



Μάθημα:

Διαχείριση & Προστασία Υδατικών Πόρων

Ζ ΕΞΑΜΗΝΟ

Καζάκης Νεραντζής

Επίκουρος Καθηγητής Υδρογεωλογίας & Διαχείρισης Υδατικών Πόρων

Εργαστήριο

ΔΙΑΛΕΞΗ 1^η

Καζάκης Νεραντζής

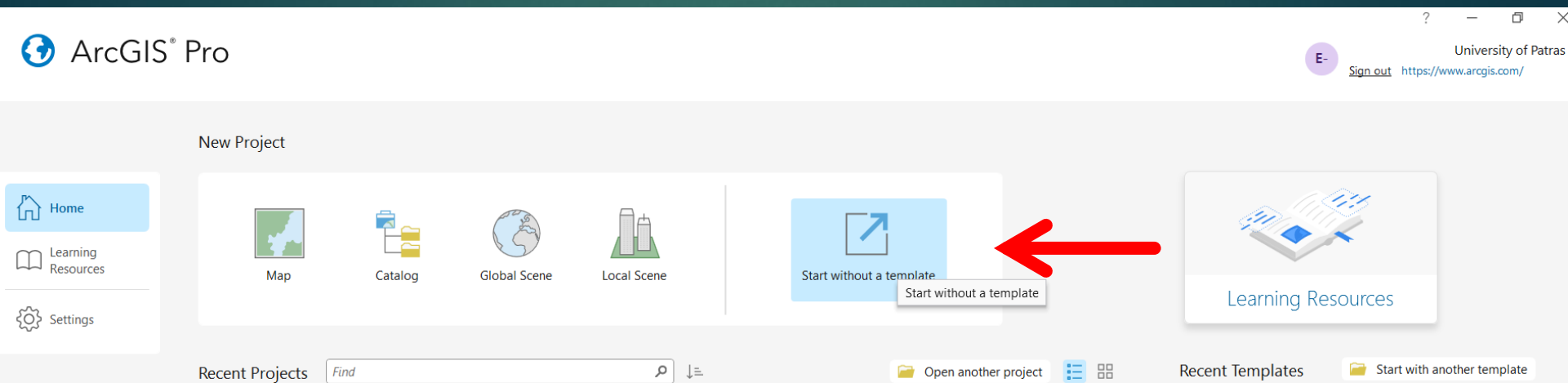
Επίκουρος Καθηγητής Υδρογεωλογίας & Διαχείρισης Υδατικών Πόρων

Νάνου Ελένη-Άννα, Σταυροπούλου Βασιλική, Παπαηλιοπούλου Μαρία

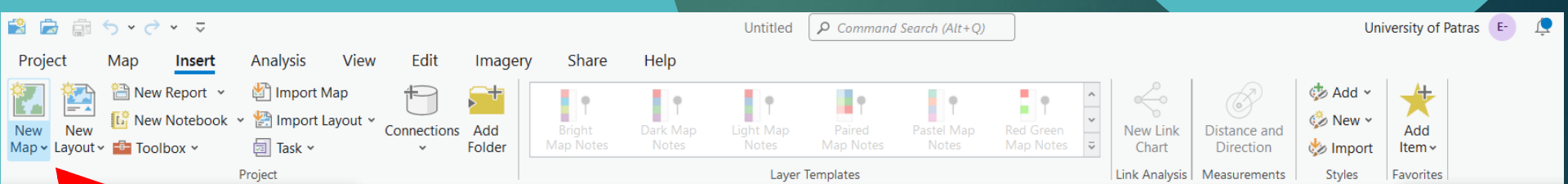
Υποψ. Διδάκτορες Εργαστηρίου Υδρογεωλογίας

ArcGIS Pro

1.



2.



Arc GIS Pro

Project Map Insert **Analysis** View Edit Imagery Share Help

ModelBuilder Python Ready To Use Tools

History Environments Geoprocessing

Pairwise Buffer Summarize Within Spatial Join Pairwise Clip Optimized Hot Spot Analysis

Tools

Feature Analysis Raster Analysis

Portal

Data Engineering Suitability Modeler Visibility Analysis Exploratory 3D Analysis Network Analysis Geostatistical Wizard Business Analysis Data Interop

Workflows

Raster Functions Raster Function Editor

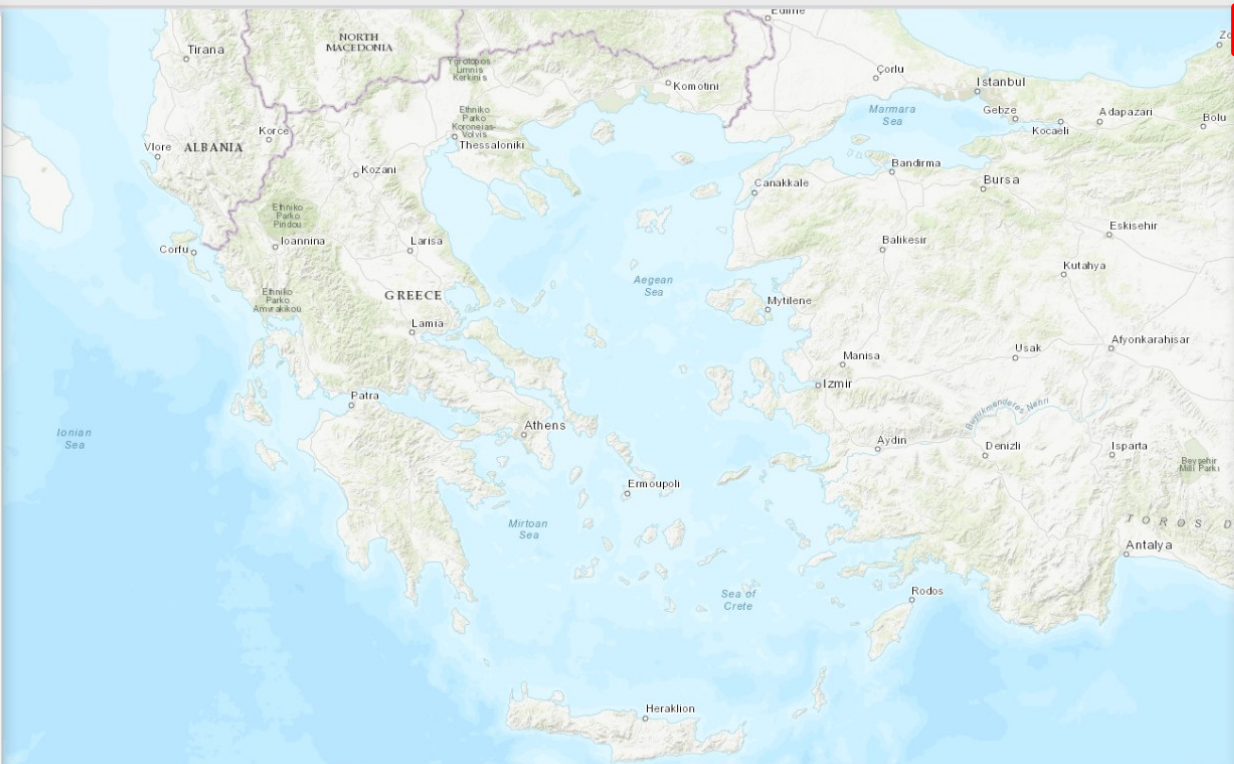
Contents

Search

Drawing Order

Map

- Cyprus Topographic Map
- World Topographic Map



Catalog

Project Portal Computer Favorites

Search Project

- Maps
- Toolboxes
- Databases
- Styles
- Folders
- Locators

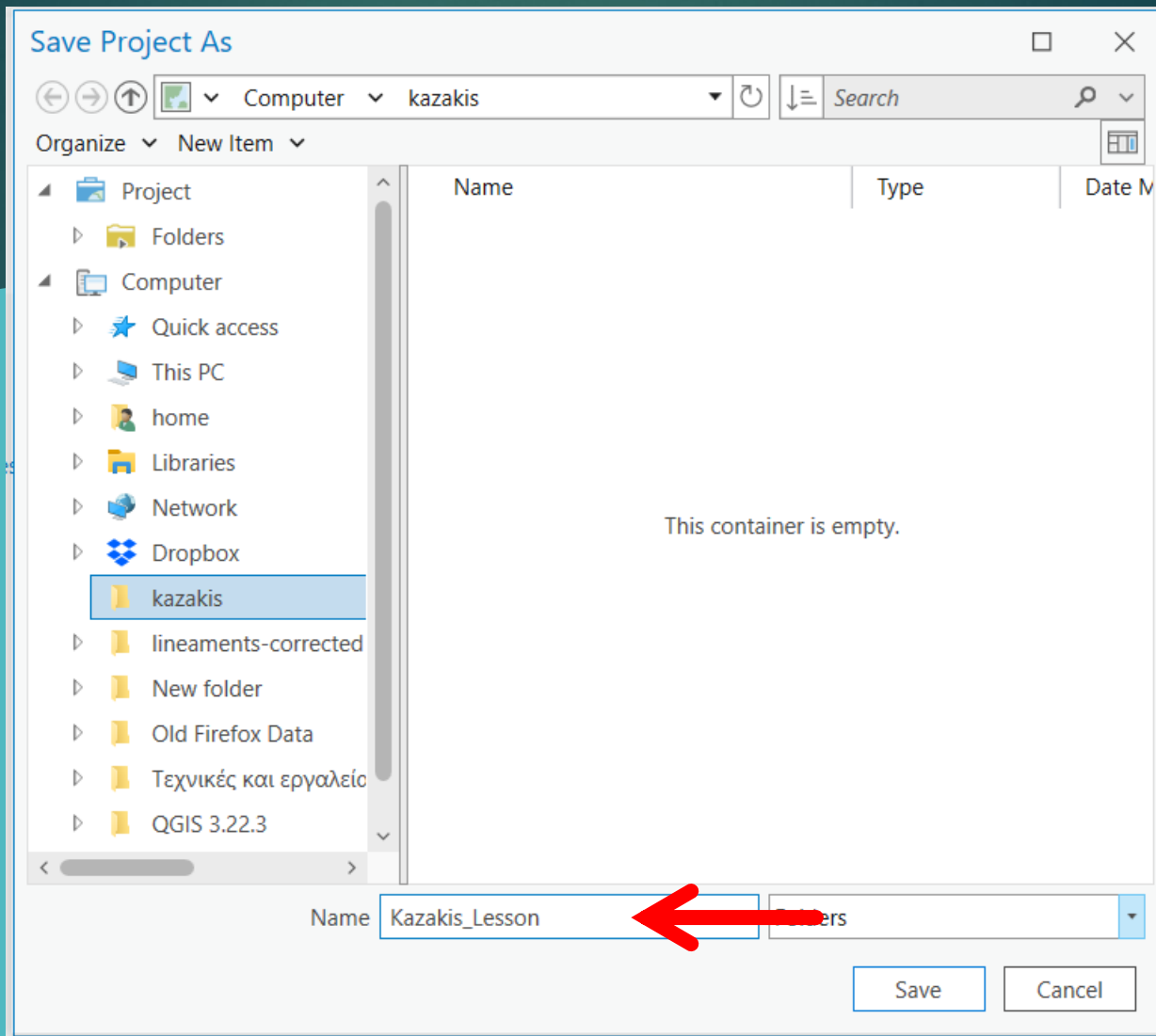
Δημιουργία αρχείου .aprx

The screenshot displays the ArcGIS Desktop interface. At the top, the title bar shows 'Untitled' and 'Command Search (Alt+Q)'. The main menu bar includes 'Project', 'Map', 'Insert', 'Analysis', 'View', 'Edit', 'Imagery', 'Share', and 'Help'. A red arrow points to the 'Project' menu. Below the menu bar is a ribbon with various tool groups: Geoprocessing (ModelBuilder, Python, Environments, Ready To Use Tools, Tools), Tools (Pairwise Buffer, Summarize Within, Spatial Join, Pairwise Clip, Optimized Hot Spot Analysis), Portal (Feature Analysis, Raster Analysis), Data Engineering (Data Engineering), Suitability Modeler, Visibility Analysis, Exploratory 3D Analysis, Network Analysis, Geostatistical Wizard, Business Analysis, Data Interop, Raster Functions, and Function Editor. The main workspace shows a map of Greece and the Balkans region, with labels for cities like Tirana, Athens, and Istanbul. On the left, the 'Contents' pane shows 'Drawing Order' with 'Map' selected and 'Cyprus Topographic Map' and 'World Topographic Map' checked. On the right, the 'Catalog' pane shows 'Project' selected and a search bar for 'Search Project'. The status bar at the bottom shows the scale '1:6,125,641' and coordinates '31.6113836°E 37.1239824°N'.

Δημιουργία αρχείου .aprx

The screenshot displays the 'New' dialog box in ArcGIS Pro. The left sidebar contains a navigation menu with the following items: New, Open, Info, Save Project, Save Project As, Portals, Licensing, Options, Package Manager, Add-In Manager, Help, About, Learning Resources, and Exit. The 'New' section is expanded, showing 'Recent' and 'Computer' options. A red arrow points to the 'Computer' option. The main area is titled 'New Project' and features five icons: Map, Catalog, Global Scene, Local Scene, and Start without a template. Below this, the 'Recent Templates' section includes a link to 'Learn more about creating project templates' and a 'Start with another template' button. The window title is 'Untitled' and standard window controls are visible in the top right corner.

Δημιουργία αρχείου .aprx



Δημιουργία φακέλου

The screenshot displays the ArcGIS Desktop interface. The main map window shows a topographic map of Greece and surrounding regions. On the right side, the Catalog pane is open, showing a tree view of the project structure. A red box highlights the 'Catalog' title bar, and a red arrow points to the newly created folder 'Kazakis_Lesson' under the 'Folders' category. The project name is 'Kazakis_Lesson' and the user is logged in as 'EAENH - ANNA - University of Patras'.

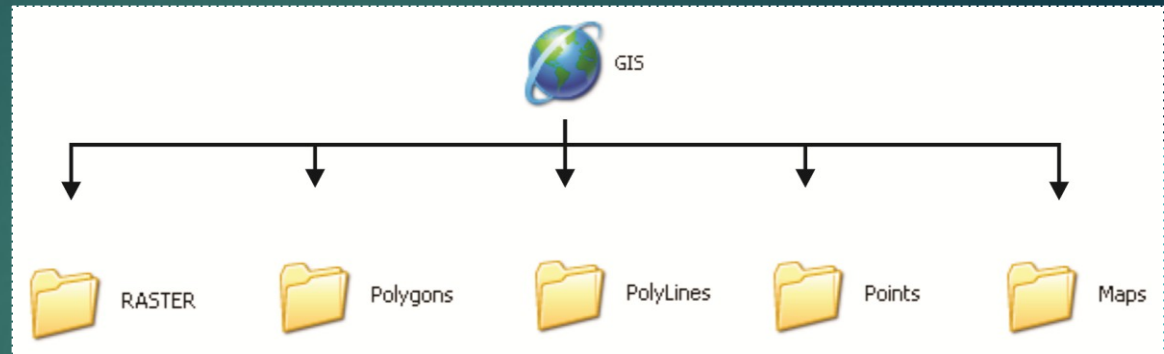
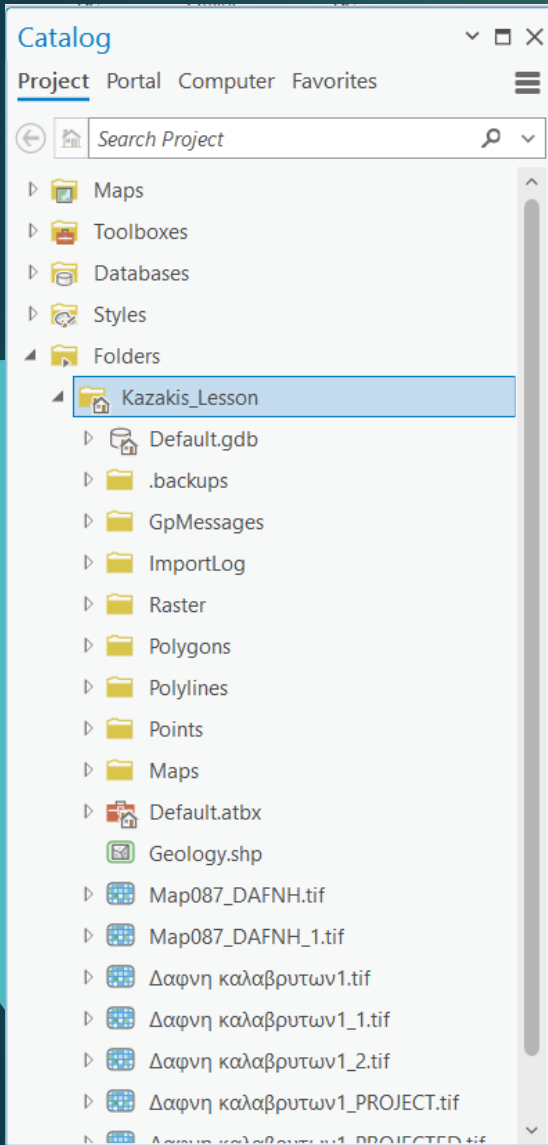
Project: Kazakis_Lesson

User: EAENH - ANNA - University of Patras

Project Structure (Catalog Pane):

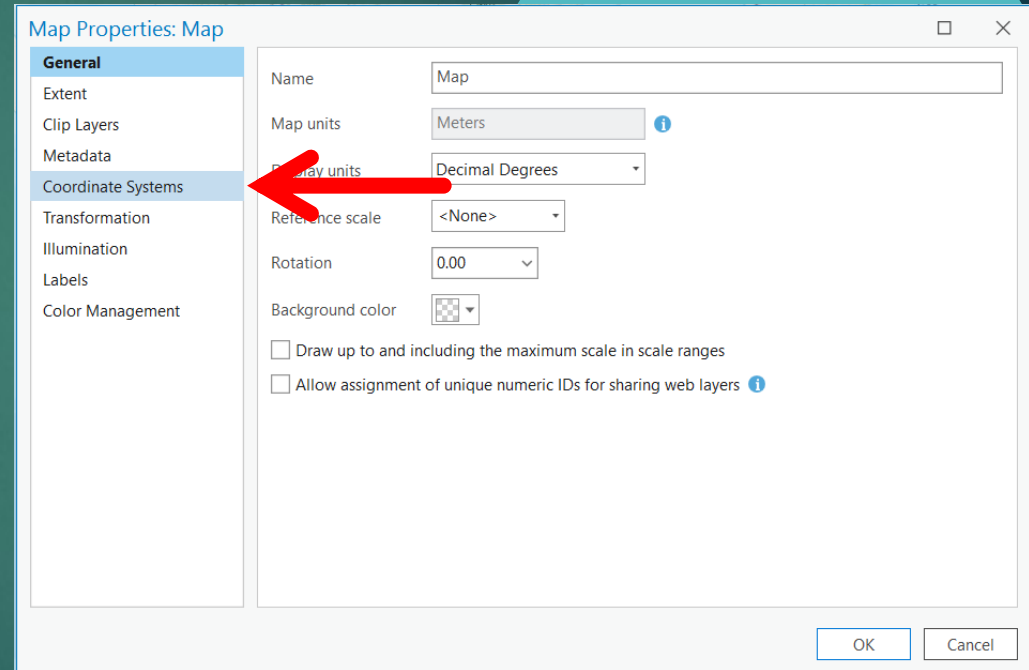
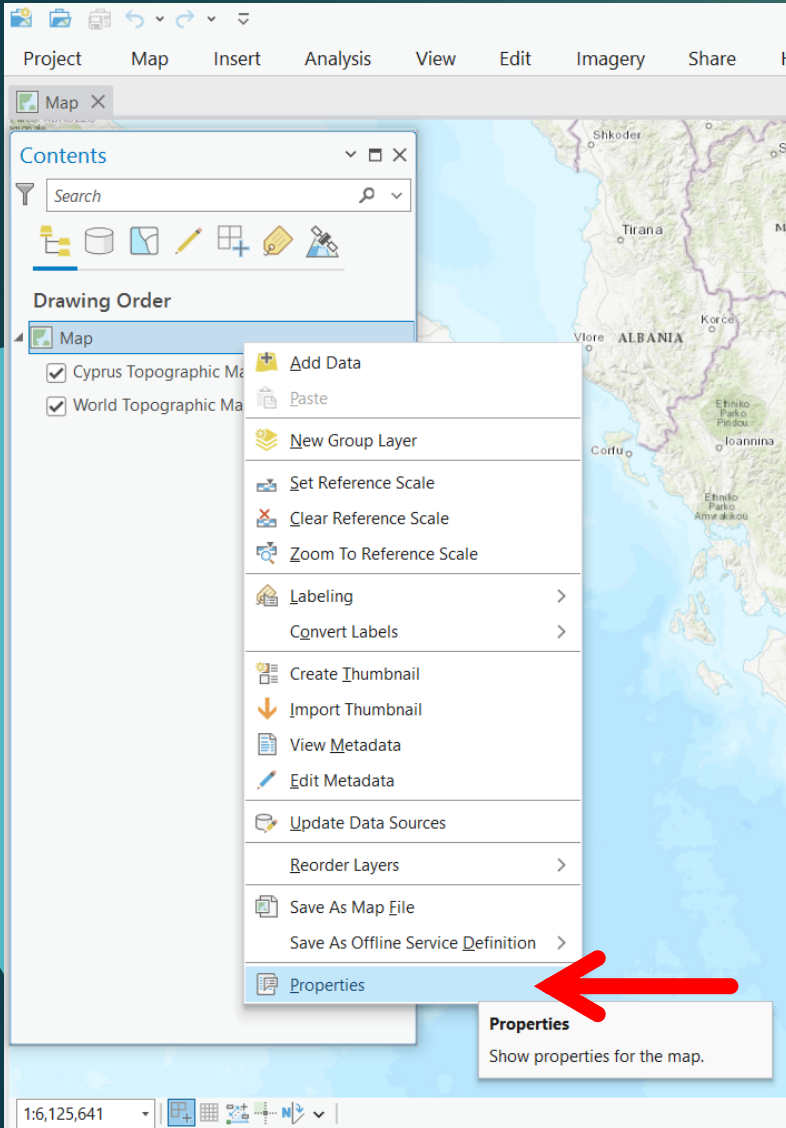
- Project
 - Maps
 - Toolboxes
 - Databases
 - Styles
 - Folders
 - Kazakis_Lesson
 - Locators

Δημιουργία βάσης δεδομένων



- **Raster:** Είναι ψηφιδωτά αρχεία όπως ο χάρτης κλίσεων, τα ψηφιακά μοντέλα εδάφους DEM κτλ.
- **Polygons:** Περιλαμβάνει χωρικά δεδομένα όπως οι γεωλογικοί σχηματισμοί, οι λίμνες, οι χρήσεις γης κτλ.
- **Polylines:** Αποτελείται από γραμμικά στοιχεία όπως οι δρόμοι, το υδρογραφικό δίκτυο, τα ρήγματα κτλ.
- **Points:** Είναι σημειακά δεδομένα όπως οι πόλεις, οι γεωτρήσεις, οι πηγές κτλ.
- **Maps:** Περιέχει γεωαναφερόμενους γεωλογικούς και τοπογραφικούς χάρτες.

Ορισμός Προβολικού Συστήματος



Ορισμός Προβολικού Συστήματος

Map Properties: Map

General
Extent
Clip Layers
Metadata
Coordinate Systems
Transformation
Illumination
Labels
Color Management

Select the Coordinate System to view the available d

Current XY [Details](#)

WGS 1984 Web Mercator (auxiliary sphere)

XY Coordinate Systems Available [Search](#)

- ▲ Projected Coordinate System ←
- ARC (equal arc-second)
- Continental
- County Systems
- Gauss Kruger
- ▲ National Grids ←
 - Africa
 - Argentina
 - Asia
 - Australia

Enable wrapping around the date line

Map Properties: Map

General
Extent
Clip Layers
Metadata
Coordinate Systems
Transformation
Illumination
Labels
Color Management

Select the Coordinate System to view the available

Current XY [Details](#)

WGS 1984 Web Mercator (auxiliary sphere)

XY Coordinate Systems Available [Search](#)

- ▲ Europe ←
 - AbInvA96 2020 Grid
 - BGS2005 - CCS2005
 - Belge Lambert 1950
 - Belge Lambert 1972

Map Properties: Map

General
Extent
Clip Layers
Metadata
Coordinate Systems
Transformation
Illumination
Labels
Color Management

Select the Coordinate System to view the available

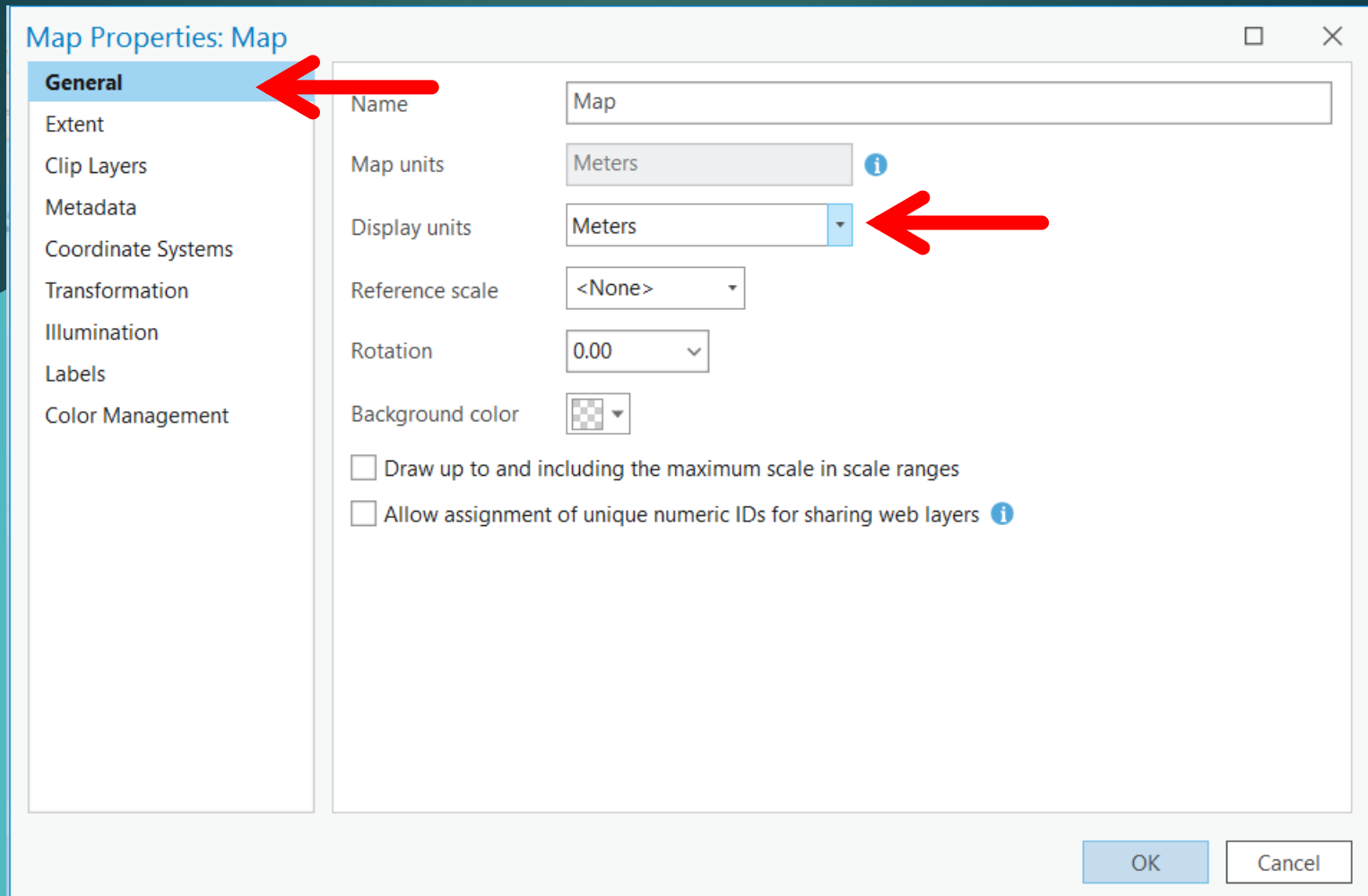
Current XY [Details](#)

Greek Grid

XY Coordinate Systems Available [Search](#)

- GBK19 Grid
- ▲ Greek Grid ←
- Guernsey Grid
- HD 1972 EOY

Ορισμός Προβολικού Συστήματος



Εισαγωγή εικόνας

The screenshot shows the ArcGIS Desktop interface with the 'Add Data' dialog box open. The 'Add Data' button in the Imagery tab is highlighted with a red arrow. The dialog box shows a file tree with 'Kazakis_Lesson' selected, and the file 'Δαφνη καλαβρυτων1.tif' is selected in the file list, also highlighted with a red arrow. The 'Name' field at the bottom of the dialog contains the text 'Δαφνη καλαβρυτων1.tif'.

Add Data
Add data to the map.

Add Data

Organize ▾ New Item ▾

Name	Type	Date Modified
Default.gdb	File Geodatabase	11/1/20...
.backups	Folder	11/1/20...
ImportLog	Folder	11/1/20...
Δαφνη καλαβρυτων1.tif	Raster Dataset	3/10/20...

Name: Δαφνη καλαβρυτων1.tif Default

OK Cancel

423,209.12W 4,595,553.20N m ▾

Εισαγωγή εικόνας

The screenshot displays the ArcGIS Pro software interface. At the top, the title bar shows 'Kazakis_Lesson' and a search bar with the text 'Command Search (Alt+Q)'. The right side of the title bar indicates the user is logged in as 'University of Patras'. The main menu includes 'Project', 'Map', 'Insert', 'Analysis', 'View', 'Edit', 'Imagery', 'Share', and 'Help'. A 'Map' tab is active in the top-left corner.

On the left side, there are two panels: 'Contents' and 'Drawing Order'. The 'Contents' panel has a search bar and icons for various map elements. The 'Drawing Order' panel shows a list of layers, including 'Map', 'Cyprus Topographic Map', and 'World Topographic Map'. On the right side, there is a 'Catalog' panel with a search bar and a tree view showing 'Project', 'Portal', 'Computer', and 'Favorites'.

In the center of the workspace, a dialog box titled 'Calculate statistics for Δαφνη καλαβρυτων1.tif' is open. The dialog contains the following text:

This raster data source does not have statistics. Calculating statistics may take some time, but it will only need to be performed once for this dataset.

Statistics allow for a better display of your data, allowing contrast adjustments and display enhancements. Would you like to calculate statistics?

> Options

Always use this choice

[Learn more about statistics](#)

At the bottom of the dialog, there are three buttons: 'Yes', 'No', and 'Cancel'. A red arrow points to the 'Yes' button.

At the bottom of the workspace, the coordinates '408,272.33W 4,594,723.38N m' are displayed.

Εισαγωγή εικόνας

The screenshot displays the ArcGIS Desktop interface. At the top, the title bar shows 'Kazakis_Lesson' and 'University of Patras'. The menu bar includes 'Project', 'Map', 'Insert', 'Analysis', 'View', 'Edit', 'Imagery', 'Share', 'Help', 'Raster Layer', and 'Data'. A red arrow points from the 'Map' menu to a warning message box on the right. The message box contains a blue exclamation mark icon and the text: 'Unknown Coordinate System' and '"Map" data source is missing coordinate system information. Click here to view details.' Below the message box is the 'Catalog' panel, which shows a tree view of project resources: 'Project', 'Portal', 'Computer', and 'Favorites'. Under 'Project', there are folders for 'Maps', 'Toolboxes', 'Databases', 'Styles', 'Folders', and 'Locators'. On the left, the 'Contents' panel is visible, showing a search bar and a 'Drawing Order' list. The list includes 'Map' and 'Δαφνη καλαβρυτων1.tif', which is highlighted with a red arrow. Below this, the 'RGB' color scheme is defined: Red: Band_1, Green: Band_2, and Blue: Band_3. At the bottom of the interface, the coordinate system is displayed as '6,001,708.09E 2,376,676.40N m'.

Εμφάνιση Χάρτη

The screenshot displays the ArcGIS Desktop software interface. The title bar shows the project name 'Kazakis_Lesson' and the user 'University of Patras'. The main menu bar includes Project, Map, Insert, Analysis, View, Edit, Imagery, Share, and Help. The 'Imagery' menu is open, showing options such as Copy, Remove, Group, Attribute Table, Data Design, Create Chart, New Report, Joins and Relates, **Zoom To Layer** (highlighted with a red arrow), Zoom To Make Visible, Zoom To Full Extent, Edit Function, Save Function Chain, Symbology, Disable Pop-ups, Configure Pop-ups, Data, Sharing, View Metadata, Edit Metadata, and Properties. A tooltip for 'Zoom To Layer' is visible, stating 'Zoom to the extent of the selected layers.' The interface also shows the 'Raster Layer' and 'Data' toolbars, the 'Contents' pane on the left, and the 'Catalog' pane on the right. The status bar at the bottom indicates coordinates: 17,489,340.15W 166,565.14S m.

Χάρτης

The screenshot displays the ArcGIS Desktop software interface. The main window shows a map titled "ΚΑΖΑΚΗΣ ΔΕΛΤΑ" (Kazakis Delta) with a grid overlay. The interface includes a ribbon menu at the top with tabs for Project, Map, Insert, Analysis, View, Edit, Imagery, and Share. The Imagery ribbon is active, showing tools like Georeference, Classification Wizard, and Classification Tools. A red arrow points to the Georeference tool. Below the ribbon, there are toolboxes for Mensuration (Point, Distance, Area) and Tools (Results, Process, Indices, Pixel Editor, Image Information). The main map area shows a topographic map with a grid overlay. The left sidebar contains the Contents pane with a search bar and a "Start Georeferencing" dialog box. The right sidebar contains the Catalog pane with a search bar and a list of project items.

Start Georeferencing
Start georeferencing a selected raster layer.
Press F1 for more help.

Contents
Search
Press F1 for more help.

Drawing Order
Map
Δαφνη καλαβρυτων1.tif
RGB
Red: Band_1
Green: Band_2
Blue: Band_3
 Cyprus Topographic Map
 World Topographic Map

Catalog
Project Portal Computer Favorites
Search Project
Maps
Toolboxes
Databases
Styles
Folders
Locators

Imagery
Georeference
Classification Wizard
Classification Tools

Mensuration
Point
Distance
Area

Tools
Results
Process
Indices
Pixel Editor
Image Information

Share
Create Hosted Imagery
Video Search

Map
Ortho Mapping
Alignment

Analysis
Function Editor
Change Detection

Project
New Workspace

Help
Command Search (Alt+Q)

Project
Kazakis_Lesson
University of Patras

Map
22.30E 66.21N m

Γεωαναφορά

The screenshot displays the QGIS desktop environment. The main window title is "Kazakis_Lesson" and the user is logged in as "University of Patras". The top menu bar includes Project, **Georeference**, Map, Insert, Analysis, View, Edit, Imagery, Share, and Help. The Georeference toolbar contains icons for Auto Georeference, Import Control Points, Add Control Points, Transformation, and Adjust. A red arrow points to the "Fit to Display" button in the Georeference toolbar. The "Contents" panel on the left shows the "Fit to Display" tool selected, with the description "Fit the source layer to the current display extent." Below it, the "Drawing Order" panel shows a checked layer named "Δαρνη καλαβρυτων1.tif" with RGB bands: Red: Band_1, Green: Band_2, and Blue: Band_3. The main map area shows a topographic map of Greece with a grid overlay. The "Catalog" panel on the right shows the project structure with folders for Maps, Toolboxes, Databases, Styles, Folders, and Locators.

Γεωαναφορά

Kazakis_Lesson Command Search (Alt+Q) University of Patras

Project **Georeference** Map Insert Analysis View Edit Imagery Share Help

Locate Move Flip Auto Georeference Control Points Add Control Points Translation Adjust Auto Apply Save Save as New Export Control Points Generate Report Close Georeference Close

Control Point Table Select Zoom To Delete Review

Contents Search

Drawing Order

- Map
- Δαφνη καλαβρυτων1.tif

RGB

- Red: Band_1
- Green: Band_2
- Blue: Band_3

World Topographic Map

Add Control Points

Add control points to align the source layer to the reference layers.

First click at a location on the source layer you are georeferencing, then click at the corresponding location on the reference layer.

18.21E 70.48N m

Catalog Project Portal Computer Favorites Search Project Maps Toolboxes Databases Styles Folders Locators

Γεωαναφορά

The screenshot displays the ArcGIS Pro Georeference tool interface. The main window shows a map with a grid overlay. A red crosshair is positioned at the intersection of the grid lines, and a 'To point (target)' label is visible. A dialog box titled 'Target Coordinates' is open, showing the X and Y coordinates: X: 324246.957311 and Y: 4207414.723180d. The dialog also includes a checkbox for 'Show Coordinates in DMS' and 'OK' and 'Cancel' buttons.

The interface includes the following elements:

- Project:** Kazakis_Lesson
- Command Search:** Command Search (Alt+Q)
- Georeference Tab:** Locate, Move, Flip, Set SRS, Fit to Display, Scale, Fixed Rotate, Rotate, Prepare, Auto Georeference, Import Control Points, Add Control Points (Adjust), Transformation, Auto Apply, Control Point Table, Select, Zoom To, Delete, Review, Save, Save as New, Export Control Points, Generate Report, Close Georeference.
- Contents Panel:** Map, Δαφνη καλαβρυτων1.tif, RGB (Red: Band_1, Green: Band_2, Blue: Band_3), Cyprus Topographic Map, World Topographic Map.
- Catalog Panel:** Project, Portal, Computer, Favorites, Search Project, Maps, Toolboxes, Databases, Styles, Folders, Locators.

27.14E 65.77N m

Γεωαναφορά

The screenshot displays the ArcGIS Desktop interface during a georeferencing session. The main menu bar includes Project, Georeference, Map, Insert, Analysis, View, Edit, Imagery, Share, and Help. The Georeference toolbar is active, showing options like Auto Georeference, Import Control Points, Add Control Points, Transformation, and Auto Apply. The Transformation dropdown menu is open, listing several options with their respective control point requirements:

- Zero Order Polynomial (Only Shift) - Requires at least 1 control point.
- Similarity Polynomial - Requires at least 3 control points.
- 1st Order Polynomial (Affine) - Requires at least 3 control points.
- 2nd Order Polynomial - Requires at least 6 control points.
- 3rd Order Polynomial - Requires at least 10 control points.
- Adjust - Requires at least 3 control points.
- Projective** - Requires at least 4 control points. (Highlighted with a red arrow)
- Spline - Requires at least 10 control points.

The background map shows a topographic map being georeferenced to a reference map. Several control points are marked with red 'X's. The status bar at the bottom indicates the coordinates 355,535.17E 4,201,494.24N m.

Γεωαναφορά

The screenshot displays the ArcGIS Desktop interface during a georeferencing task. The main window shows a map with a grid overlay and several red 'X' marks indicating control points. The 'Georeference' tab is active in the top menu bar. The 'Save as New' dialog is open, showing the 'Save as New' button highlighted with a red arrow. The 'Export Raster' options are also visible on the right side of the interface, with a red box around the 'Export Raster' button and a red arrow pointing to the 'From point' option in the 'Save as New' dialog. The 'Export Raster' dialog shows the following settings:

- Output Raster Dataset: kazakis\Kazakis_Lesson\Δαφνη καλαβρυτων1.tif
- Output Format: TIFF
- Spatial Reference System and Clipping Options: Greek_Grid
- Raster Properties: Cell Size (X: 4.30660, Y: 4.34453), Raster Size (Columns: 11568, Rows: 8167), Pixel Type: 8 Bit Unsigned

The status bar at the bottom indicates the coordinates: 359,445.26E 4,203,484.02N m.

Γεωαναφορά

The screenshot displays the ArcGIS Desktop interface. The main menu bar includes Project, Map, Insert, Analysis, View, Edit, Imagery, Share, and Help. The Imagery menu is open, showing options like Basemap and Add Data. A red arrow points to the 'Add Data' button. The 'Add Data' dialog box is open, showing a file browser view of the 'Kazakis_Lesson' project. The file list includes 'Map087_DAFNH.tif' (Raster Dataset) and several other raster datasets. The 'Name' field at the bottom of the dialog is set to 'Map087_DAFNH.tif'. The 'Contents' panel on the left shows the 'Map' layer with 'Δαφνη καλαβρυτων1_PROJECTED.tif' selected. The 'Drawing Order' panel shows RGB bands (Red, Green, Blue) and topographic map options. The 'Catalog' panel on the right shows the project structure. The status bar at the bottom indicates coordinates: 306,025.27E 4,211,102.55N m.

Project: Kazakis_Lesson | Command Search (Alt+Q) | EAENH - ANNA - University of Patras

Map | Imagery | Add Data

Basemap | Add Data

Contents

Search

Drawing Order

Map

Δαφνη καλαβρυτων1_PROJECTED.tif

RGB

Red: Band_1

Green: Band_2

Blue: Band_3

Cyprus Topographic Map

World Topographic Map

Add Data

Organize | New Item

Name	Type
Default.gdb	File Geodatabase
.backups	Folder
ImportLog	Folder
Map087_DAFNH.tif	Raster Dataset
Δαφνη καλαβρυτων1.tif	Raster Dataset
Δαφνη καλαβρυτων1_1.tif	Raster Dataset
Δαφνη καλαβρυτων1_2.tif	Raster Dataset
Δαφνη καλαβρυτων1_PROJECT.tif	Raster Dataset
Δαφνη καλαβρυτων1_PROJECTED.tif	Raster Dataset

Name: Map087_DAFNH.tif | Default

OK | Cancel

306,025.27E 4,211,102.55N m

Γεωαναφορά

The screenshot displays the ArcGIS Desktop interface. The **Georeference** toolbar is active, with the **Fit to Display** button highlighted by a red arrow. The **Contents** pane on the left shows the **Drawing Order** for the **Map** layer, with **Map087_DAFNH.tif** selected and highlighted by another red arrow. The main map area shows a topographic map with a red rectangular bounding box around a specific region. The **Catalog** pane on the right is also visible, showing the project structure.

Georeference toolbar buttons: Fit to Display, Move, Flip, Scale, Fixed Rotate, Rotate, Add Control Points, Transformation, Auto Apply, Control Point Table, Select, Zoom To, Delete, Save, Save as New, Export Control Points, Generate Report, Close Georeference.

Contents pane: **Map** layer containing **Map087_DAFNH.tif** and **Δαφνη καλαβρυτων1_PROJECTED.tif**. RGB bands: Red: Band_1, Green: Band_2, Blue: Band_3. Cyprus Topographic Map, World Topographic Map.

Catalog pane: Project, Portal, Computer, Favorites. Search Project.

Map area: **From point (source)** label above the red bounding box.

Status bar: 299,105.10E 4,213,819.36N m

Γεωαναφορά

The screenshot displays the ArcGIS Pro interface with the **Georeference** tab selected. The **Transformation** dropdown menu is open, showing various options. A red arrow points to the **Transformation** button, and another red arrow points to the **Projective** option in the dropdown menu.

Georeference Tools:

- Auto Georeference
- Import Control Points
- Add Control Points
- Adjust
- Transformation
- Control Point Table
- Apply
- Save
- Save as New
- Export Control Points
- Generate Report
- Close Georeference

Transformation Options:

- Zero Order Polynomial (Only Shift)
Requires at least 1 control point.
- Similarity Polynomial
Requires at least 3 control points.
- 1st Order Polynomial (Affine)**
Requires at least 3 control points.
- 2nd Order Polynomial
Requires at least 6 control points.
- 3rd Order Polynomial
Requires at least 10 control points.
- Adjust
Requires at least 3 control points.
- Projective**
Requires at least 4 control points.
- Spline
Requires at least 10 control points.

Contents Panel:

- Map
- Map087_DAFNH.tif
- Δαφνη καλαβρυτων1_PROJECTED.tif
- RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
- Cyprus Topographic Map
- World Topographic Map

Catalog Panel:

- Project
- Portal
- Computer
- Favorites
- Search Project
- Maps
- Toolboxes
- Databases
- Styles
- Folders
- Locators

Coordinates: 334.679,90E 4210.436,16N m

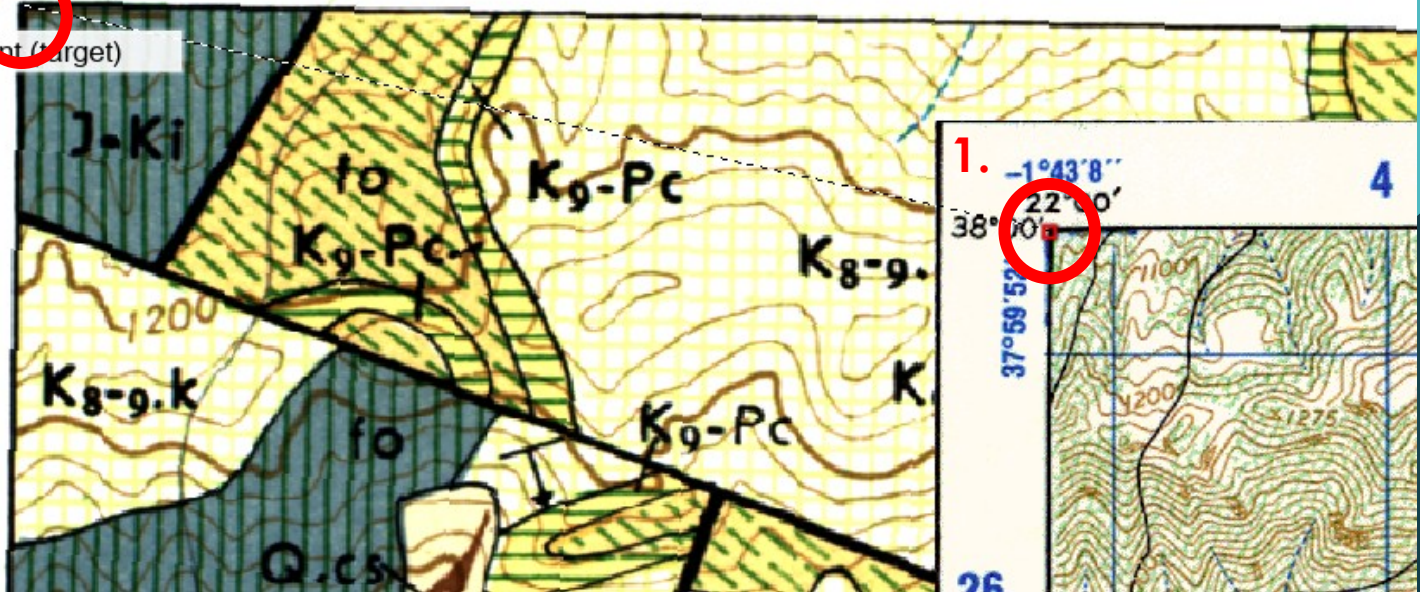
Γεωαναφορά

From point (source)

ΦΥΛΛΟ ΔΑΦ

2.

22°00'
38°00'
To point (target)



Γεωαναφορά

The screenshot shows the ArcGIS Desktop interface with the following components:

- Top Bar:** Project name "Kazakis_Lesson", Command Search (Alt+Q), and University of Patras.
- Toolbars:** Project, Georeference, Map, Insert, Analysis, View, Edit, Imagery, Share, Help, Raster Layer, and Data.
- Left Panel (Contents):**
 - Search bar
 - Drawing Order
 - Map
 - Map087_DAFNH.tif
 - Δαφνη καλαβρυτων1_PROJECTED.tif
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
 - Cyprus Topographic Map
 - World Topographic Map
- Right Panel (Catalog):** Search Project, Maps, Toolboxes, Databases, Styles, Folders, Locators.
- Main Map Window:** A satellite image titled "From point (source)" with a blue grid overlay. A profile view is visible at the bottom. The status bar shows coordinates: 332,493.90E 4,208,132.03N m.
- Bottom Panel (Raster Layer Properties):**
 - Effects: Transparency (0.0%), Layer Blend (Normal), Feature Blend (Normal)
 - Compare: Swipe, Flicker (500.0 ms)
 - Rendering: Symbology, Stretch Type, DRA, Lock stats, Resampling Type, Band Combination, Masking
 - Enhancement: Brightness (0), Contrast (0), Gamma (1.0)
 - Rotation: Rotation Type, Rotation

Γεωαναφορά

Project **Georeference** Map Insert Analysis View Edit Imagery Share Help

Command Search (Alt+Q)

University of Patras

Auto Georeference Import Control Points Add Control Points Transformation

Auto Apply Apply Reset

Control Point Table Select Zoom To Delete

Save Save as New Export Control Points Generate Report Close Georeference Close

Contents

Search

Drawing Order

Map

Map087_DAFNH.tif

Δαφνη καλαβρυτων1_PROJECTED.tif

RGB

- Red: Band_1
- Green: Band_2
- Blue: Band_3

Cyprus Topographic Map

World Topographic Map

From point (source)

Save as New

Create a new raster dataset with the georeferencing transformation applied.

Export Raster

Map087_DAFNH.tif

General Settings

Output Raster Dataset

C:\Users\home\Desktop\kazakis\Kazakis_Lessc

Output Format

TIFF

Spatial Reference System and Clipping Options

Coordinate System

Greek_Grid

Geographic Transformations

None

Clipping Geometry

Default

Maintain Clipping Extent

Raster Properties

Cell Size

X: 4.354 Y: 4.317

Raster Size

Columns: 5343 Rows: 6726

Pixel Type

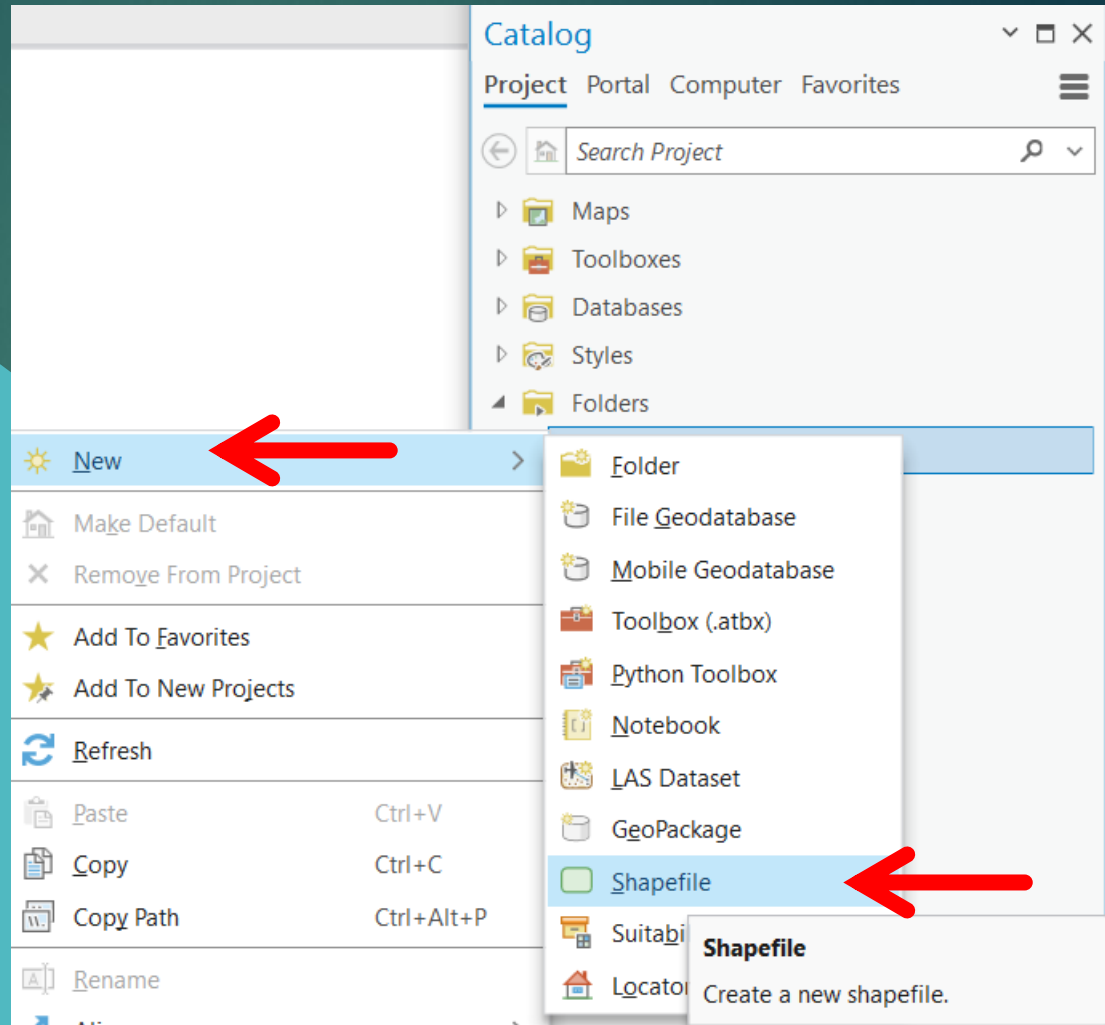
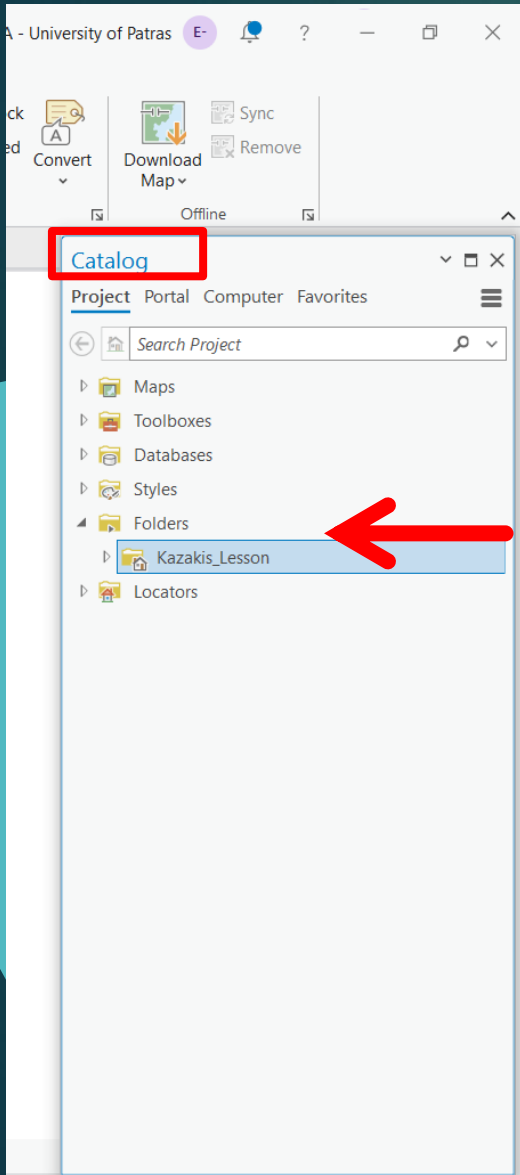
Export

355,831.10E 4,210,920.75N m

Γεωαναφορά

The image shows a screenshot of the ArcGIS Desktop software interface. The main window displays a map titled "From point (source)" with a grid overlay. The interface includes a top menu bar with options like Project, Map, Insert, Analysis, View, Edit, Imagery, Share, and Help. A toolbar is visible below the menu bar, containing various tools for navigation and analysis. On the left side, there is a "Contents" panel showing a list of layers, including "Map087_DAFNH.tif" and "Δαφνη καλαβρυτων1_PROJECTED.tif". The "Drawing Order" section is also visible, showing the RGB color bands (Red: Band_1, Green: Band_2, Blue: Band_3) and options for "Cyprus Topographic Map" and "World Topographic Map". On the right side, an "Export Raster" dialog box is open, showing a preview of the raster data and a "Catalog" button. The status bar at the bottom indicates the current coordinates: 361,555.31E 4,187,583.55N m.

Δημιουργία shapefile



Δημιουργία shapefile

Geoprocessing

Create Feature Class

Pending edits.

Parameters Environments

Feature Class Location
KAZAKHS_LESSON

Feature Class Name
Μυλίσκος

Geometry Type
Point

Template Dataset

Has M
No

Has Z
No

Coordinate System
Greek_Grid

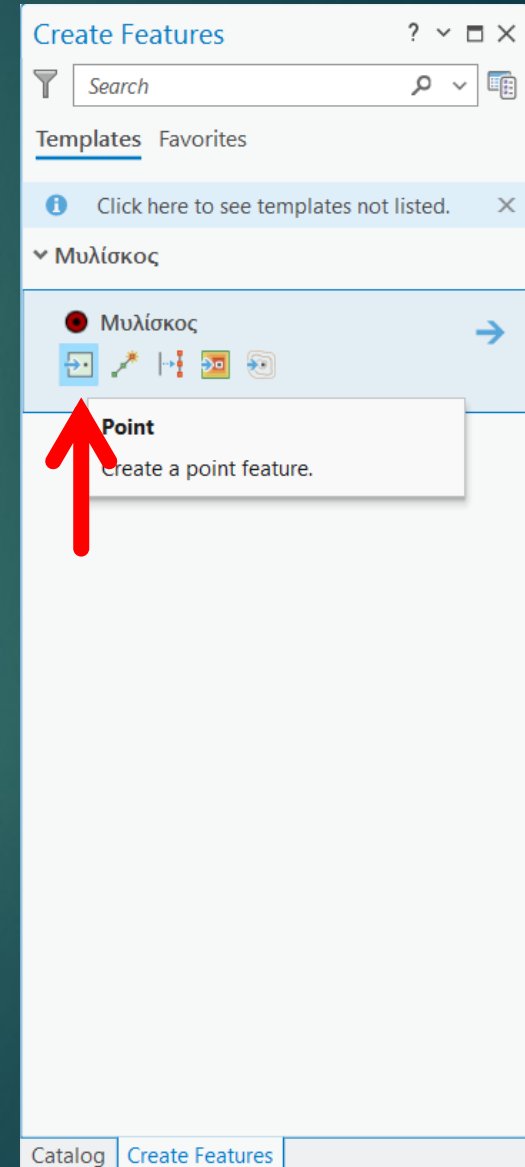
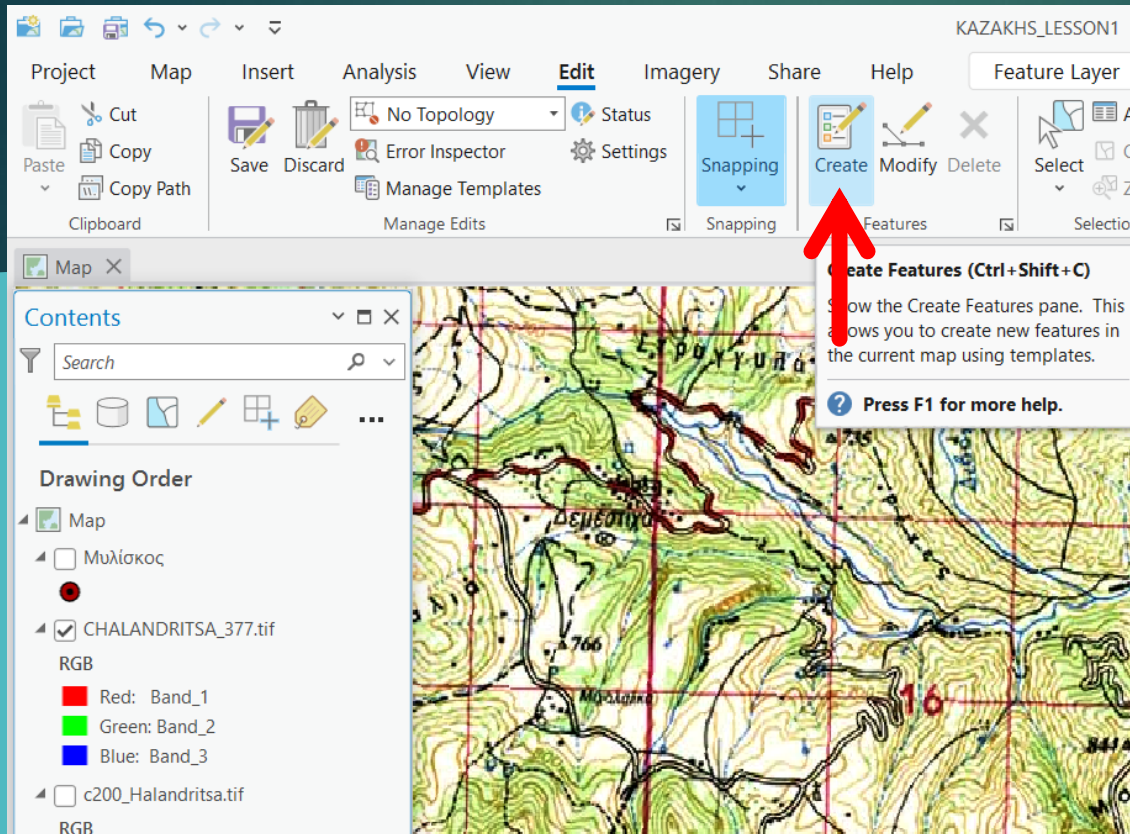
Feature Class Alias

> Geodatabase Settings (optional)

Run

Contents Geoprocessing

Ψηφιοποίηση

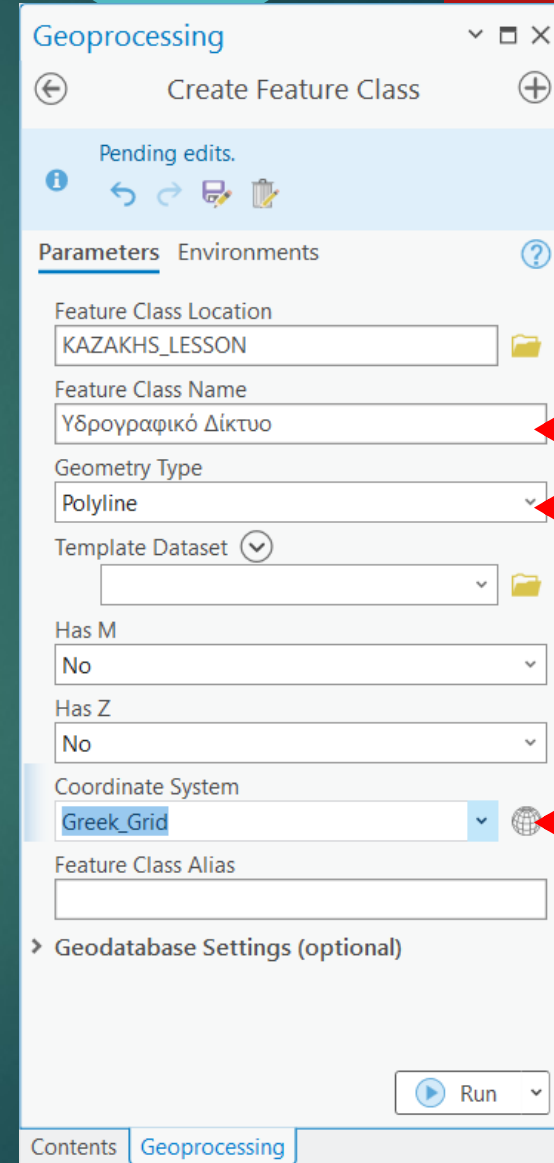
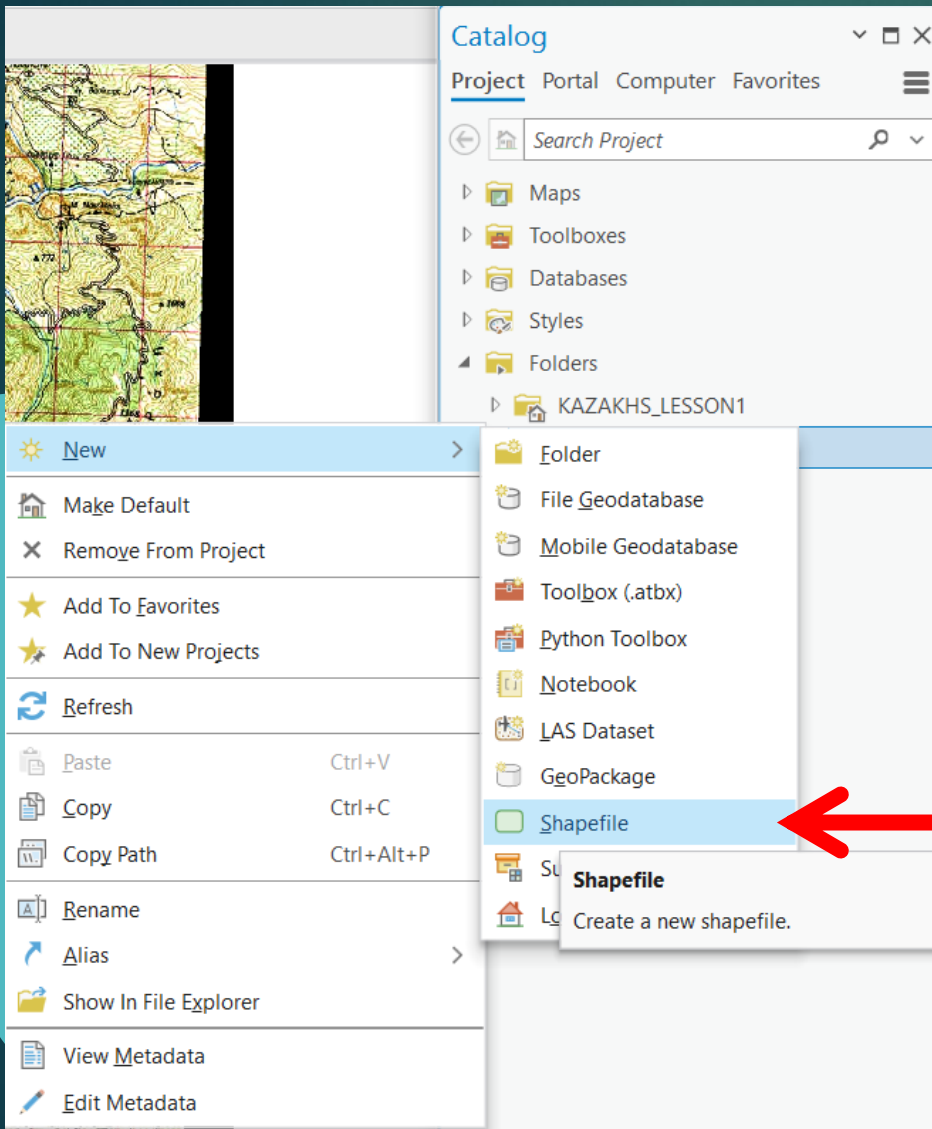


Ψηφιοποίηση

The screenshot displays a GIS application interface with the following components:

- Contents Panel (Left):** Shows the layer stack. The 'Map' layer is expanded, showing 'Μυλίσκος' (Mylisskos) as a point feature. Below it are two raster layers: 'CHALANDRITSA_377.tif' and 'c200_Halandritsa.tif', both with RGB color schemes (Red: Band_1, Green: Band_2, Blue: Band_3). At the bottom, there are checkboxes for 'Cyprus Topographic Map' and 'World Topographic Map'.
- Main Map View:** Displays a topographic map with a red grid. A red dot is placed on the map, and a large red arrow points to it from the right. The map shows terrain contours, roads, and rivers.
- Map Navigation Tools (Bottom Center):** Includes a home button, a pan tool, a zoom in tool, a zoom out tool, a full extent button, and a refresh button.
- Create Features Panel (Right):** Shows the 'Create Features' toolset. The 'Μυλίσκος' layer is selected, and the 'Point' tool is active. The panel includes a search bar, a 'Click here to see templates not listed.' link, and a 'Catalog' button at the bottom.
- Status Bar (Bottom):** Displays the current coordinates: 324,295.87E 4,209,407.60N m.

Δημιουργία shapefile



Ψηφιοποίηση

The screenshot displays the ArcGIS Desktop interface for a project named "KAZAKHS_LESSON1". The main window shows a topographic map of a region with a digitized hydrographic network (blue lines) overlaid on the terrain. The interface includes a ribbon with various toolbars and panels:

- Project, Map, Insert, Analysis, View, Edit, Imagery, Share, Help:** Main menu items.
- Feature Layer, Labeling, Data:** Contextual toolbars.
- Clipboard:** Cut, Copy, Copy Path.
- Manage Edits:** Save, Discard, Manage Templates.
- Snapping:** Snapping tool.
- Features:** Create, Modify, Delete.
- Selection:** Select, Clear, Zoom To.
- Tools:** Move, Annotation, Edit Vertices, Reshape.
- Elevation:** Mode, No surfaces.
- Corrections, Data Review:** Ground To Grid, Manage Quality.

Contents Pane (Left):

- Map
- Μυλίσκος
- Υδρογραφικό Δίκτυο
- CHALANDRITSA_377.tif
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
- c200_Halandritsa.tif
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
- Cyprus Topographic Map
- World Topographic Map
- Polyline1

Create Features Pane (Right):

- Templates
- Favorite
- Click here to see templates not listed.
- Μυλίσκος
 - Μυλίσκος
- Υδρογραφικό Δίκτυο
 - Υδρογραφικό Δίκτυο

Παράδειγμα

The screenshot displays the ArcGIS Desktop environment. The main window shows a topographic map with a blue hydrographic network overlaid. The interface includes a menu bar (Project, Map, Insert, Analysis, View, Edit, Imagery, Share, Help), a toolbar with various tools (Snapping, Create, Modify, Delete, Select, Move, Annotation, Edit Vertices, Reshape, Mode), and a Command Search bar. The Contents panel on the left shows the following layers:

- Map
- Muliascos
- Υδρογραφικό Δίκτυο
- CHALANDRITSA_377.tif (RGB)
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
- c200_Halandritsa.tif (RGB)
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
- Cyprus Topographic Map
- World Topographic Map
- Polyline1

The Create Features panel on the right shows the following templates:

- Muliascos
 - Muliascos
- Υδρογραφικό Δίκτυο
 - Υδρογραφικό Δίκτυο

Δημιουργία shapefile/Ψηφιοποίηση Υπολεκάνης

Geoprocessing

Create Feature Class

Pending edits.

Parameters Environments

Feature Class Location
KAZAKHS_LESSON

Feature Class Name
Υπολεκάνη

Geometry Type
Polygon

Template Dataset

Has M
No

Has Z
No

Coordinate System
Greek_Grid

Feature Class Alias

Geodatabase Settings (optional)

Create Features

Search

Templates Favorites

Click here to see templates not listed.

Μυλίσκος

- Μυλίσκος

Υδρογραφικό Δίκτυο

- Υδρογραφικό Δίκτυο

Υπολεκάνη

- Υπολεκάνη

Polygon
Create a polygon feature.

Δημιουργία shapefile/Ψηφιοποίηση Υπολεκάνης

The screenshot displays the ArcGIS Desktop environment with the following components:

- Project:** KAZAKHS_LESSON1
- Map:** CHALANDRITSA_377.tif (RGB bands: Red: Band_1, Green: Band_2, Blue: Band_3)
- Insert:** No Topology, Status, Error Inspector, Settings, Manage Templates
- Analysis:** Snapping, Create, Modify, Delete
- View:** Feature Layer, Labeling, Data
- Edit:** Select, Clear, Zoom To, Move, Annotation, Edit Vertices, Reshape
- Imagery:** Ground To Grid, Manage Quality
- Share:** Attributes, Selection
- Help:** Command Search (Alt+Q)

The main map area shows a topographic map with a watershed area highlighted in purple. The watershed boundary is defined by a dashed line. The map includes a grid and various geographical features like rivers and roads.

Contents Panel:

- Map
- Μυλίσκος
- Υδρογραφικό Δίκτυο
- Υπολεκάνη
- CHALANDRITSA_377.tif (RGB)
- c200_Halandritsa.tif (RGB)
- Cyprus Topographic Map
- World Topographic Map

Create Features Panel:

- Templates
- Μυλίσκος
- Υδρογραφικό Δίκτυο
- Υπολεκάνη

Παράδειγμα

The screenshot displays the ArcGIS Desktop interface with the following components:

- Top Bar:** Project name "KAZAKHS_LESSON1", Command Search (Alt+Q), and user "EAENH - ANNA - University of Patras".
- Menu Bar:** Project, Map, Insert, Analysis, View, **Edit**, Imagery, Share, Help.
- Feature Layer, Labeling, Data:** Sub-menus for Feature Layer, Labeling, and Data.
- Toolbars:** Snapping, Features (Create, Modify, Delete), Selection (Select, Clear, Zoom To), Tools (Move, Annotation, Edit Vertices, Reshape), Elevation (Mode, No surfaces), Corrections (Ground To Grid), and Data Review (Manage Quality).
- Contents Panel (Left):**
 - Search bar.
 - Drawing Order:
 - Map
 - Μυλίσκος
 - Υδρογραφικό Δίκτυο
 - Υπολεκάνη
 - CHALANDRITSA_377.tif
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
 - c200_Halandritsa.tif
 - RGB
 - Red: Band_1
 - Green: Band_2
 - Blue: Band_3
 - Cyprus Topographic Map
 - World Topographic Map

- Map View:** A topographic map showing a hydrological network (blue lines) and a watershed (light blue area) overlaid on a terrain map.
- Create Features Panel (Right):**
- Search bar.
- Templates:
 - Μυλίσκος
 - Μυλίσκος
 - Υδρογραφικό Δίκτυο
 - Υδρογραφικό Δίκτυο
 - Υπολεκάνη
 - Υπολεκάνη
- Status Bar (Bottom):** Scale 1:76,225, coordinates 318,458.24E 4,218,256.76N m.

Δημιουργία shapefile/Ψηφιοποίηση Γεωλογίας

Geoprocessing

Create Feature Class

Parameters Environments

Feature Class Location
Kazakis_Lesson

Feature Class Name
Geology

Geometry Type
Polygon

Template Dataset

Has M
No

Has Z
No

Coordinate System
Greek_Grid

Current Map [Map]

Δαφνη καλαβρυτων1_PROJECT.tif

Geodatabase Settings (optional)

Run

Contents Geoprocessing

Πίνακας Δεδομένων (Attribute Table)

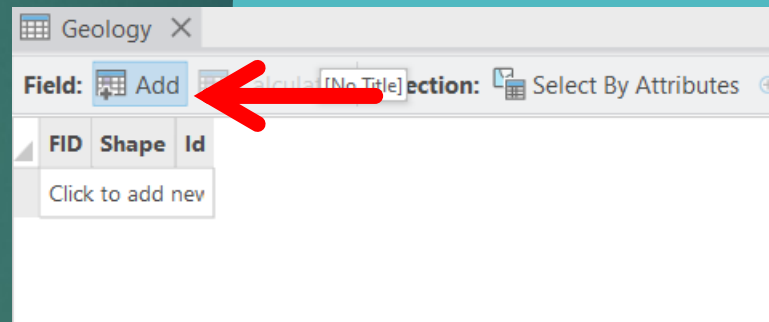
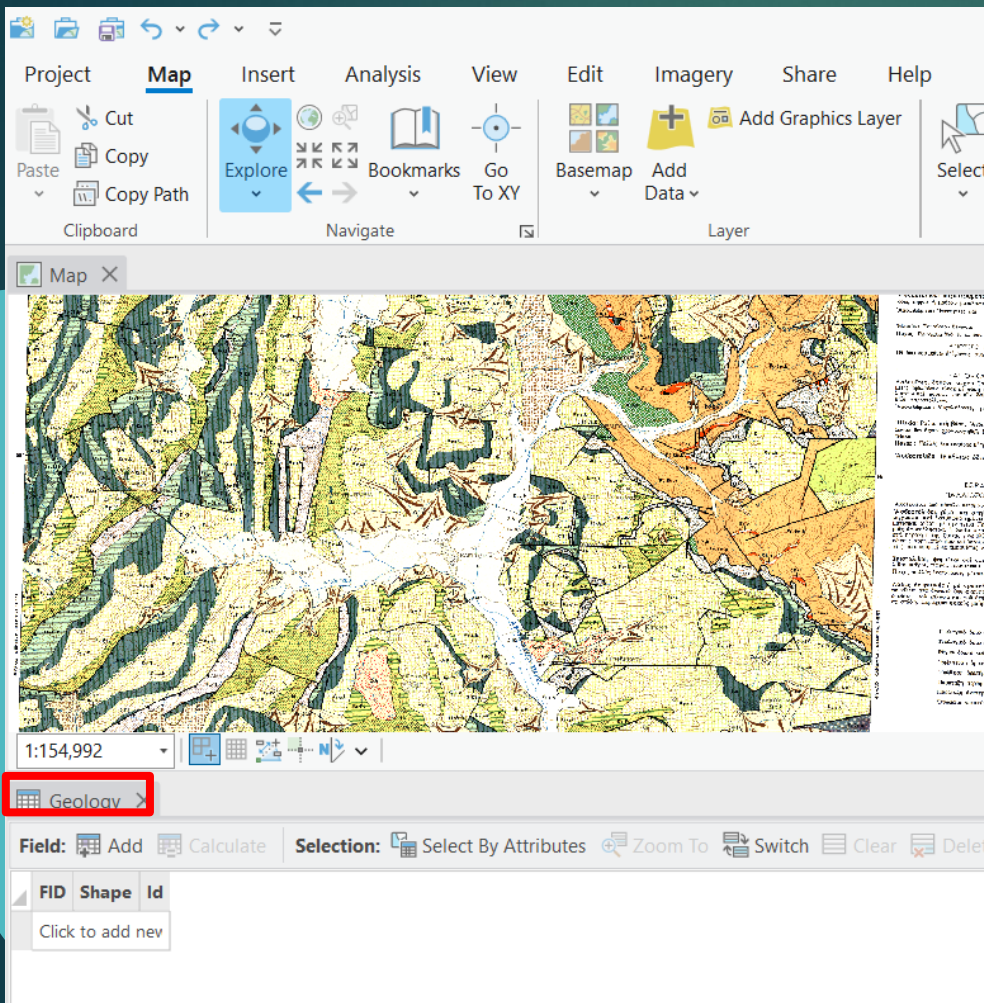
The image shows the ArcGIS Desktop interface with the 'Attribute Table' menu option highlighted. A red arrow points to the 'Attribute Table' option in the 'Data' menu. The interface includes the following elements:

- Project:** Kazakis_Lesson
- Command Search:** Command Search (Alt+Q)
- Project Name:** EAENH - ANNA - University of Patras
- Toolbars:** Feature Layer, Labeling, Data, Selection, Inquiry, Labeling, Offline.
- Menus:** Project, Map, Insert, Analysis, View, Edit, Imagery, Share, Help.
- Left Panel:** Contents, Drawing Order, Map, Geology, Δαφνη καλα, RGB, Cyprus Topog, World Topog.
- Right Panel:** Catalog, Project, Portal, Computer, Favorites, Search Project, Maps, Toolboxes, Databases, Styles, Folders, Kazakis_Lesson, Locators.
- Main View:** A map showing a topographic map with a grid overlay.
- Status Bar:** 305,256.37E 4,196,288.26N m

The 'Attribute Table' menu is open, showing the following options:

- Copy
- Remove
- Group
- Attribute Table** Ctrl+T **Open Table (Ctrl+T)**
Open the attribute table for this layer.
- Data Engineering
- Add Error Layers
- Data Design
- Create Chart
- New Report
- Joins and Relates
- Zoom To Layer
- Zoom To Make Visible
- Selection
- Label
- Labeling Properties...
- Convert Labels
- Symbology
- Disable Pop-ups
- Configure Pop-ups
- Data
- Sharing
- View Metadata
- Edit Metadata
- Properties

Πίνακας Δεδομένων (Attribute Table)



Πίνακας Δεδομένων (Attribute Table)

The screenshot shows the ArcGIS Desktop interface. The top ribbon includes 'Project', 'Fields', 'Insert', 'Analysis', 'View', 'Share', 'Help', 'Feature Layer', 'Labeling', and 'Data'. The 'Fields' ribbon is active, showing options like 'Filter Name', 'Filter Domain', 'Sort Ascending', 'Sort Descending', 'Reset', 'New Field', and 'Save'. A red arrow points to the 'New Field' button.

The main window displays a map of a geological area with a legend on the right. Below the map, the 'Geology' layer is selected, and its attribute table is shown. The table has the following columns: Visible, Read Only, Field Name, Alias, Data Type, Allow NULL, Highlight, Number Format, Default, Precision, Scale, and Length.

Visible	Read Only	Field Name	Alias	Data Type	Allow NULL	Highlight	Number Format	Default	Precision	Scale	Length
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	FID	FID	Object ID	<input type="checkbox"/>	<input type="checkbox"/>	Numeric		0	0	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shape	Shape	Geometry	<input type="checkbox"/>	<input type="checkbox"/>			0	0	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Id	Id	Long	<input type="checkbox"/>	<input type="checkbox"/>	Numeric		6	0	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	name		Text	<input type="checkbox"/>	<input type="checkbox"/>					255

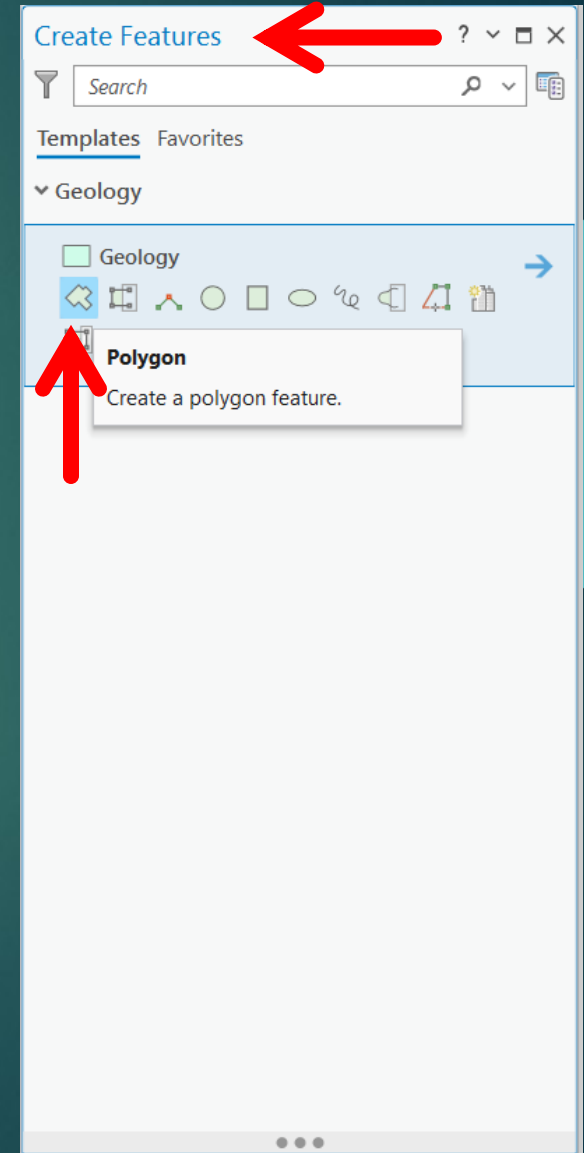
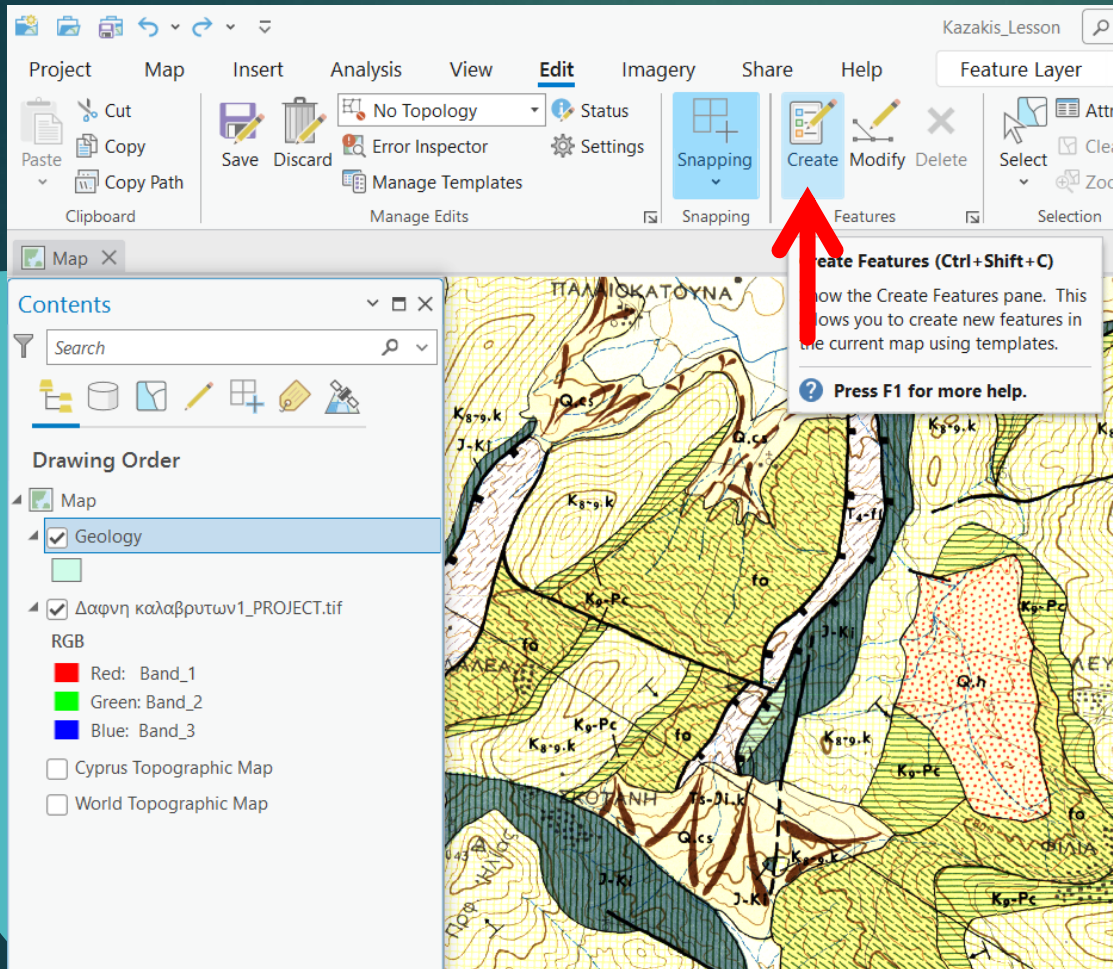
A red circle highlights the 'name' field in the table. Below the table, a dropdown menu is open, showing options for the data type: Short, Long, Float, Double, Date, and Text. A red arrow points to the 'Text' option.

This is a close-up of the Attribute Table for the 'Geology' layer. The table has columns for 'Field', 'Shape', 'Id', and 'name'. The 'name' field is highlighted with a red box.

Field	Shape	Id	name
1	0	Polygon	0

Below the table, there is a button that says 'Click to add new row.'

Ψηφιοποίηση



Ψηφιοποίηση



Name	Type
Geology	<i>Polygon</i>
Drainage Network	<i>Polyline</i>
Town	<i>Point</i>
Faults	<i>Polyline</i>



**Ευχαριστώ για την
ΠΡΟΣΟΧΗ σας!!**