Installation Guide PS Toolbox







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1. INTRODUCTION

The PS Toolbox is a suite of plugins for the interpretation and post-processing **A**-**DInSAR** data in GIS environment.

1.1. Requirements

	CPU	RAM SIZE	QGIS VERSION	OS
Minimum requirements	2 GHz 2 cores	4 GB	3.16.6	Windows 10
Recommended requirements	3 GHz more than 2 cores	8 GB	3.22.x	Windows 10

PS Toolbox is composed by ten plugins:

- 1. Format Dataset makes datasets compatible with other PS Toolbox tools (cf.§ Errore. L'origine riferimento non è stata trovata.),
- Plot Time Series allows to view and interact with the time series of the datasets and optionally export them with the possibility of customizing many display parameters (cf.§ Errore. L'origine riferimento non è stata trovata.),
- KMZ Export exports datasets in .kmz format, making it possible to view three-dimensional images on Google Earth Pro (cf.§ Errore. L'origine riferimento non è stata trovata.),
- 4. Filtering applies smoothing to the time series of the datasets (cf.§ Errore.
 L'origine riferimento non è stata trovata.),
- Vectorial Decomposition allows to break down the speed of the PS into two distinct components, in the east-west component and in the up-down component (cf.§ Errore. L'origine riferimento non è stata trovata.),
- Interferometric sections create interferometric sections based on the speed or displacement given by the PS of the datasets (cf.§ Errore. L'origine riferimento non è stata trovata.),
- 7. **Trend Change Detection** identifies the trend variations within the time series (cf.§ **Errore. L'origine riferimento non è stata trovata.**),







- 8. Linear Infrastructures characterizes road sections in SHP format as a function of the velocity of the nearby PS (cf.§ Errore. L'origine riferimento non è stata trovata.),
- 9. Spatialization *Not yet available* (cf.§ Errore. L'origine riferimento non è stata trovata.),
- 10. Data Fusion allows the generation of heatmaps starting from multi-source data with different orbital geometries and sensors (cf.§ Errore. L'origine riferimento non è stata trovata.).

The first three plugins are available with the trial licence, <u>but the installation of the</u> <u>software is needed</u>.







2. Installation

1. Open QGIS and click on "Plugins" then, go to "manage and install plugin".



2. Click on "Settings" and then click on "Add...".





PS Toolbox installation guide



Plugins Settings	Check for upd	lates on startup	
Installed	every time QGIS	starts	
Not installed	Note: If this function is ena performed during opening of	bled, QGIS will inform you whenever a new plugin or plugin update of the Plugin Manager window.	e is available. Otherwise, fetching repositories will be
Upgradeable	,	experimental plugins	
Install from ZIP	Note: Experimental plugins 'incomplete' or 'proof of co	s are generally unsuitable for production use. These plugins are in e pncept' tools. QGIS does not recommend installing these plugins ur	arly stages of development, and should be considered iless you intend to use them for testing purposes.
Settings	Show also d	leprecated plugins	
	Note: Deprecated plugins QGIS does not recommend	are generally unsuitable for production use. These plugins are unm d installing these plugins unless you still need it and there are no ot	aintained, and should be considered 'obsolete' tools. her alternatives available.
	Plugin Reposito	ries	
	Status	Name	URL
	connected	PS-toolbox	https://bitbucket.org/NF
	O disabled	PS-toolbox_2	https://bitbucket.org/Mf
	 connected 	Repository plugin uniciale Quis	nups://plugins.qgis.org/
	Reload all Repos	sitories	Add Edit Delete

3. In the new window choose and digit a name and paste and copy the repository URL then, flag "Enabled" and click "OK". The repository link is <u>https://bitbucket.org/NHAZCA_1/ps_toolbox_plugin/raw/Release/plugins.x</u> <u>ml</u>

Repository details		>
Name		
URL	http://	
Parameters	?qgis=3.22	
Authentication		Clear Edit
Enabled	v	
		OK Cancel

4. Click on "Refresh all the repository" and flag "also show the experimental plugins".





PS Toolbox installation guide



Q Plugins Settings			×
촕 All	Check for upd	ates on startup	*
🐴 Installed	every time OGIS	starts	*
🍅 Not installed	Note: If this function is enal	oled, QGIS will inform you whenever a new plugin or plugin update f the Plugin Manager window.	s available. Otherwise, fetching repositories will be
💓 Upgradeable	- ✓ Show also e	xperimental plugins	
11 Install from ZIP	Note: Experimental plugins	are generally unsuitable for production use. These plugins are in ea	ly stages of development, and should be considered
👙 Settings	Show also d	eprecated pluging	iss you intend to use them for testing purposes.
	Note: Deprecated plugins a QGIS does not recommend	re generally unsuitable for production use. These plugins are unmainstalling these plugins unless you still need it and there are no oth	ntained, and should be considered 'obsolete' tools. er alternatives available.
	Plugin Reposito	ries	
	Status	Name	URL
	Connected	PS-toolbox	https://bitbucket.org/NF
	isabled connected	PS-toolbox_2 Repository plugin ufficiale QGIS	https://bitbucket.org/Mr https://plugins.qgis.org/
	4		
	Reload all Repos	itories	Add Edit Delete
			-
			Close Help

5. Now you can find the PS-toolbox plugins on the "**Not installed**" plugins list so, click on "**Install Experimental Plugin**".

Q Plugins Not installed (1154)				×
촕 All	Q PS-Toolbox		¢	1
installed	PS-Toolbox	📕 This plugin has an experimental ve	arsion available	
擼 Not installed		PS-Toolbox		
🔛 Upgradeable		PS-Toolbox interface		
11 Install from ZIP		This plugin serves as a QGIS interface for	the PS-Toolbox software from NHAZCA S.r.l.	
		Hore info hen Atthor Mich Available version (experimental) 0.5.	Napaga Dele Gaeta and Santiago Giraldo (NeWAZCA S.r.l.) 19	
		، Upgrade All	Install Experimental Plugi	,

6. Click on the PS Toolbox icon by main windows of QGIS \mathbb{N} .









 Click on settings and select "Download Software", then choose the folder where to install the PS Toolbox



8. Once the download is completed click again on "Settings" then on "License" and at last on "Request".

ttings About	Activate	PS Toolbo	x	8
Format Dataset	PS Time Series	KHZ Export	Filtering	Vectorial Decomposition
-		KMZ	7	
Interferometric Sections	Trend Change Detection	Linear Infrastructures	Spatialization	Data Fusion
1	<u> </u>	-		

 In this new screen enter the email address and optionally also write a short message related to the activation request of the PS Toolbox then, click on "Send".







A Request License	×
Email	
Message	
Send	

10. Click again on settings and select "**Download Software**", then choose the folder where to install the PS Toolbox

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Format Dataset	PS Time Series	KMZ Export	Filtering	Vectorial Decomposition
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Interferometric T Sections	rend Change Detection	Linear Infrastructures	Spatialization	Data Fusion
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- 11. When the admin accepts your request, the license will be sent to the e-mail address previously entered. Therefore, once the license has been obtained, it must be downloaded and placed in a folder inside the computer storage.
- 12. Click on "**Settings**" then on "**License**" and at last on "**Activate**" and select the license file downloaded previously.







13.Now, another time click on "Settings" and select "Set Installation Path", then select the PS_toolbox.exe file, you will find it in the path chosen for installing the PS Toolbox.

Download Software Set Installation Path				
License	•			
About	P	S Toolbo	x	1
Format Dataset	P5 Time Series	KMZ Export	Filtering	Vectorial Decomposition
-	~	KMZ	No.	W E
Interferometric Sections	Trend Change Detection	Linear Infrastructures	Spatialization	Data Fusion
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You are now enabled to use all plugins within the PS Toolbox.

