



# SNAP2StaMPS: Step by Step in Mexico city site

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Montpellier, July 2021

Preparation tools:

You can run on either Window or Unix-like.

Need python 3

Need SNAP

Intall *pathlib* by : pip install pathlib

Data requirement:

We selected and processed 20 SLC images (~ one per 2 month) from Jan. 2017 to Dec. 2019 for your time series StaMPS processing. However, to save time and storage, we focus only 3 images in this instruction.

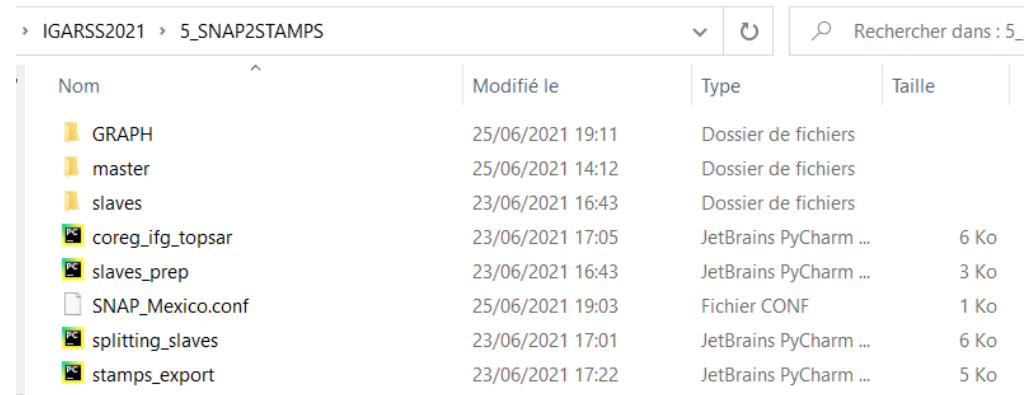
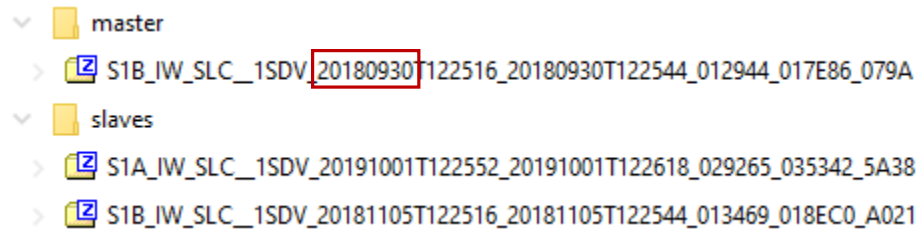
This tutorial has about 15 GB at beginning and 5 GB plus at the end.

Time: 45-60'

Goal: be able to process S1 TOPS InSAR data ready for time series STAMPS.

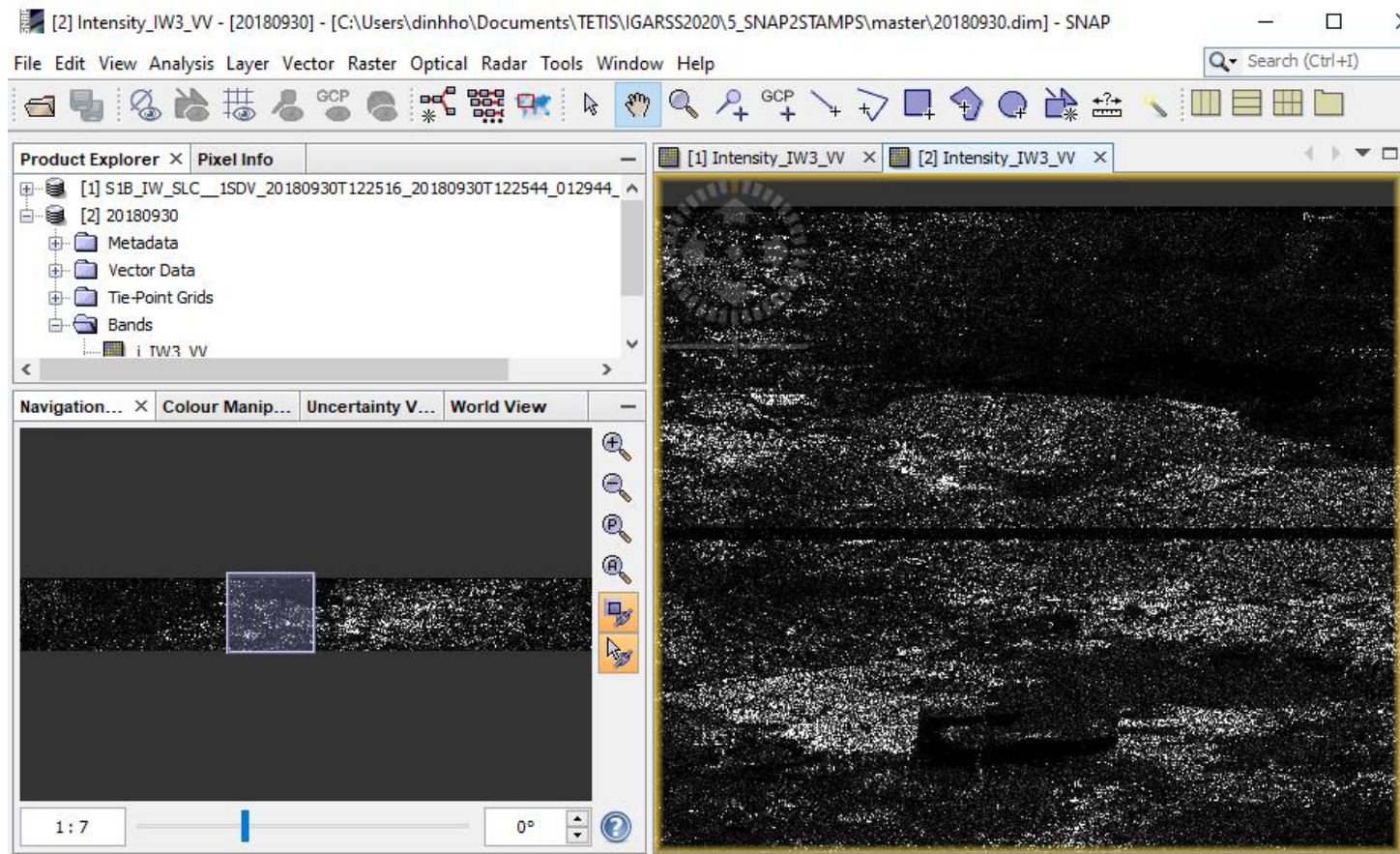
## Preparation S1 TOPS IW SLC dataset

Select a master image and put it the *master* folder  
Put others images in the *slaves* folder



Folder GRAPH and python code can be found from github  
(<https://github.com/mdelgadoblasco/snap2stamps>)

## Preparation master file : Select IW3 and burst 3-4 in SNAP



IGARSS2021 > 5_SNAP2STAMPS > master				Rechercher dans : n	
Nom	Modifié le	Type	Taille		
20180930.data	25/06/2021 14:13	Dossier de fichiers			
20180930	25/06/2021 14:13	SNAP standard I/O...	2 324 Ko		
S1B_IW_SLC__1SDV_20180930T122516_2...	24/04/2020 09:00	WinRAR ZIP archive	4 745 787 ...		

## Preparation configuration file (i.e., SNAP\_Mexico.conf)

##### CONFIGURATION FILE #####

# PROJECT DEFINITION

PROJECTFOLDER=C:\Users\dinhho\Documents\TETIS\IGARSS2021\5\_SNAP2STAMPS

GRAPHSFOLDER=C:\Users\dinhho\Documents\TETIS\IGARSS2021\5\_SNAP2STAMPS\GRAPH

##### PROCESSING PARAMETERS

IW1=IW3

MASTER=C:\Users\dinhho\Documents\TETIS\IGARSS2021\5\_SNAP2STAMPS\master\20180930.dim

#####

# AOI BBOX DEFINITION

LONMIN=-99.2

LATMIN=19.25

LONMAX=-98.9

LATMAX=19.55

#####

# SNAP GPT

GPTBIN\_PATH=D:\z\_software\snap\bin\gpt

#####

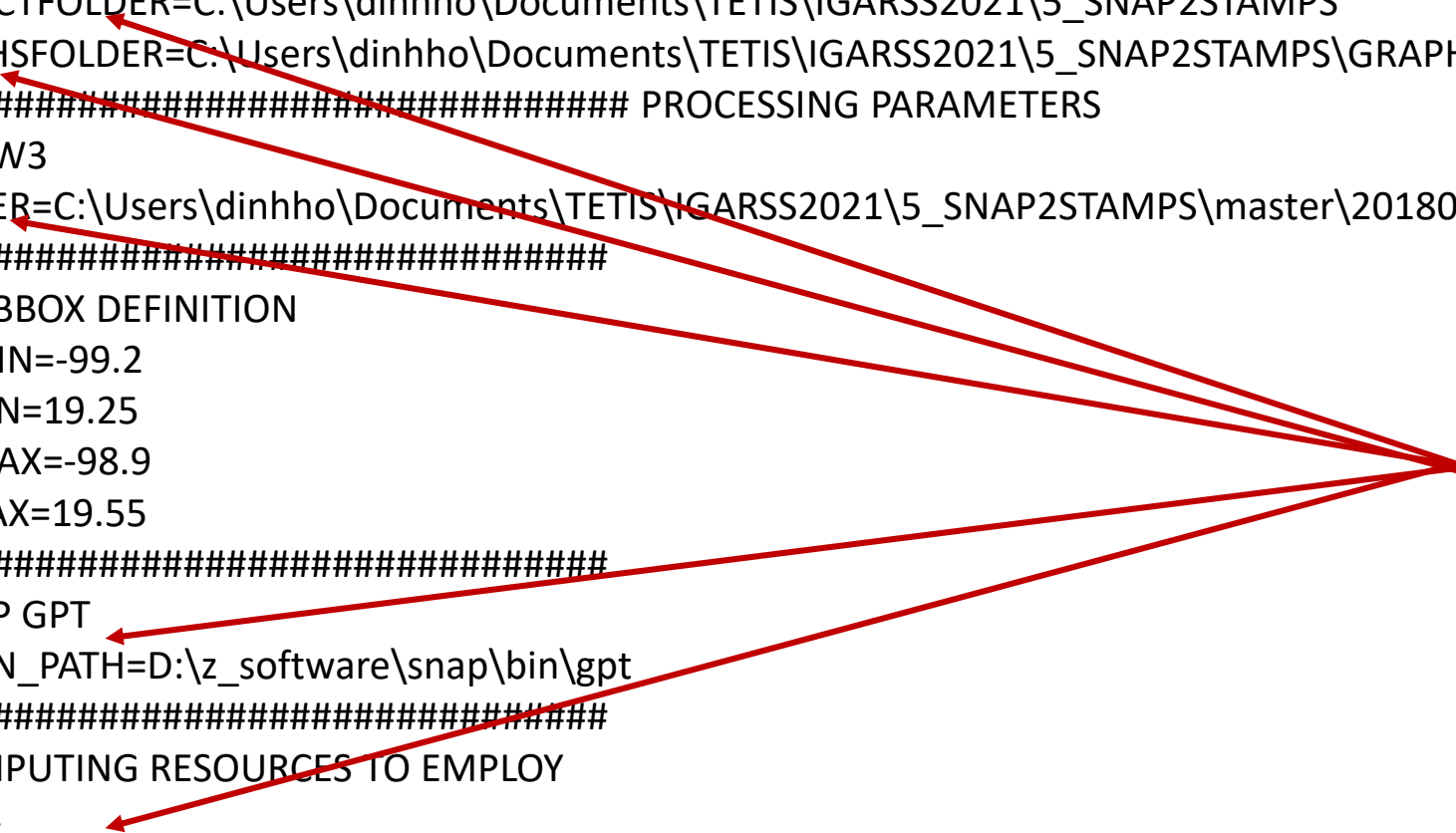
# COMPUTING RESOURCES TO EMPLOY

CPU=4

CACHE=4G

#####

Please correct  
according to your  
computer.



Run python code in terminal:

Check list :

```
Anaconda Prompt (anaconda3)

(base) C:\Users\DinhH\Documents\TETIS\IGARSS2021\5_SNAP2STAMPS>dir
Le volume dans le lecteur C s'appelle Windows
Le numéro de série du volume est 903D-D3F5

Répertoire de C:\Users\DinhH\Documents\TETIS\IGARSS2021\5_SNAP2STAMPS

25/06/2021  19:11    <DIR>          .
25/06/2021  19:11    <DIR>          ..
23/06/2021  17:05             5 138 coreg_ifg_topsar.py
25/06/2021  19:11    <DIR>          GRAPH
25/06/2021  14:12    <DIR>          master
23/06/2021  16:43    <DIR>          slaves
23/06/2021  16:43             2 082 slaves_prep.py
25/06/2021  19:03             701 SNAP_Mexico.conf
23/06/2021  17:01             5 181 splitting_slaves.py
23/06/2021  17:22             4 160 stamps_export.py
                5 fichier(s)             17 262 octets
                5 Rép(s)  45 135 990 784 octets libres

(base) C:\Users\DinhH\Documents\TETIS\IGARSS2021\5_SNAP2STAMPS>
```

Run slave\_prep :

```
(base) C:\Users\DinhH\Documents\TETIS\IGARSS2021\5_SNAP2STAMPS>python slaves_prep.py SNAP_Mexico.conf
```

Run python code in terminal:

Slave split and apply orbit:

```
python splitting_slaves.py SNAP_Mexico.conf
```

IGARSS2021 > 5_SNAP2STAMPS > split				Recherche
Nom	Modifié le	Type	Taille	
20181105	25/06/2021 19:30	Dossier de fichiers		
20191001	25/06/2021 19:30	Dossier de fichiers		

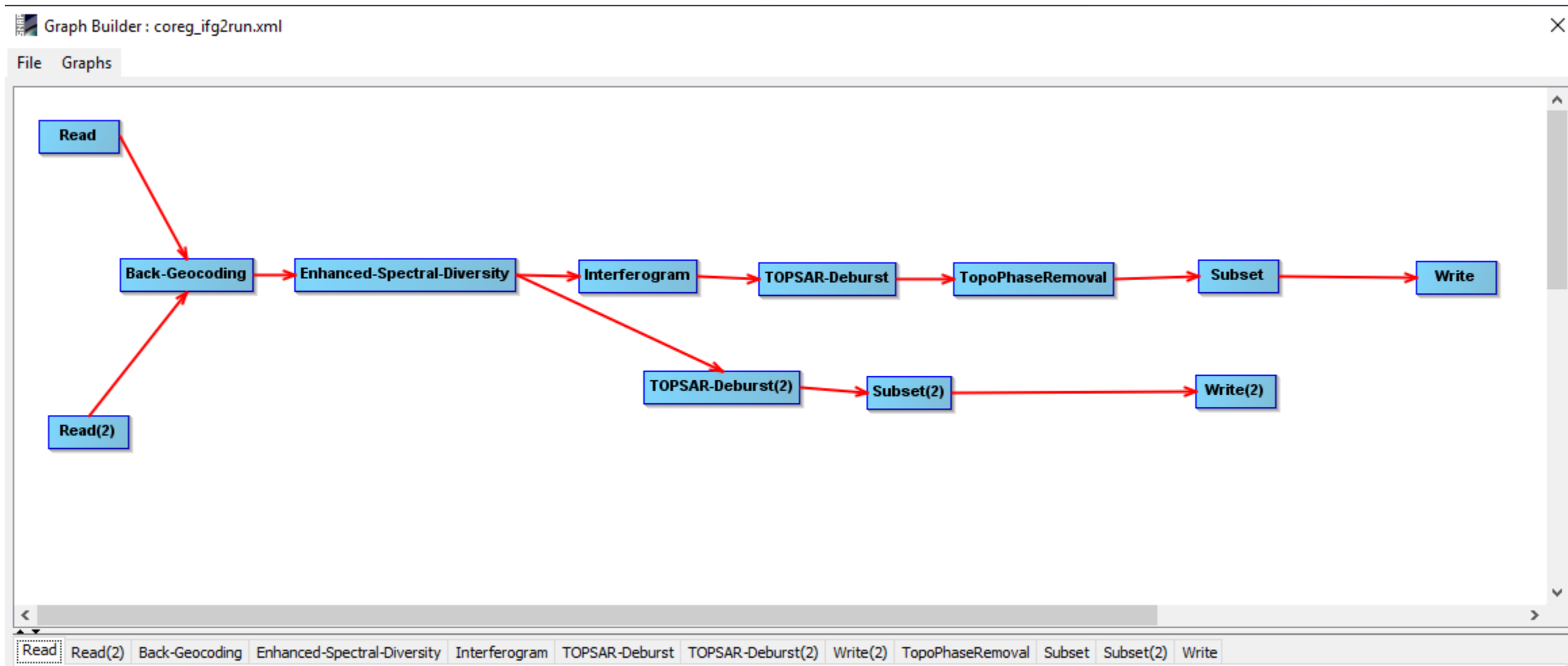
Coregistration:

```
python coreg_ifg_topsar.py SNAP_Mexico.conf
```

IGARSS2021 > 5_SNAP2STAMPS > coreg				Rechercher dans :
Nom	Modifié le	Type	Taille	
_20181105_IW3.data	25/06/2021 19:32	Dossier de fichiers		
_20191001_IW3.data	25/06/2021 19:36	Dossier de fichiers		
_20181105_IW3	25/06/2021 19:33	SNAP standard I/O...	2 378 Ko	
_20191001_IW3	25/06/2021 19:37	SNAP standard I/O...	2 378 Ko	

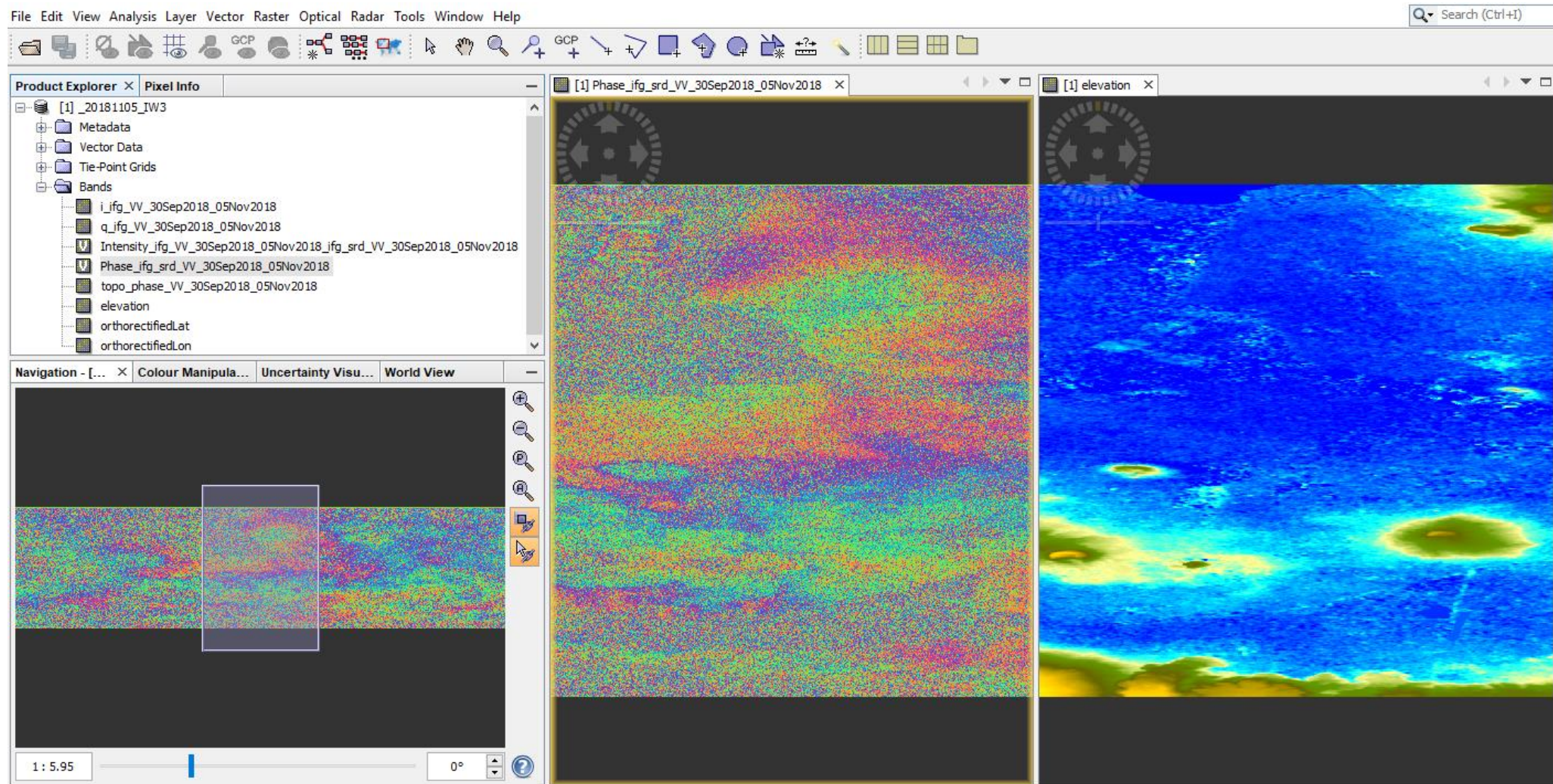
IGARSS2021 > 5_SNAP2STAMPS > ifg				Rechercher dans :
Nom	Modifié le	Type	Taille	
_20181105_IW3.data	25/06/2021 19:32	Dossier de fichiers		
_20191001_IW3.data	25/06/2021 19:36	Dossier de fichiers		
_20181105_IW3	25/06/2021 19:34	SNAP standard I/O...	2 382 Ko	
_20191001_IW3	25/06/2021 19:38	SNAP standard I/O...	2 382 Ko	

## TOPS Coregistration





# TOPS Coregistration



Run python code in terminal:

Export to Stamps :

```
python stamps_export.py SNAP_Mexico.conf
```

IGARSS2021 > 5_SNAP2STAMPS > INSAR_				Rechercher
Nom	Modifié le	Type	Taille	
dem	25/06/2021 19:40	Dossier de fichiers		
diff0	25/06/2021 19:40	Dossier de fichiers		
geo	25/06/2021 19:40	Dossier de fichiers		
rslc	25/06/2021 19:40	Dossier de fichiers		

Change *INSAR\_* folder to *INSAR\_20180930*