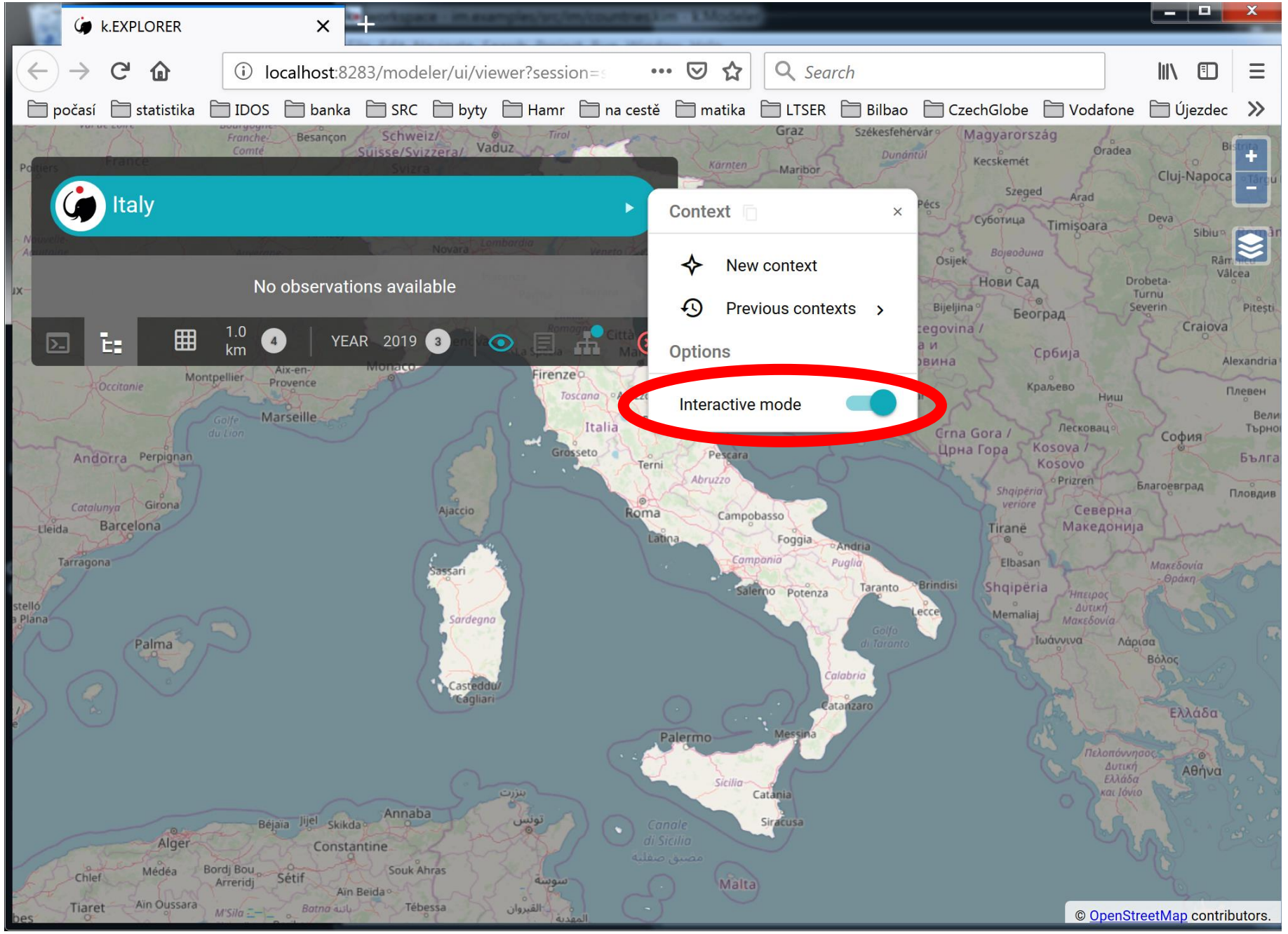

k.EXPLORER
localhost:8283/modeler/ui/viewer?session=
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Italy
No observations available
1.0 km
4
YEAR 2019
3
© OpenStreetMap contributors.


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=
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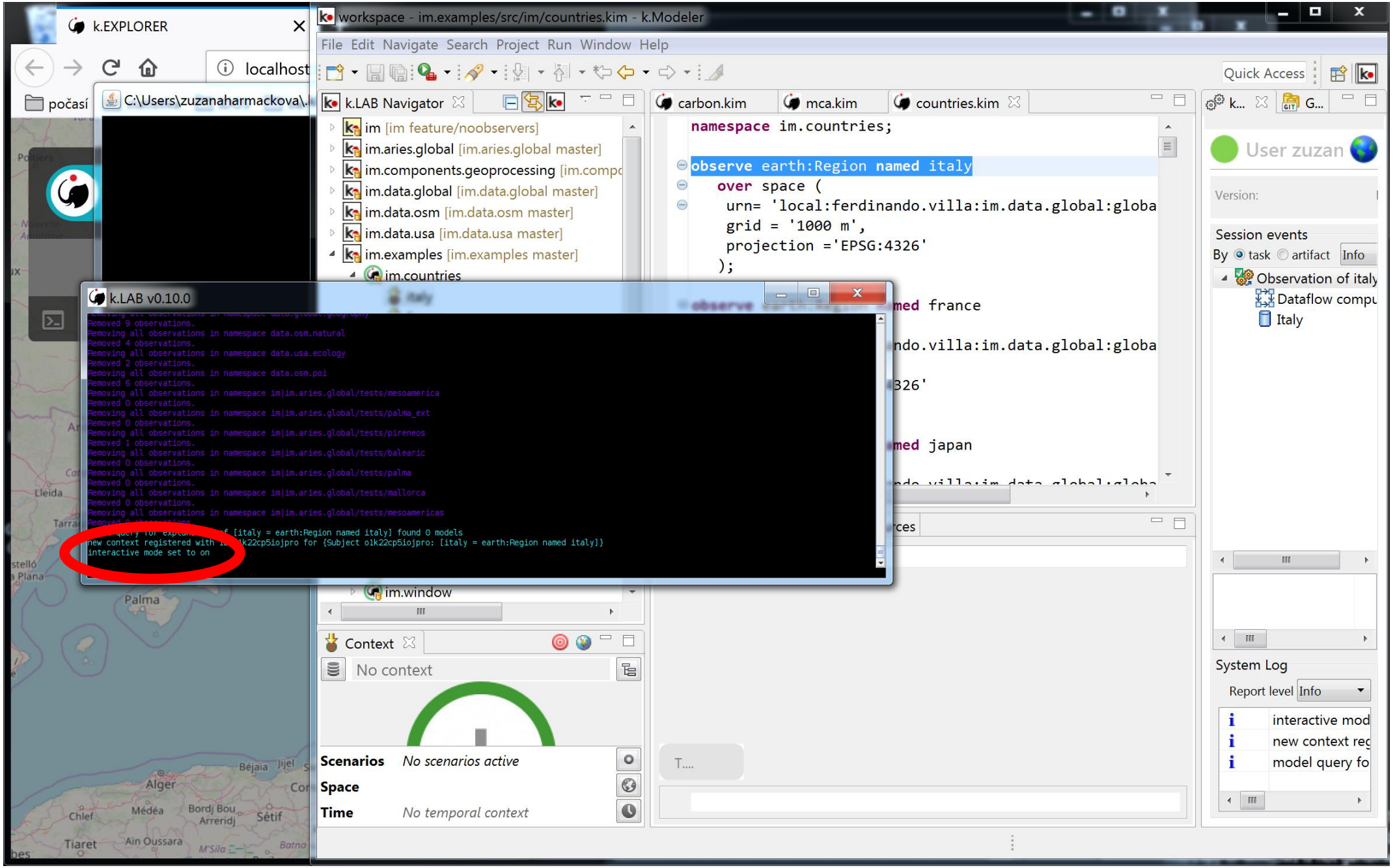
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
Italy
No observations available
1.0 km
4
YEAR 2019
3
Context
New context
Previous contexts
Options
Interactive mode
© OpenStreetMap contributors.


k.EXPLORER
localhost
počasí
C:\Users\zuzanaharmackova\
workspace - im.examples/src/im/countries.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.compo
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
im.countries
im.window
carbon.kim
mca.kim
countries.kim
namespace im.countries;
observe earth:Region named italy
over space (
urn= 'local:ferdinando.villa:im.data.global:globa
grid = '1000 m',
projection ='EPSG:4326'
);
med france
med japan
k.LAB v0.10.0
Removed 9 observations.
Removing all observations in namespace data.osm.natural
Removed 4 observations.
Removing all observations in namespace data.usa.ecology
Removed 2 observations.
Removing all observations in namespace data.osm.poi
Removed 6 observations.
Removing all observations in namespace im|im.aries.global/tests/mesoamerica
Removed 0 observations.
Removing all observations in namespace im|im.aries.global/tests/palma_ext
Removed 0 observations.
Removing all observations in namespace im|im.aries.global/tests/pireneos
Removed 1 observations.
Removing all observations in namespace im|im.aries.global/tests/balearic
Removed 0 observations.
Removing all observations in namespace im|im.aries.global/tests/palma
Removed 0 observations.
Removing all observations in namespace im|im.aries.global/tests/mallorca
Removed 0 observations.
Removing all observations in namespace im|im.aries.global/tests/mesoamericas
[italy = earth:Region named italy] found 0 models
new context registered with
interactive mode set to on
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
User zuzan
Version:
Session events
By task artifact Info
Observation of italy
Dataflow compu
Italy
System Log
Report level Info
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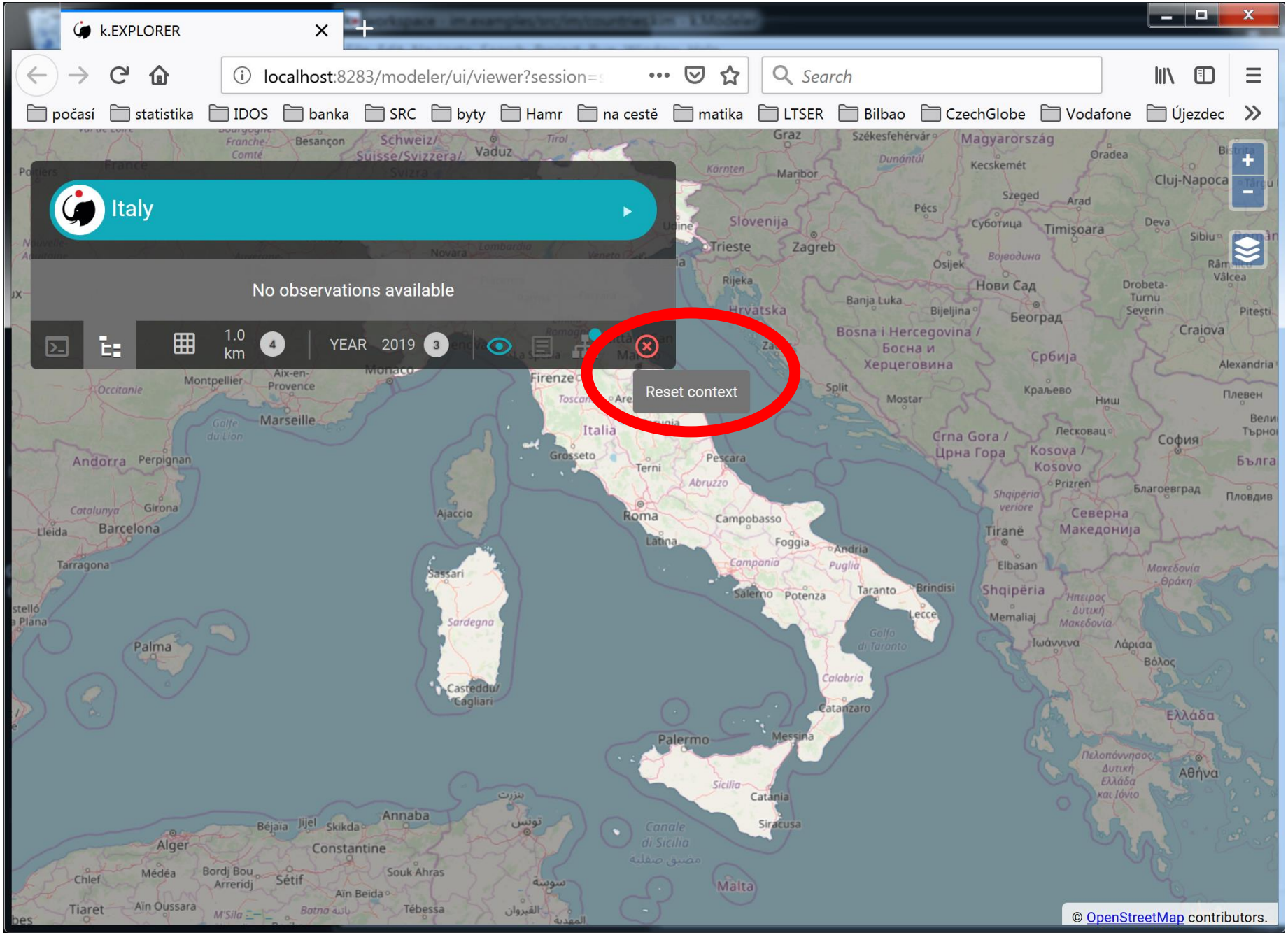
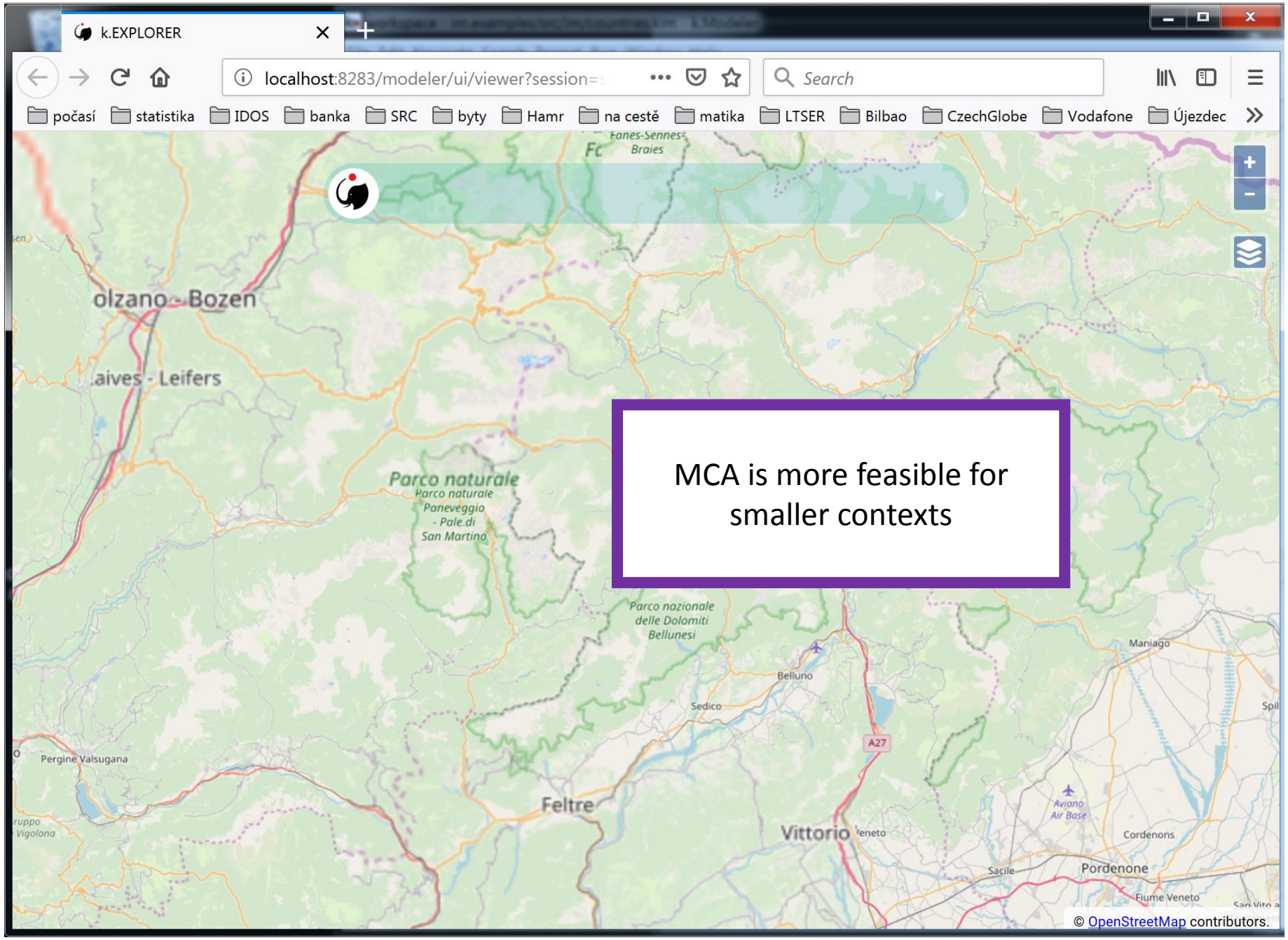
new context reg
model query fo
Palma
Lleida
Alger
Béjaia
Médéa
Sétif
Tiaret
Ain Oussara


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
Italy
No observations available
1.0 km
4
YEAR 2019
3
Reset context
© OpenStreetMap contributors.


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
olzano - Bozen
aives - Leifers
Parco naturale
Parco naturale Paneveggio - Pale di San Martino
Parco nazionale delle Dolomiti Bellunesi
Belluno
Sedico
Pergine Valsugana
Feltre
Vittorio Veneto
Maniago
A27
Aviano Air Base
Cordenons
Pordenone
Sacile
Fiume Veneto
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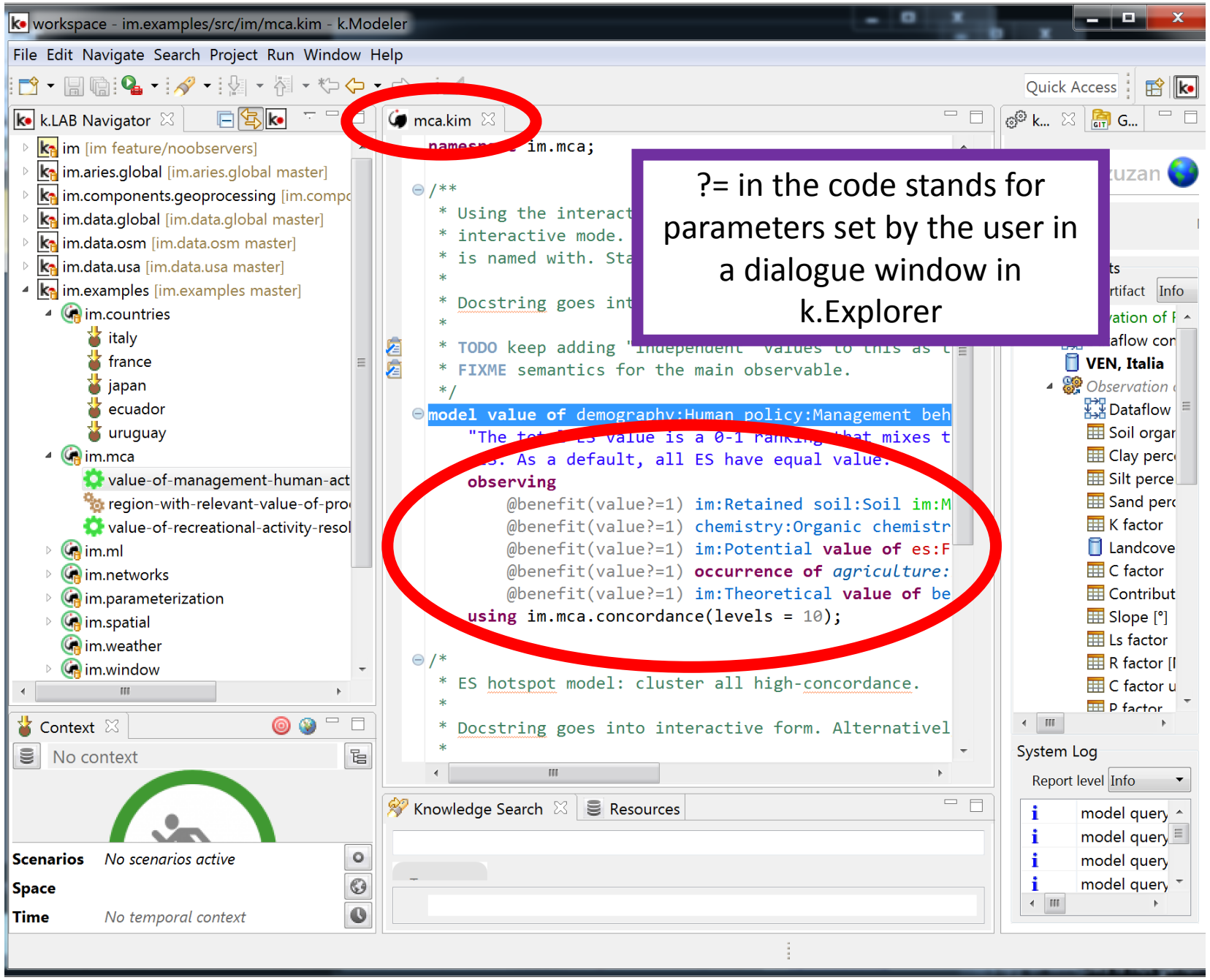
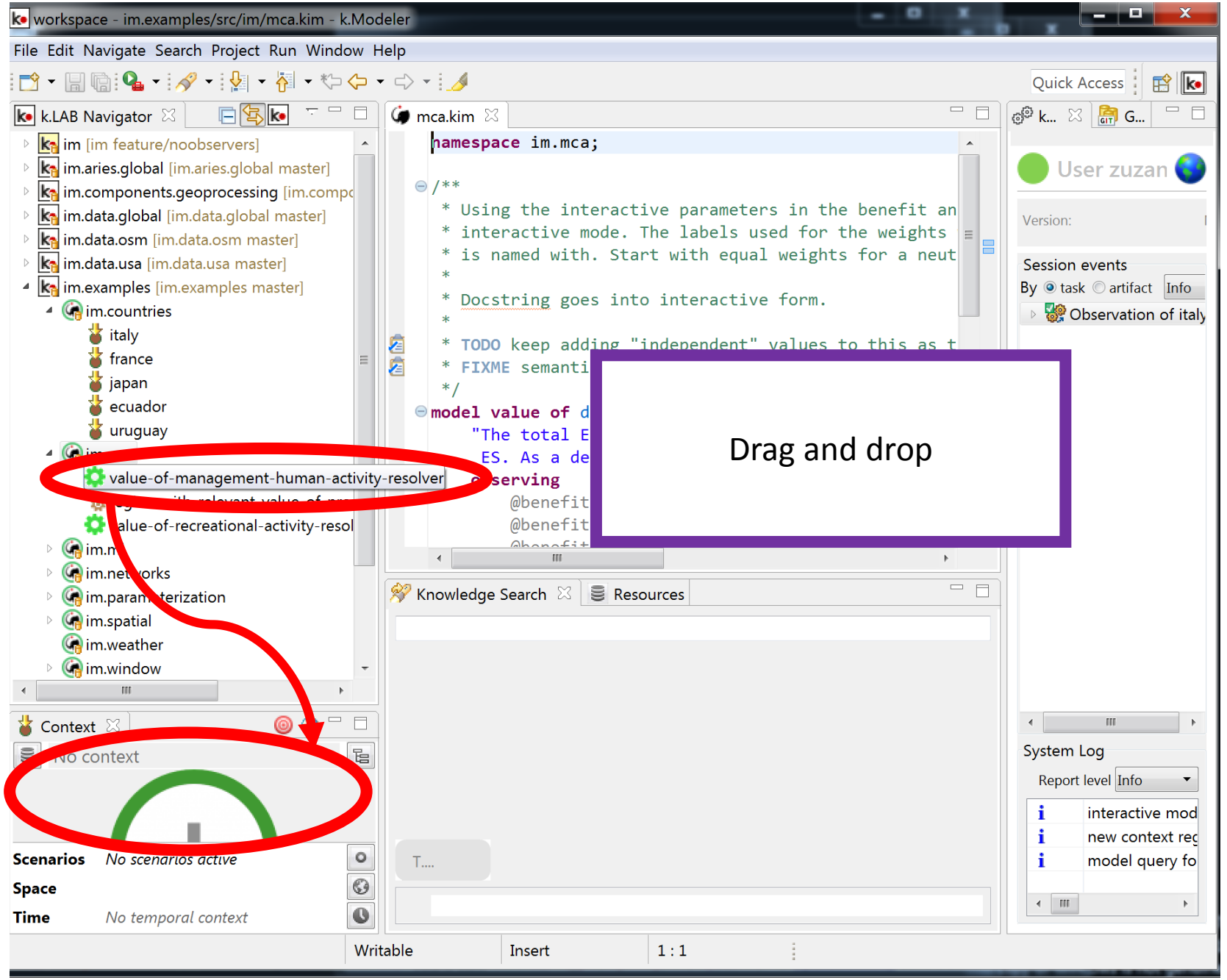
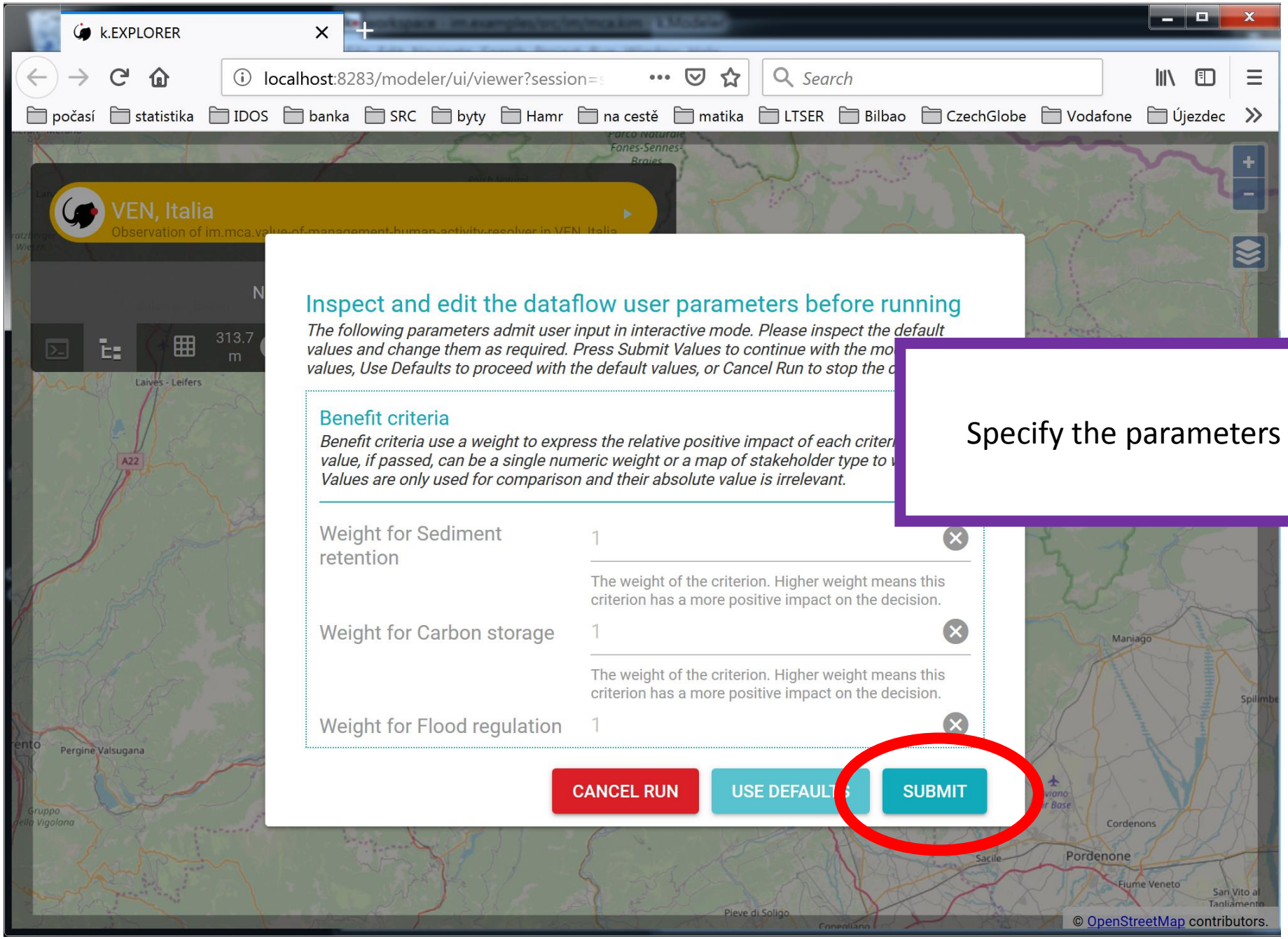
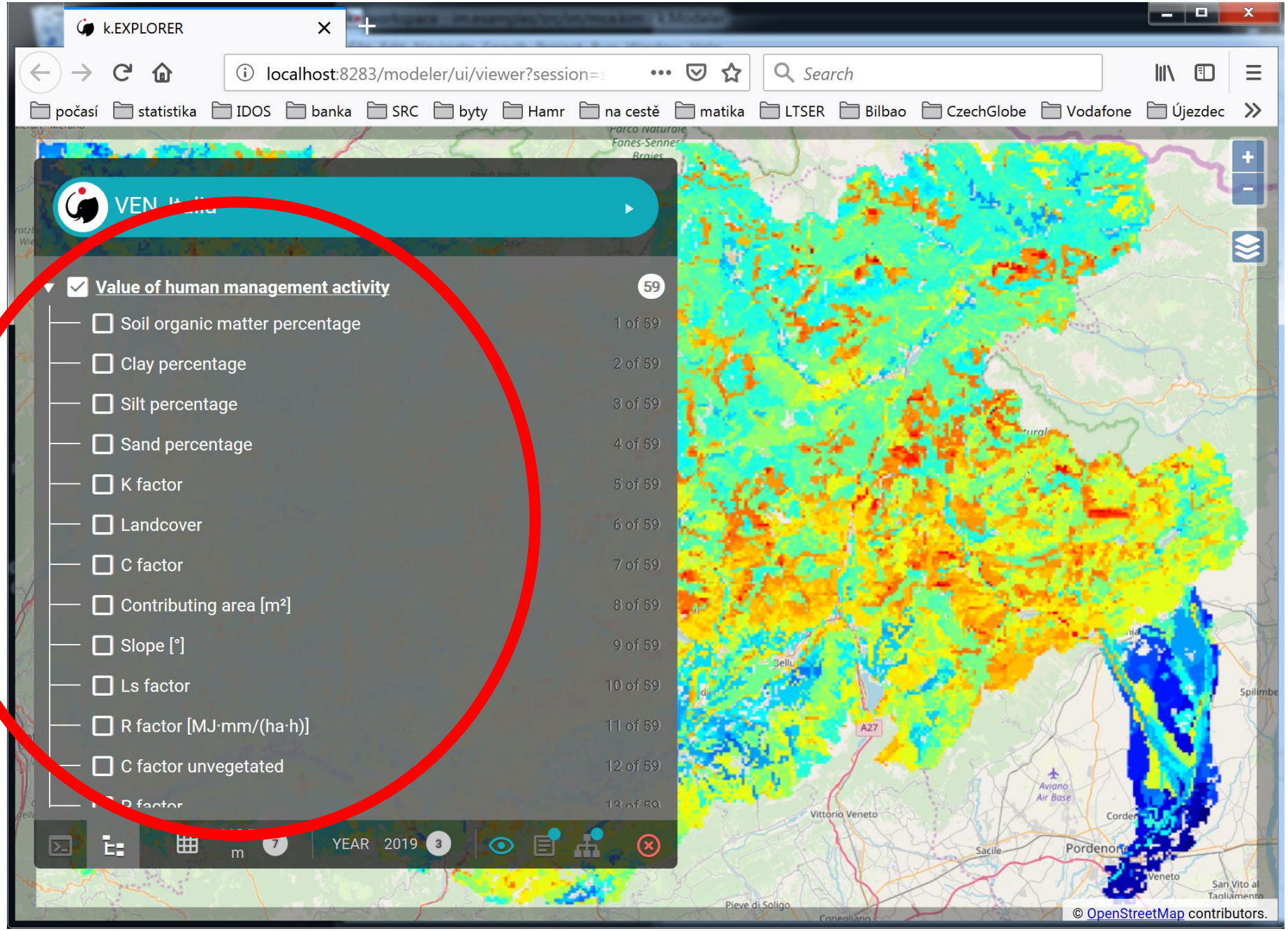
MCA is more feasible for smaller contexts

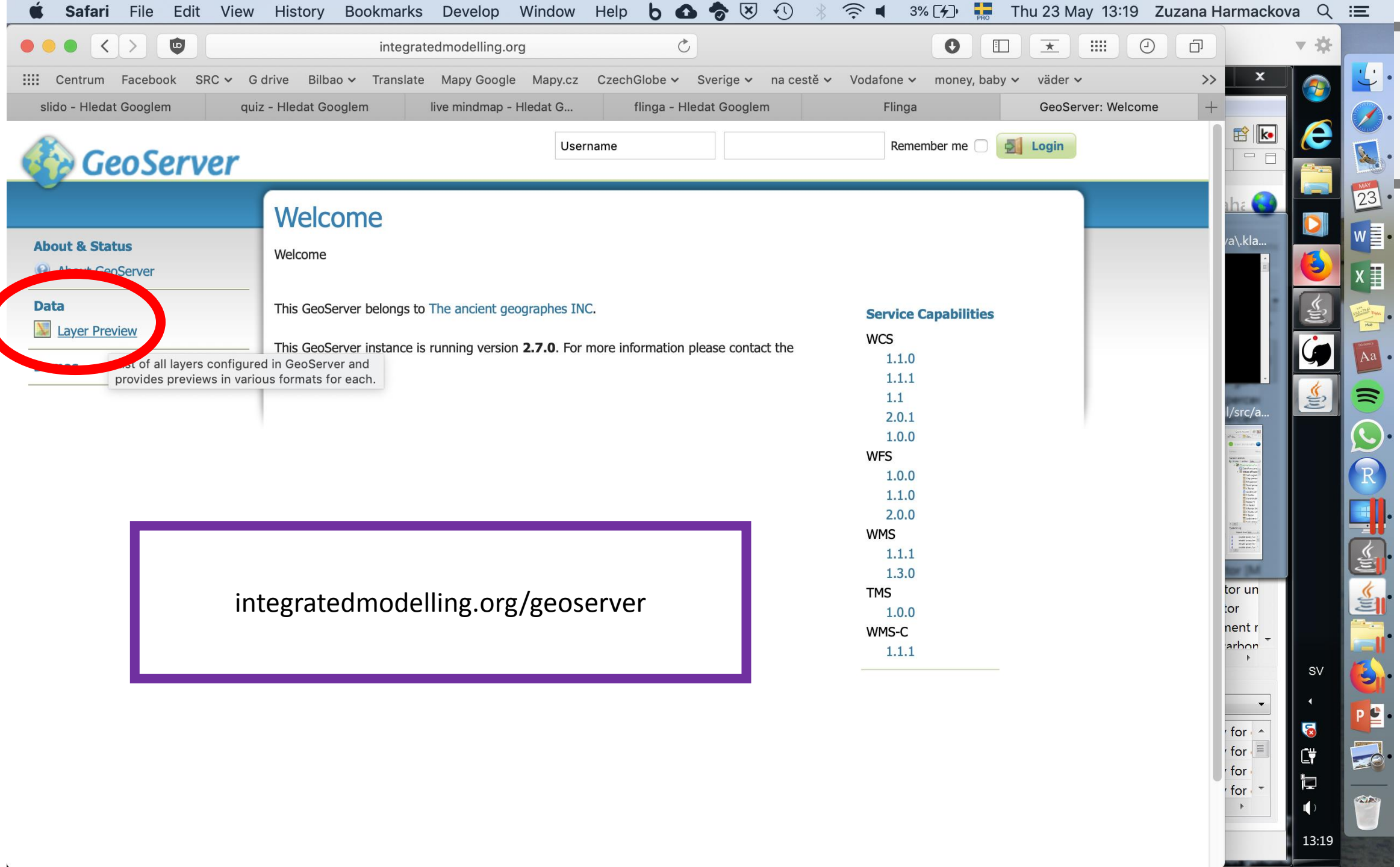

workspace - im.examples/src/im/mca.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.compo
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
im.countries
italy
france
japan
ecuador
uruguay
im.mca
value-of-management-human-act
region-with-relevant-value-of-pro
value-of-recreational-activity-resol
im.ml
im.networks
im.parameterization
im.spatial
im.weather
im.window
mca.kim
namespace im.mca;
/**
* Using the interact
* interactive mode.
* is named with. Sta
*
* Docstring goes int
*
* TODO keep adding "independent" values to this as t
* FIXME semantics for the main observable.
*/
model value of demography:Human policy:Management beh
"The tot ES value is a 0-1 ranking that mixes t
s. As a default, all ES have equal value.
observing
@benefit(value?=1) im:Retained soil:Soil im:M
@benefit(value?=1) chemistry:Organic chemistr
@benefit(value?=1) im:Potential value of es:F
@benefit(value?=1) occurrence of agriculture:
@benefit(value?=1) im:Theoretical value of be
using im.mca.concordance(levels = 10);
/*
* ES hotspot model: cluster all high-concordance.
*
* Docstring goes into interactive form. Alternativel
*
?= in the code stands for parameters set by the user in a dialogue window in k.Explorer
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Knowledge Search
Resources
VEN, Italia
Dataflow
Soil orgar
Clay perc
Silt perce
Sand perc
K factor
Landcove
C factor
Contribut
Slope [°]
Ls factor
R factor
C factor u
System Log
Report level Info
model query
model query
model query
model query

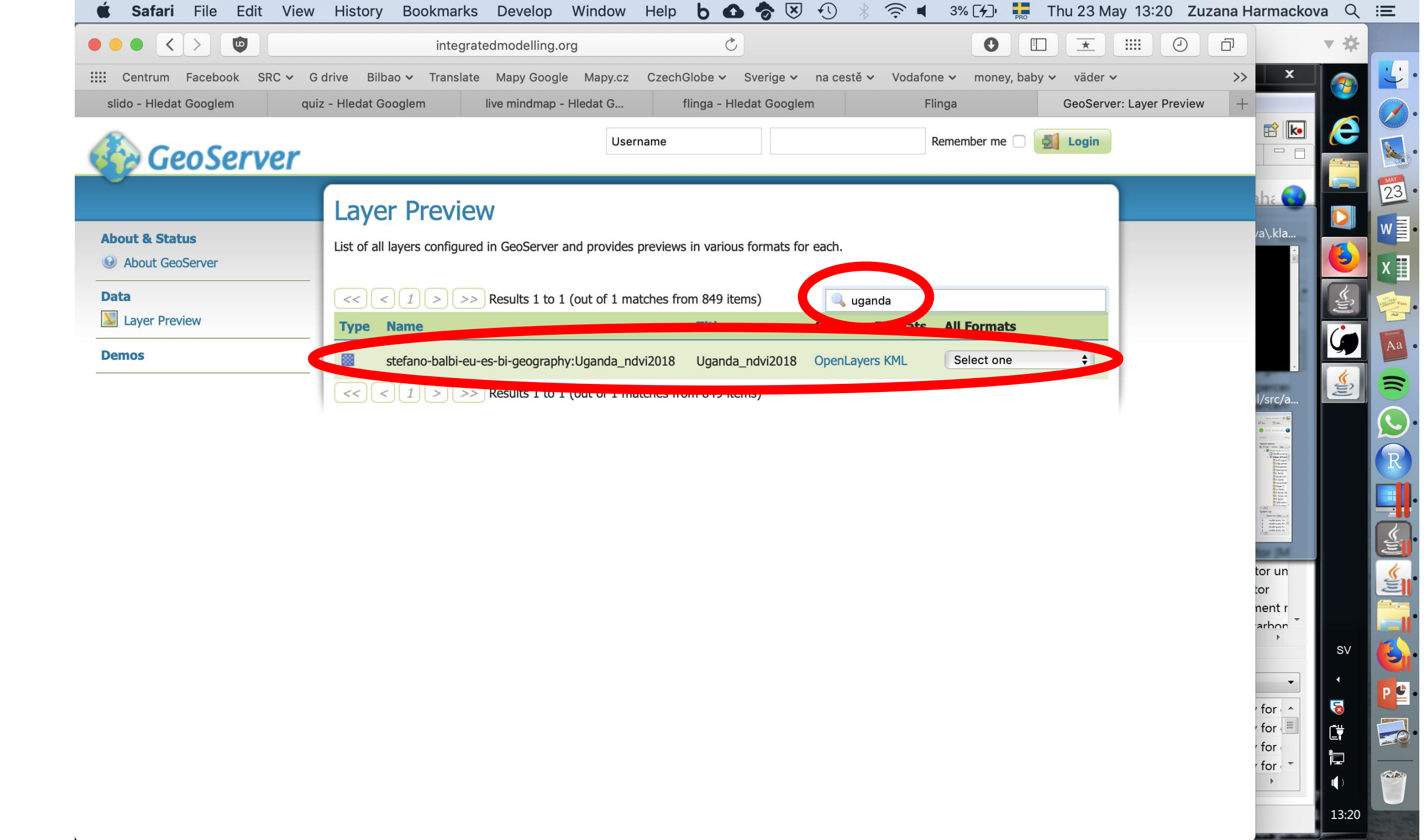

workspace - im.examples/src/im/mca.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.compo
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
im.countries
italy
france
japan
ecuador
uruguay
value-of-management-human-activity-resolver
im.spatial
im.weather
im.window
mca.kim
namespace im.mca;
/**
* Using the interactive parameters in the benefit an
* interactive mode. The labels used for the weights
* is named with. Start with equal weights for a neut
*
* Docstring goes into interactive form.
*
* TODO keep adding "independent" values to this as t
* FIXME semanti
*/
model value of d
"The total E
ES. As a de
serving
@benefit
@benefit
Drag and drop
Knowledge Search
Resources
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
User zuzan
Version:
Session events
By task artifact Info
Observation of italy
System Log
Report level Info
interactive mod
new context rec
model query fo
Writable
Insert
1 : 1

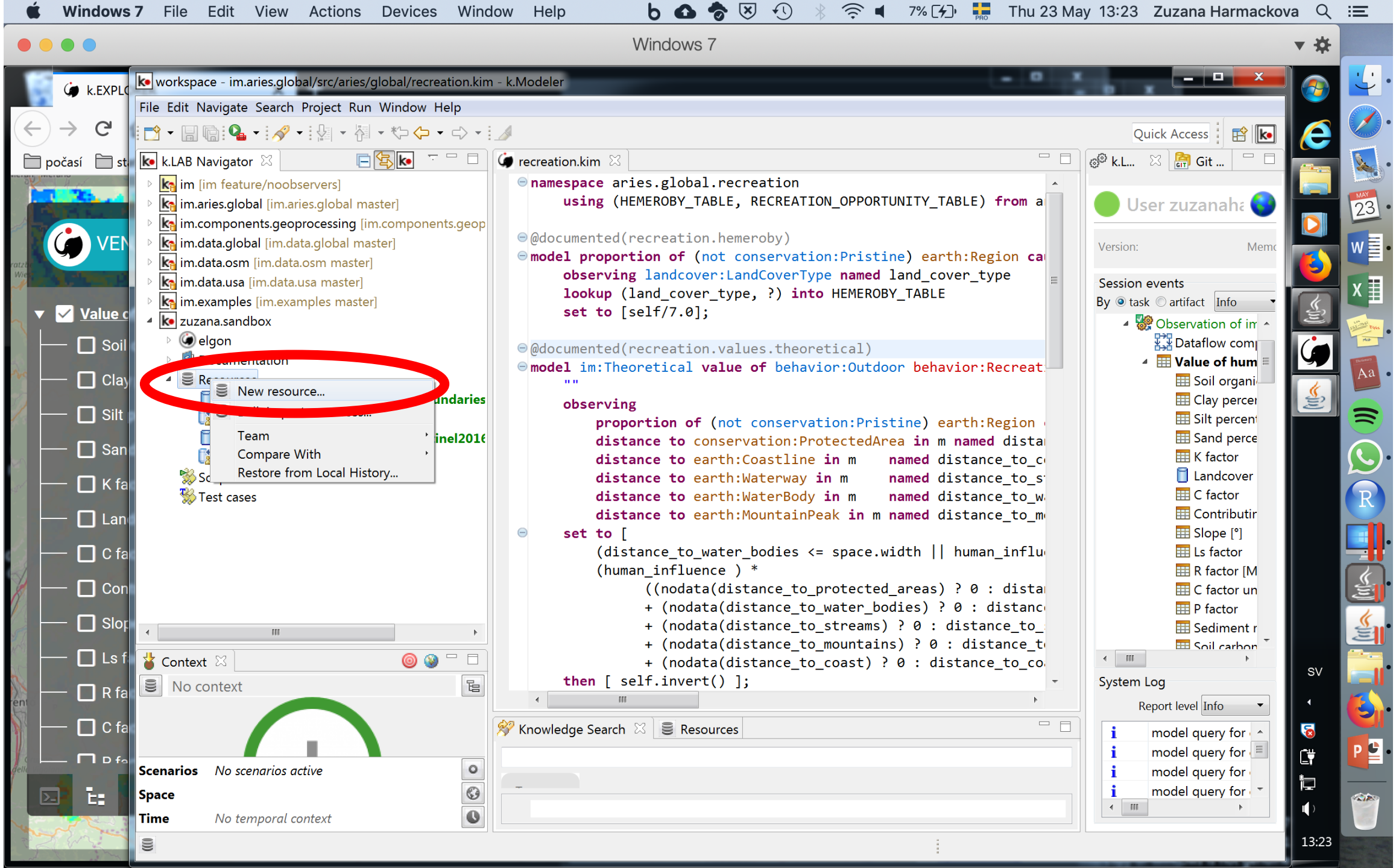

k.EXPLORER
localhost:8283/modeler/ui/viewer?session=
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
VEN, Italia
Observation of im.mca.value-of-management-human-activity-resolver in VEN, Italia
313.7 m
Laives - Leifers
A22
Pergine Valsugana
Maniago
Cordenons
Pordenone
Fiume Veneto
Sacile
Pieve di Soligo
© OpenStreetMap contributors.
Inspect and edit the dataflow user parameters before running
The following parameters admit user input in interactive mode. Please inspect the default values and change them as required. Press Submit Values to continue with the mo
values, Use Defaults to proceed with the default values, or Cancel Run to stop the c
Benefit criteria
Benefit criteria use a weight to express the relative positive impact of each criter
value, if passed, can be a single numeric weight or a map of stakeholder type to
Values are only used for comparison and their absolute value is irrelevant.
Weight for Sediment retention
1
The weight of the criterion. Higher weight means this criterion has a more positive impact on the decision.
Weight for Carbon storage
1
The weight of the criterion. Higher weight means this criterion has a more positive impact on the decision.
Weight for Flood regulation
1
CANCEL RUN
USE DEFAULT
SUBMIT
Specify the parameters

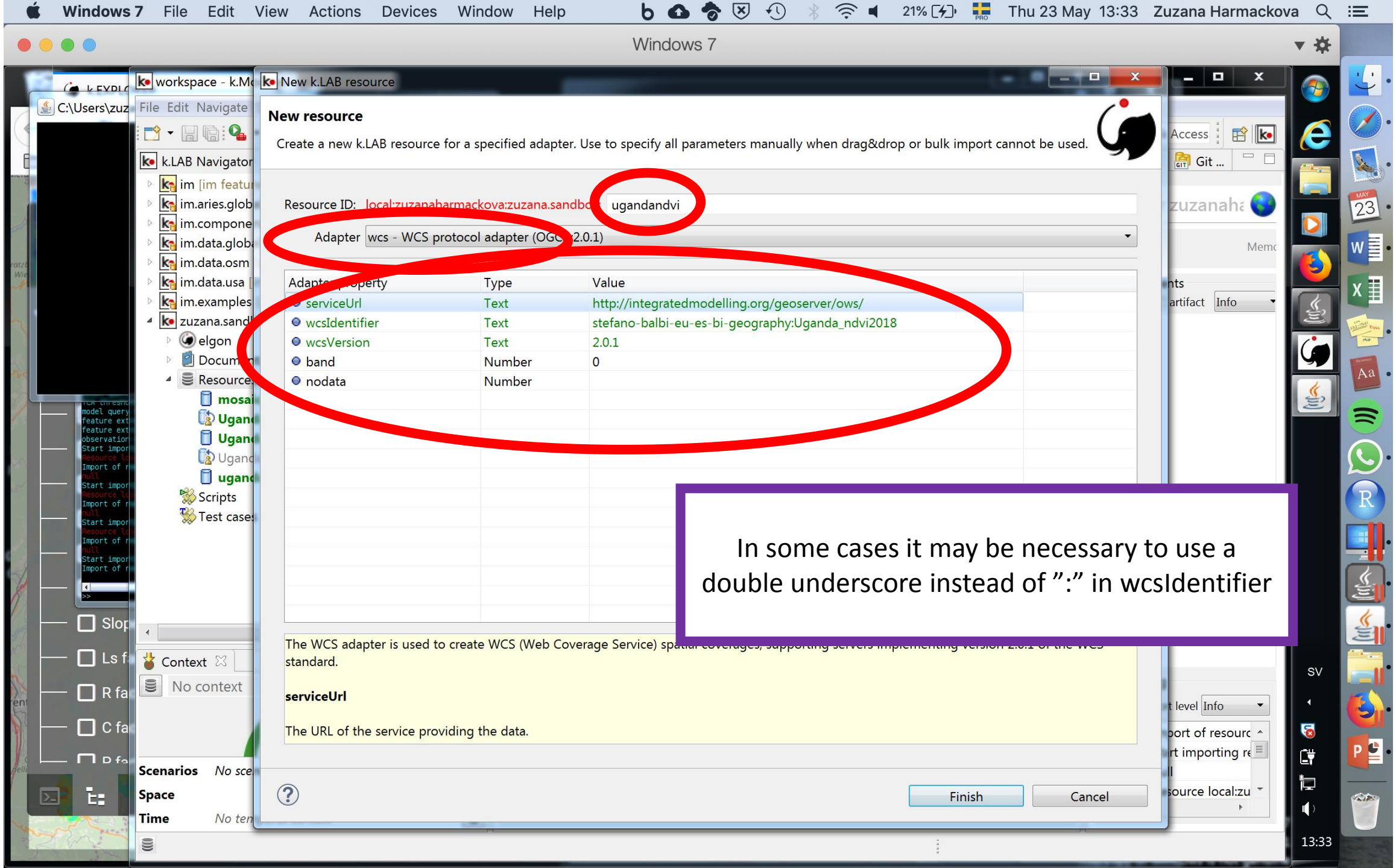

k.EXPLORER
localhost:8283/modeler/ui/viewer?session=
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
VEN
Value of human management activity
59
Soil organic matter percentage
1 of 59
Clay percentage
2 of 59
Silt percentage
3 of 59
Sand percentage
4 of 59
K factor
5 of 59
Landcover
6 of 59
C factor
7 of 59
Contributing area [m²]
8 of 59
Slope [°]
9 of 59
Ls factor
10 of 59
R factor [MJ·mm/(ha·h)]
11 of 59
C factor unvegetated
12 of 59
m
7
YEAR
2019
3
A27
Vittorio Veneto
Sacile
Pordenone
Aviano Air Base
Pieve di Soligo
Conegliano
San Vito al Tagliamento
© OpenStreetMap contributors.

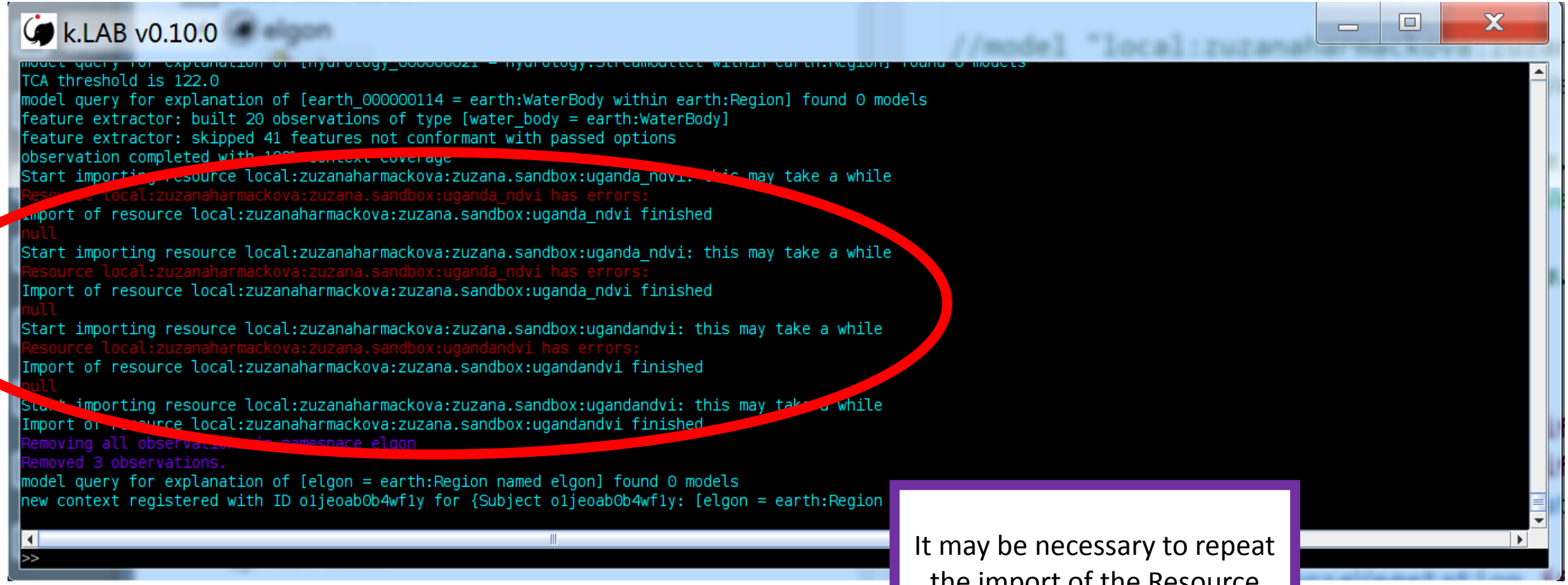
Creating a resource instead of dragging and dropping


Safari File Edit View History Bookmarks Develop Window Help
Thu 23 May 13:19 Zuzana Harmackova
integratedmodelling.org
Centrum Facebook SRC G drive Bilbao Translate Mapy Google Mapy.cz CzechGlobe Sverige na cestě Vodafone money, baby väder
slido - Hledat Googlem
quiz - Hledat Googlem
live mindmap - Hledat G...
flinga - Hledat Googlem
Flinga
GeoServer: Welcome
GeoServer
Username
Remember me
Login
Welcome
About & Status
Data
Layer Preview
Welcome
This GeoServer belongs to The ancient geographes INC.
This GeoServer instance is running version 2.7.0. For more information please contact the
provides previews in various formats for each.
Service Capabilities
WCS
1.1.0
1.1.1
1.1
2.0.1
1.0.0
WFS
1.0.0
1.1.0
2.0.0
WMS
1.1.1
1.3.0
TMS
1.0.0
WMS-C
1.1.1
integratedmodelling.org/geoserver
SV
13:19

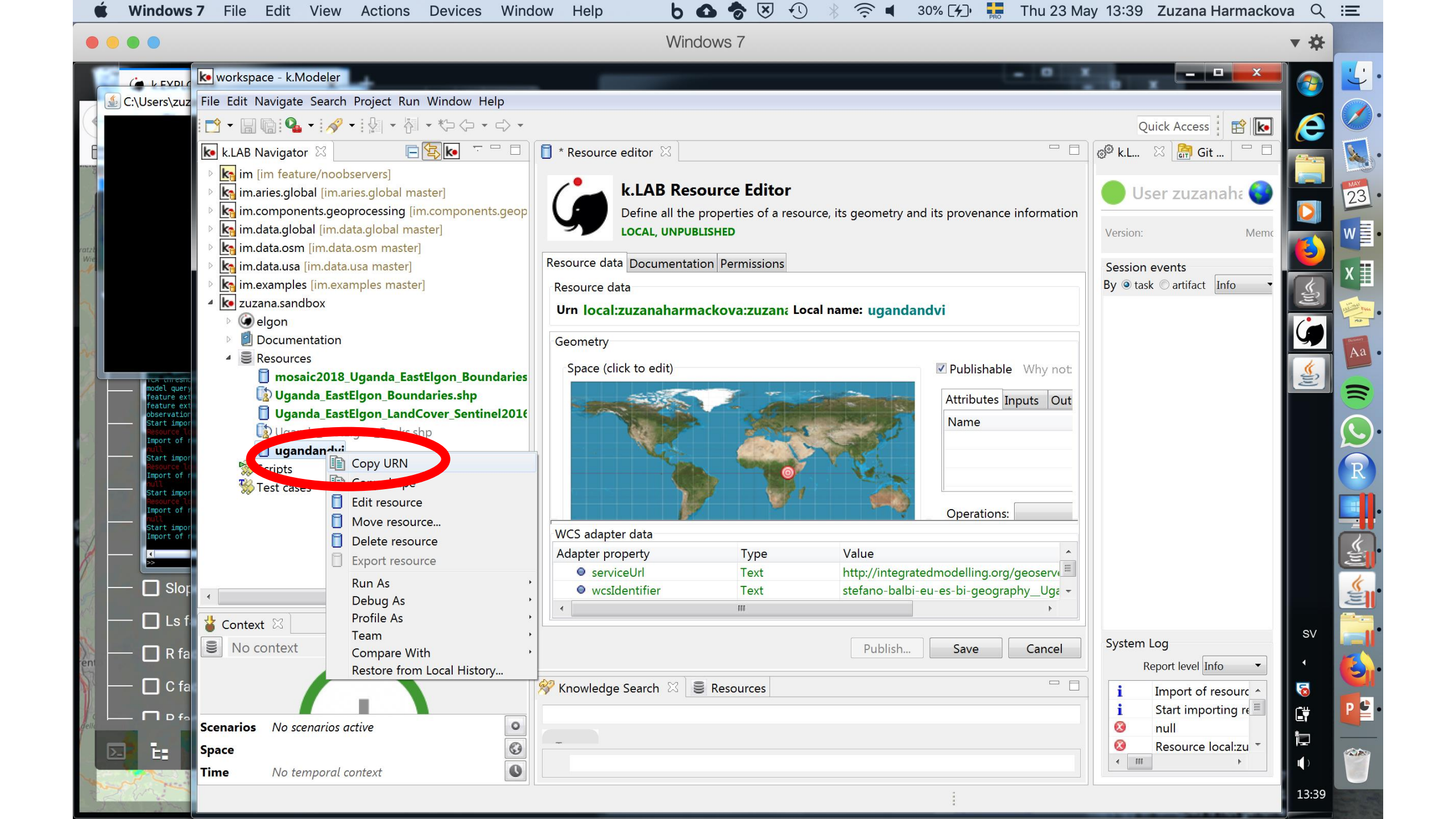

Safari File Edit View History Bookmarks Develop Window Help
Thu 23 May 13:20 Zuzana Harmackova
integratedmodelling.org
Centrum Facebook SRC G drive Bilbao Translate Mapy Google Mapy.cz CzechGlobe Sverige na cestě Vodafone money, baby väder
slido - Hledat Googlem
quiz - Hledat Googlem
live mindmap - Hledat G...
flinga - Hledat Googlem
Flinga
GeoServer: Layer Preview
GeoServer
Username
Remember me
Login
About & Status
About GeoServer
Data
Layer Preview
Demos
Layer Preview
List of all layers configured in GeoServer and provides previews in various formats for each.
<< < 1 > >> Results 1 to 1 (out of 1 matches from 849 items)
uganda
Type
Name
All Formats
stefano-balbi-eu-es-bi-geography:Uganda_ndvi2018
Uganda_ndvi2018
OpenLayers KML
Select one
SV
13:20

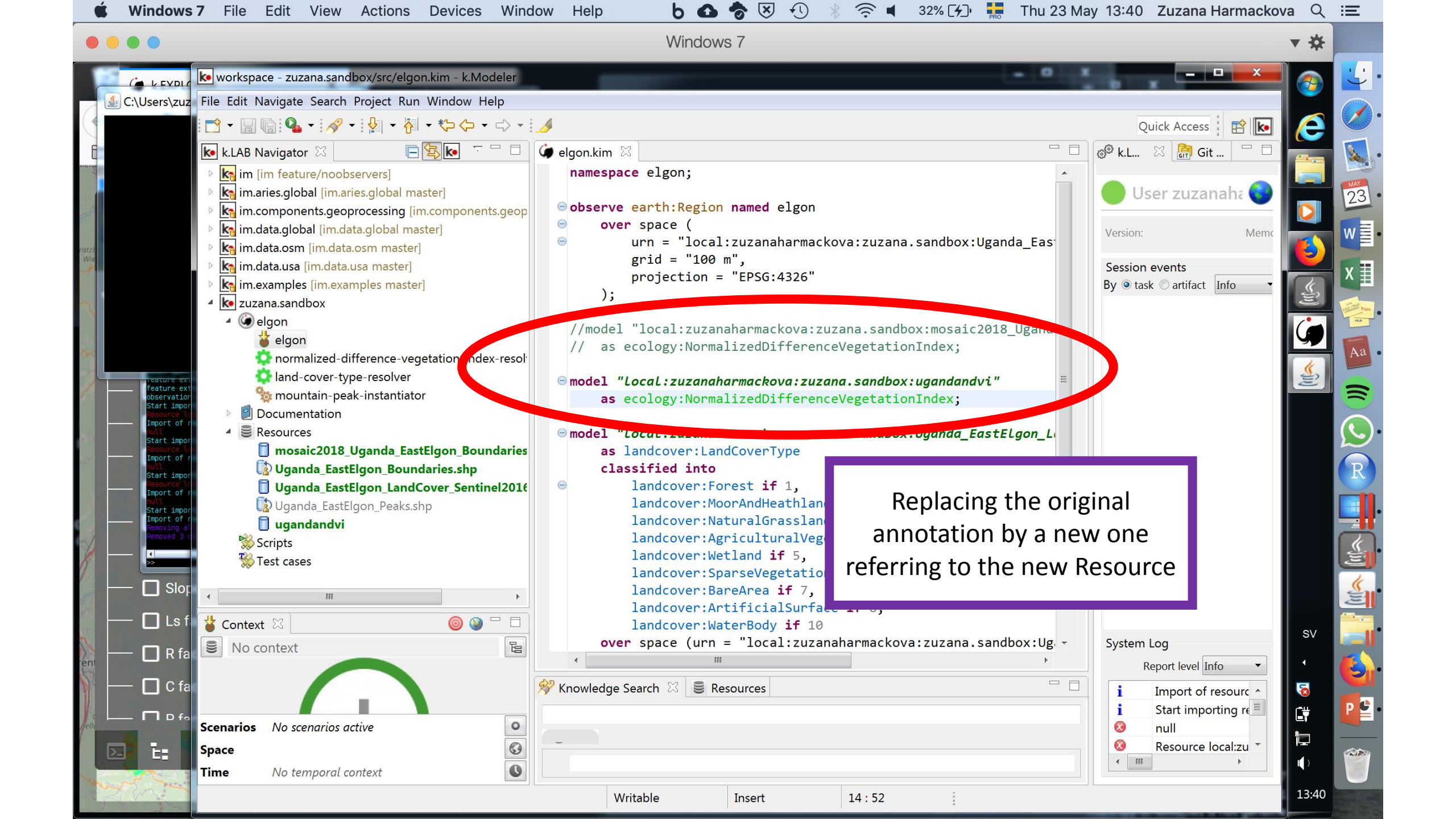

Windows 7 File Edit View Actions Devices Window Help
Thu 23 May 13:23 Zuzana Harmackova
Windows 7
workspace - im.aries.global/src/aries/global/recreation.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.geop
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
New resource...
Team
Compare With
Restore from Local History...
Test cases
recreation.kim
namespace aries.global.recreation
using (HEMEROBY_TABLE, RECREATION_OPPORTUNITY_TABLE) from a
@documented(recreation.hemeroby)
model proportion of (not conservation:Pristine) earth:Region ca
observing landcover:LandCoverType named land_cover_type
lookup (land_cover_type, ?) into HEMEROBY_TABLE
set to [self/7.0];
@documented(recreation.values.theoretical)
model im:Theoretical value of behavior:Outdoor behavior:Recreat
""
observing
proportion of (not conservation:Pristine) earth:Region
distance to conservation:ProtectedArea in m named distar
distance to earth:Coastline in m named distance_to_c
distance to earth:Waterway in m named distance_to_s
distance to earth:WaterBody in m named distance_to_w
distance to earth:MountainPeak in m named distance_to_m
set to [
(distance_to_water_bodies <= space.width || human_influ
(human_influence) *
((nodata(distance_to_protected_areas) ? 0 : distar
+ (nodata(distance_to_water_bodies) ? 0 : distanc
+ (nodata(distance_to_streams) ? 0 : distance_to_
+ (nodata(distance_to_mountains) ? 0 : distance_t
+ (nodata(distance_to_coast) ? 0 : distance_to_co
then [self.invert()];
k.L...
Git ...
User zuzanaha
Version:
Session events
By task artifact Info
Observation of im
Dataflow comp
Value of hum
Soil organi
Clay percer
Silt percen
Sand perce
K factor
Landcover
C factor
Contributir
Slope [°]
Ls factor
R factor [M
C factor un
P factor
Sediment r
Soil carbon
System Log
Report level Info
model query for
model query for
model query for
model query for
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Knowledge Search
Resources
Value c
Soil
Clay
Silt
San
K fa
Lan
C fa
Con
Slop
Ls f
R fa
C fa
SV
13:23

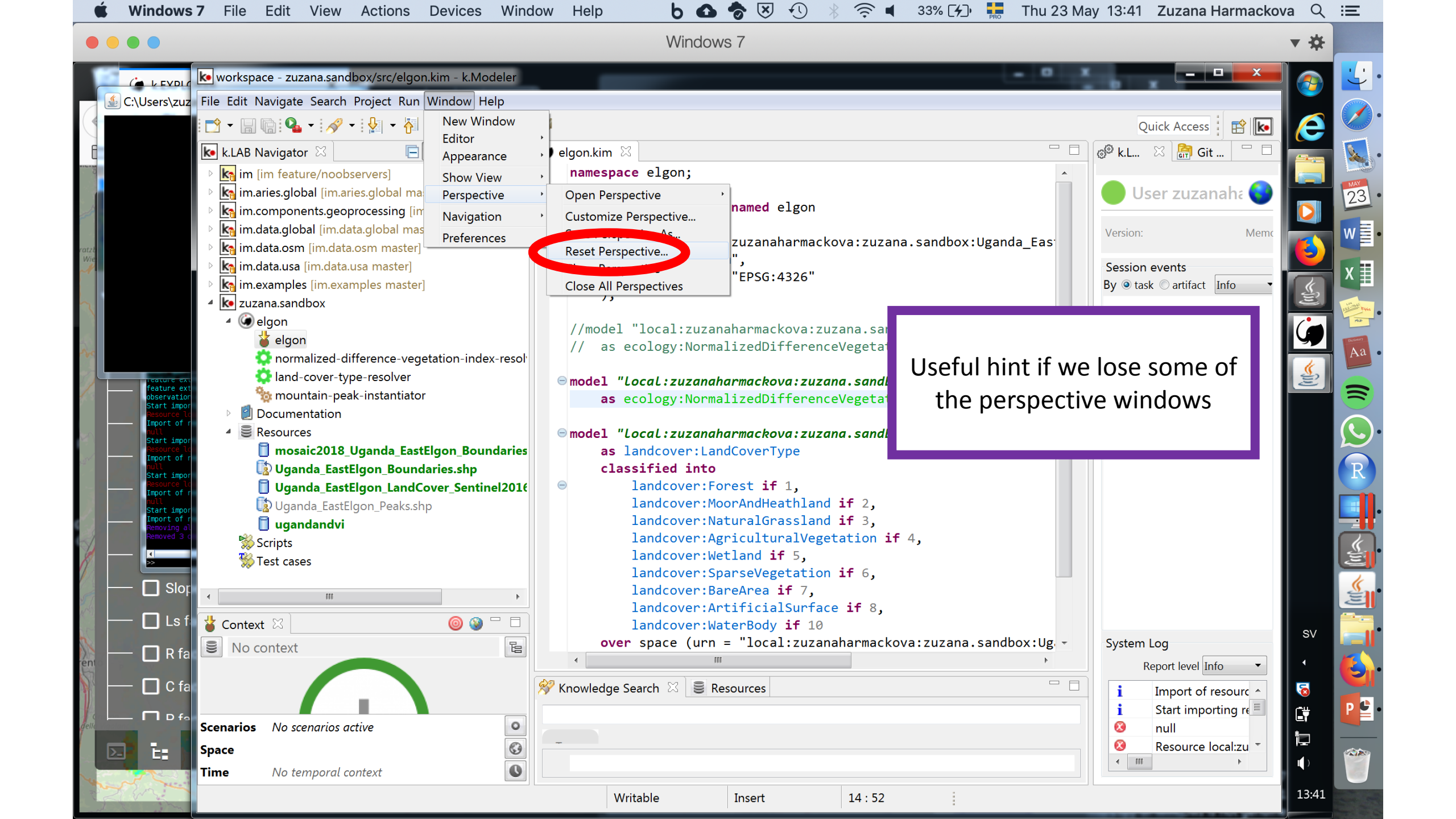

New k.LAB resource
New resource
Create a new k.LAB resource for a specified adapter. Use to specify all parameters manually when drag&drop or bulk import cannot be used.
Resource ID: local:zuzanaharmackova:zuzana.sandbo
ugandandvi
Adapter wcs - WCS protocol adapter (OGC 2.0.1)
Property
Type
Value
serviceUrl
Text
http://integratedmodelling.org/geoserver/ows/
wcsIdentifier
Text
stefano-balbi-eu-es-bi-geography:Uganda_ndvi2018
wcsVersion
Text
2.0.1
band
Number
0
nodata
Number
The WCS adapter is used to create WCS (Web Coverage Service) spatial coverages, supporting servers implementing version 2.0.1 of the WCS standard.
serviceUrl
The URL of the service providing the data.
Finish
Cancel
In some cases it may be necessary to use a double underscore instead of ":" in wcsIdentifier

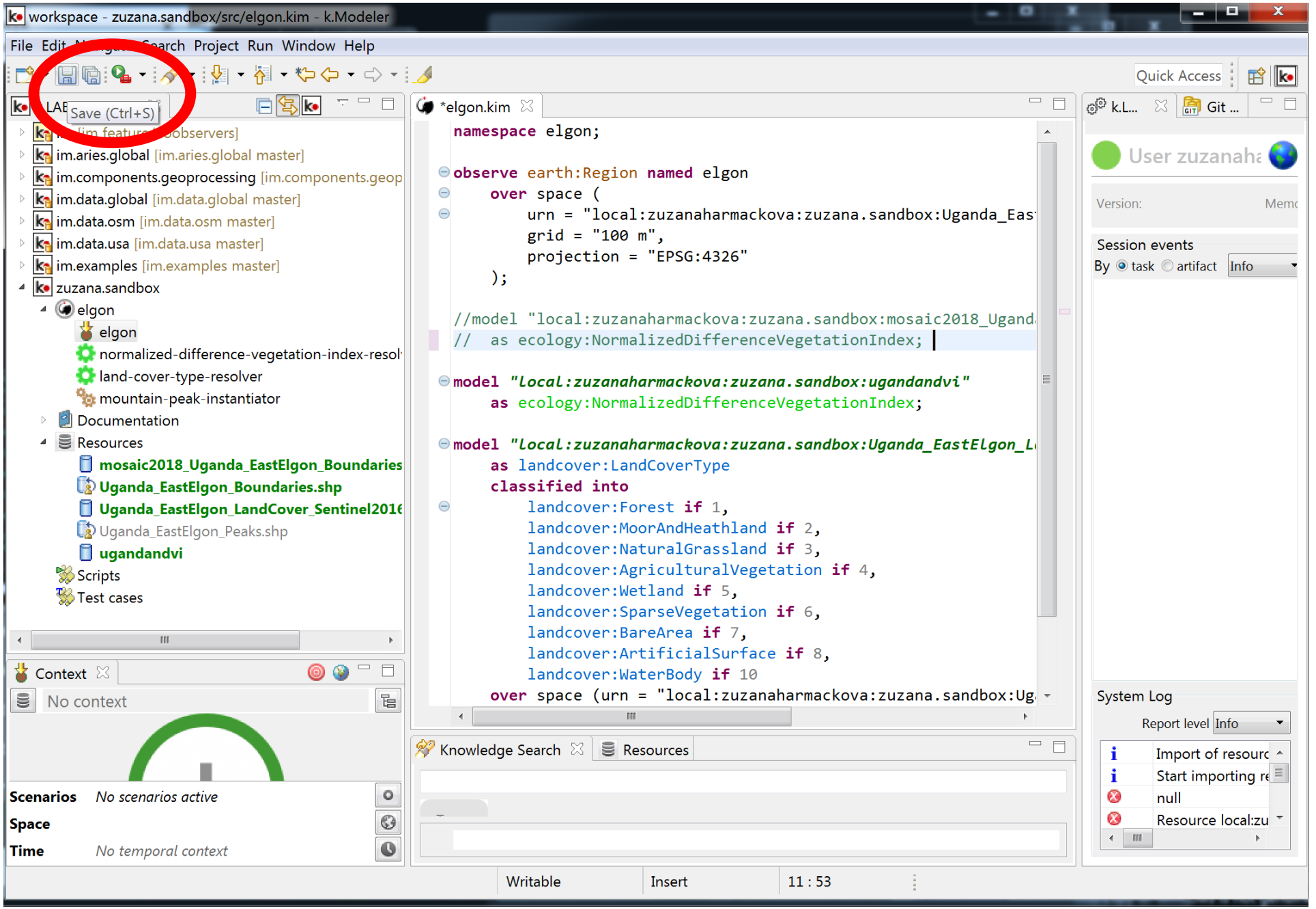


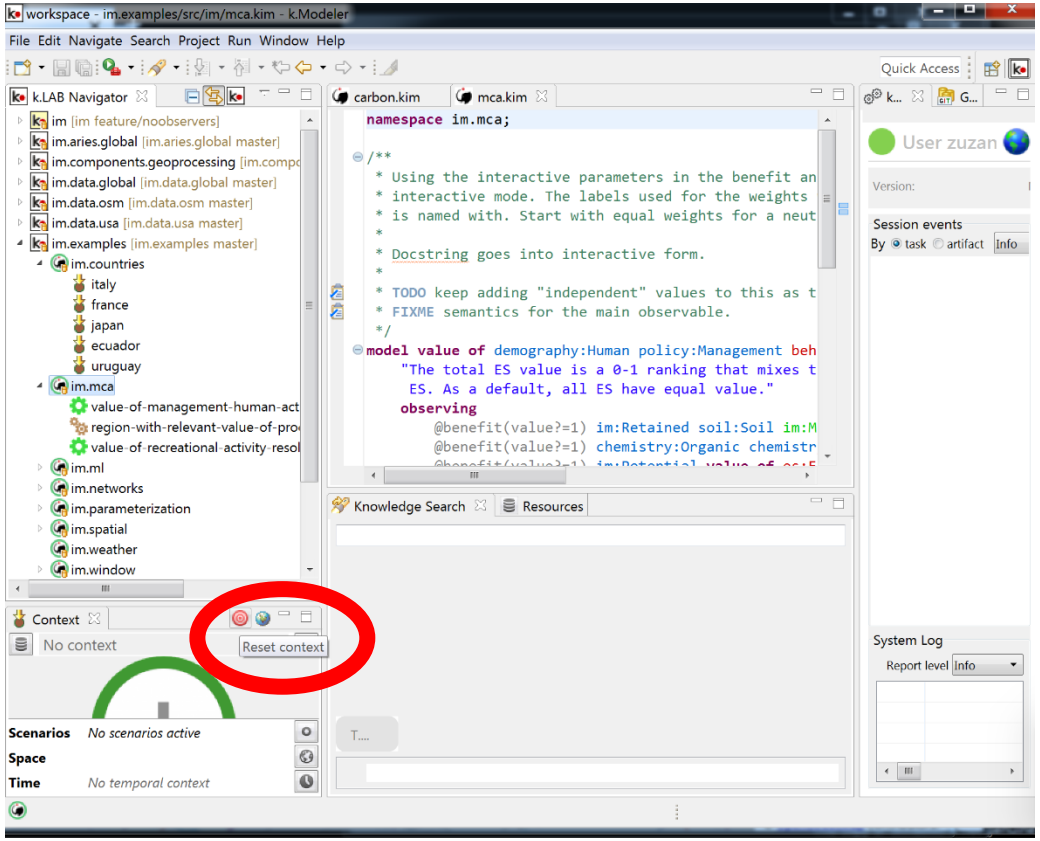
It may be necessary to repeat the import of the Resource several times before it succeeds


Windows 7 File Edit View Actions Devices Window Help
Thu 23 May 13:39 Zuzana Harmackova
Windows 7
workspace - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.geop
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
Documentation
Resources
mosaic2018_Uganda_EastElgon_Boundaries
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2016
ugandandvi
Scripts
Test cases
Copy URN
Edit resource
Move resource...
Delete resource
Export resource
Run As
Debug As
Profile As
Team
Compare With
Restore from Local History...
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
* Resource editor
k.LAB Resource Editor
Define all the properties of a resource, its geometry and its provenance information
LOCAL, UNPUBLISHED
Resource data
Documentation
Permissions
Resource data
Urn local:zuzanaharmackova:zuzan Local name: ugandandvi
Geometry
Space (click to edit)
Publishable
Why not:
Attributes
Inputs
Out
Name
Operations:
WCS adapter data
Adapter property
Type
Value
serviceUrl
Text
http://integratedmodelling.org/geoserv
wcsIdentifier
Text
stefano-balbi-eu-es-bi-geography__Uga
Publish...
Save
Cancel
Knowledge Search
Resources
k.L...
Git ...
User zuzanaha
Version:
Session events
By task artifact
Info
System Log
Report level
Info
Import of resourc
Start importing re
null
Resource local:zu
SV
13:39

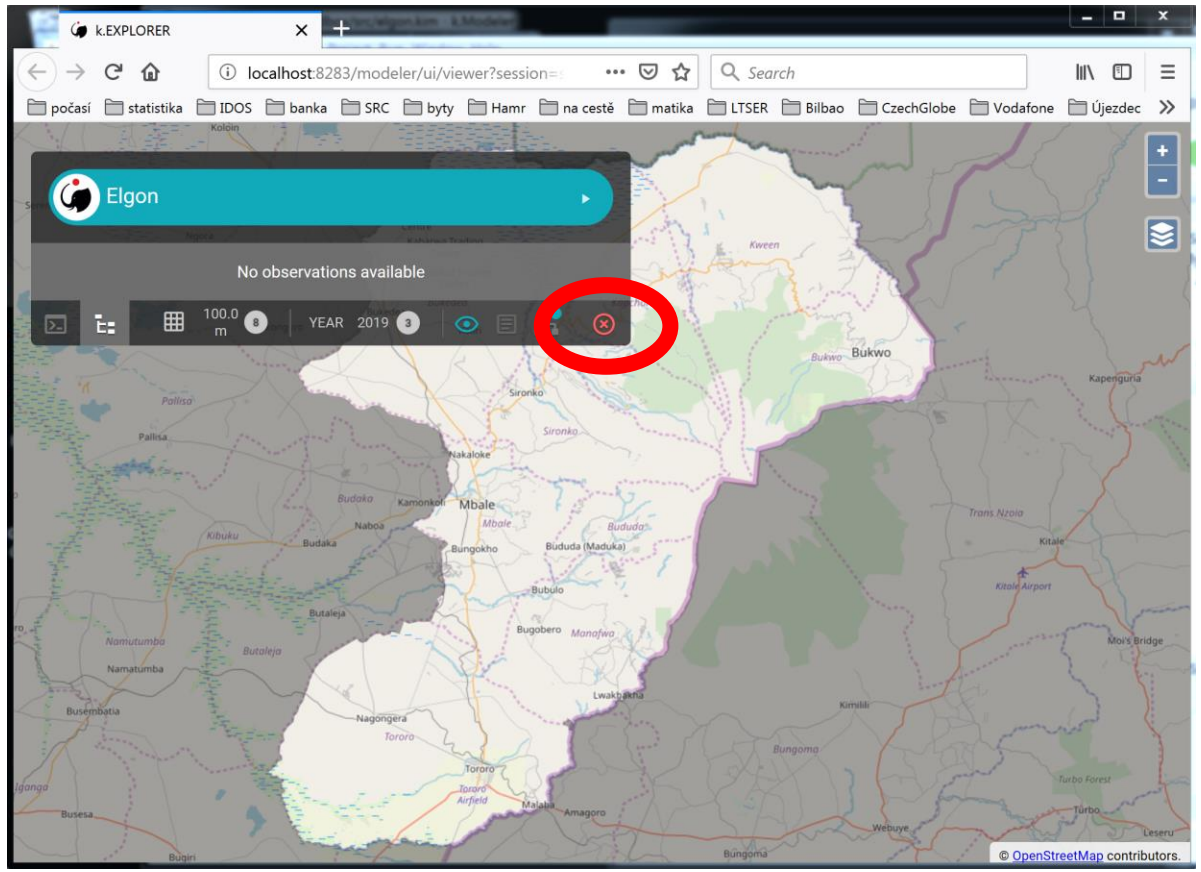

Windows 7 File Edit View Actions Devices Window Help
Thu 23 May 13:40 Zuzana Harmackova
Windows 7
workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.geop
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
elgon
normalized-difference-vegetation-ndex-resol
land-cover-type-resolver
mountain-peak-instantiator
Documentation
Resources
mosaic2018_Uganda_EastElgon_Boundaries
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2016
Uganda_EastElgon_Peaks.shp
ugandandvi
Scripts
Test cases
elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_Eas
grid = "100 m",
projection = "EPSG:4326"
);
//model "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Ugan
// as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:ugandandvi"
as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_L
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathlan
landcover:NaturalGrasslan
landcover:AgriculturalVeg
landcover:Wetland if 5,
landcover:SparseVegetatio
landcover:BareArea if 7,
landcover:ArtificialSurface
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
Replacing the original annotation by a new one referring to the new Resource
k.L...
Git ...
User zuzanaha
Version:
Session events
By task artifact
Info
System Log
Report level
Info
Import of resourc
Start importing re
null
Resource local:zu
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Knowledge Search
Resources
Writable
Insert
14 : 52
SV
13:40

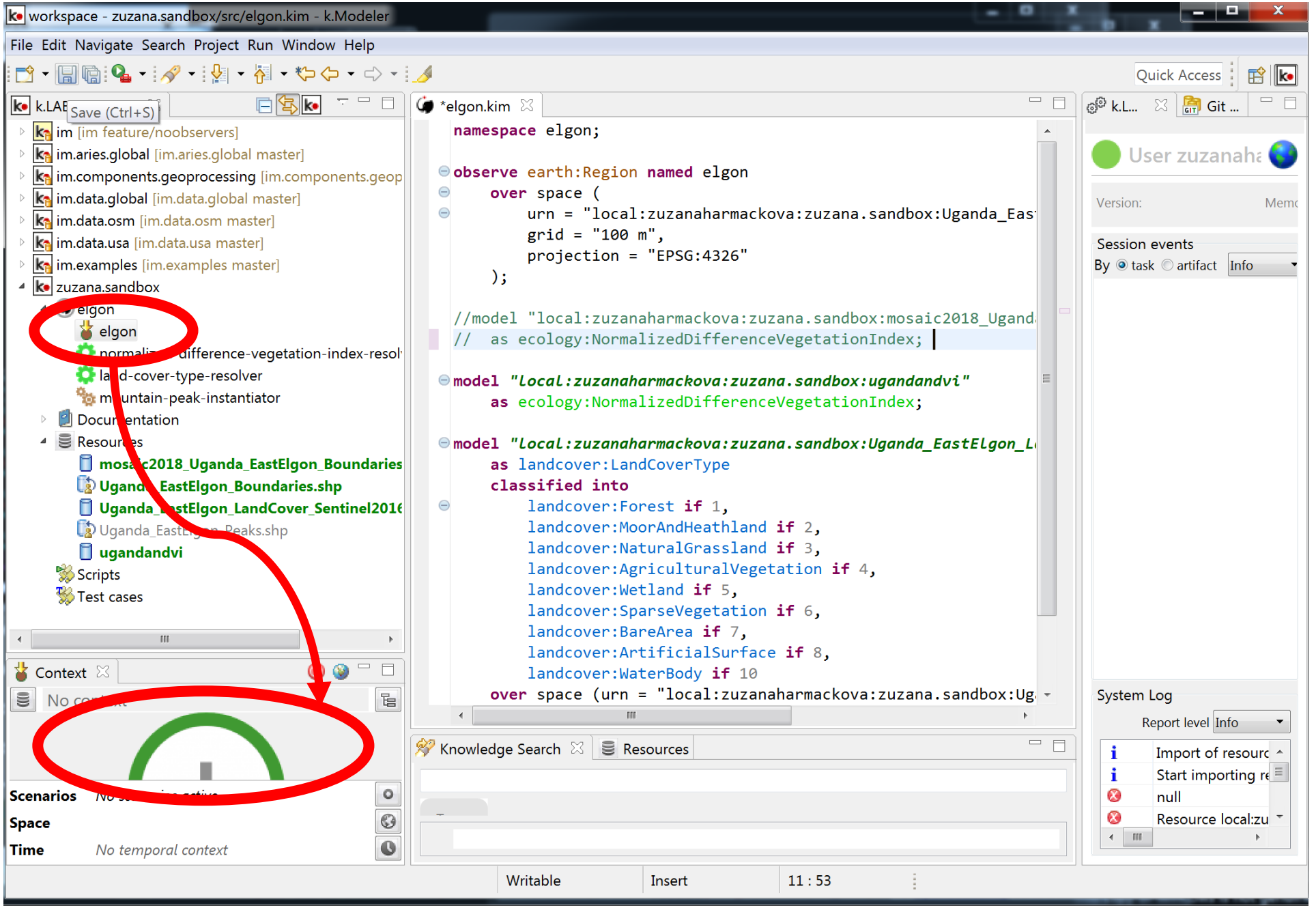

Windows 7
workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
New Window
Editor
Appearance
Show View
Perspective
Navigation
Preferences
Open Perspective
Customize Perspective...
Reset Perspective...
Close All Perspectives
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global ma
im.components.geoprocessing [im
im.data.global [im.data.global mas
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
elgon
normalized-difference-vegetation-index-resol
land-cover-type-resolver
mountain-peak-instantiator
Documentation
Resources
mosaic2018_Uganda_EastElgon_Boundaries
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2016
Uganda_EastElgon_Peaks.shp
ugandandvi
Scripts
Test cases
elgon.kim
namespace elgon;
named elgon
zuzanaharmackova:zuzana.sandbox:Uganda_East
"EPSG:4326"
//model "local:zuzanaharmackova:zuzana.sa
// as ecology:NormalizedDifferenceVegeta
model "local:zuzanaharmackova:zuzana.sandl
as ecology:NormalizedDifferenceVegeta
model "local:zuzanaharmackova:zuzana.sandl
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
Quick Access
k.L...
Git ...
User zuzanaha
Version:
Session events
By task artifact
Info
Useful hint if we lose some of the perspective windows
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Knowledge Search
Resources
System Log
Report level Info
Import of resourc
Start importing re
null
Resource local:zu
Writable
Insert
14 : 52
13:41

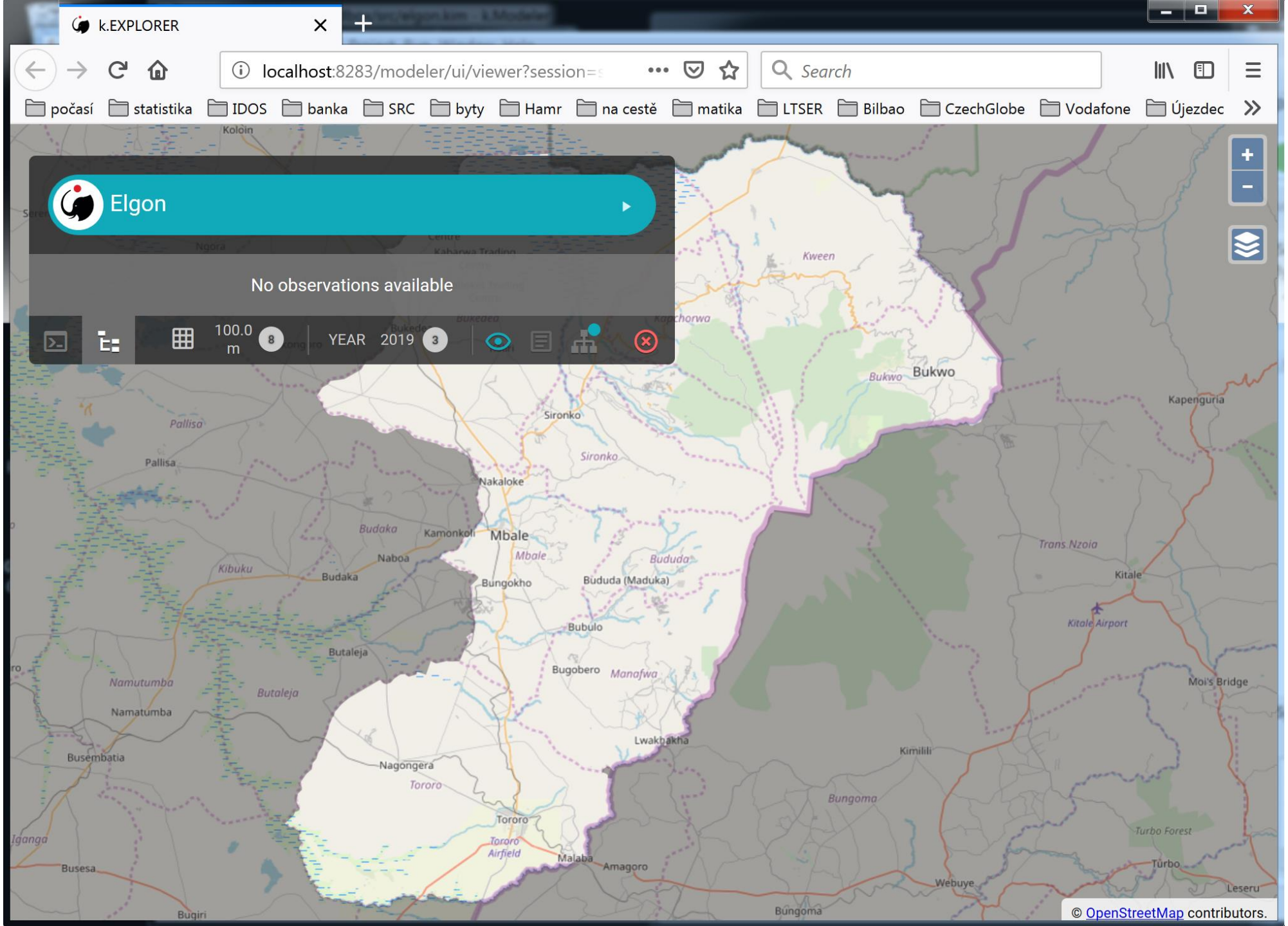

workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Search Project Run Window Help
Save (Ctrl+S)
Quick Access
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.geop
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
elgon
normalized-difference-vegetation-index-resol
land-cover-type-resolver
mountain-peak-instantiator
Documentation
Resources
mosaic2018_Uganda_EastElgon_Boundaries
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2016
Uganda_EastElgon_Peaks.shp
ugandandvi
Scripts
Test cases
*elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_Eas
grid = "100 m",
projection = "EPSG:4326"
);
//model "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Ugand
// as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:ugandandvi"
as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_L
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
k.L...
Git ...
User zuzanaha
Version:
Session events
By task artifact
Info
System Log
Report level
Info
Import of resourc
Start importing re
null
Resource local:zu
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Knowledge Search
Resources
Writable
Insert
11 : 53



In the case that k.Explorer is in the Inractive mode, these two commands equal and both reset the current context




workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
Save (Ctrl+S)
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.geop
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
elgon
Documentation
Resources
ugandandvi
Scripts
Test cases
Context
Scenarios
Space
Time
No temporal context
*elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_Eas
grid = "100 m",
projection = "EPSG:4326"
);
//model "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Ugand
// as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:ugandandvi"
as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_L
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
Knowledge Search
Resources
k.L...
Git ...
User zuzanaha
Version:
Session events
By task artifact
Info
System Log
Report level
Info
Import of resourc
Start importing re
null
Resource local:zu
Writable
Insert
11 : 53


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
Elgon
No observations available
100.0 m
8
YEAR 2019
3
Koloin
Kween
Kapchorwa
Bukwo
Bukwo
Kapenguria
Sironko
Sironko
Pallisa
Pallisa
Nakaloke
Budaka
Kamonkoli
Mbale
Mbale
Naboa
Kibuku
Budaka
Bungokho
Bududa
Bududa (Maduka)
Trans Nzoia
Kitale
Kitale Airport
Bubulo
Butaleja
Bugobero
Manafwa
Namutumba
Butaleja
Namatumba
Moi's Bridge
Busembatia
Lwakhakha
Kimilili
Nagongera
Tororo
Bungoma
Tororo
Tororo Airfield
Malaba
Amagoro
Turbo Forest
Busesa
Webuye
Turbo
Leseru
Bugiri
Bungoma
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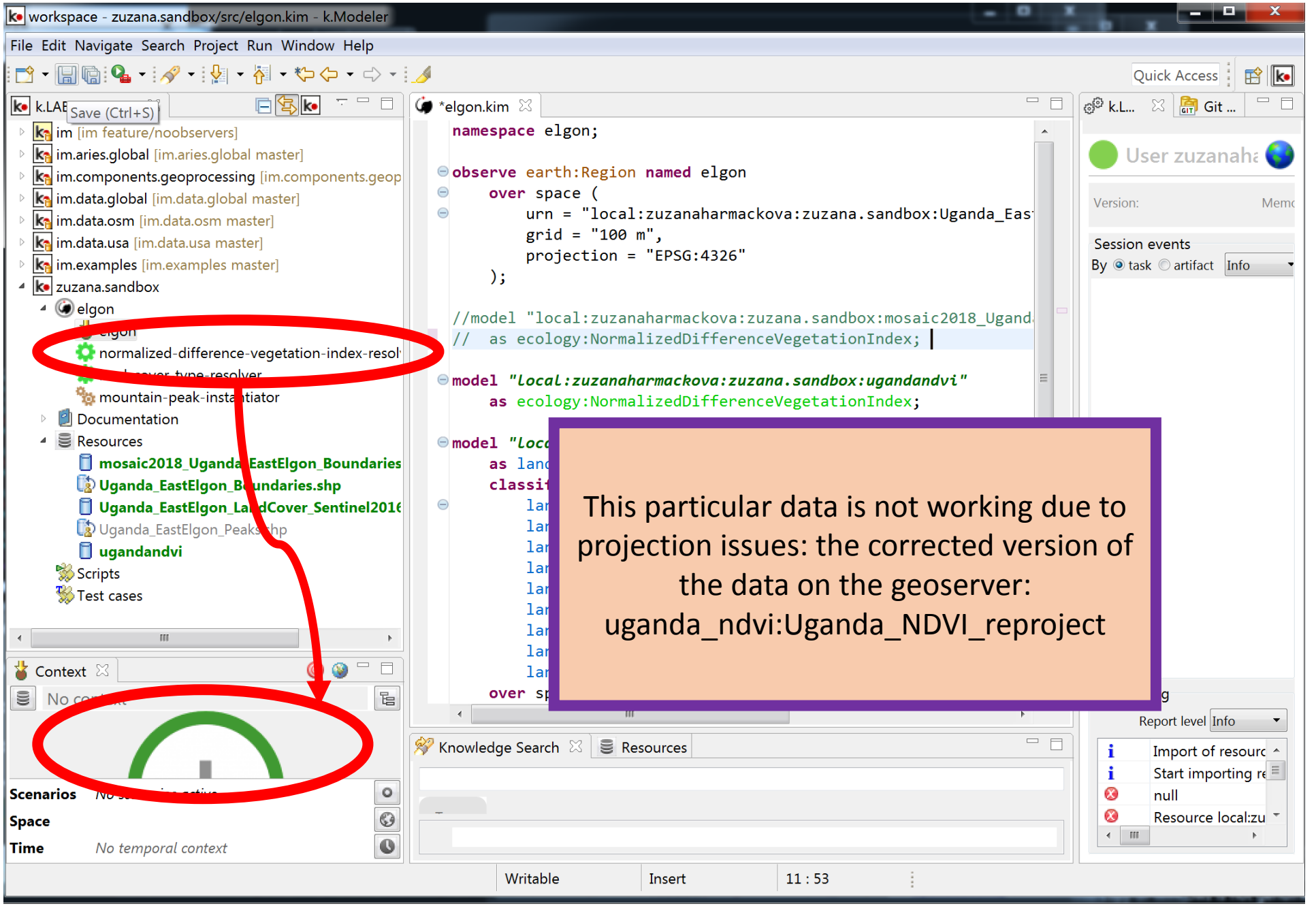
workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
Save (Ctrl+S)
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.geop
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
normalized-difference-vegetation-index-resol
mountain-peak-instantiator
Documentation
Resources
mosaic2018_Uganda_EastElgon_Boundaries
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2016
Uganda_EastElgon_Peaks.shp
ugandandvi
Scripts
Test cases
*elgon.kim
namespace elgon;
observe earth:Region named elgon
over space (
urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_East
grid = "100 m",
projection = "EPSG:4326"
);
//model "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Uganda
// as ecology:NormalizedDifferenceVegetationIndex;
model "local:zuzanaharmackova:zuzana.sandbox:ugandandvi"
as ecology:NormalizedDifferenceVegetationIndex;
model "Loca
as land
classif
lan
over sp
This particular data is not working due to projection issues: the corrected version of the data on the geoserver: uganda_ndvi:Uganda_NDVI_reproject
Context
Scenarios
Space
Time
No temporal context
Knowledge Search
Resources
k.L...
Git ...
User zuzanaha
Version:
Session events
By task artifact
Info
Report level
Import of resourc
Start importing re
null
Resource local:zu
Writable
Insert
11 : 53

Non-semantic models in k.Modeler

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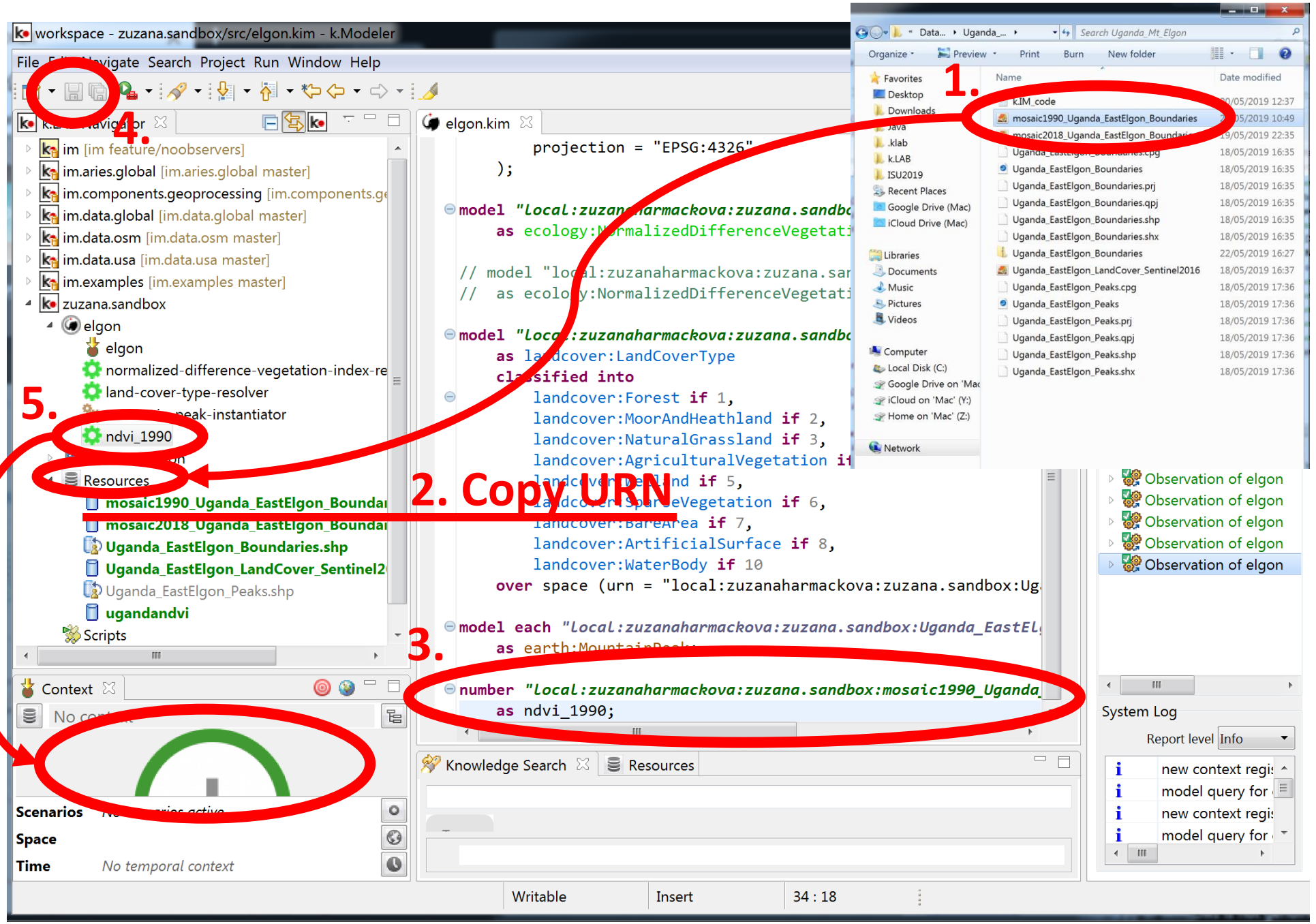
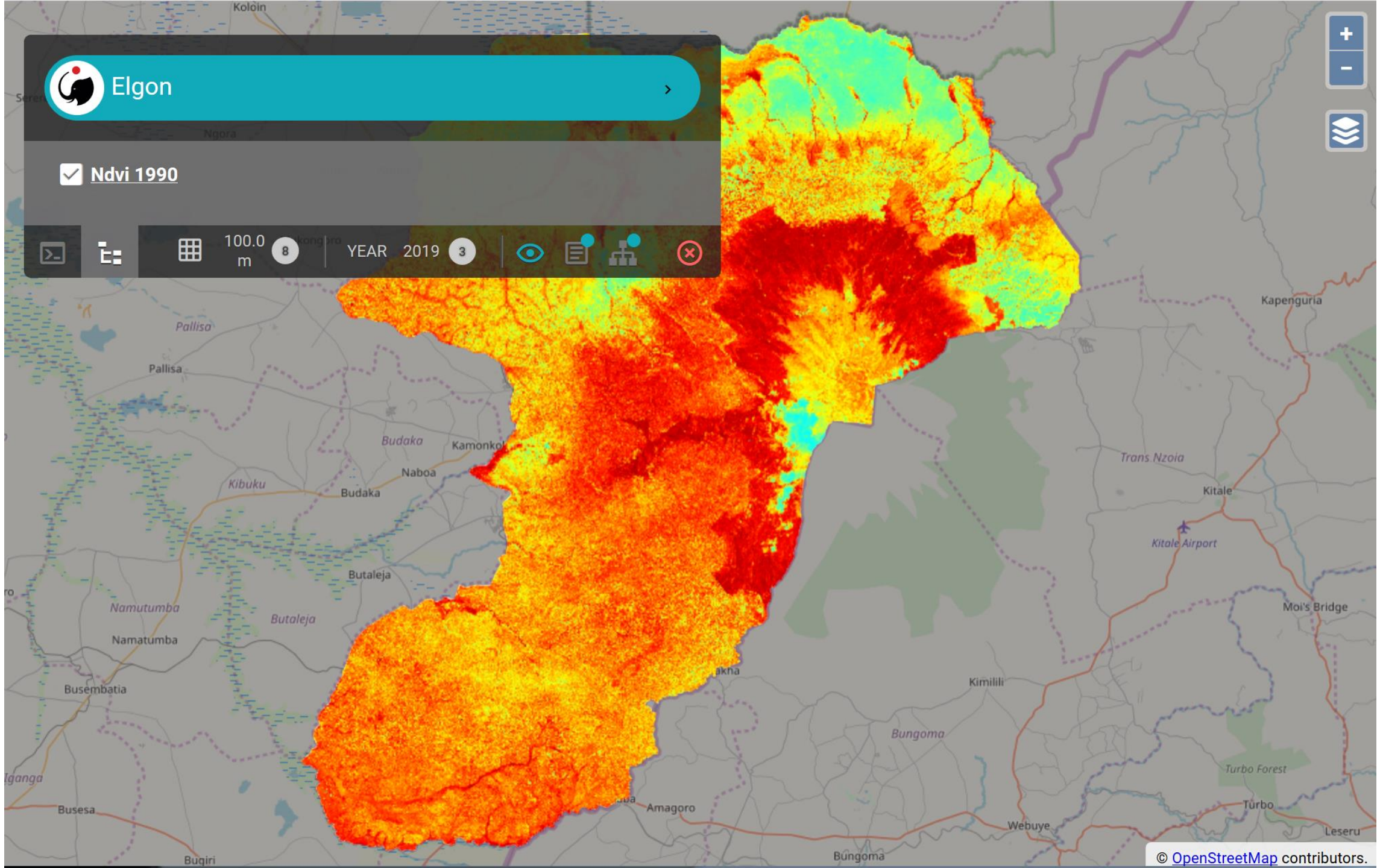
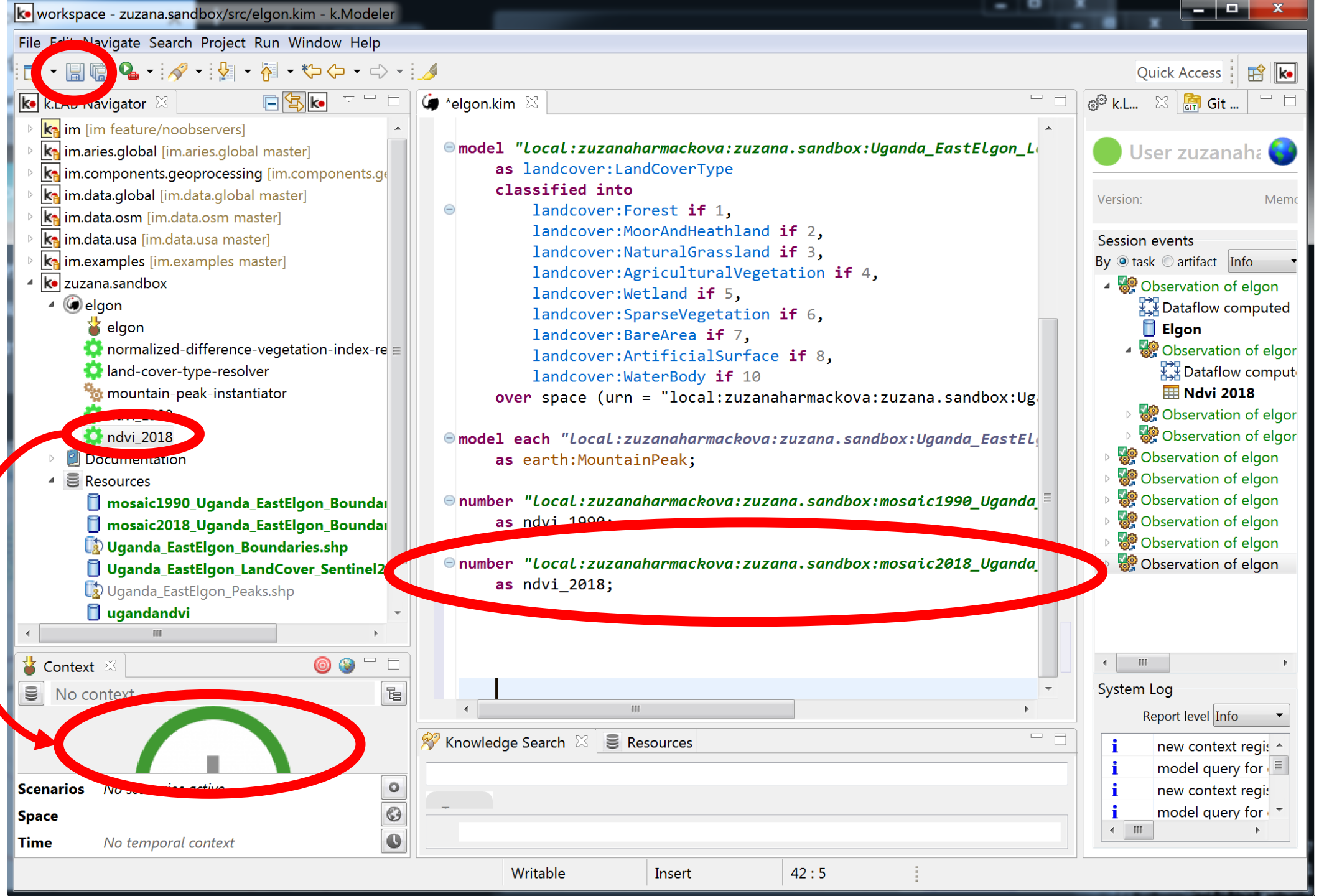
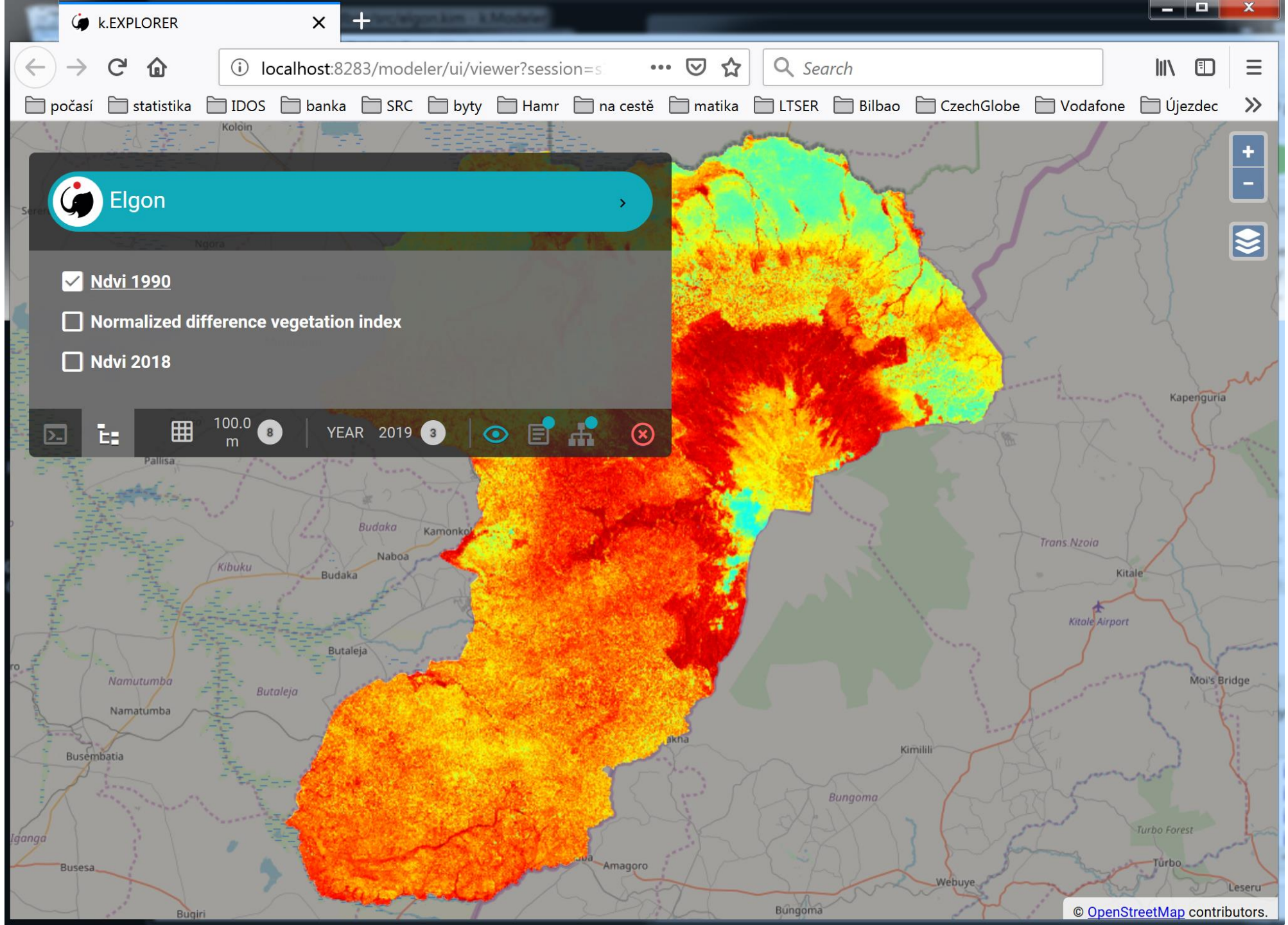
FOR CLIMATE CHANGE
Klima Aldaketa Ikergai


workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
4.
1.
mosaic1990_Uganda_EastElgon_Boundaries
mosaic2018_Uganda_EastElgon_Boundaries
elgon.kim
projection = "EPSG:4326"
);
model "local:zuzanaharmackova:zuzana.sandbox
as ecology:NormalizedDifferenceVegetati
// model "local:zuzanaharmackova:zuzana.sar
// as ecology:NormalizedDifferenceVegetati
model "local:zuzanaharmackova:zuzana.sandbox
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
model each "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastEl
as earth:MountainPeak;
number "local:zuzanaharmackova:zuzana.sandbox:mosaic1990_Uganda_
as ndvi_1990;
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.ge
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
elgon
normalized-difference-vegetation-index-re
land-cover-type-resolver
5.
ndvi_1990
Resources
mosaic1990_Uganda_EastElgon_Boundar
mosaic2018_Uganda_EastElgon_Boundar
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2
Uganda_EastElgon_Peaks.shp
ugandandvi
Scripts
2. Copy URN
3.
Context
Scenarios
Space
Time
No temporal context
Knowledge Search
Resources
Observation of elgon
Observation of elgon
Observation of elgon
Observation of elgon
Observation of elgon
System Log
Report level Info
new context regis
model query for
new context regis
model query for
Writable
Insert
34 : 18


Elgon
Ndvi 1990
100.0 m
8
YEAR 2019
3
Koloin
Ngora
Pallisa
Budaka
Kamonkoli
Naboa
Kibuku
Butaleja
Namutumba
Busembatia
Busesa
Bugiri
Kapenguria
Trans Nzoia
Kitale
Kitale Airport
Moi's Bridge
Kimilili
Bungoma
Turbo Forest
Turbo
Webuye
Leseru
Amagoro
© OpenStreetMap contributors.


workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.ge
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
elgon
normalized-difference-vegetation-index-re
land-cover-type-resolver
mountain-peak-instantiator
ndvi_2018
Documentation
Resources
mosaic1990_Uganda_EastElgon_Boundar
mosaic2018_Uganda_EastElgon_Boundar
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2
Uganda_EastElgon_Peaks.shp
ugandandvi
Context
No context
Scenarios
Space
Time
No temporal context
*elgon.kim
model "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_L
as landcover:LandCoverType
classified into
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Ug
model each "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastEl
as earth:MountainPeak;
number "local:zuzanaharmackova:zuzana.sandbox:mosaic1990_Uganda_
as ndvi_1990;
number "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Uganda_
as ndvi_2018;
Knowledge Search
Resources
k.L...
Git ...
User zuzanaha
Version:
Session events
By task artifact
Info
Observation of elgon
Dataflow computed
Elgon
Observation of elgor
Dataflow comput
Ndvi 2018
Observation of elgor
Observation of elgor
Observation of elgon
Observation of elgon
Observation of elgon
Observation of elgon
Observation of elgon
Observation of elgon
System Log
Report level
Info
new context regis
model query for
new context regis
model query for
Writable
Insert
42 : 5


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=s
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
Elgon
Ndvi 1990
Normalized difference vegetation index
Ndvi 2018
100.0 m
8
YEAR 2019
3
Kapenguria
Trans Nzoia
Kitale
Kitale Airport
Moi's Bridge
Kimilili
Bungoma
Turbo Forest
Turbo
Leseru
Webuye
Amagoro
Busesa
Busembatia
Namutumba
Butaleja
Budaka
Kamonkoi
Naboa
Kibuku
Pallisa
Bugiri
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Semantic operations with models

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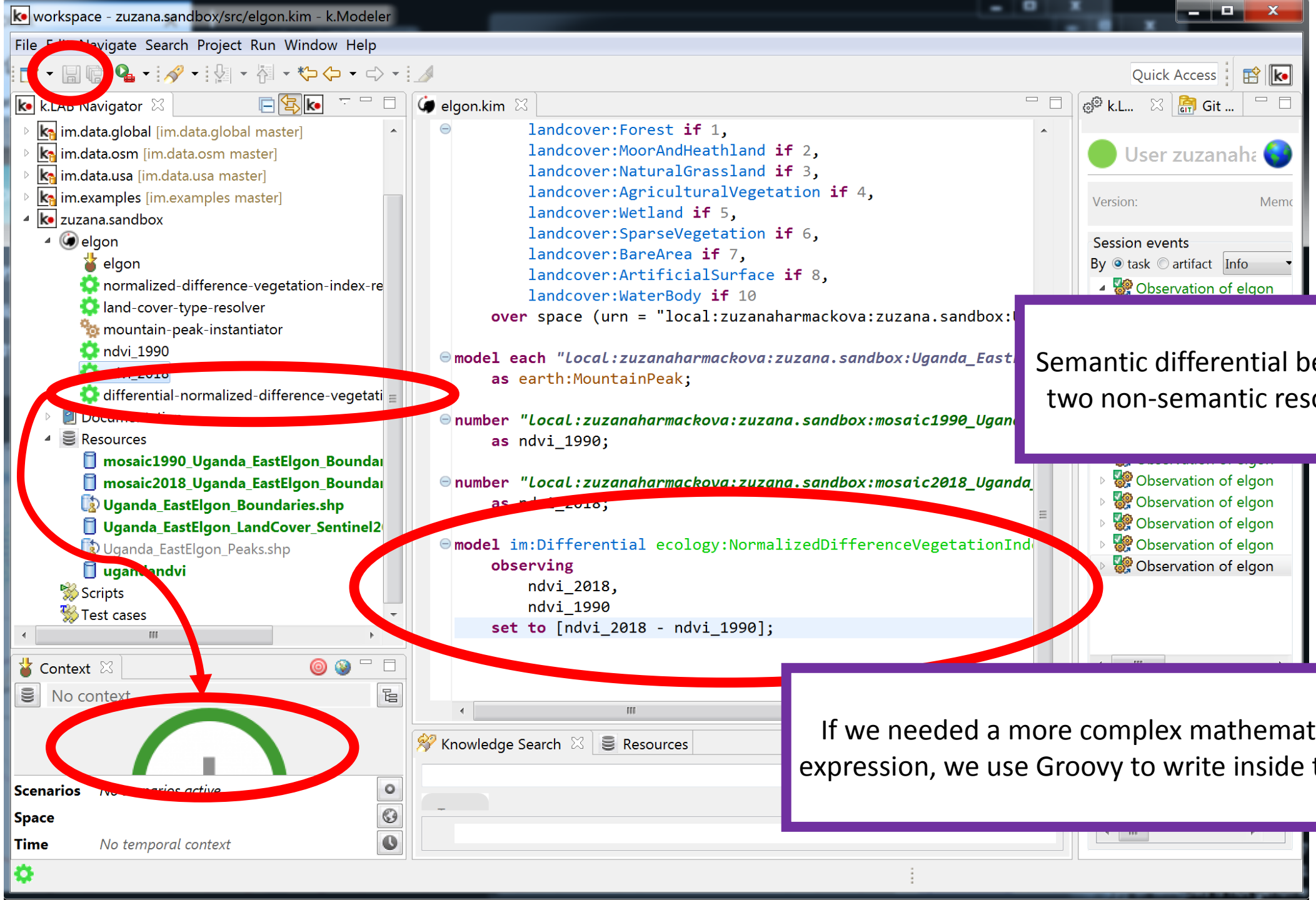
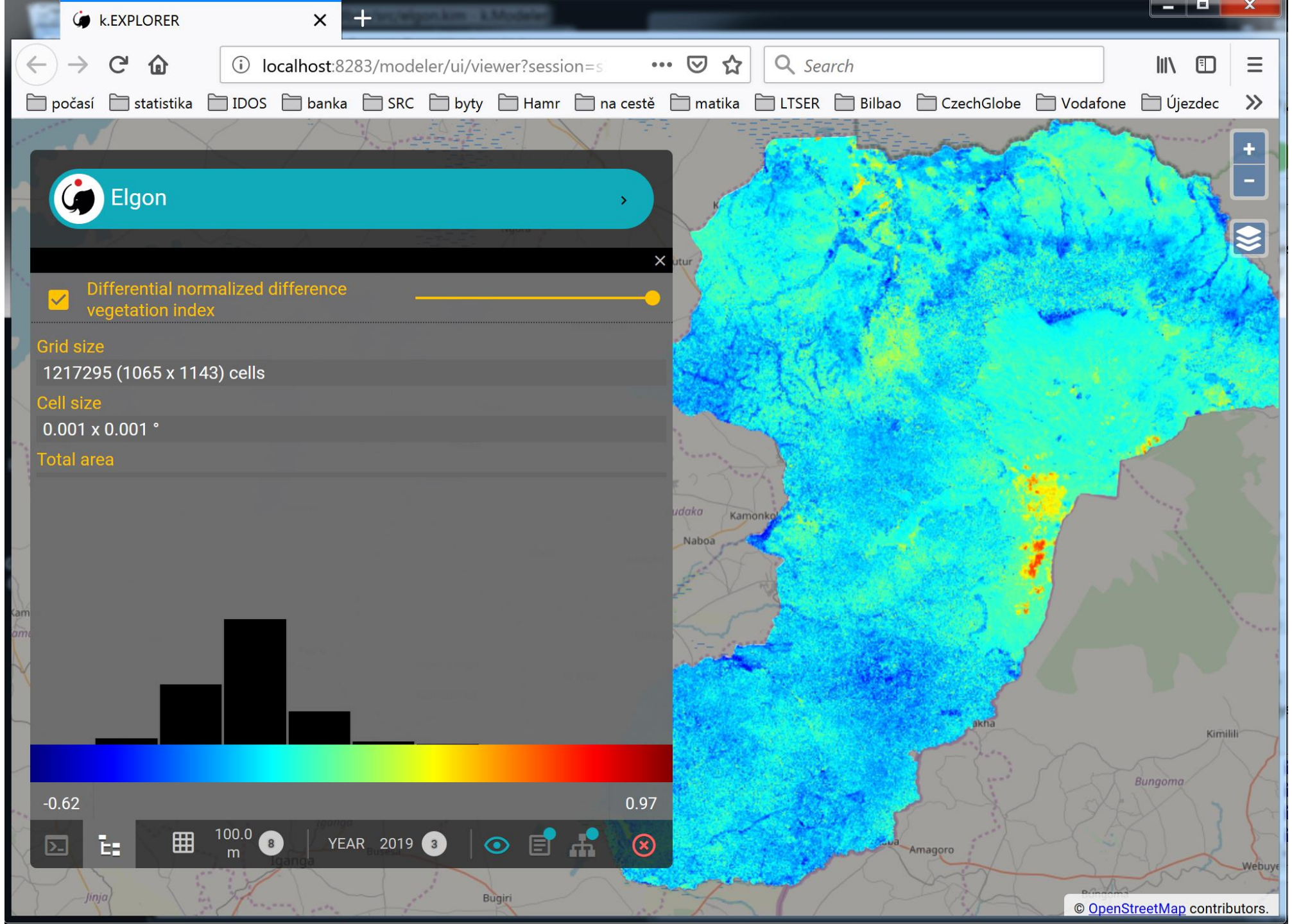

workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
elgon
normalized-difference-vegetation-index-re
land-cover-type-resolver
mountain-peak-instantiator
ndvi_1990
differential-normalized-difference-vegetati
Resources
mosaic1990_Uganda_EastElgon_Boundar
mosaic2018_Uganda_EastElgon_Boundar
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2
Uganda_EastElgon_Peaks.shp
Scripts
Test cases
elgon.kim
landcover:Forest if 1,
landcover:MoorAndHeathland if 2,
landcover:NaturalGrassland if 3,
landcover:AgriculturalVegetation if 4,
landcover:Wetland if 5,
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:
model each "local:zuzanaharmackova:zuzana.sandbox:Uganda_East
as earth:MountainPeak;
number "local:zuzanaharmackova:zuzana.sandbox:mosaic1990_Ugan
as ndvi_1990;
number "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Uganda
model im:Differential ecology:NormalizedDifferenceVegetationInd
observing
ndvi_2018,
ndvi_1990
set to [ndvi_2018 - ndvi_1990];
k.L...
Git ...
User zuzanaha
Version:
Session events
By task artifact
Info
Observation of elgon
Observation of elgon
Observation of elgon
Observation of elgon
Observation of elgon
Observation of elgon
Context
No context
Scenarios
Space
Time
No temporal context
Knowledge Search
Resources
Semantic differential between two non-semantic resources
If we needed a more complex mathematical expression, we use Groovy to write inside the []

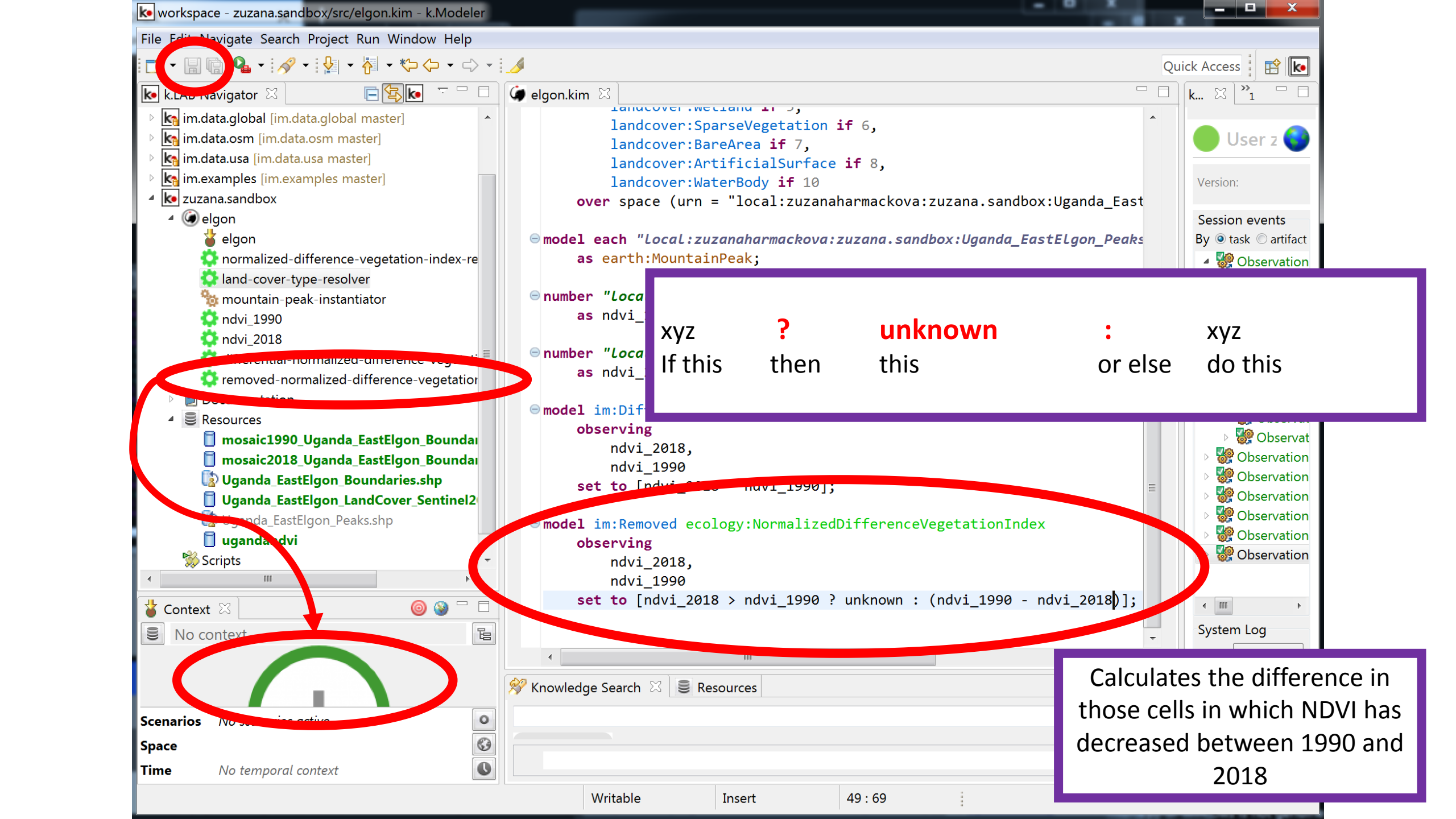
Operator	Purpose	Remarks
`+`	addition	
`-`	subtraction	
`*`	multiplication	
`/`	division	Use `intdiv()` for integer division, and see the section about integer division for more information on the return type of the division.
`%`	remainder	
`**`	power	See the section about the power operation for more information on the return type of the operation.

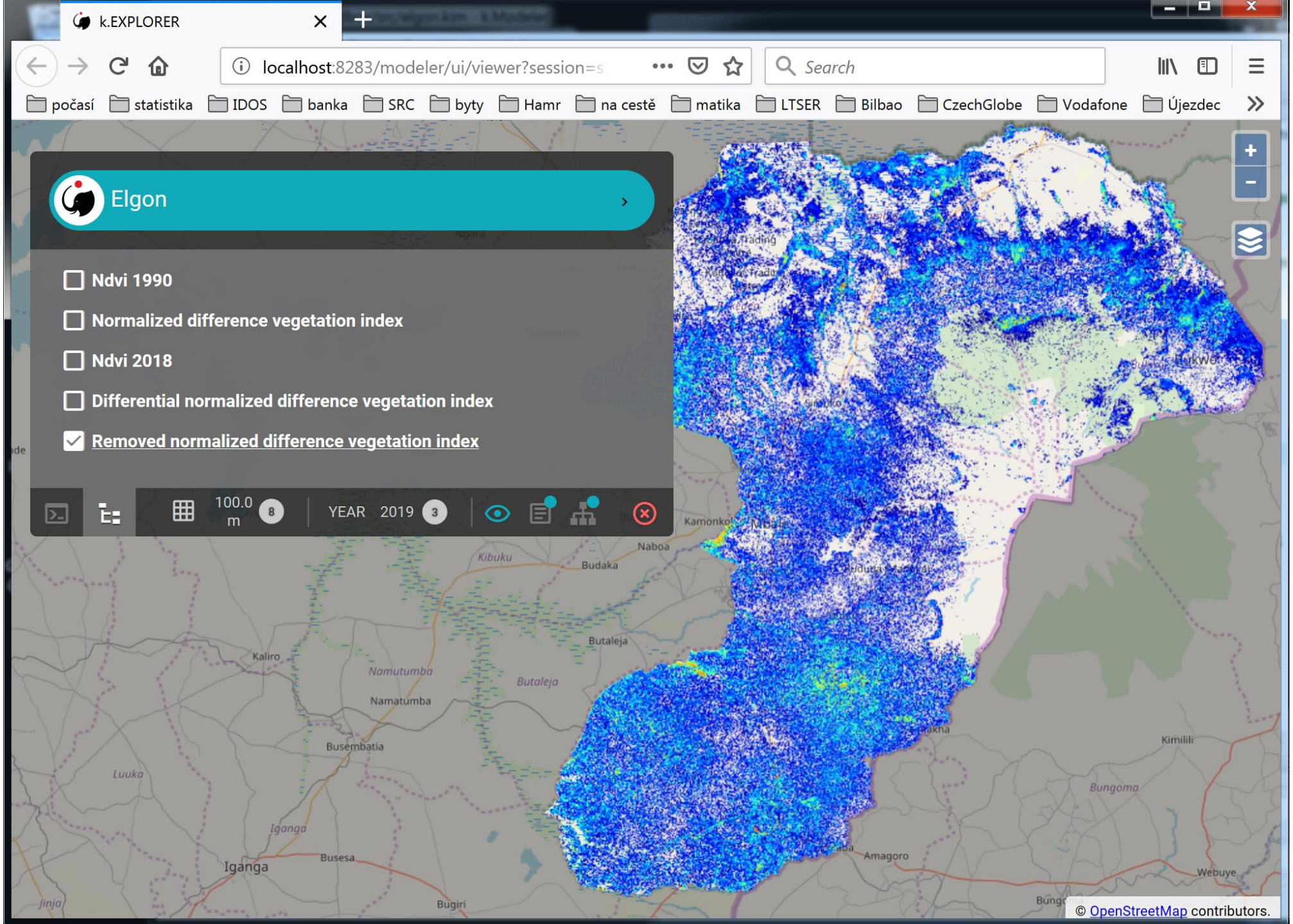
Operator	Purpose
`==`	equal
`!=`	different
`<`	less than
`<=`	less than or equal
`>`	greater than
`>=`	greater than or equal

And many more on:

http://docs.groovy-lang.org/latest/html/documentation/core-operators.html


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=s
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
Elgon
Differential normalized difference vegetation index
Grid size
1217295 (1065 x 1143) cells
Cell size
0.001 x 0.001 °
Total area
-0.62
0.97
100.0 m
YEAR 2019
Kamonkoi
Naboa
Kimilili
Bungoma
Amagoro
Webuye
Bugiri
© OpenStreetMap contributors.


workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
zuzana.sandbox
elgon
elgon
normalized-difference-vegetation-index-re
land-cover-type-resolver
mountain-peak-instantiator
ndvi_1990
ndvi_2018
removed-normalized-difference-vegetation
Resources
mosaic1990_Uganda_EastElgon_Boundar
mosaic2018_Uganda_EastElgon_Boundar
Uganda_EastElgon_Boundaries.shp
Uganda_EastElgon_LandCover_Sentinel2
Uganda_EastElgon_Peaks.shp
uganda_ndvi
Scripts
Context
No context
Scenarios
Space
Time
No temporal context
elgon.kim
landcover:SparseVegetation if 6,
landcover:BareArea if 7,
landcover:ArtificialSurface if 8,
landcover:WaterBody if 10
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_East
model each "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_Peaks
as earth:MountainPeak;
observing
ndvi_2018,
ndvi_1990
model im:Removed ecology:NormalizedDifferenceVegetationIndex
observing
ndvi_2018,
ndvi_1990
set to [ndvi_2018 > ndvi_1990 ? unknown : (ndvi_1990 - ndvi_2018)];
Knowledge Search
Resources
Writable
Insert
49 : 69
User z
Version:
Session events
By task artifact
Observation
System Log
xyz ? unknown : xyz
If this then this or else do this
Calculates the difference in those cells in which NDVI has decreased between 1990 and 2018


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=s
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
Elgon
Ndvi 1990
Normalized difference vegetation index
Ndvi 2018
Differential normalized difference vegetation index
Removed normalized difference vegetation index
100.0 m
8
YEAR 2019
3
Kamonkoi
Mbale
Naboa
Kibuku
Budaka
Butaleja
Kaliro
Namutumba
Busembatia
Luuka
Iganga
Busesa
Bugiri
Jinja
Amagoro
Kimilili
Bungoma
Webuye
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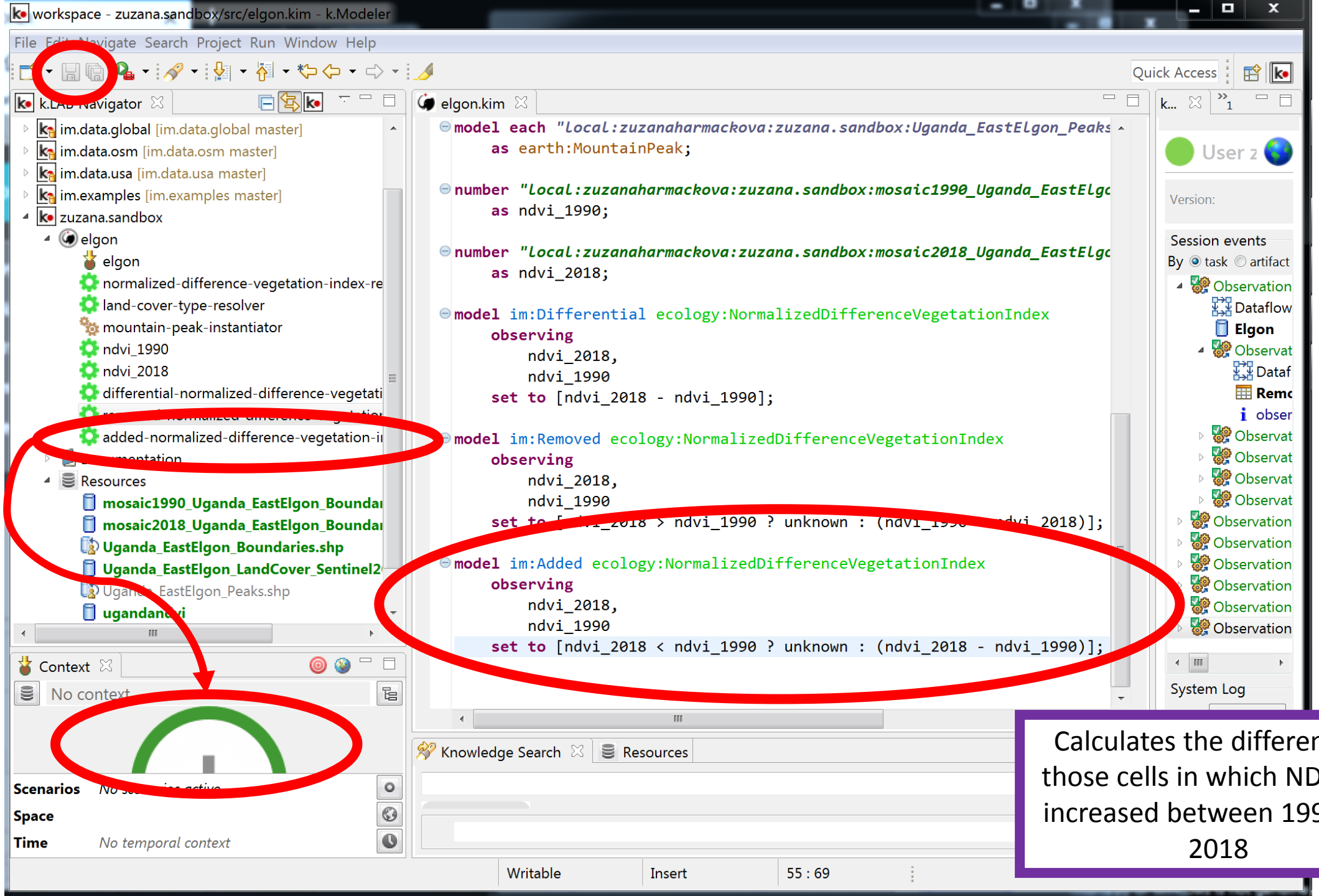
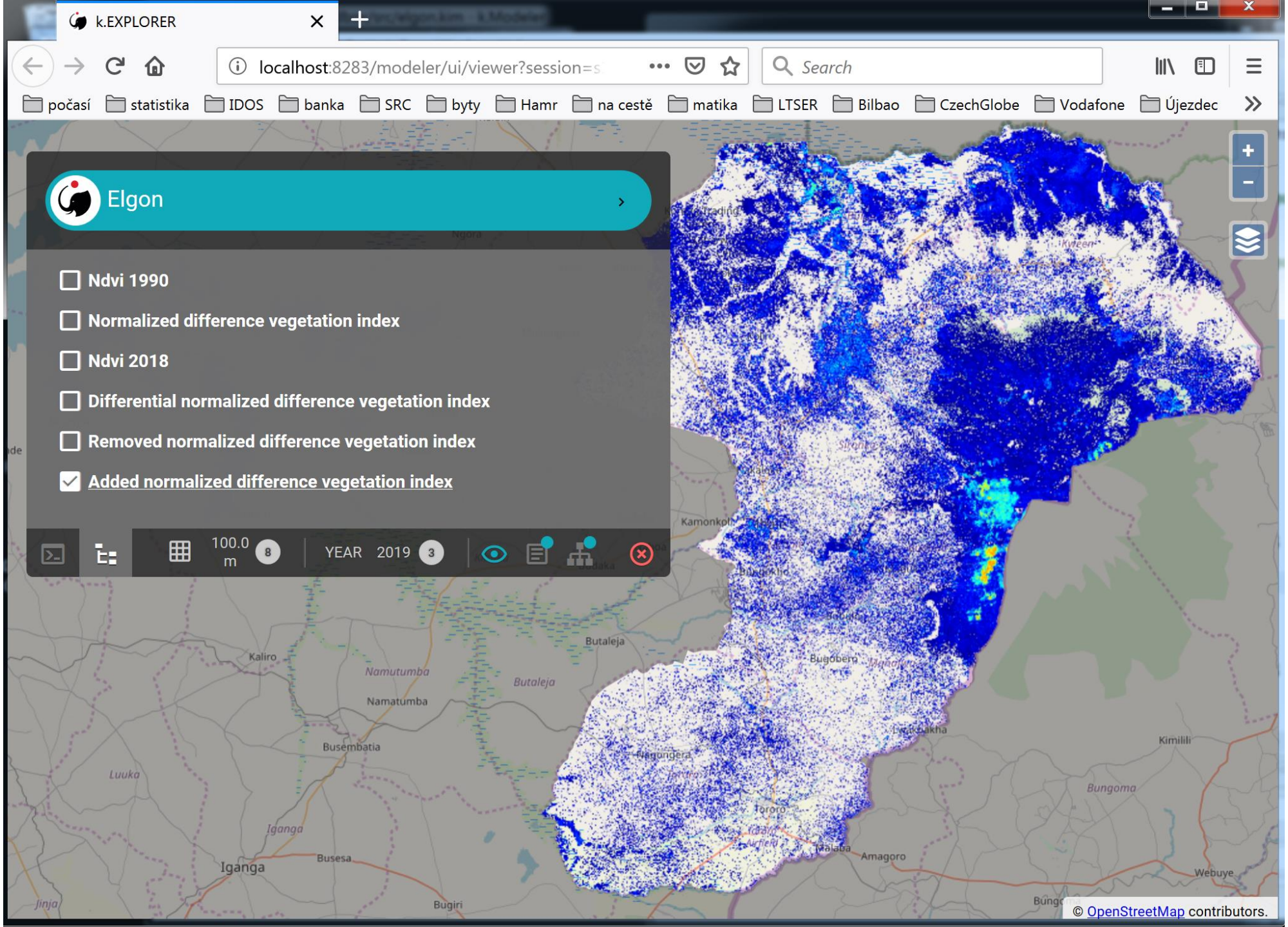


Calculates the difference in those cells in which NDVI has increased between 1990 and 2018


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=s
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
Elgon
Ndvi 1990
Normalized difference vegetation index
Ndvi 2018
Differential normalized difference vegetation index
Removed normalized difference vegetation index
Added normalized difference vegetation index
100.0 m
8
YEAR 2019
3
Kaliro
Namutumba
Butaleja
Busembatia
Luuka
Iganga
Busesa
Bugiri
Kamonkoli
Bugobero
Kimilili
Bungoma
Tororo
Malaba
Amagoro
Webuye
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Pull changes in repositories

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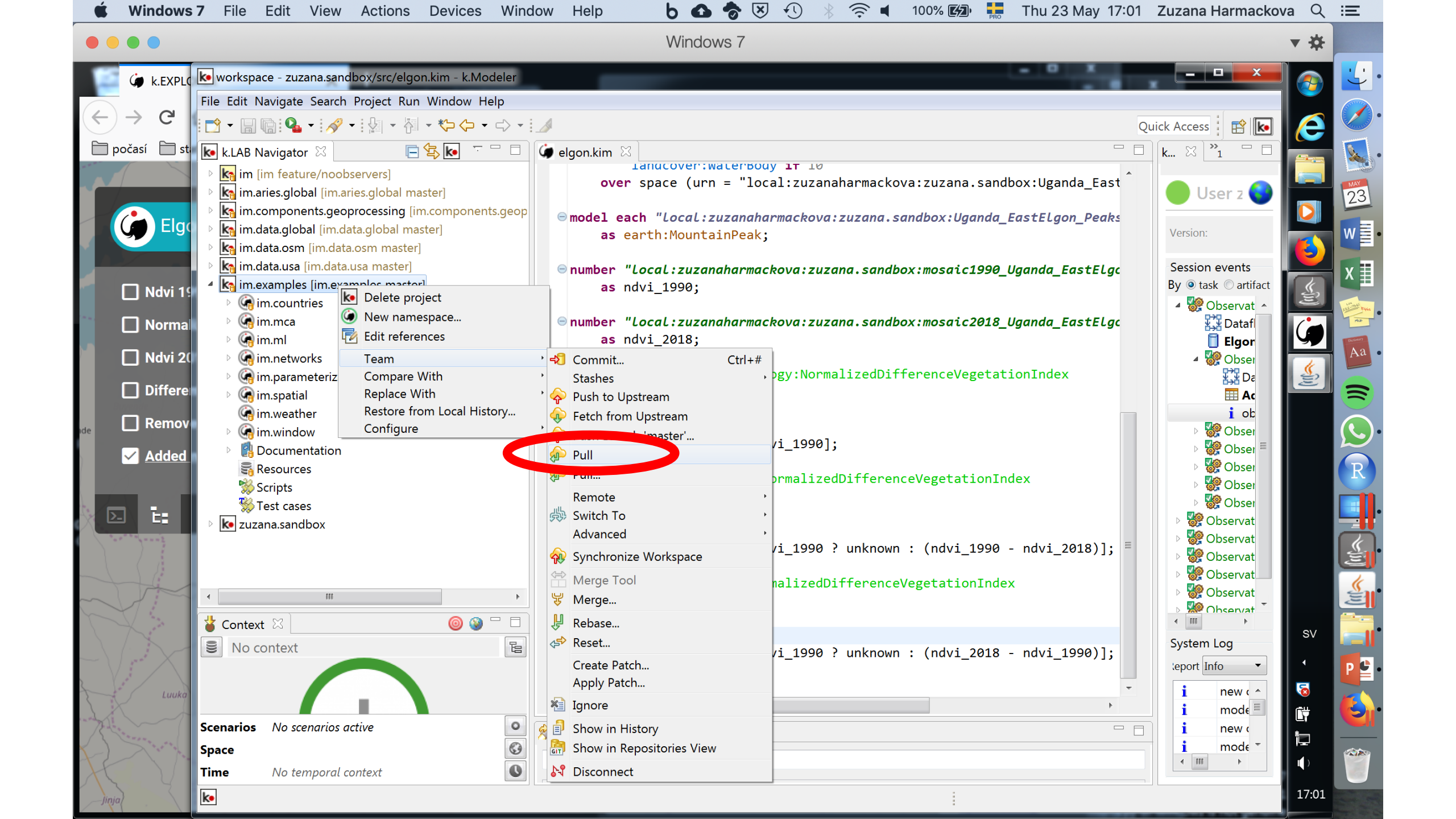
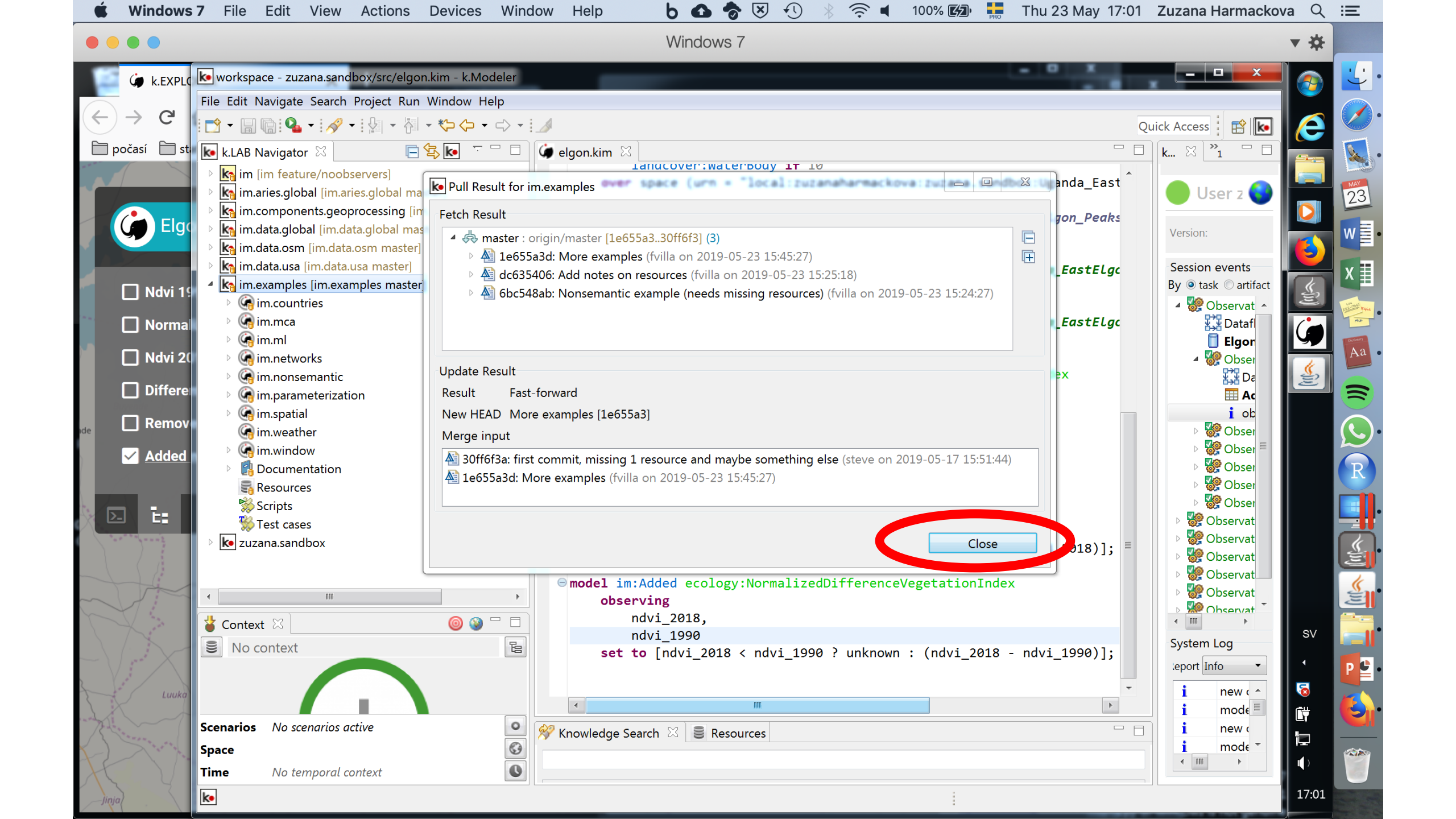
FOR CLIMATE CHANGE
Klima Aldaketa Ikergai


Windows 7 File Edit View Actions Devices Window Help
Thu 23 May 17:01 Zuzana Harmackova
Windows 7
workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global master]
im.components.geoprocessing [im.components.geop
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
im.countries
im.mca
im.ml
im.networks
im.parameteriz
im.spatial
im.weather
im.window
Documentation
Resources
Scripts
Test cases
zuzana.sandbox
Delete project
New namespace...
Edit references
Team
Compare With
Replace With
Restore from Local History...
Configure
Commit... Ctrl+#
Stashes
Push to Upstream
Fetch from Upstream
Pull
Remote
Switch To
Advanced
Synchronize Workspace
Merge Tool
Merge...
Rebase...
Reset...
Create Patch...
Apply Patch...
Ignore
Show in History
Show in Repositories View
Disconnect
elgon.kim
over space (urn = "local:zuzanaharmackova:zuzana.sandbox:Uganda_East
model each "local:zuzanaharmackova:zuzana.sandbox:Uganda_EastElgon_Peaks
as earth:MountainPeak;
number "local:zuzanaharmackova:zuzana.sandbox:mosaic1990_Uganda_EastElgo
as ndvi_1990;
number "local:zuzanaharmackova:zuzana.sandbox:mosaic2018_Uganda_EastElgo
as ndvi_2018;
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Session events
System Log
17:01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Windows 7
workspace - zuzana.sandbox/src/elgon.kim - k.Modeler
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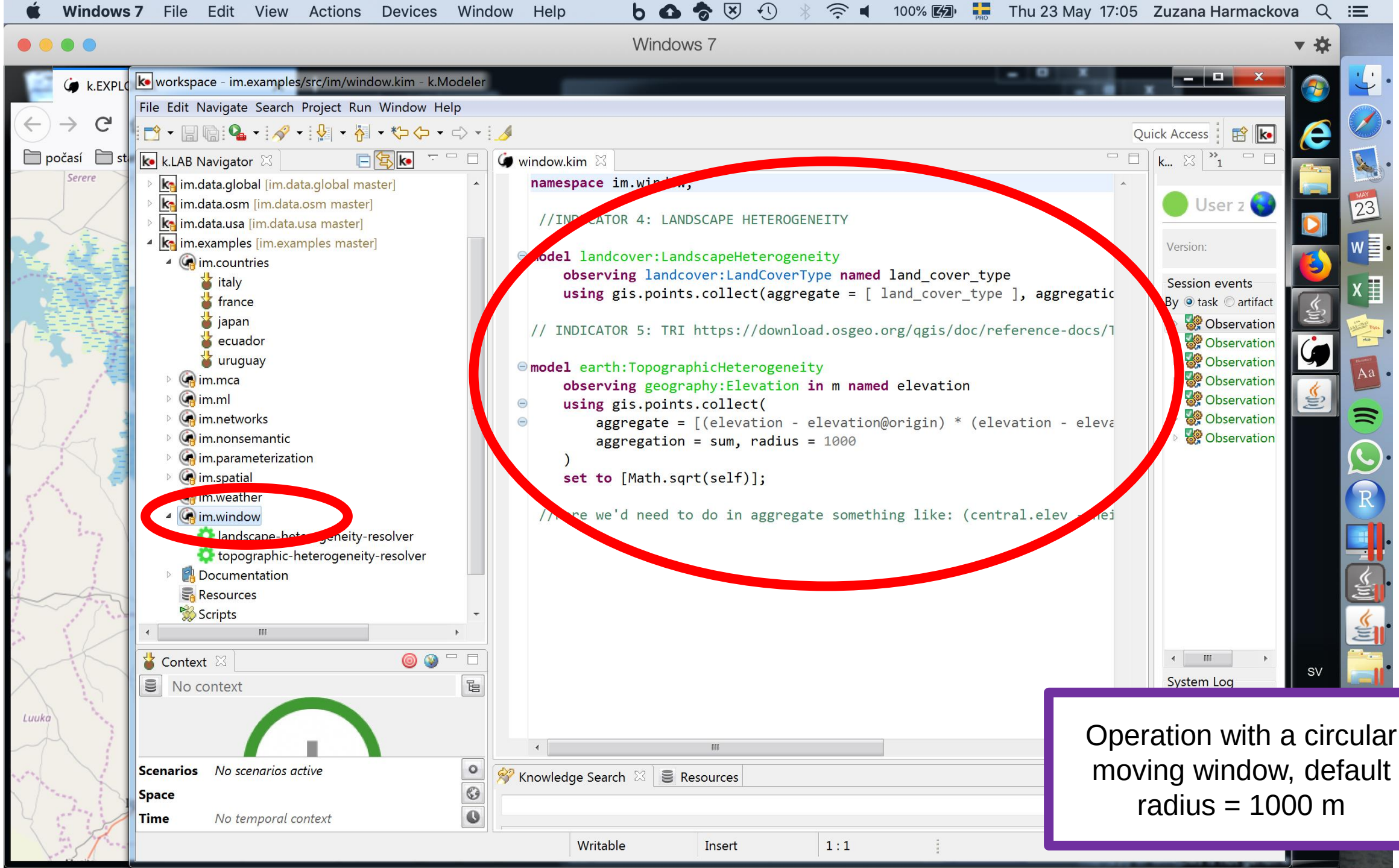
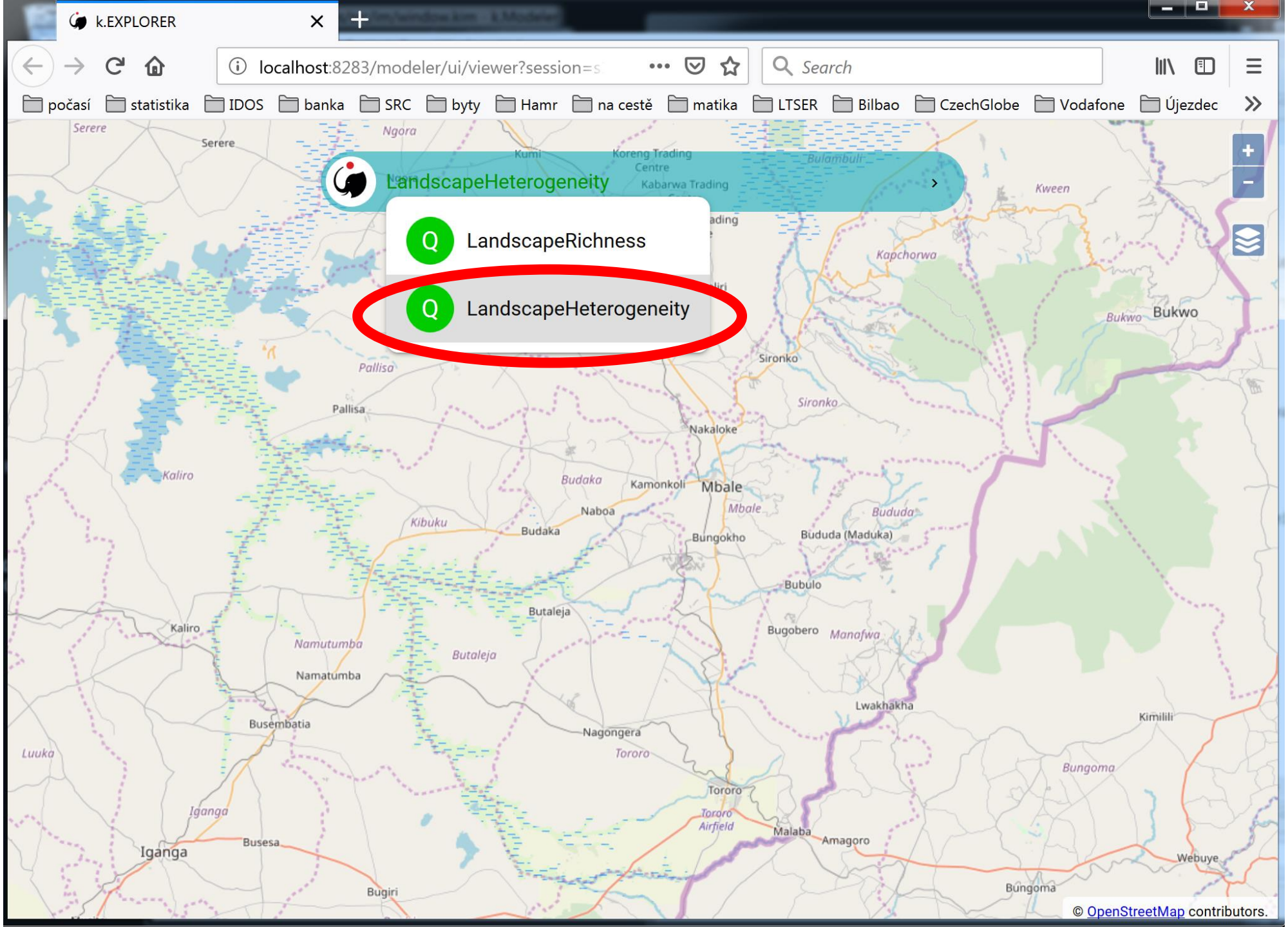
Quick Access
k.LAB Navigator
im [im feature/noobservers]
im.aries.global [im.aries.global ma
im.components.geoprocessing [im
im.data.global [im.data.global mas
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
im.countries
im.mca
im.ml
im.networks
im.nonsemantic
im.parameterization
im.spatial
im.weather
im.window
Documentation
Resources
Scripts
Test cases
zuzana.sandbox
Pull Result for im.examples
Fetch Result
master : origin/master [1e655a3..30ff6f3] (3)
1e655a3d: More examples (fvilla on 2019-05-23 15:45:27)
dc635406: Add notes on resources (fvilla on 2019-05-23 15:25:18)
6bc548ab: Nonsemantic example (needs missing resources) (fvilla on 2019-05-23 15:24:27)
Update Result
Result Fast-forward
New HEAD More examples [1e655a3]
Merge input
30ff6f3a: first commit, missing 1 resource and maybe something else (steve on 2019-05-17 15:51:44)
1e655a3d: More examples (fvilla on 2019-05-23 15:45:27)
Close
elgon.kim
model im:Added ecology:NormalizedDifferenceVegetationIndex
observing
ndvi_2018,
ndvi_1990
set to [ndvi_2018 < ndvi_1990 ? unknown : (ndvi_2018 - ndvi_1990)];
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Knowledge Search
Resources
Session events
System Log
17:01

Landscape heterogeneity

bc³
BASQUE CENTRE
FOR CLIMATE CHANGE
Klima Aldaketa Ikergai


Windows 7 File Edit View Actions Devices Window Help
Thu 23 May 17:05 Zuzana Harmackova
Windows 7
workspace - im.examples/src/im/window.kim - k.Modeler
File Edit Navigate Search Project Run Window Help
Quick Access
k.LAB Navigator
im.data.global [im.data.global master]
im.data.osm [im.data.osm master]
im.data.usa [im.data.usa master]
im.examples [im.examples master]
im.countries
italy
france
japan
ecuador
uruguay
im.mca
im.ml
im.networks
im.nonsemantic
im.parameterization
im.spatial
im.weather
im.window
topographic-heterogeneity-resolver
Documentation
Resources
Scripts
window.kim
namespace im.window;
//INDICATOR 4: LANDSCAPE HETEROGENEITY
model landcover:LandscapeHeterogeneity
observing landcover:LandCoverType named land_cover_type
using gis.points.collect(aggregate = [land_cover_type], aggregatic
// INDICATOR 5: TRI https://download.osgeo.org/qgis/doc/reference-docs/T
model earth:TopographicHeterogeneity
observing geography:Elevation in m named elevation
using gis.points.collect(
aggregate = [(elevation - elevation@origin) * (elevation - eleva
aggregation = sum, radius = 1000
)
set to [Math.sqrt(self)];
Session events
By task artifact
Observation
Context
No context
Scenarios No scenarios active
Space
Time No temporal context
Knowledge Search
Resources
Writable
Insert
1 : 1
System Log
Operation with a circular moving window, default radius = 1000 m


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=s
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
LandscapeHeterogeneity
LandscapeRichness
LandscapeHeterogeneity
Serere
Ngora
Kumi
Koreng Trading Centre
Kabarwa Trading
Bulambuli
Kween
Kapchorwa
Bukwo
Sironko
Pallisa
Nakaloke
Kaliro
Budaka
Kamonkoli
Mbale
Naboa
Kibuku
Bungokho
Bududa (Maduka)
Bubulo
Butaleja
Bugobero
Manafwa
Namutumba
Busembatia
Nagongera
Tororo
Lwakhakha
Kimilili
Luuka
Iganga
Busesa
Tororo Airfield
Malaba
Amagoro
Bungoma
Webuye
Bugiri
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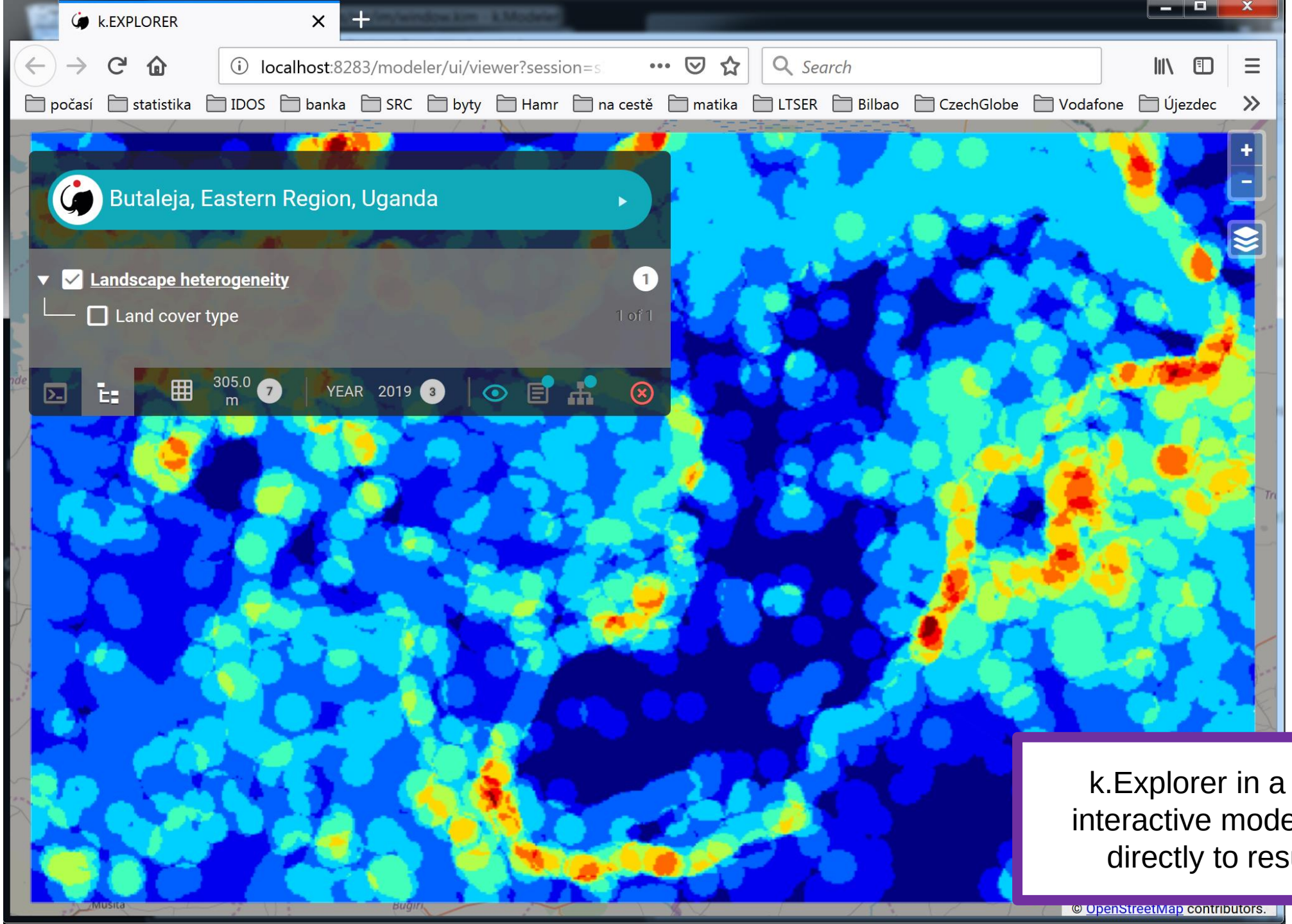
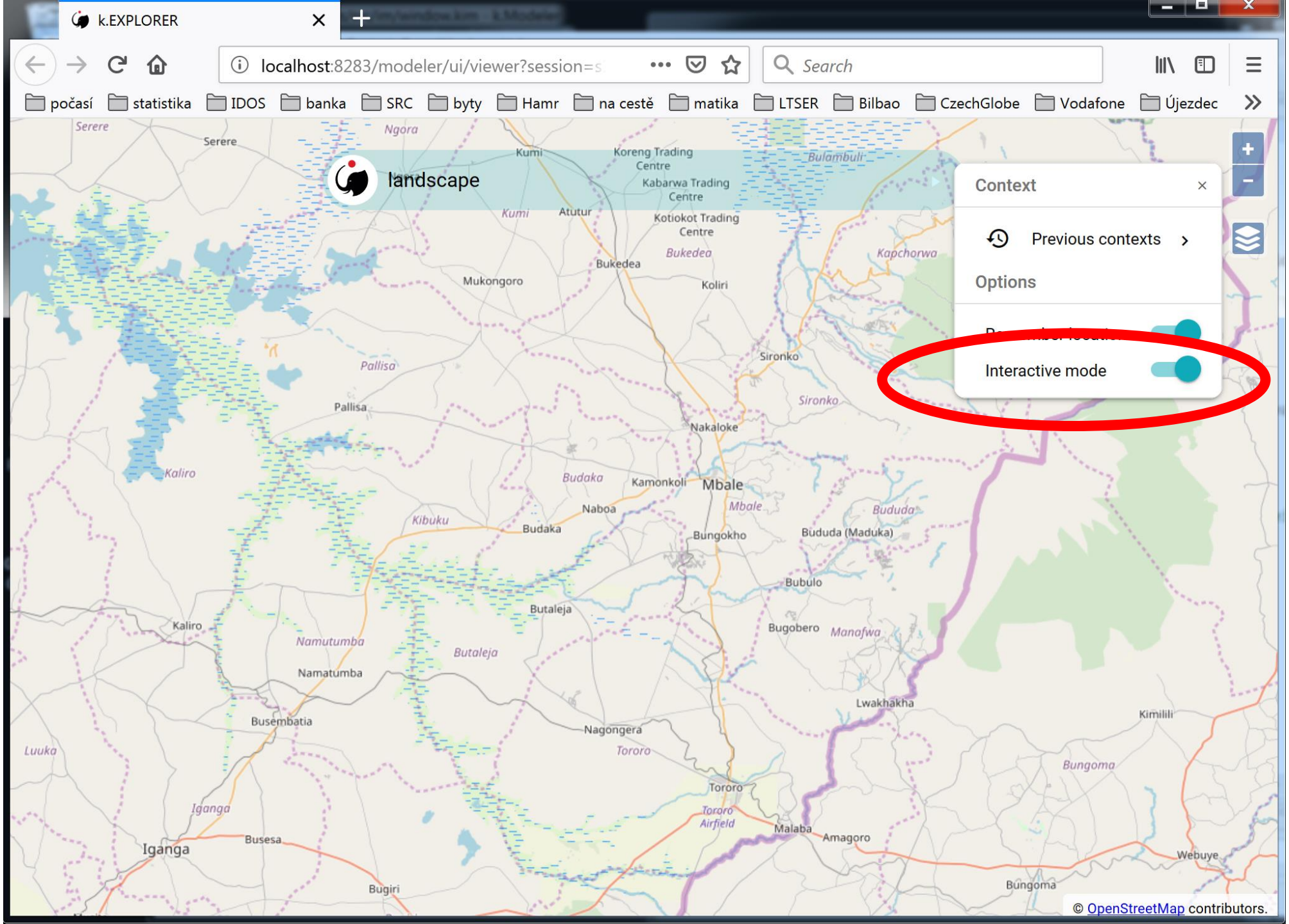


k.Explorer in a non-interactive mode goes directly to results


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=s
Search
počasí
statistika
IDOS
banka
SRC
byty
Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
landscape
Context
Previous contexts
Options
Interactive mode
Serere
Ngora
Kumi
Koreng Trading Centre
Kabarwa Trading Centre
Kotiokot Trading Centre
Atutur
Bulambuli
Bukedea
Mukongoro
Koliri
Kapchorwa
Sironko
Pallisa
Kaliro
Nakaloke
Budaka
Kamonkoli
Mbale
Naboa
Kibuku
Bungokho
Bududa
Bududa (Maduka)
Bubulo
Butaleja
Bugobero
Manafwa
Namutumba
Busembatia
Nagongera
Tororo
Lwakhakha
Kimilili
Luuka
Iganga
Busesa
Tororo Airfield
Malaba
Amagoro
Bungoma
Webuye
Bugiri
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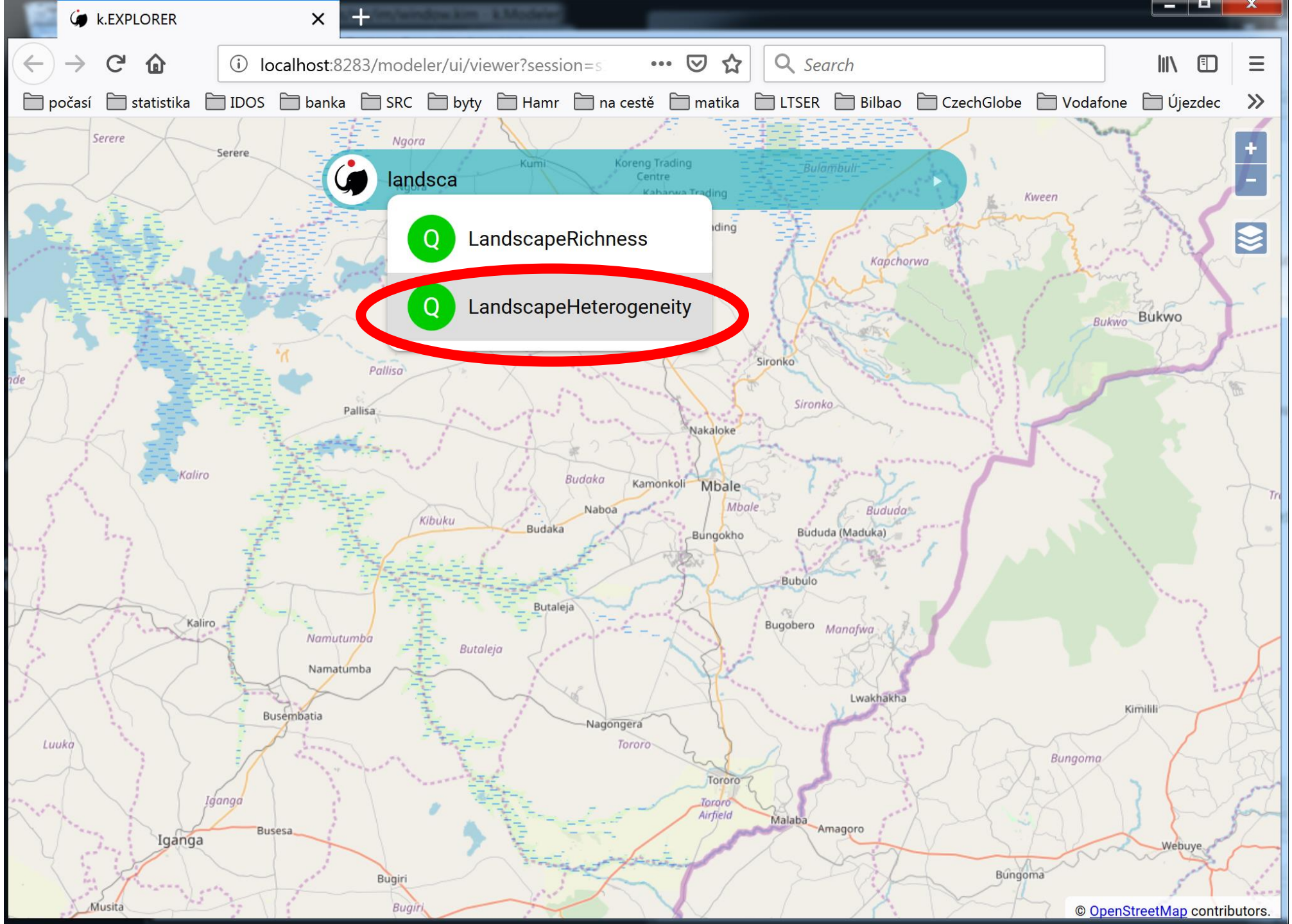
k.EXPLORER
localhost:8283/modeler/ui/viewer?session=s
Search
počasí
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IDOS
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SRC
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Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
landsca
LandscapeRichness
LandscapeHeterogeneity
Serere
Ngora
Kumi
Koreng Trading Centre
Bulambuli
Kween
Kapchorwa
Bukwo
Sironko
Pallisa
Nakaloke
Kaliro
Budaka
Kamonkoli
Mbale
Naboa
Kibuku
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Bungoma
Musita
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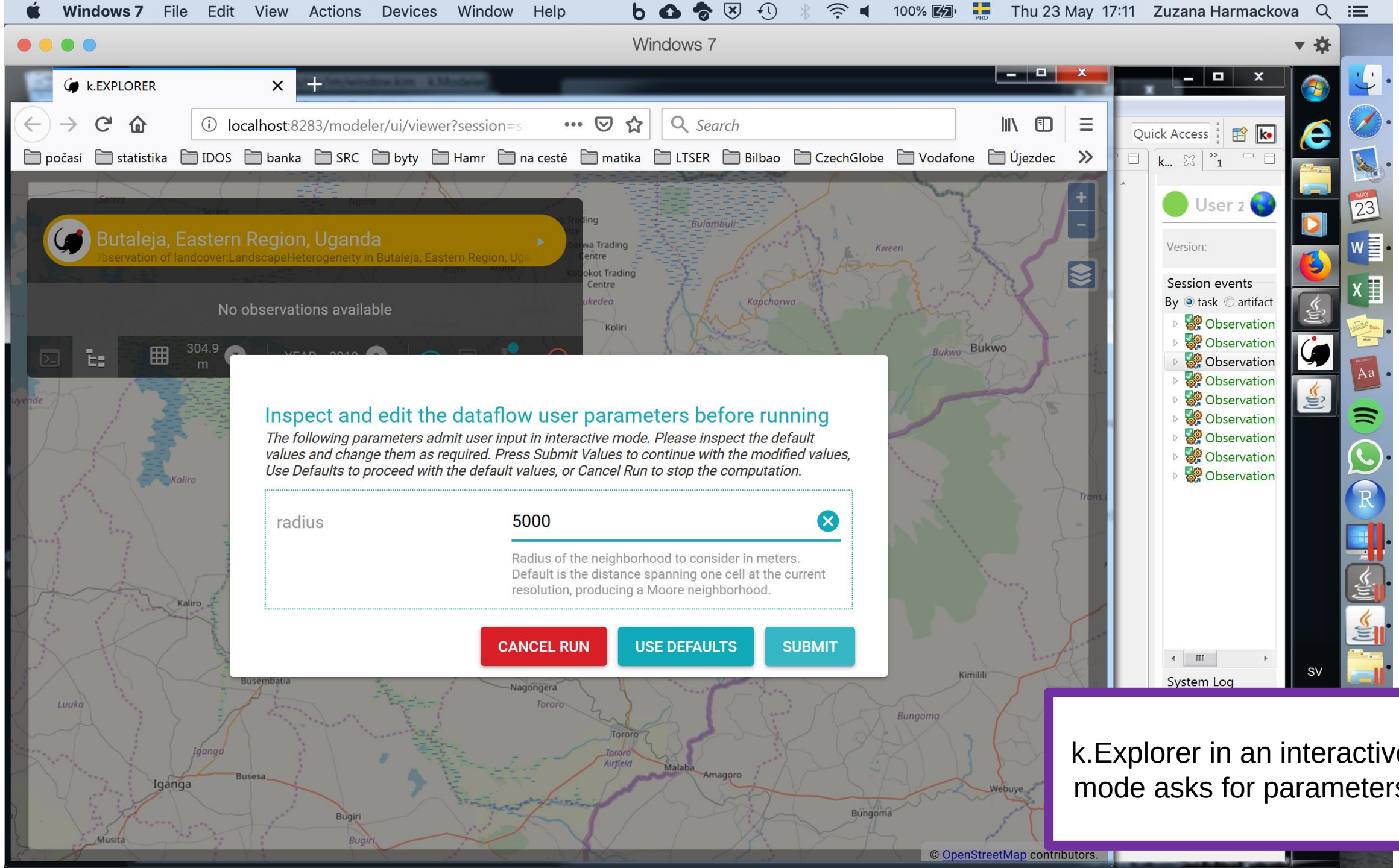
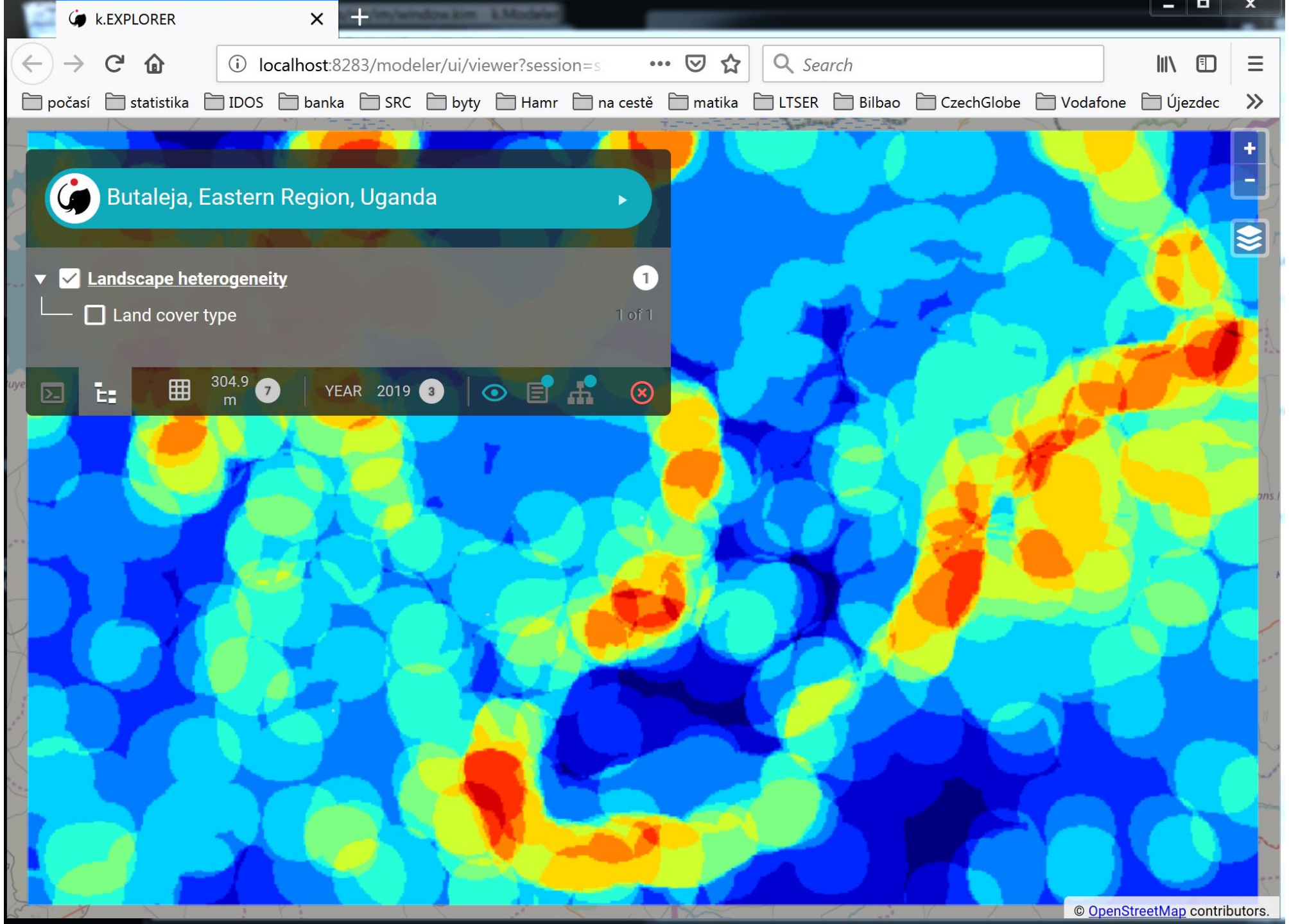


k.Explorer in an interactive mode asks for parameters


k.EXPLORER
localhost:8283/modeler/ui/viewer?session=s
Search
počasí
statistika
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Hamr
na cestě
matika
LTSER
Bilbao
CzechGlobe
Vodafone
Újezdec
Butaleja, Eastern Region, Uganda
Landscape heterogeneity
1
Land cover type
1 of 1
304.9
m
7
YEAR
2019
3
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