LPS Core

SPOT **GCP**

C:\Program Files\ERDAS\ERDAS Desktop 2010\examples\LPS\spot

Image1 spot_pan.img SPOT 10m

Image2 spot_panB.img SPOT 10m

Image3 xs_ortho.img SPOT 20m

Image4

3

Horizontal Reference Coordinate Set

Projection Chooser



Projection Type **UTM**

Spheroid Name **Clarke 1866**

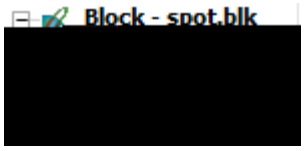
OK

Horizontal Units **Meters**

OK Block Property Setup

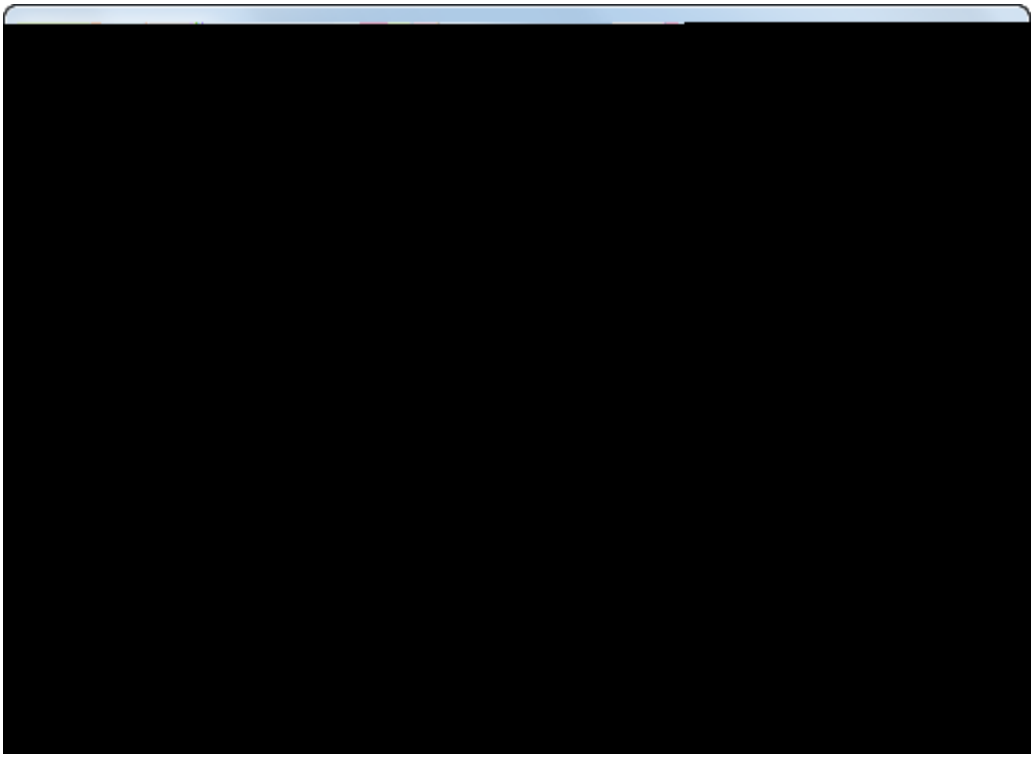
4

LPS Block Project Tree View **Images**

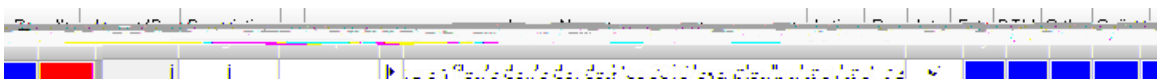


Edit **Add Frame** 

(Image File Name dialog)



spot_pan.img **OK** LPS



5

spot_pan **Pyr.** Compute

Pyramid Layers dialog

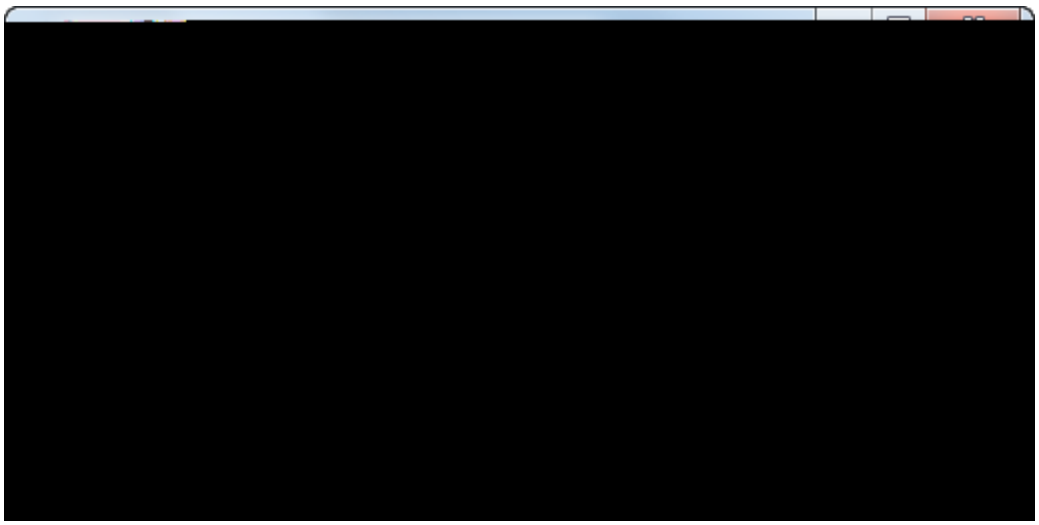
All Images Without Pyramids **OK**

spot_pan **Pyr.**



6

Edit Frame Editor Frame Properties  SPOT Pushbroom Frame Editor

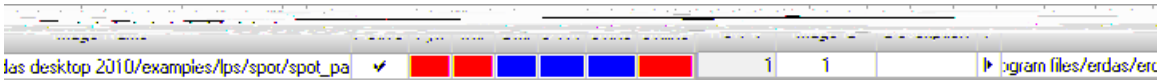


Sensor Sensor Name **Edit** Sensor Information

Sensor Information

OK

SPOT Pushbroom Frame Editor **OK** LPS Project Manager **Int.**



7

LPS Project Manager Point Measurement  **Edit**

Point Measurement **Classic Point Measurement Tool**

OK

9 GCP

1



Point Measurement tool Add ID1

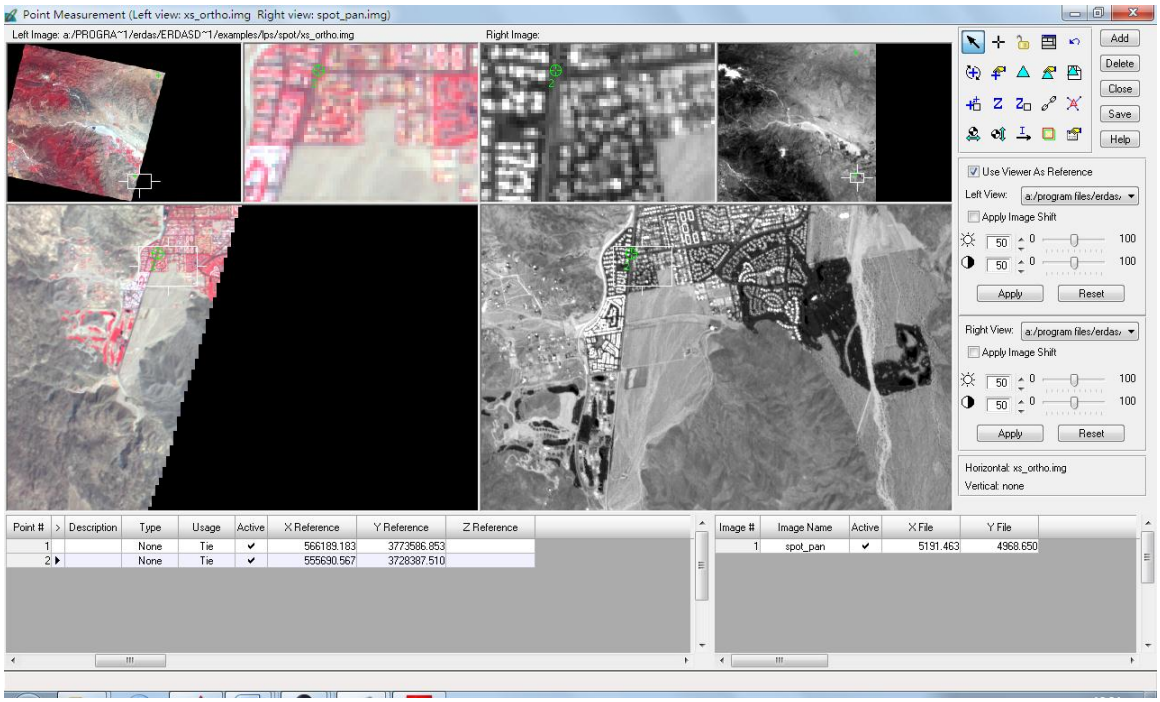
Create Point  spot_pan

1

Image Name	X File	Y File
spot_pan	5239.468	337.384

file CellArray

2



Point Measurement tool Add

Point Measurement tool 2 Select Point 

Link Cursors

Create Point  xs_ortho

1

Point ID	X Reference	Y Reference
2	555690.659	3728387.770

10m Reference CellArray

Point Measurement tool spot_pan

2

Select Point  Link Cursors

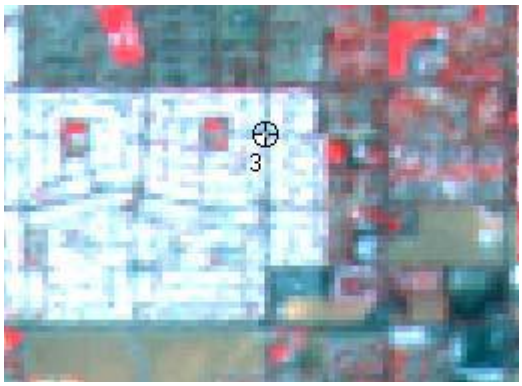
Create Point  spot_pan

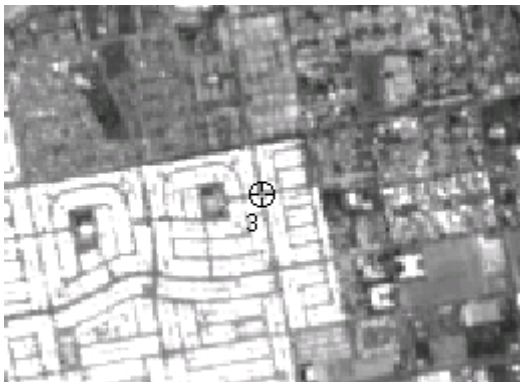
Image Name	X File	Y File
spot_pan	5191.590	4969.546

file CellArray

Automatic (x, y) Drive  

3





3 xs_ortho spot_pan

Point Measurement tool Add

Reference CellArray 3 X Reference Y Reference

Point ID	X Reference	Y Reference
3	501918.953	3732595.411

LPS Project Manager 3

Automatic (x, y) Drive LPS Project Manager

spot_pan 3

Select Point  spot_pan Link Cursor

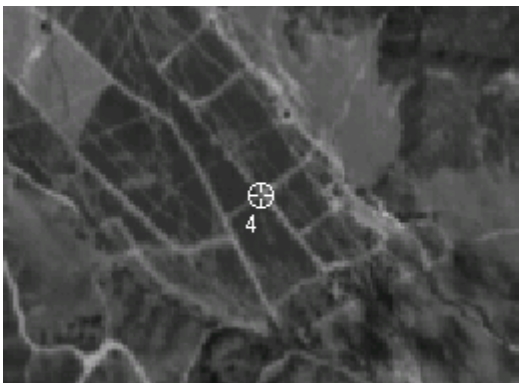
Create Point  **spot_pan**

Image Name	X File	Y File
spot_pan	230.925	5378.823

file CellArray

4





4 xs_ortho spot_pan

Point Measurement tool Add

Reference CellArray 3 X Reference Y Reference

Point ID	X Reference	Y Reference
4	515114.084	3759740.576

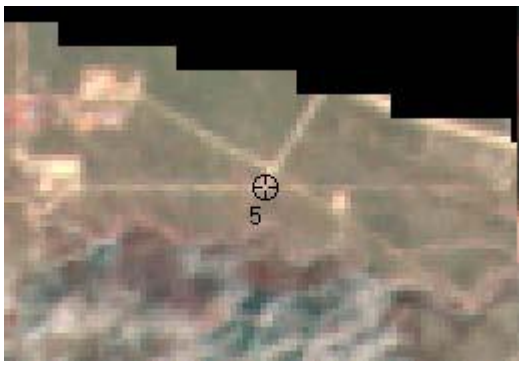
Select Point  spot_pan Link Cursor

Create Point  spot_pan

Image Name	X File	Y File
spot_pan	869.542	2487.996

file CellArray

5





5 xs_ortho spot_pan

Point Measurement tool Add

Reference CellArray 5 X Reference Y Reference

Point ID	X Reference	Y Reference
5	543537.306	3779981.255

Select Point  spot_pan Link Cursor

Create Point  spot_pan

Image Name	X File	Y File
spot_pan	3027.570	51.432

file CellArray

6





6 xs_ortho spot_pan

Point Measurement tool Add

Reference CellArray 5 X Reference Y Reference

Point ID	X Reference	Y Reference
6	558640.300	3751516.718

Select Point  spot_pan Link Cursor

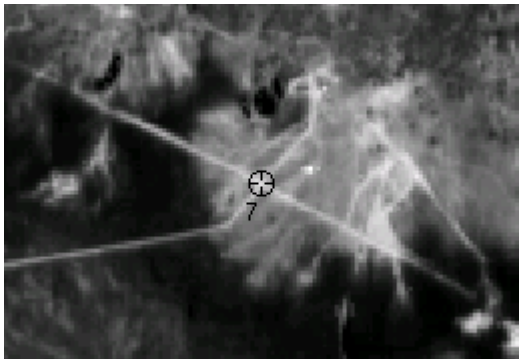
Create Point  spot_pan

Image Name	X File	Y File
spot_pan	4999.412	2636.848

file CellArray

7





7 xs_ortho spot_pan

Point Measurement tool Add

Reference CellArray 5 X Reference Y Reference

Point ID	X Reference	Y Reference
7	532062.982	3724946.633

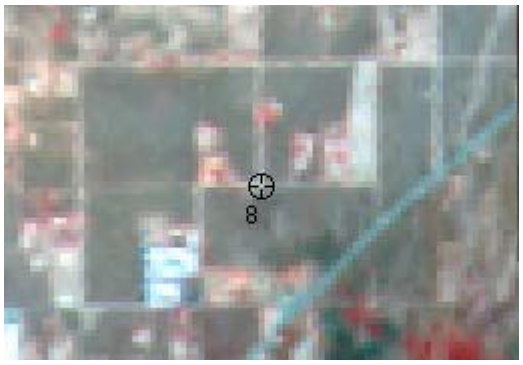
Select Point  spot_pan Link Cursor

Create Point  spot_pan

Image Name	X File	Y File
spot_pan	3064.254	5673.794

file CellArray

8





8 xs_ortho spot_pan

Point Measurement tool Add

Reference CellArray 5 X Reference Y Reference

Point ID	X Reference	Y Reference
8	539381.670	3768419.388

Select Point  spot_pan Link Cursor

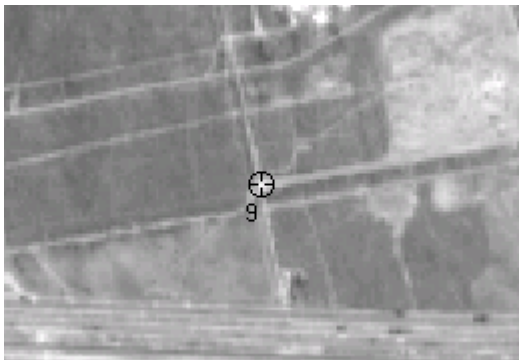
Create Point  spot_pan

Image Name	X File	Y File
spot_pan	2890.880	1258.852

file CellArray

9





9 xs_ortho spot_pan

Point Measurement tool Add

Reference CellArray 5 X Reference Y Reference

Point ID	X Reference	Y Reference
9	526013.661	3753709.856

Select Point  spot_pan Link Cursor

Create Point  spot_pan

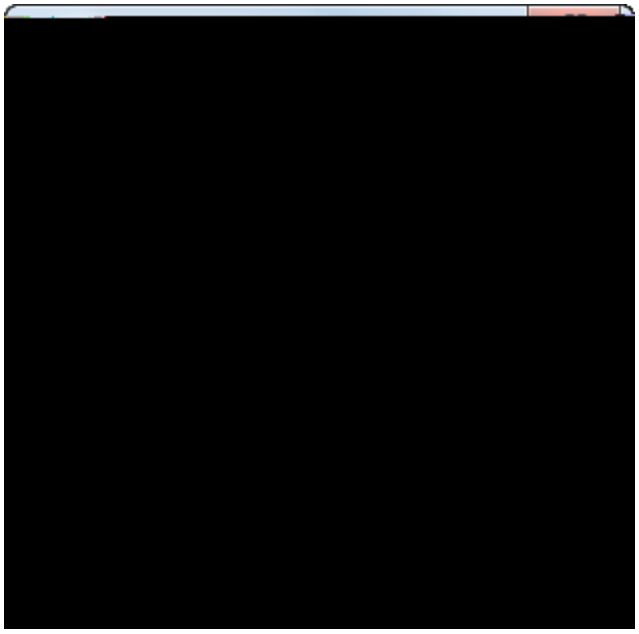
Image Name	X File	Y File
spot_pan	1978.138	2919.004

file CellArray

Point Measurement tool palette **Horizontal Reference Source**



GCP Reference Source

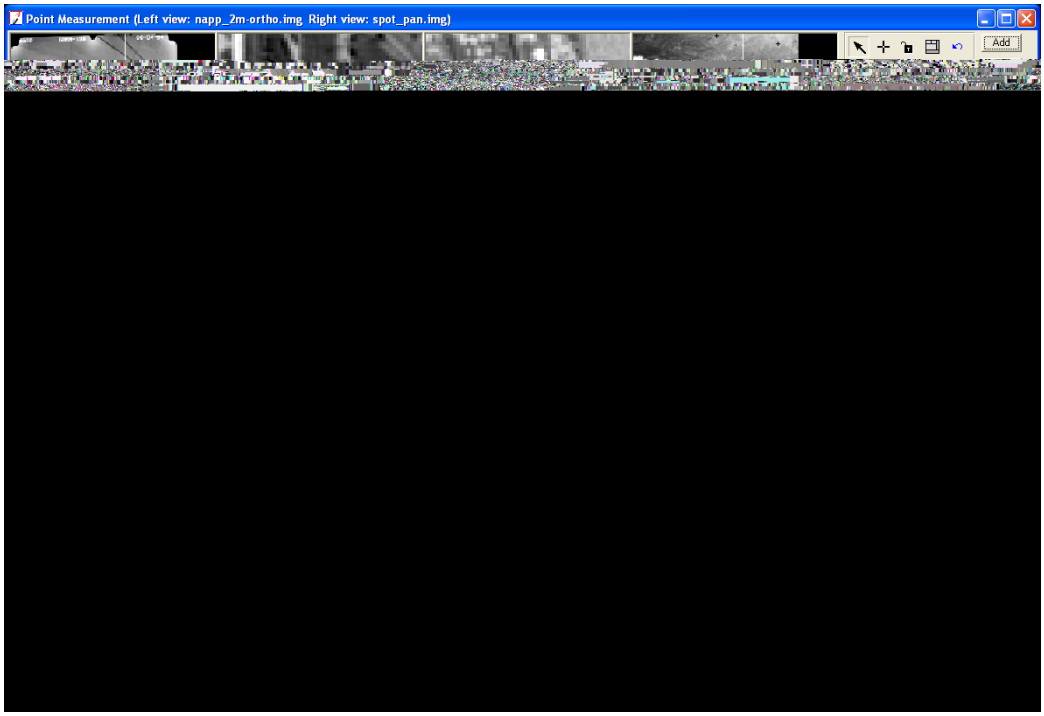


GCP Reference Source **Image Layer** **OK**

Reference Image Layer NAPP_2m-ortho.img **OK**

Point Measurement tool NAPP-2m-ortho

11



Point ID	X Reference	Y Reference
12	540901.659	3746876.633

Select Point  spot_pan Link Cursor

Create Point  spot_pan

Image Name	X File	Y File
spot_pan	3469.092	3367.939

file CellArray

Point Measurement **Save** Use Viewer As Reference

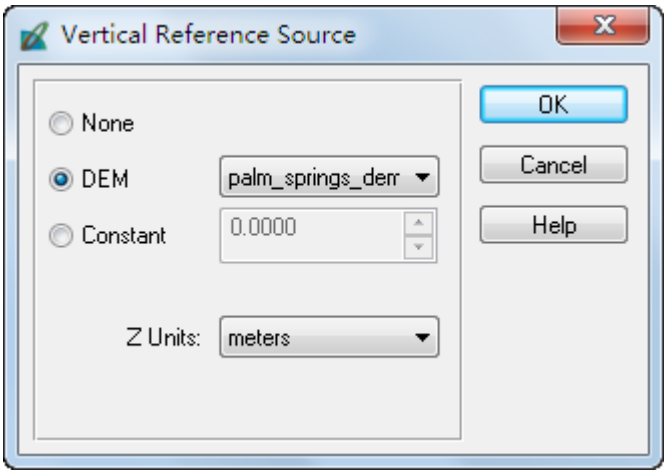
NAPP_2m-orhto Point Measurement spot_pan



10

Vertical Reference Source  Vertical Reference Source

DEM



DEM **Find DEM**

Add DEM File Name DEM palm_springs_dem.img

OK DEM Vertical Reference Source DEM

Vertical Reference Source **OK**

Reference CellArray Point# Row Selection **Select All**.

Update Z Values on Selected Points 

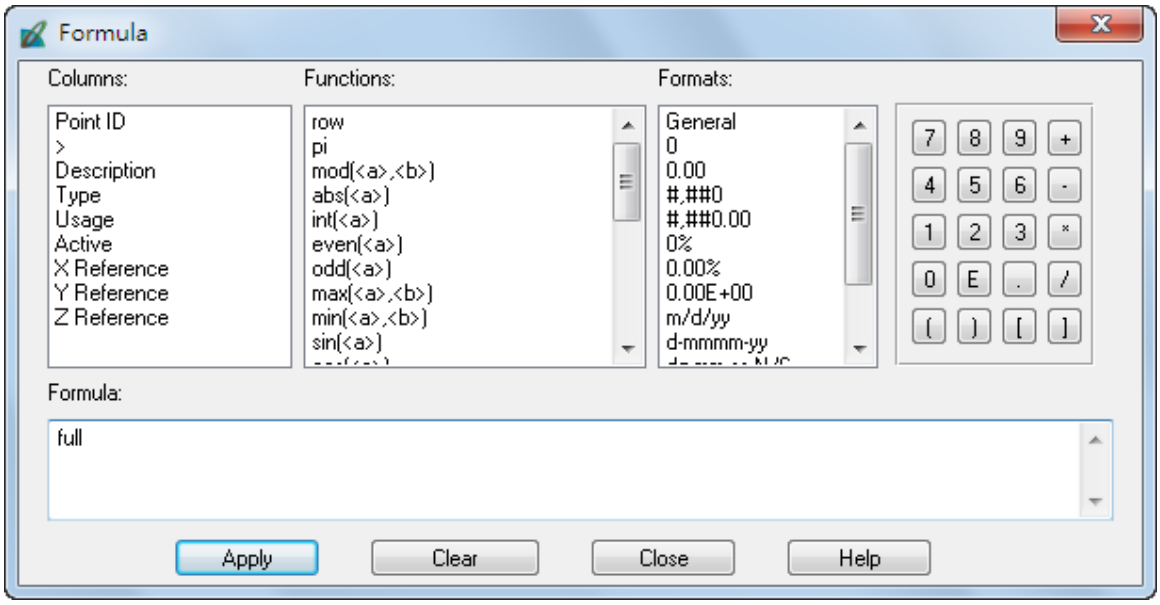
Point #	Point ID	>	Description	Type	Usage	Active	X Reference	Y Reference	Z Reference	Color
4	4			None	Tie	X	515114.084	3759740.576	974.397	
5	5			None	Tie	X	543537.306	3779981.255	1281.302	
6	6			None	Tie	X	558640.300	3751516.718	348.976	
7	7			None	Tie	X	532062.982	3724946.633	1337.047	
8	8			None	Tie	X	539381.670	3768419.388	795.149	
9	9			None	Tie	X	526013.661	3753709.856	466.424	
10	11			None	Tie	X	545372.750	3741643.250	122.000	
11	12			None	Tie	X	540901.659	3746876.633	209.656	

Point# **Select None**

11 **Type** **Usage**

Type Type

Type Column Options **Formula** Formula



Formula Fromula **Full** **Apply**

Usage Usage

Formula Fromula **Control** **Apply**

Close Formula

Usage Column Options **Select None**

CellArray

Point #	Point ID	>	Description	Type	Usage	Active	X Reference	Y Reference	Z Reference	Color
4	4			Full	Control	X	515114.084	3759740.576	974.397	
5	5			Full	Control	X	543537.306	3779981.255	1281.302	
6	6			Full	Control	X	558640.300	3751516.718	348.976	
7	7			Full	Control	X	532062.982	3724946.633	1337.047	
8	8			Full	Control	X	539381.670	3768419.388	795.149	
9	9			Full	Control	X	526013.661	3753709.856	466.424	
10	11			Full	Control	X	545372.750	3741643.250	122.000	
11	12			Full	Control	X	540901.659	3746876.633	209.656	

12

Point Measurement , **Save** **Close** LPS Project Manager

13

Edit **Add Frame** Add Frame  Image File Name

spot_panB.img **OK** spot_panB.img LPS Project

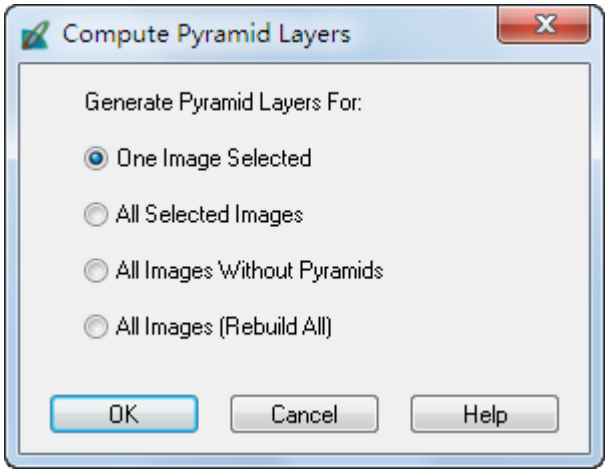
Manager

Row #	Image ID	Description	>	Image Name	Active	Pyr.	Int.	Ext.	DTM	Ortho	Online
1	1		▶	ogram files/erdas/erdas desktop 2010/examples/lps/spot/spot_pa	✔						
2	2			gram files/erdas/erdas desktop 2010/examples/lps/spot/spot_par	✔						

14

Row#2 spot_panb

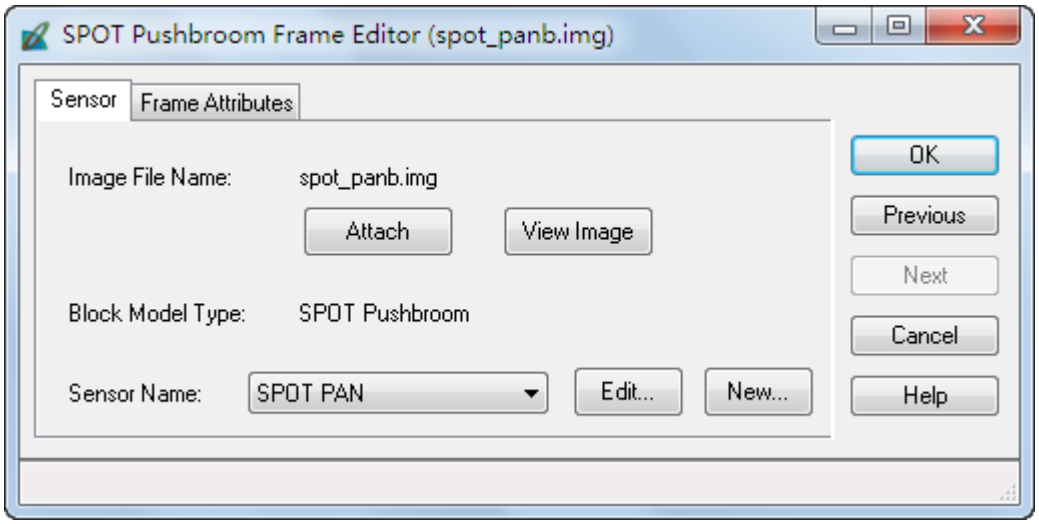
spot_panb **Pyr.** Compute Pyramid Layers



One Image Selected **OK**

15

Edit **Frame Editor** Frame Properties SPOT Pushbroom Frame Editor



Edit Sensor Information **OK**

16 **Point Measurement Tool**

LPS Project Manager Point Measurement **Edit** **Point Measurement** **Classic Point Measurement Tool**

OK spot_panb spot_pan

17

1

Reference CellArray Point#1 1 spot_pan 1

spot_panb Link Cursor 1

Point Measurement Create Point 

spot_panb 1

file CellArray file CellArray

2 file CellArray

Image Name	X File	Y File
spot_panb	2857.270	753.852

2

Reference CellArray Point#5 2 spot_pan 1

spot_panb Link Cursor 2

Point Measurement Create Point 

spot_panb 1

file CellArray file CellArray

2 file CellArray

Image Name	X File	Y File
spot_panb	3003.782	5387.892

5

Reference CellArray Point#5 5 spot_pan 1

spot_panb Link Cursor 5

Point Measurement Create Point 

spot_panb 1

file CellArray file CellArray

2 file CellArray

Image Name	X File	Y File
spot_panb	1022.701	644.456

6

Reference CellArray Point#6 6 spot_pan 1

spot_panb Link Cursor 1

Point Measurement Create Point 

spot_panb 6

file CellArray file CellArray

2 file CellArray

Image Name	X File	Y File
spot_panb	2736.125	3070.227

8

Reference CellArray Point#8 8 spot_pan 1

spot_panb Link Cursor 8

Point Measurement Create Point 

spot_panb 1

file CellArray file CellArray

2 file CellArray

Image Name	X File	Y File
spot_panb	937.482	1862.696

9

Reference CellArray Point#9 9 spot_pan 1

spot_panb Link Cursor 1

Point Measurement Create Point 

spot_panb 9

file CellArray file CellArray

2 file CellArray

Image Name	X File	Y File
spot_panb	221.445	3594.113

12

Reference CellArray Point#12 12 spot_pan

1

spot_panb Link Cursor 1

Point Measurement Create Point 

spot_panb 12

file CellArray file CellArray

2 file CellArray

Image Name	X File	Y File
spot_panb	1499.230	3923.753

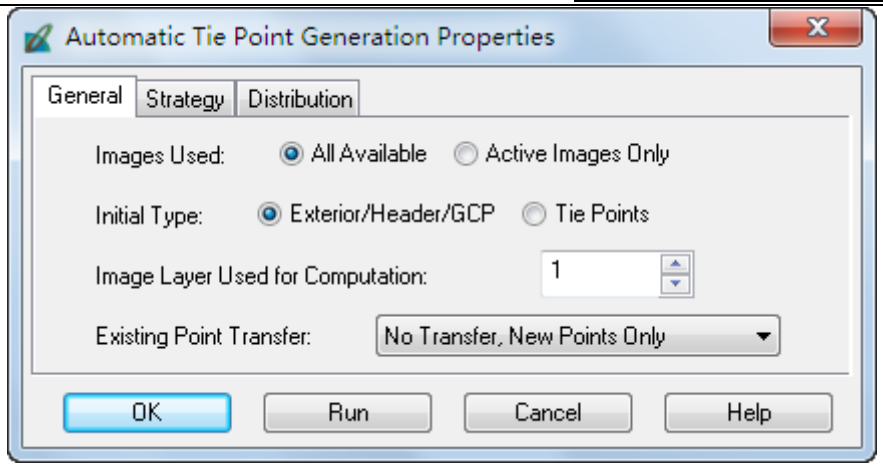
Point# **Select None** Point Measurement **Save**

18

Point Measurement **Automatic Tie Point Collection Properties**



Automatic Tie Point Generation Properties

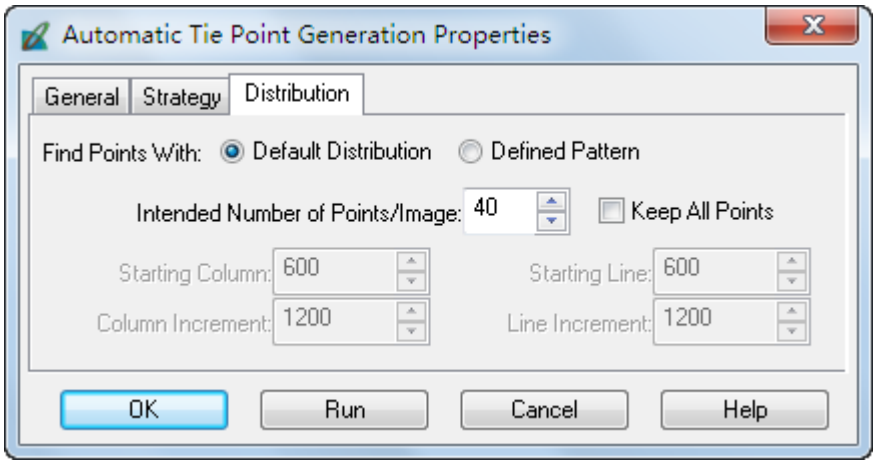


Images Used **All Available**

Initial Type **Exterior/Header/GCP**

Image Layer Used for Computation **1**

Distribution



Intended Number of Points Per Image **40**

Keep All Points

Run LPS

Point Measurement

19

Select Point

Active

Reference CellArray 35

35 > 35



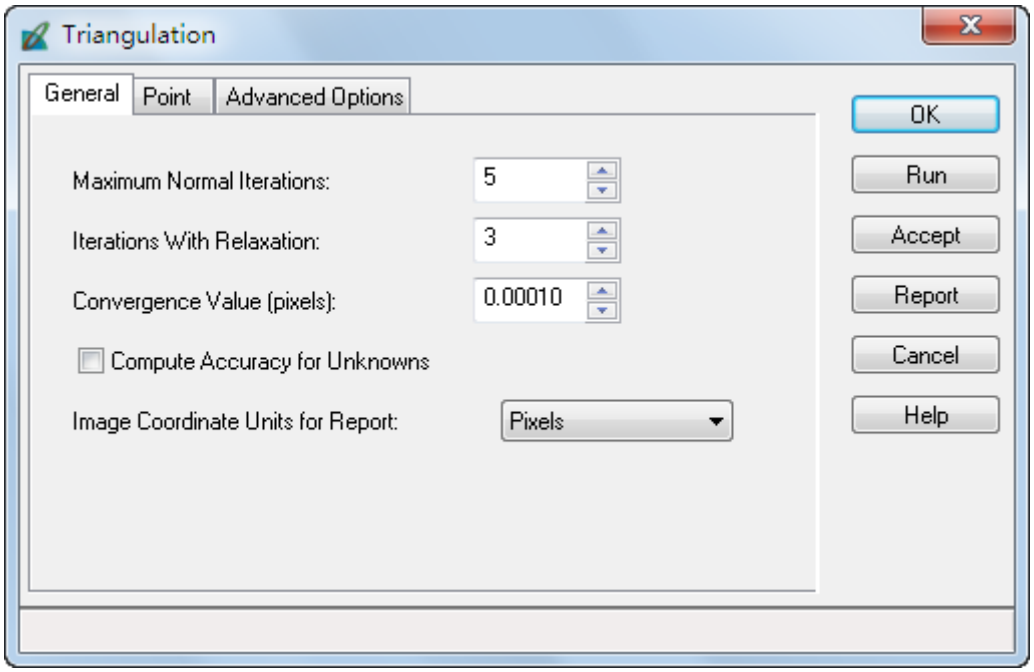
>

Point Measurement **Save**

Close Point Measurement LPS Project Manager

20

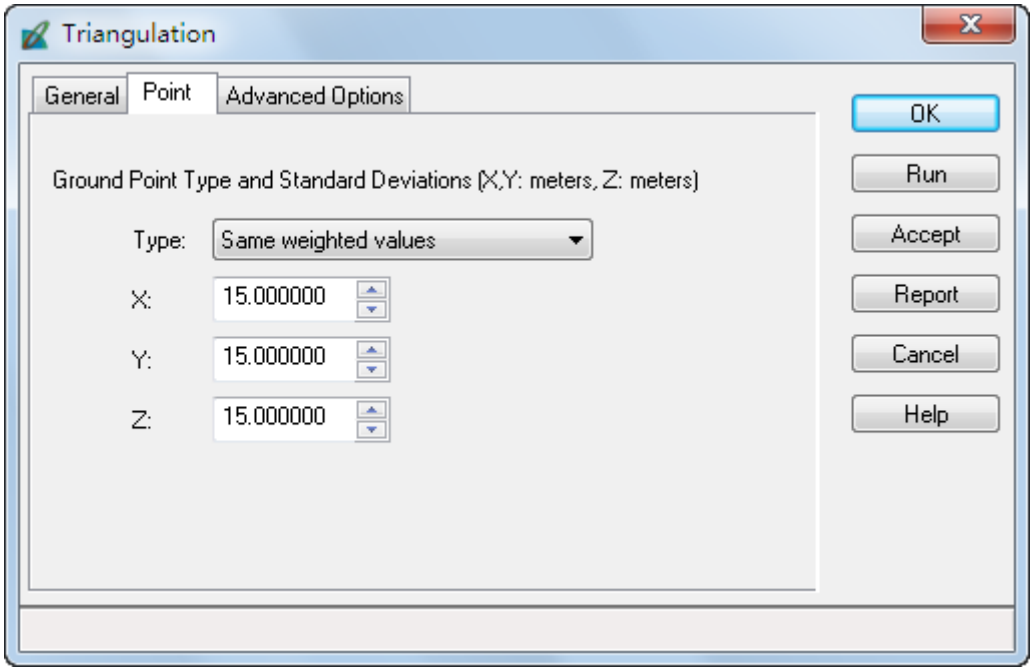
Edit **Triangulation Properties** Triangulation



Iterations With Relaxation **3**

Image Coordinate Units for Report **Pixels**

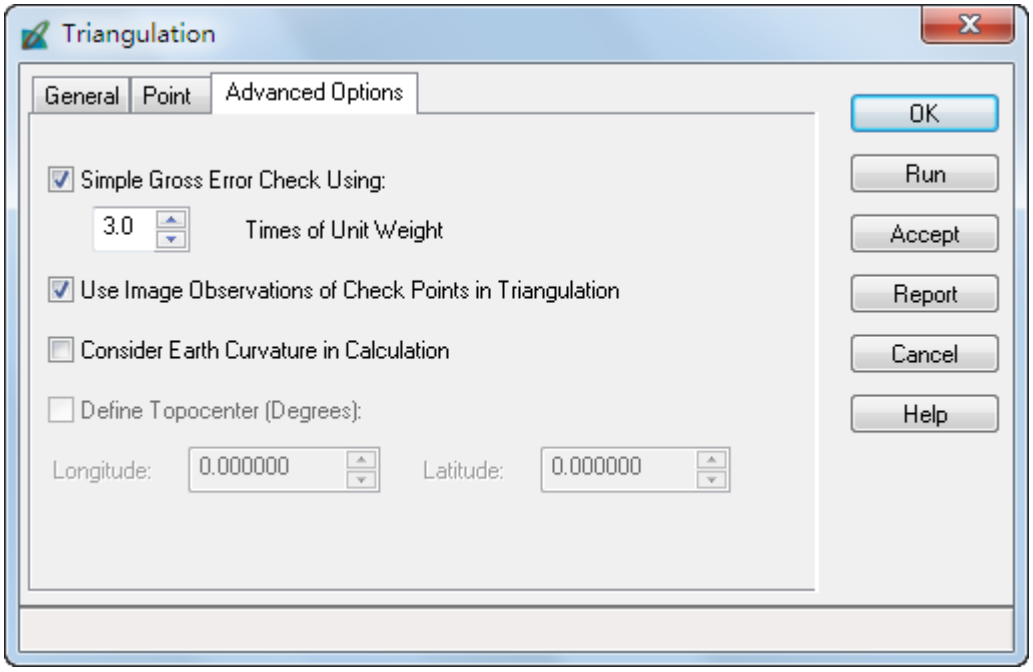
Point



Type **Same Weighted Values**

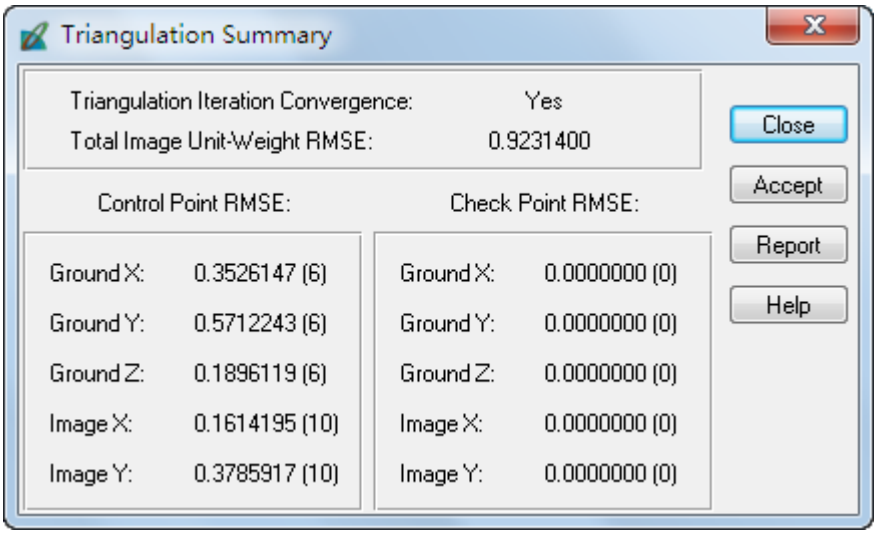
X Y Z **15**

Advanced Options

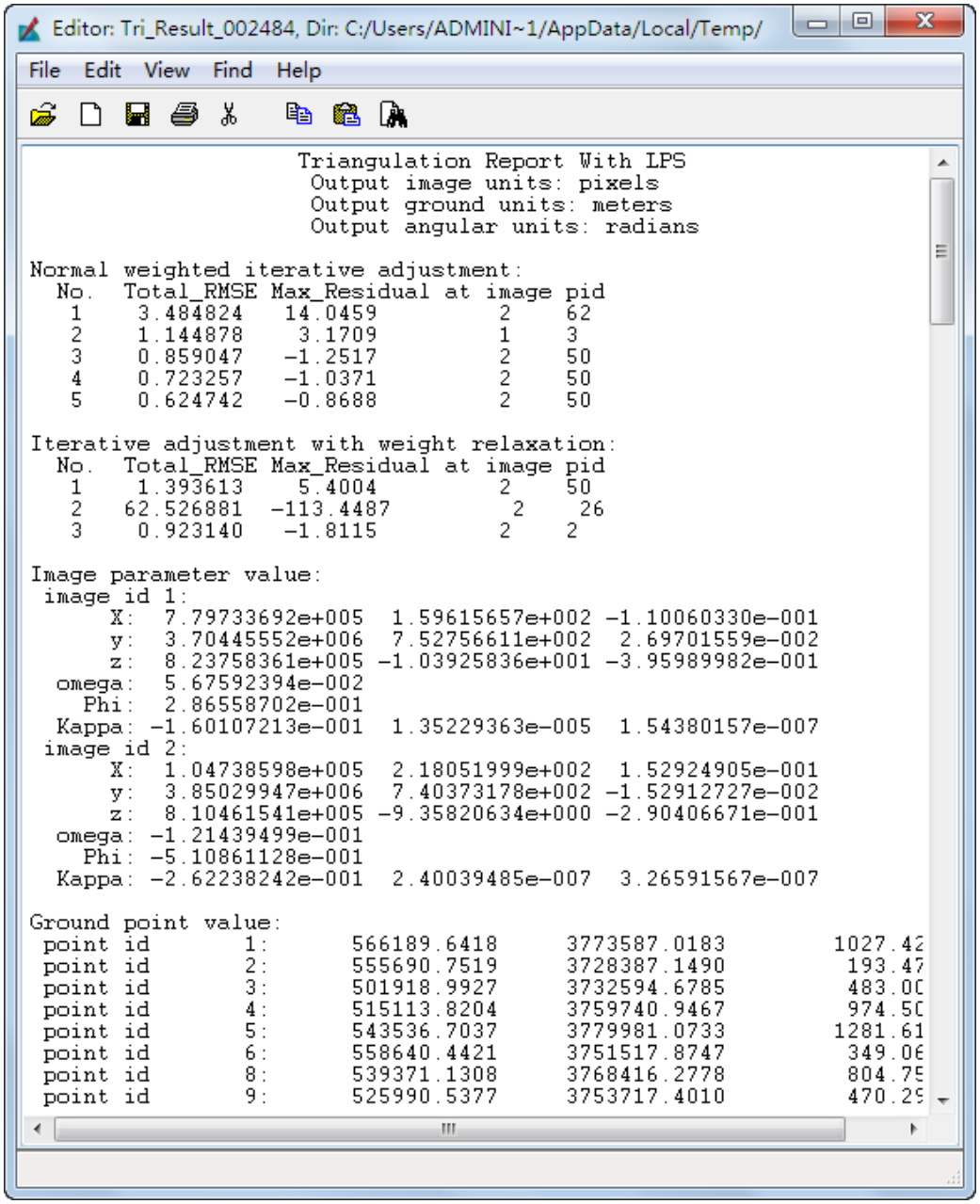


Simple Gross Error Check Using **3.0**

Run Triangulation Summary


Triangulation Summary
Triangulation Iteration Convergence: Yes
Total Image Unit-Weight RMSE: 0.9231400
Control Point RMSE:
Check Point RMSE:
Ground X: 0.3526147 (6)
Ground Y: 0.5712243 (6)
Ground Z: 0.1896119 (6)
Image X: 0.1614195 (10)
Image Y: 0.3785917 (10)
Ground X: 0.0000000 (0)
Ground Y: 0.0000000 (0)
Ground Z: 0.0000000 (0)
Image X: 0.0000000 (0)
Image Y: 0.0000000 (0)
Close
Accept
Report
Help

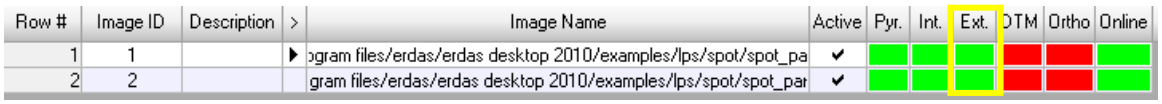
Report



File **Save**

Triangulation Summary **Accept**

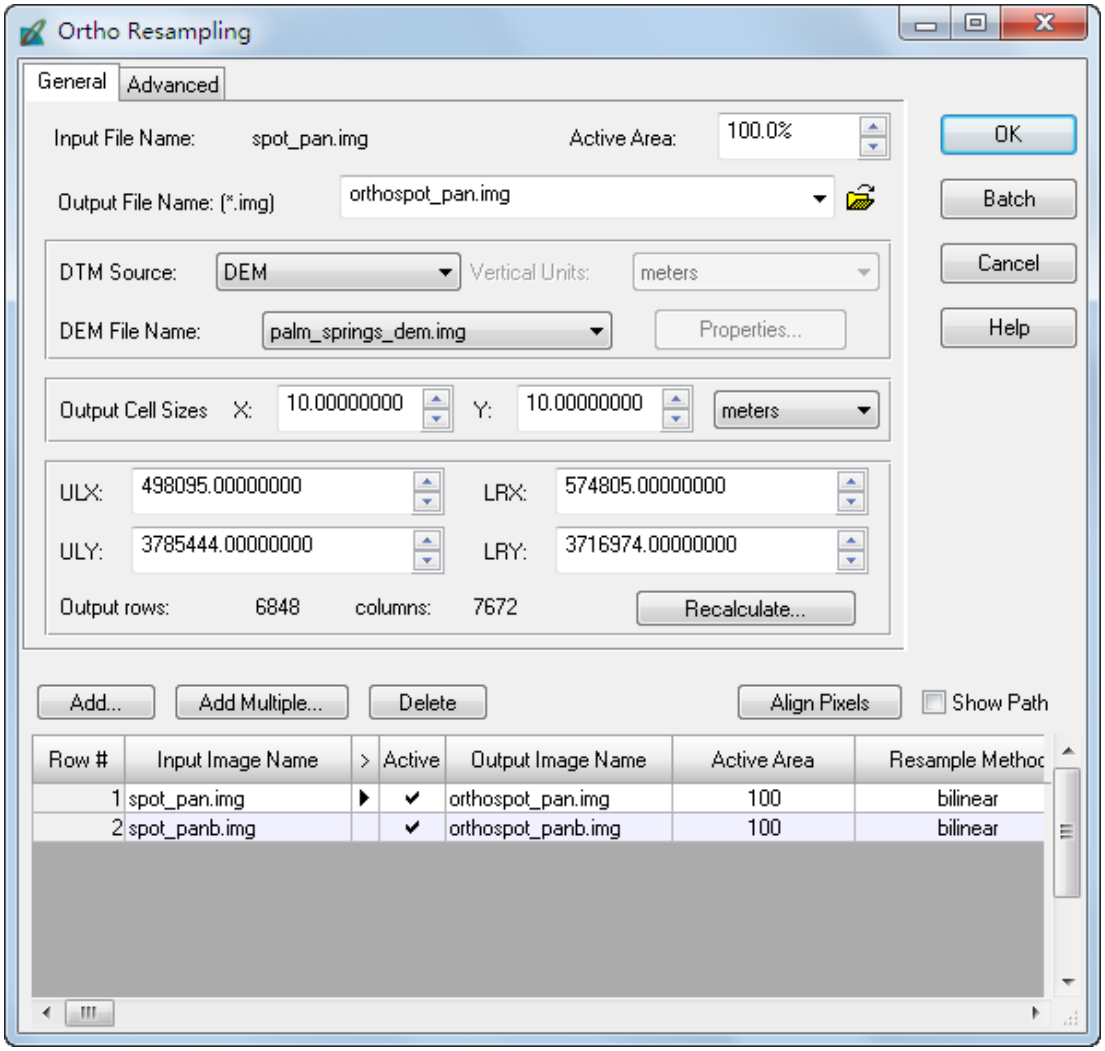
OK LPS Project Manager **Ext.**



File **Save**

21

LPS Project Manager **Ortho Resampling** Ortho Resampling



General DTM Source **DEM**

DEM File Name **Find DEM** DEM palm_springs_dem.img

OK

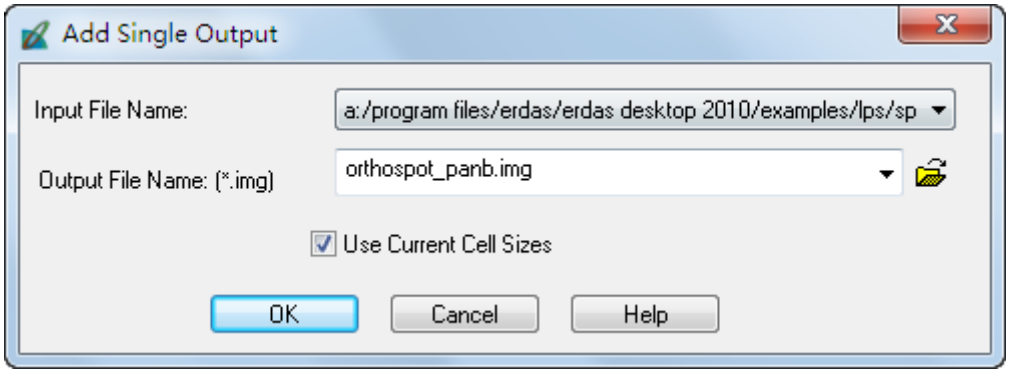
Output Cell Sizes X,Y **10**

Advanced

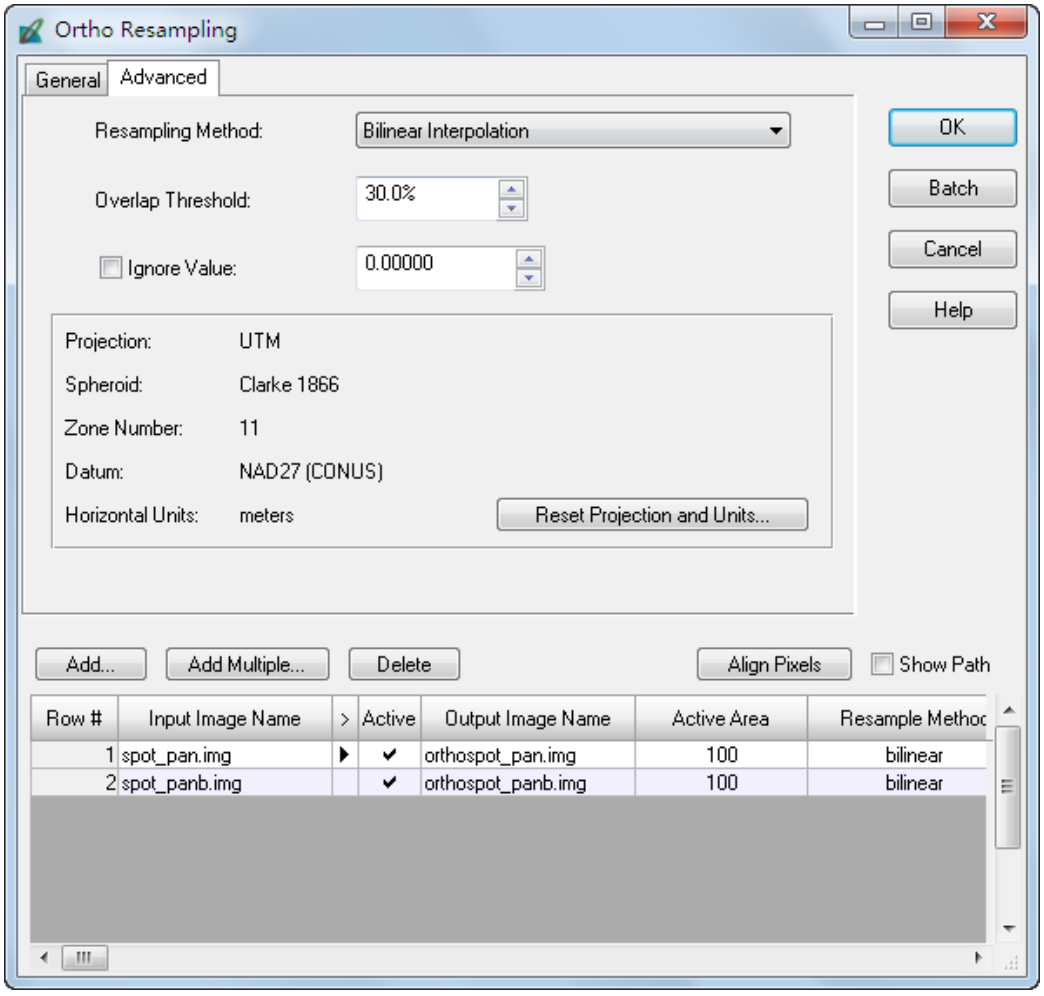
Bilinear Interpolation

Advanced **Add** Add Single Output

Use Current Cell Sizes **OK**



Ortho Resampling



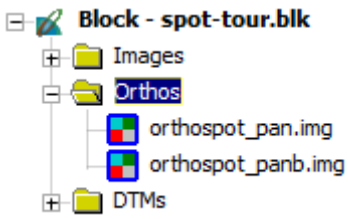
Ortho Resampling **OK**

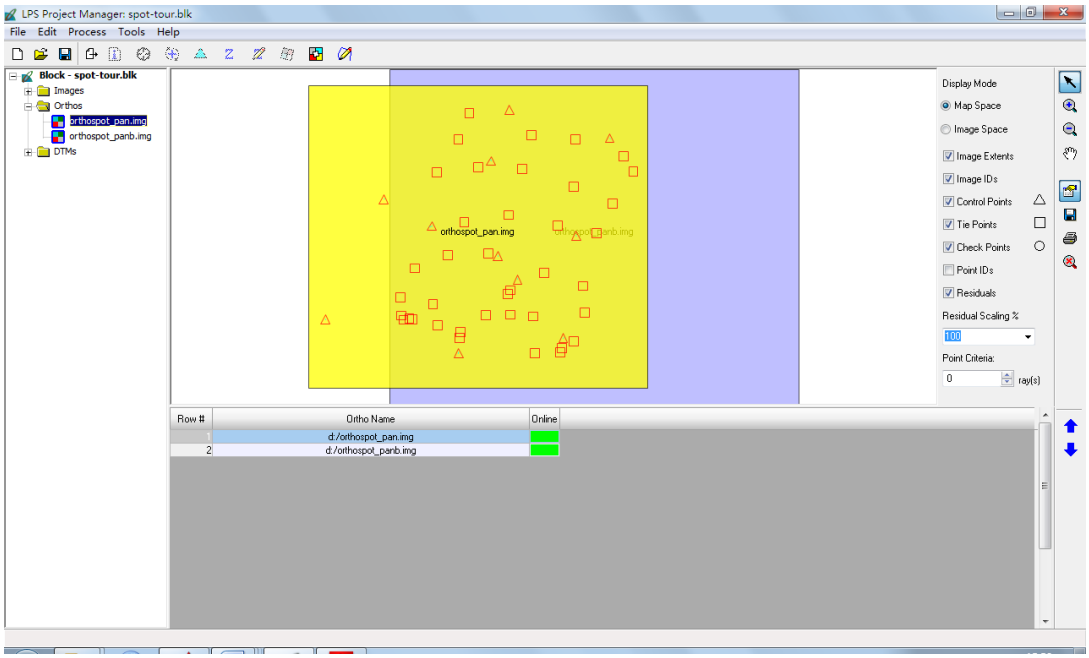
22

LPS

LPS Project Manager Block Project Tree View Orthos







Viewer

LPS Project Manager orthospot_pan

View

Fit Image to Window

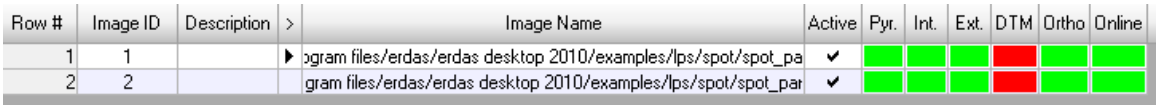
orthospot_panb Clear Display Fit to Frame

Background Transparent

OK

23

LPS Project Manager **File** **Save** DTM



File **Exit** LPS Project Manager