

Club Evening – 19 December

Ian Tulloch

Topics

1. Close-Up / Macro photography

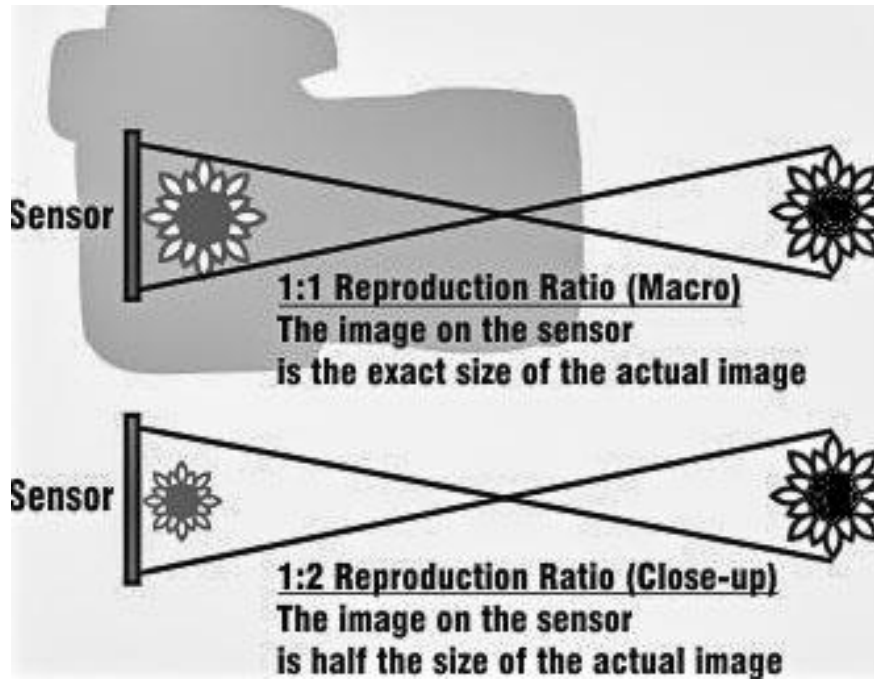
- a) Kit / lenses
- b) Different techniques & a few tips for capturing close-up images

2. Focus Stacking of Close-Up Images

3. Panoramas

- a) In-Camera
- b) Stitching images together in Lightroom / Photoshop CC

Close-Up vs Macro images: What's the difference?



- Terms often used interchangeably
- Technically, a close-up is captured using a reproduction ratio ranging from 1:10 to 1:1 (life size)
- A true macro shows a subject at 1:1 (x1) life-size up to 10:1 i.e higher magnification
- But, 'macro' is often used to describe any close-up image
- Distinction is fairly academic

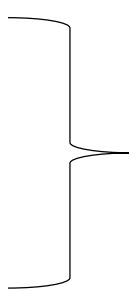


Close-up



True Macro

Close-up Photography - Cameras

- Smart phone cameras (+ macro attachment options)
 - Compact & bridge cameras – most have a ‘macro’ setting
 - Compact system cameras (CSCs)
 - Digital SLRS
- 
- Inter-changeable lenses
(eg telephoto / macro)

Close-up Photography – Lenses and Accessories



Telephoto
lens



Close-up
filters



Macro
lens



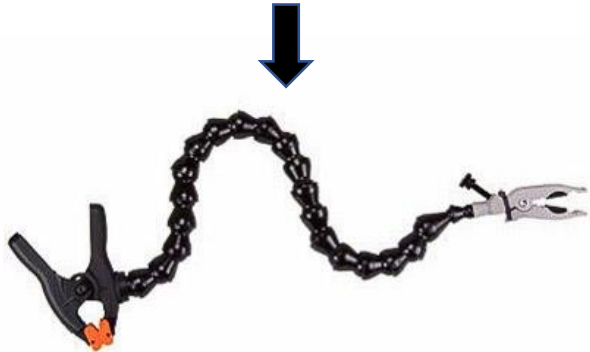
Auto
extension
tubes

My Kit – Cameras & Lenses

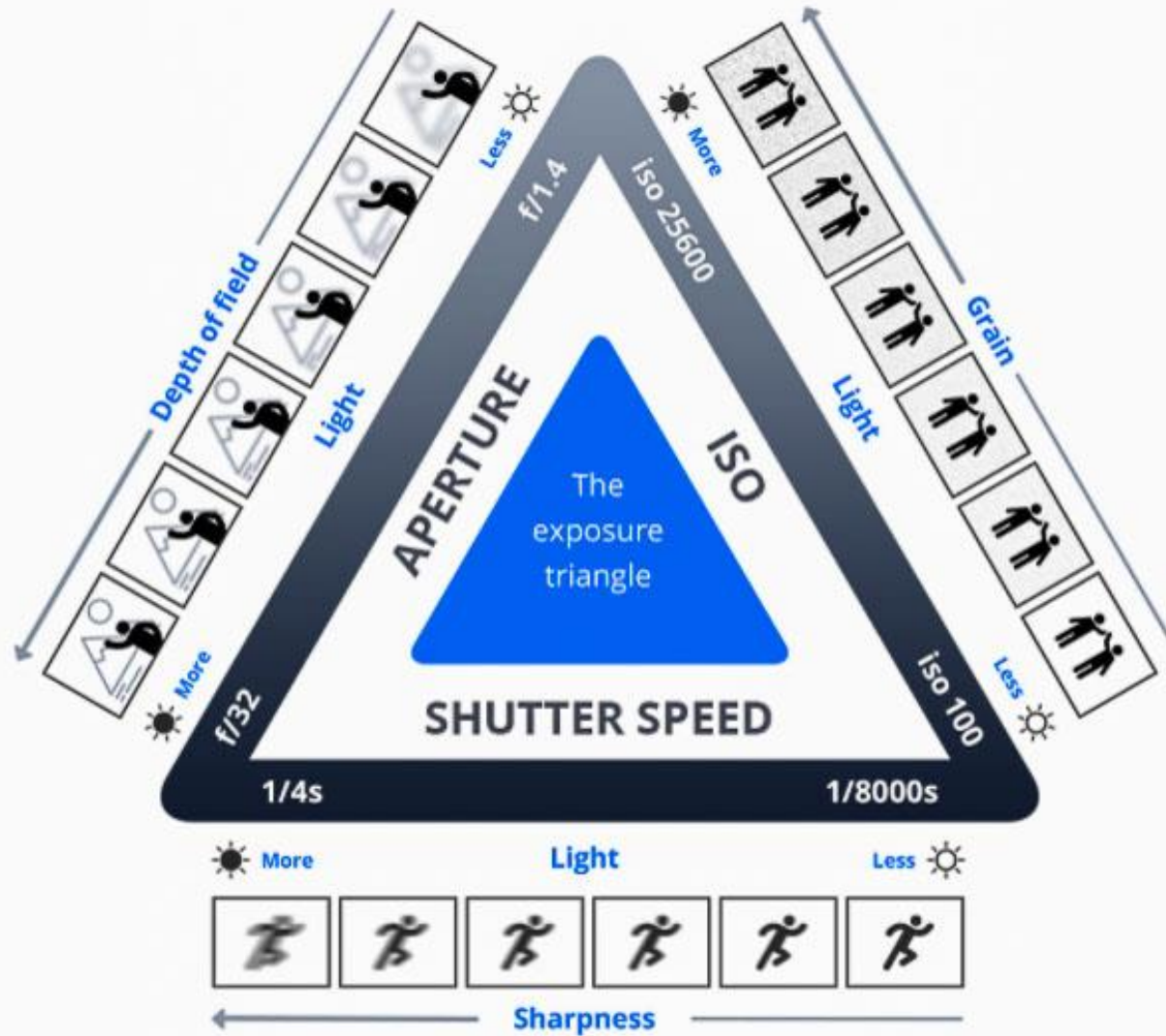
- Canon 80D (replaced my old Canon 70D)
 - Canon EF 100-400 mm Mk II telephoto
 - Sigma 105 mm f/2.8 macro
- Panasonic bridge cameras: FZ1000 / FZ2000 and FZ330 – all with high zoom (24-30x)

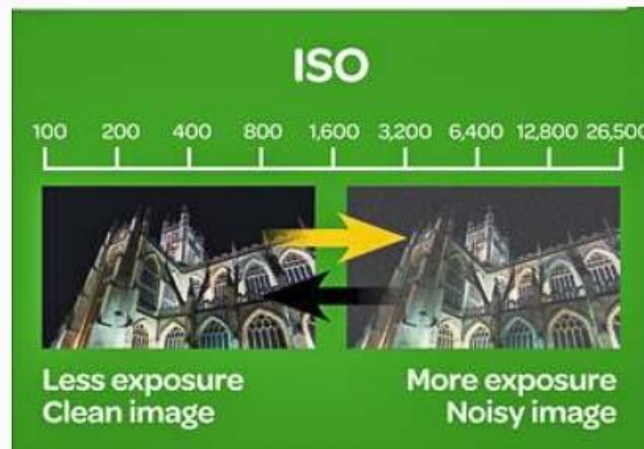
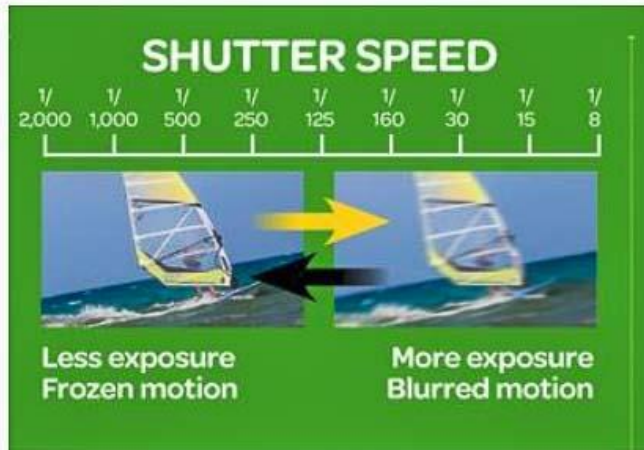
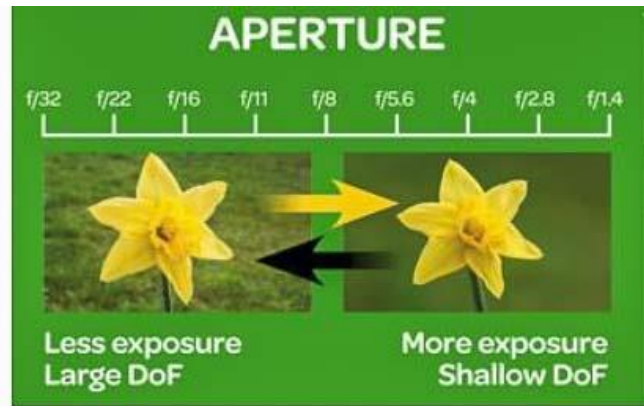
My Kit – Accessories

- Lighting: LED light (Lumimuse) and ring-flash
- Remote release
- Reflector
- Camera supports: tripod / monopod / bean bag / Gorillapod
- Wimberley Plamp



Exposure Triangle





Correct exposure, focus and depth of field (DoF) are critically important in close-up photography

Close-Up Photography... A Few Tips & Tricks

Tip#1: Ensure the subject is pristine



Marbled White Nectaring

Panasonic FZ2000

1/320 sec at *f*/6.3

ISO 125

Monopod

Taken ca 8:30 am

Tip #2: Try to capture behaviour



Common Blues mating

Canon 70D with EF 100-400mm telephoto
1/640 sec at *f*/13
ISO 200

Tip #3: Avoid distracting backgrounds



Marbled White on Field Scabious

Canon 70D with 100-400mm
telephoto
1/640 sec at *f*/11
ISO 125

Tip #4: Look for complementary colours

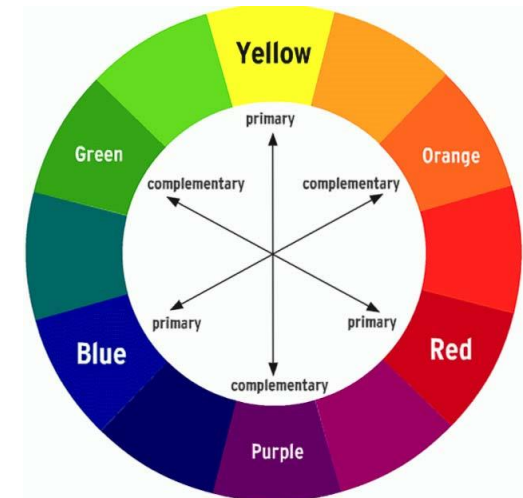


Bee nectaring

FZ2000

1/640 sec at *f*/4.5

ISO 400



Tip #5: Focus on the eyes



Eyes for You

Panasonic FZ1000

1/200 sec at *f*/5.6

ISO 200

Tripod

Tip #6: Place lines diagonally



**Blue-Tailed Damsels
in tandem**

Canon 70D with 100-400mm
telephoto
1/640 sec at *f*/7.1
ISO 160

Tip #7: Use an artificial background to help subject stand out



Oxlip (with black background)

Panasonic FZ1000

1/250 sec at *f*/5

ISO 125

Tripod

Tip #8: Get down low



Snowdrops

Panasonic FZ330

1/160 sec at *f*/2.8

ISO 100

Bean bag

Tip #9: Use selective focusing



Pasque Flower

Canon 70D with 105 mm macro
1/200 sec at *f*/7
ISO 125

Tip #10: Get up early and stay out late



Butterfly at sunset - Therfield Heath

Panasonic FZ2000

1/8000 sec at *f*/4.5

ISO 125

Tripod

Over 300 shots taken with Canon (100-400mm),
105mm macro & Panasonic FZ2000

Best result was with FZ2000



- Get some field guides
- Visit local nature reserves
 - Therfield Heath / Wicken Fen / Lackford Lakes / Lakenheath RSPB / Fowlmere
- Practise...

Focus Stacking: What is it?

- Image blending technique to extend depth of field (DOF)
- Capture images at different focal planes then merge them using software
- Particularly useful for extreme macrophotography

TABLE OF METHODS FOR DIFFERENT MAGNIFICATIONS

Magnification ratio		1:4	1:2	1:1	2:1	4:1
Subject examples		Dragonflies Flowers Crabs	Butterflies Periwinkles	Small flies Small flowers	Parts of organisms Delicate seaweeds	Heads of small insects Large plankton
Suggested methods	Zoom lens					
	Zoom with extension tubes					
	Macro lens					
	Macro lens with extension tubes					
	Coupling lens					
	Bellows with enlarger lens or similar					
Focus: auto or manual		Both	Manual	Manual	Manual only	Manual only
Depth of field		Decreases from left to right				
Need for extra light		Increases from left to right				



Crane-fly – 34 stacked images

Focus Stacking: 2-Step Process

1. Capture image stack

- Hand-held using 'rocking' technique – used outdoor
- Tripod / focusing rail
- Camera tethered to computer eg using Helicon Remote

2. Blend the image stack using software

- Photoshop
- Combine ZM - free
- Helicon Focus
- Zerene

Focus Stacking using Photoshop CC: An example



Original image
Canon 80D and Sigma 105 mm macro lens
1/320 sec at $f/2.8$, ISO 1250

*Note shallow DoF

- 9 images taken at different focal points ranging from front to back, using focusing rail and remote release
- Used Manual mode with same settings as shown in the image (left)
- Imported images into Lightroom

Library Filter: Text Attribute Metadata None Flagged

Attribute Flag Compare Survey Rating Color Kind

Navigator FIT FILL 1:1 3:1

Quick Collection + 21
Previous Import 10

Folders

OS (C:) 608 / 917 GB

2000 2
2016 4
2016-01-28 3
2016-06-14 1
2017 23
2017-10-08 23
2017 5298
2017-05-14 2
2017-05-20 6
2017-05-31 4
2017-06-20 6
2017-06-23 4
2017-06-24 1
2017-08-15 2
2017-08-23 47
2017-08-24 14
2017-08-25 10
2017-09-19 2
2017-10-06 8
2017-11-21 4
2017-11-27 11
2017-12-08 13
2017-12-13 1
2017-12-14 10
Berwickshire_Oct2... 530
Cambridge outing 78
Devils Dyke 106
Dungeness_Oct20... 202
2017 28
2017-09-22 87
Duxford Club Outi... 18

Import... Export...

1 2 Previous Import 9 of 10 photos / 9 selected

Open in Loupe
Open in Compare
Open in Survey
Open in Reference View
Set as Reference Photo
Lock to Second Window
Show in Explorer
Go to Folder in Library
Go to Collection
Edit In
Photo Merge
Set Flag
Set Rating
Set Color Label
Add Shortcut Keyword
Add to Quick Collection
Stacking
Create Virtual Copies
Develop Settings
Metadata Presets
Rotate Left (CCW)
Rotate Right (CW)
Metadata
Export
Email Photos...
Remove Photos...
View Options...

Edit in Adobe Photoshop CC 2017...
Edit in Dfine2.exe...
Analog Efex Pro 2
Color Efex Pro 4
Dfine 2
Sharpener Pro 3: RAW Presharpener
Sharpener Pro 3: Output Sharpener
Silver Efex Pro 2
Viveza 2
Open as Smart Object in Photoshop...
Merge to Panorama in Photoshop...
Merge to HDR Pro in Photoshop...
Open as Layers in Photoshop...

Histogram

ISO 1250 105 mm f / 2.8 1/320 sec

9 0 0 0

Butterflies Kingfisher Yellowstone 2016
Yellowstone_Canon Duxford Air Show ... Therfield butterflies
Romania_May201... Hitchin Lavender Lakenheath 2016

Keyword List

Default Metadata

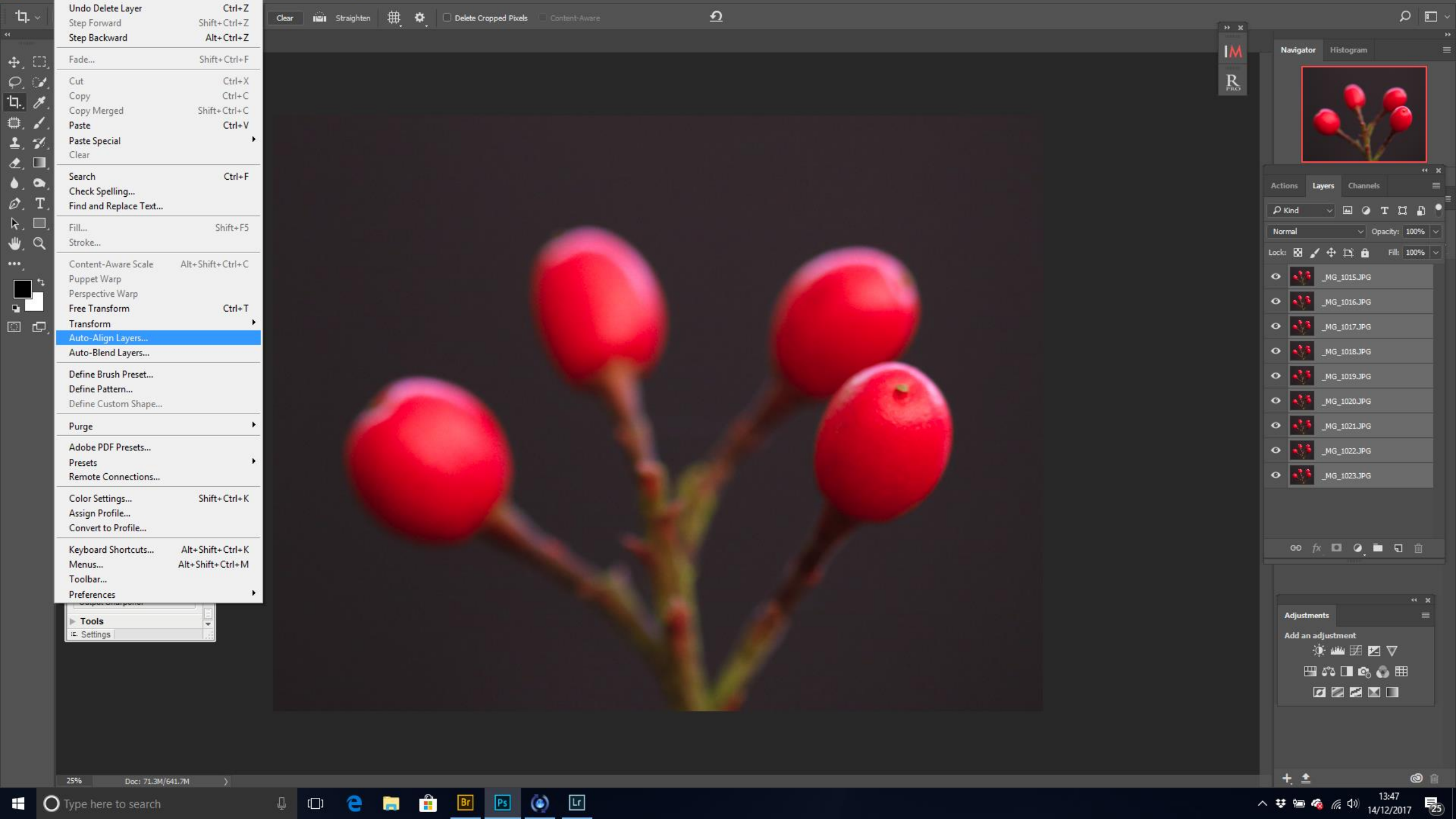
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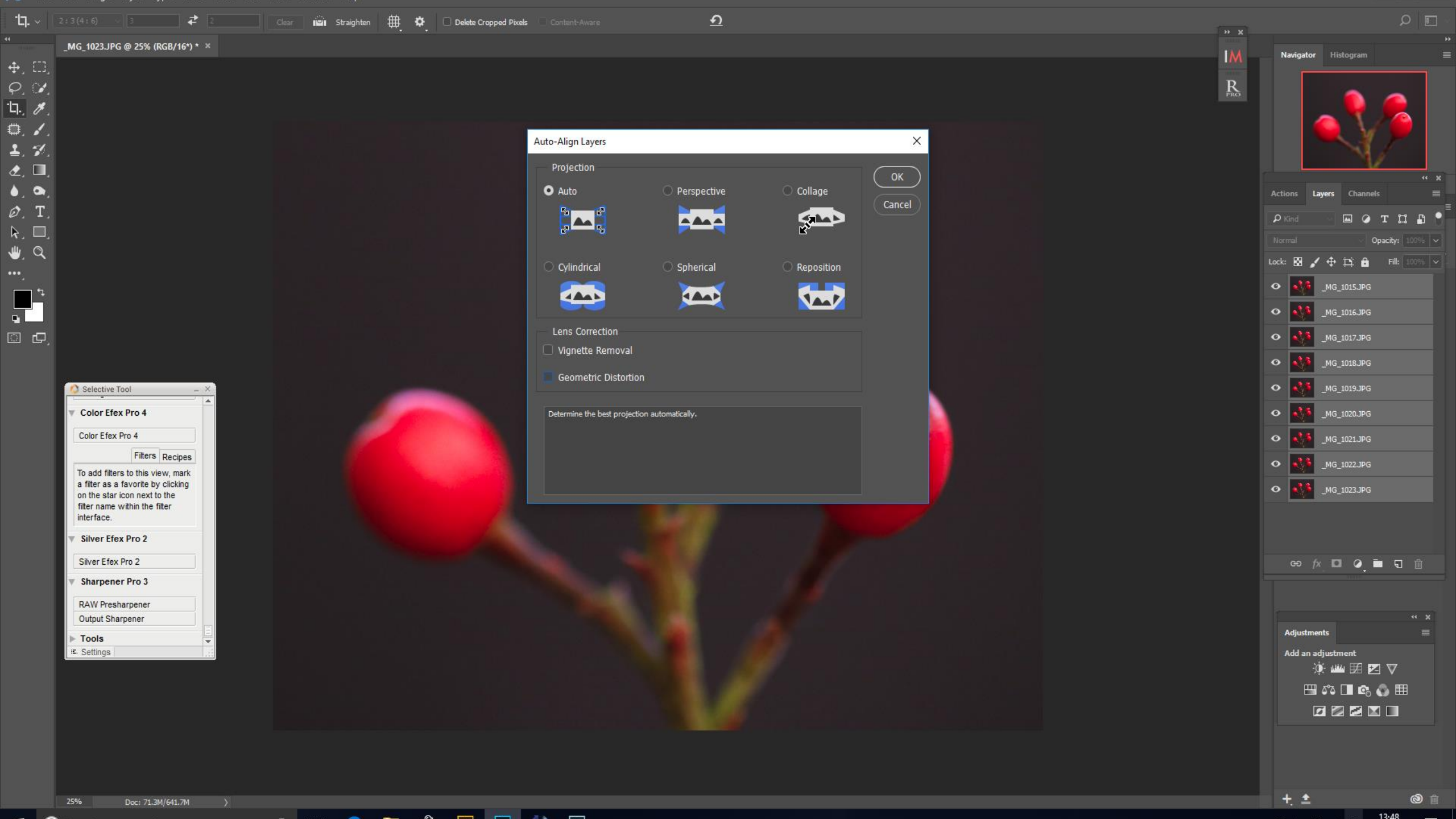
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Folder 2017-12-14
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Title
Caption
Copyright
Copyright Status Unknown
Creator
Sublocation
Rating
Label
Capture Time
Capture Date 14 December 2017
Dimensions 6000 x 4000
Cropped 4060 x 3069

Sync Metadata Sync Settings

Filter: Flagged





_MG_1023.JPG @ 25% (RGB/16*) * x

Auto-Align Layers

Projection

☒ Auto

☐ Perspective

☐ Collage

☐ Cylindrical

☐ Spherical

☐ Reposition

Lens Correction

☐ Vignette Removal

☒ Geometric Distortion

Determine the best projection automatically.

OK

Cancel

Selective Tool

Color Efex Pro 4

Color Efex Pro 4

Filters Recipes

To add filters to this view, mark a filter as a favorite by clicking on the star icon next to the filter name within the filter interface.

Silver Efex Pro 2

Silver Efex Pro 2

Sharpener Pro 3

RAW Presharpener

Output Sharpener

Tools

Settings

Navigator

Histogram

Actions

Layers

Channels

Kind

Normal

Lock:

Fill: 100%

Opacity: 100%

Lock:

Fill: 100%

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Adjustments

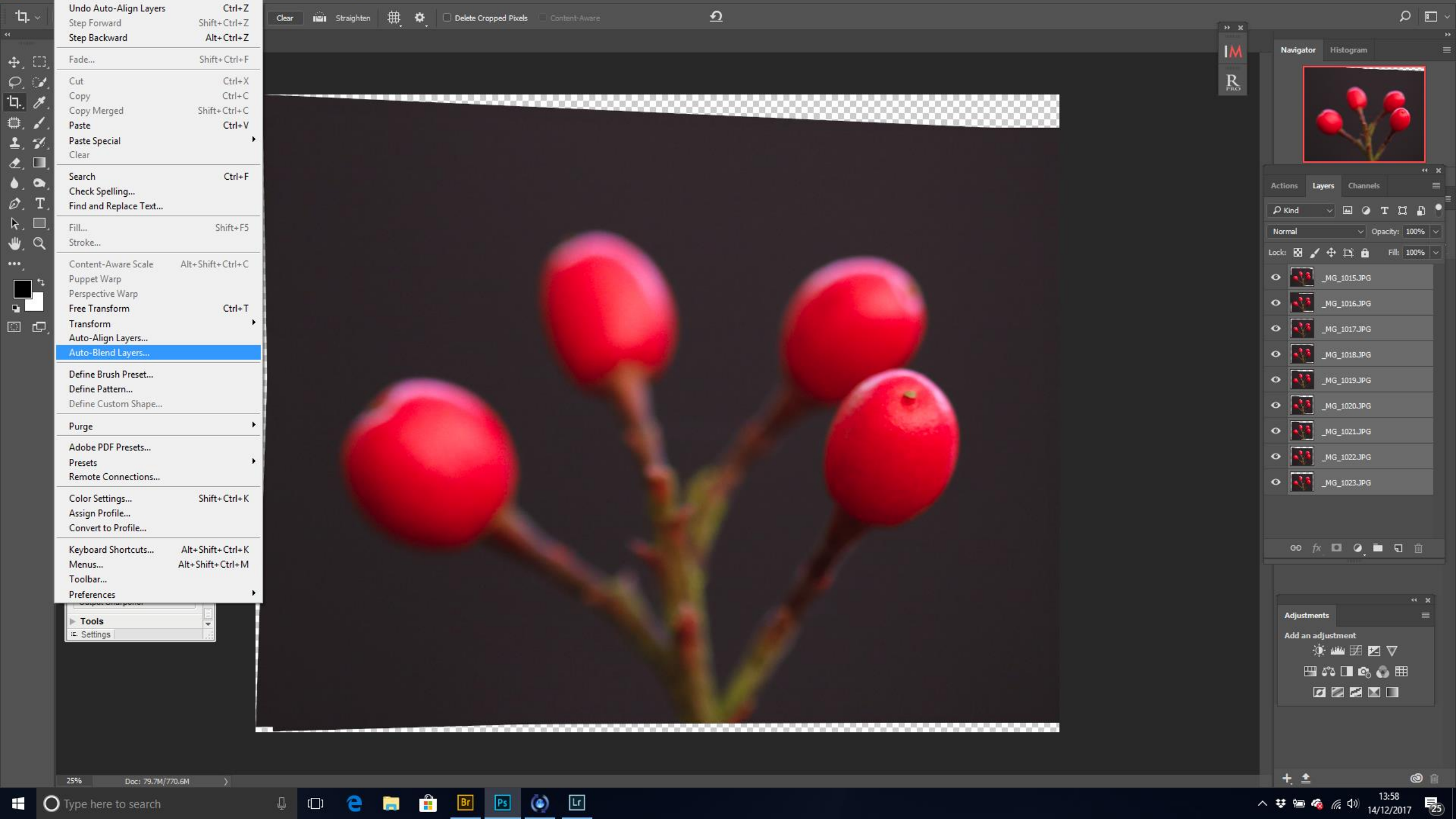
Add an adjustment

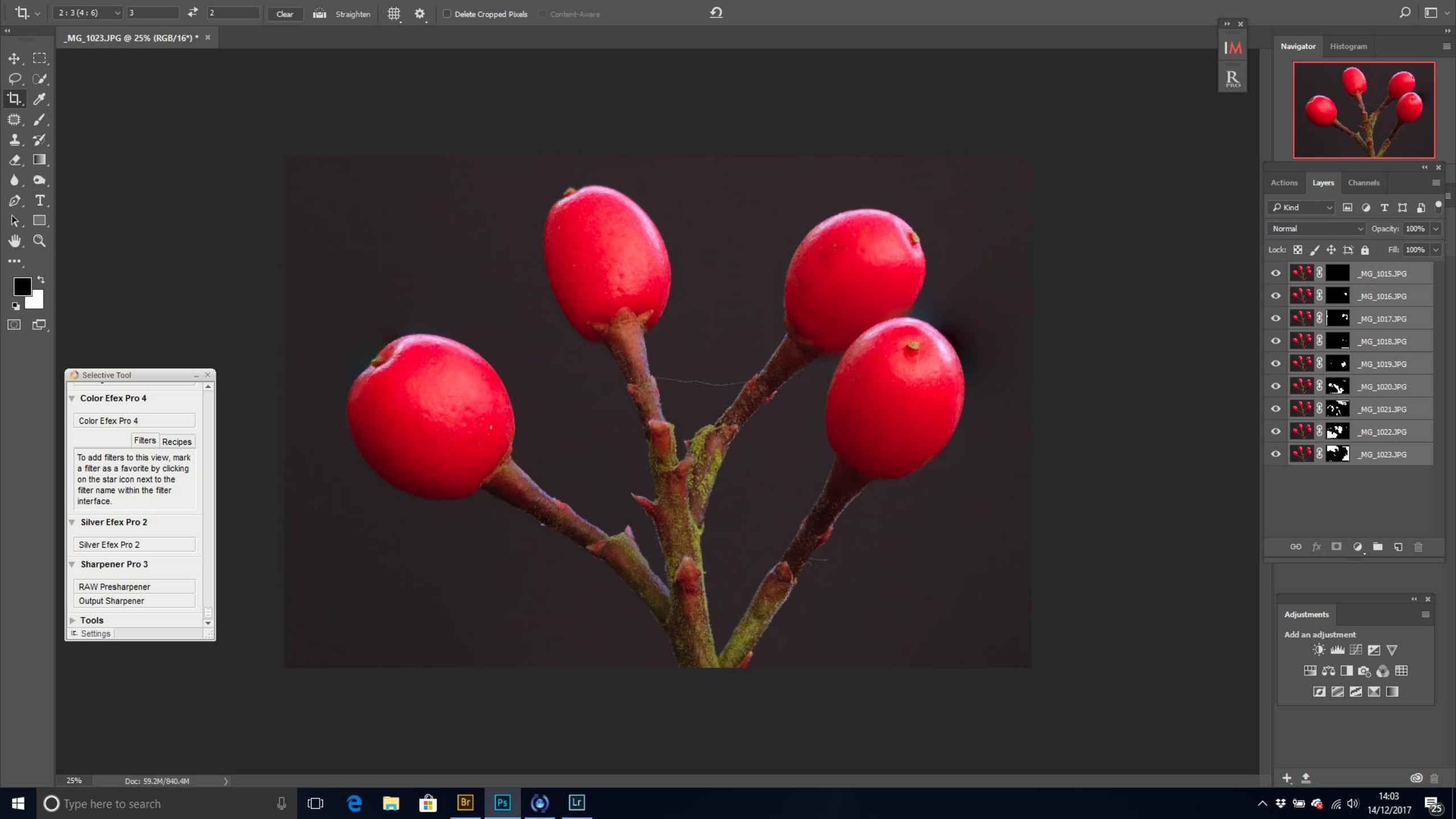


25%

Doc: 71.3M/641.7M

13:48







Original image



Cropped final image
(generated from 9 stacked images)
Focus-stacked in Photoshop CC)

Panoramas – Why take them?

- Capture wider-angle photos than your lenses typically allow
- Draws the viewer into the scene
- Increased detail that comes from stitching several images together – used for high resolution prints
- Particularly useful for wide landscapes / tall buildings
- Can be horizontal or vertical

Panoramas - Techniques

1. **In-Camera:** images are stitched in camera using Panorama setting



2. **Post-Processing:** Stitch separate overlapping images using software packages e.g Lightroom / Photoshop CC

Panorama – In Camera



Grand Teton Range

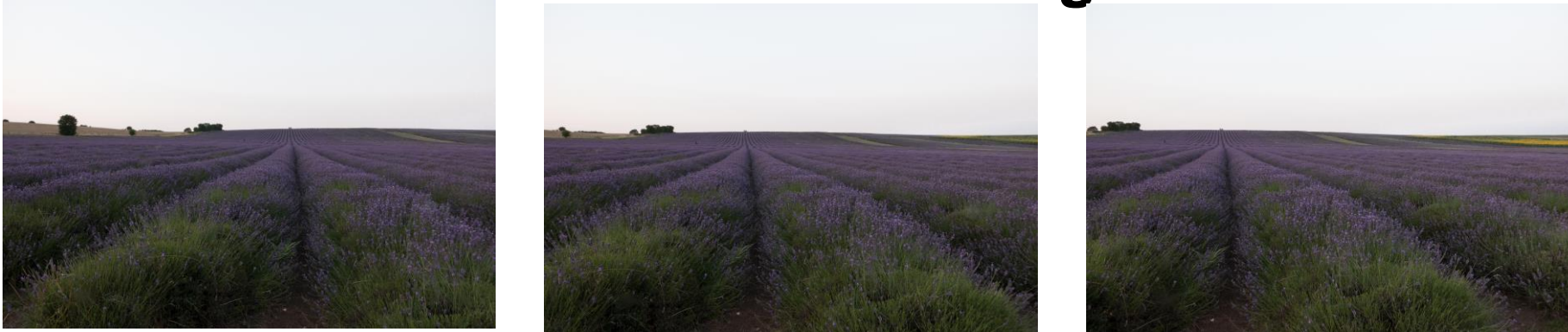
Panorama – In Camera

Perito Moreno
Glacier



- Taken with Panasonic Lumix FZ1000 using Panorama setting
- Panorama image generated in-camera

How to Create a Panorama in Lightroom Classic (1)



1. Ideally, use tripod and keep camera horizontal
2. Set camera to manual mode(M) – adjust aperture / shutter for correct exposure and check that main elements of the scene are in sharp focus
3. Shoot in RAW or best quality JPEG
4. Take a number of overlapping (at least 20-30%) images to cover entire scene

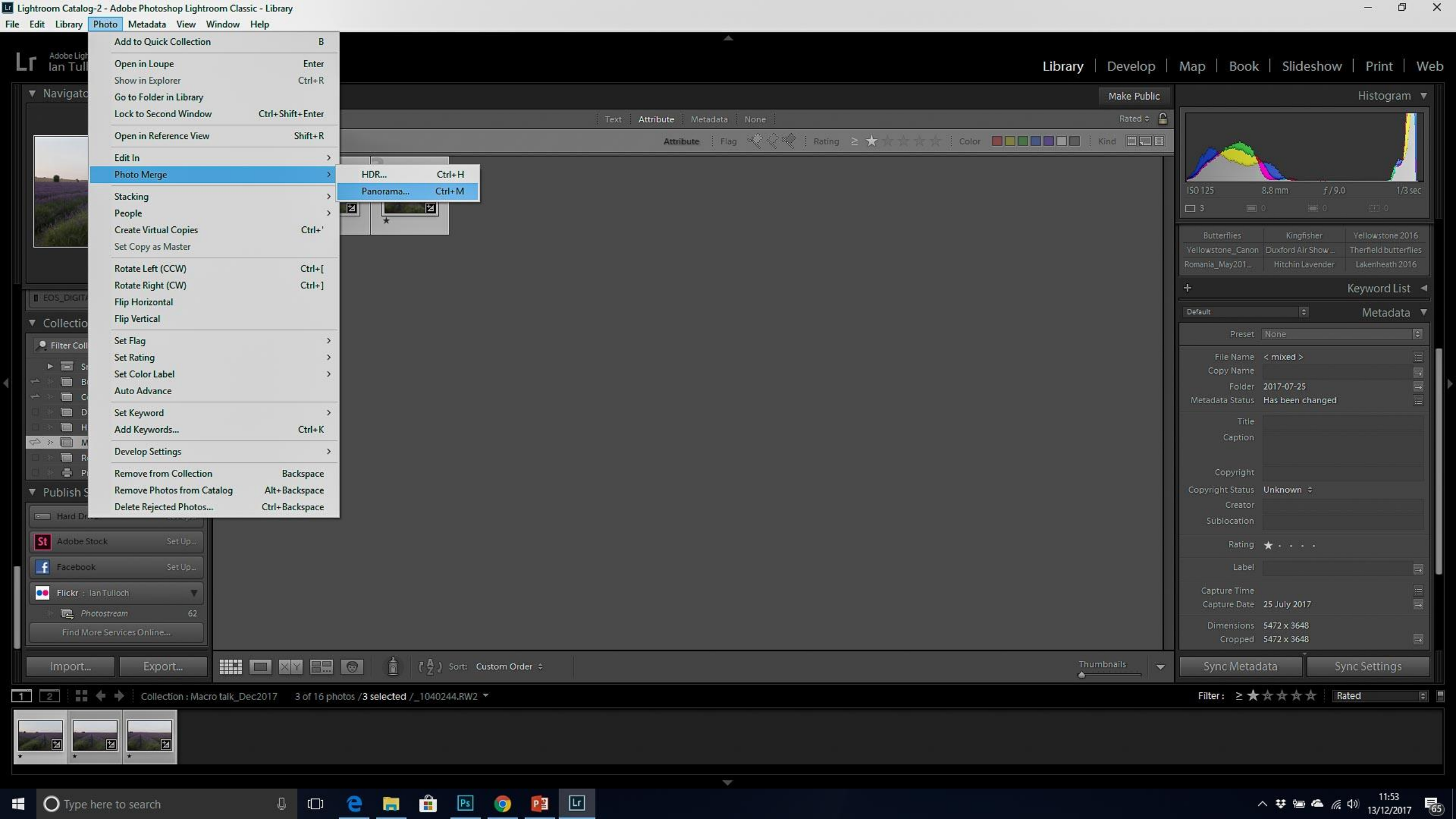
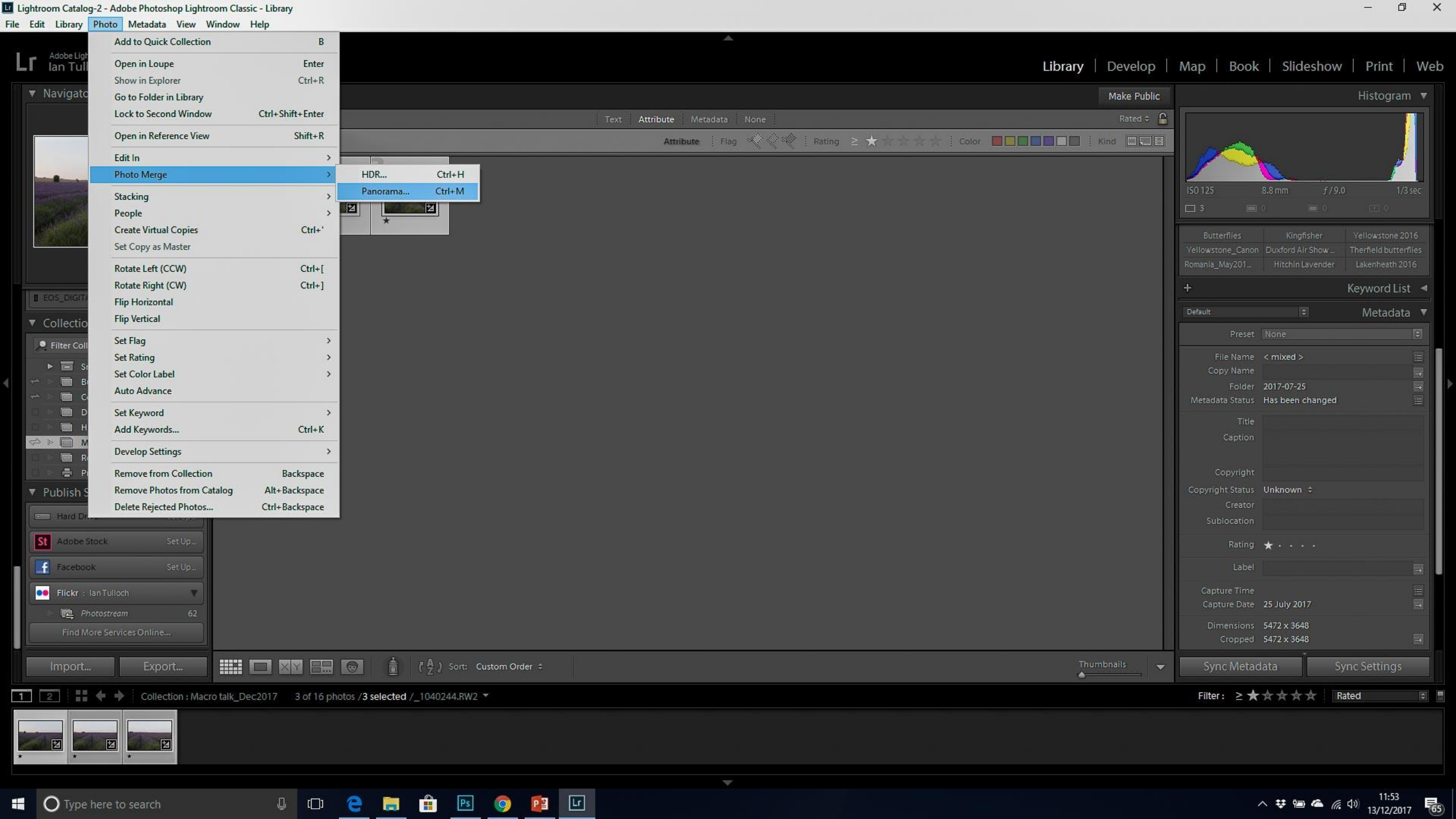
How to Create a Panorama in Lightroom Classic (2)

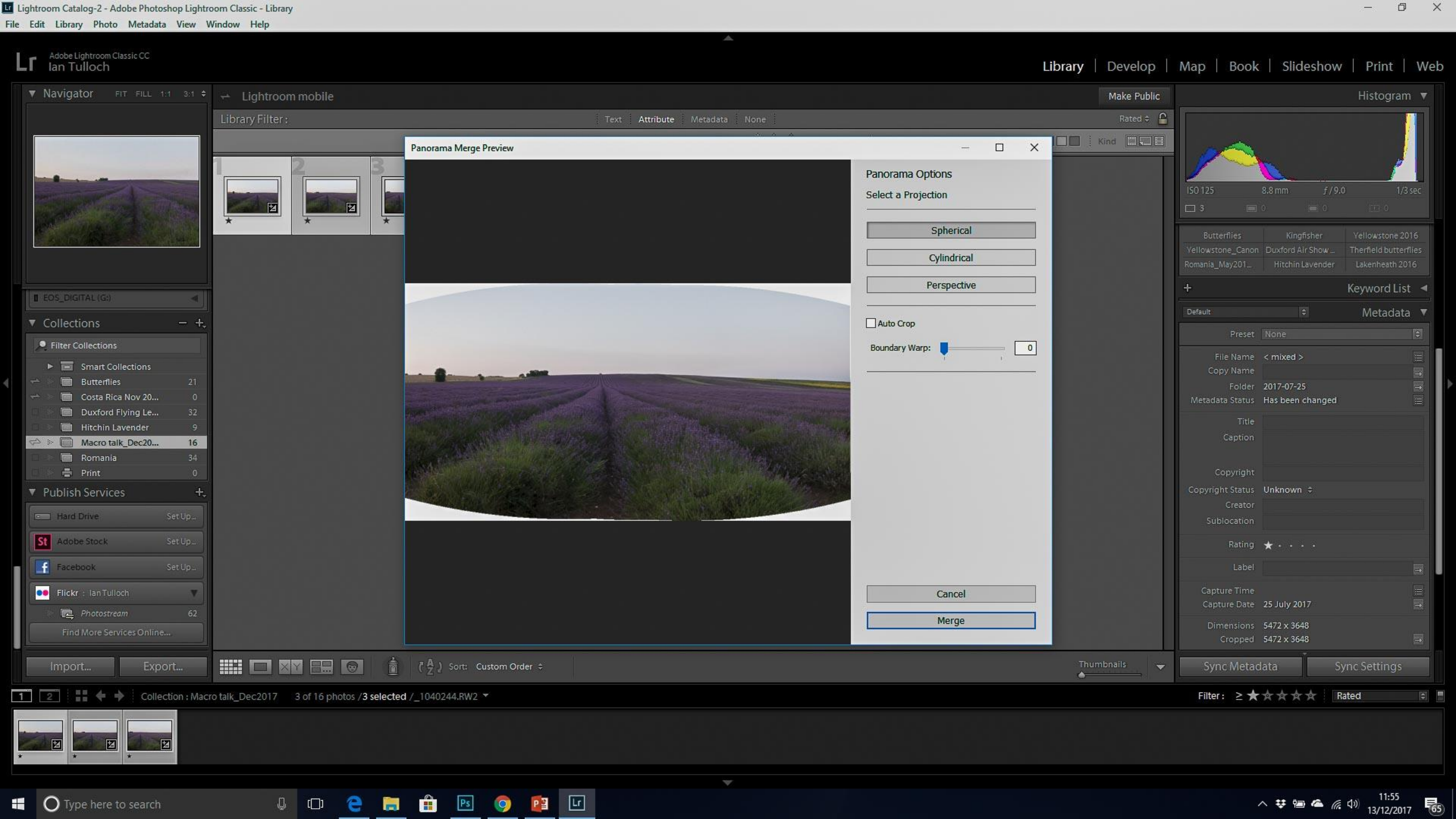


Select the separate overlapping (20-30%) images

Photo → Photomerge → Panorama







How to Create a Panorama in Photoshop CC



Select images in Lightroom → Edit In → Merge to Panorama in Photoshop



▼ Navigator FIT FILL 1:1 3:1



Lightroom mobile

Library Filter:

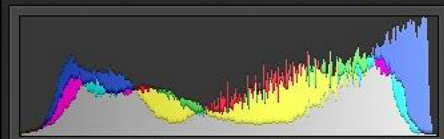
Text Attribute Metadata None

Make Public

Filters Off



Histogram



ISO 125 8.8 mm f/10 1/25 sec

Quick Develop

Keywording

Keyword Tags Enter Keywords

Scans 3

TOSHIBA EXT (E:) 316 / 932 GB

- Costa Rica_Nov2017_... 3256
- 102CANON 2726
- 103CANON 530
- Flowers_Spring2017 42
- Hayley Wood_Apr2016 350
- Patagonia_Oct16_FZ1... 216
- Projected Image Com... 71
- Selected images 140

F:

G:

▼ Collections

Filter Collections

- Smart Collections
- Butterflies 21
- Costa Rica Nov 20... 0
- Duxford Flying Le... 32
- Hitchin Lavender 9
- Macro talk_Dec20... 16
- Romania 34

Import... Export...

Collection : Macro talk_Dec2017 16 photos /4 selected / _1070364.RW2



- Open in Loupe
- Open in Compare
- Open in Survey
- Open in Reference View
- Set as Reference Photo
- Lock to Second Window
- Show in Explorer
- Go to Folder in Library
- Go to Collection
- Edit In
- Photo Merge
- Set Flag
- Set Rating
- Set Color Label
- Add Shortcut Keyword
- Add to Quick Collection
- Stacking
- Create Virtual Copies
- Develop Settings
- Metadata Presets
- Rotate Left (CCW)
- Rotate Right (CW)
- Metadata
- Export
- Email Photos...
- Use as Cover Photo
- Remove from Collection
- Mark to Republish
- View Options...

- Edit in Adobe Photoshop CC 2017...
- Edit in Other Application...
- Analog Efex Pro 2
- Color Efex Pro 4
- Dfine 2
- Sharpener Pro 3: RAW Presharpener
- Sharpener Pro 3: Output Sharpener
- Silver Efex Pro 2
- Viveza 2
- Open as Smart Object in Photoshop...
- Merge to Panorama in Photoshop...
- Merge to HDR Pro in Photoshop...
- Open as Layers in Photoshop...

Presets

015	Panorama Images	Lesvos_Flickr
go	Blue emperor	Black-veined whites
...	Hayley Wood	Patagonia Oct2016

Custom

Kingfisher	Yellowstone 2016
Duxford Air Show ...	Therfield butterflies
Hitchin Lavender	Lakenheath 2016

Keyword List

Metadata

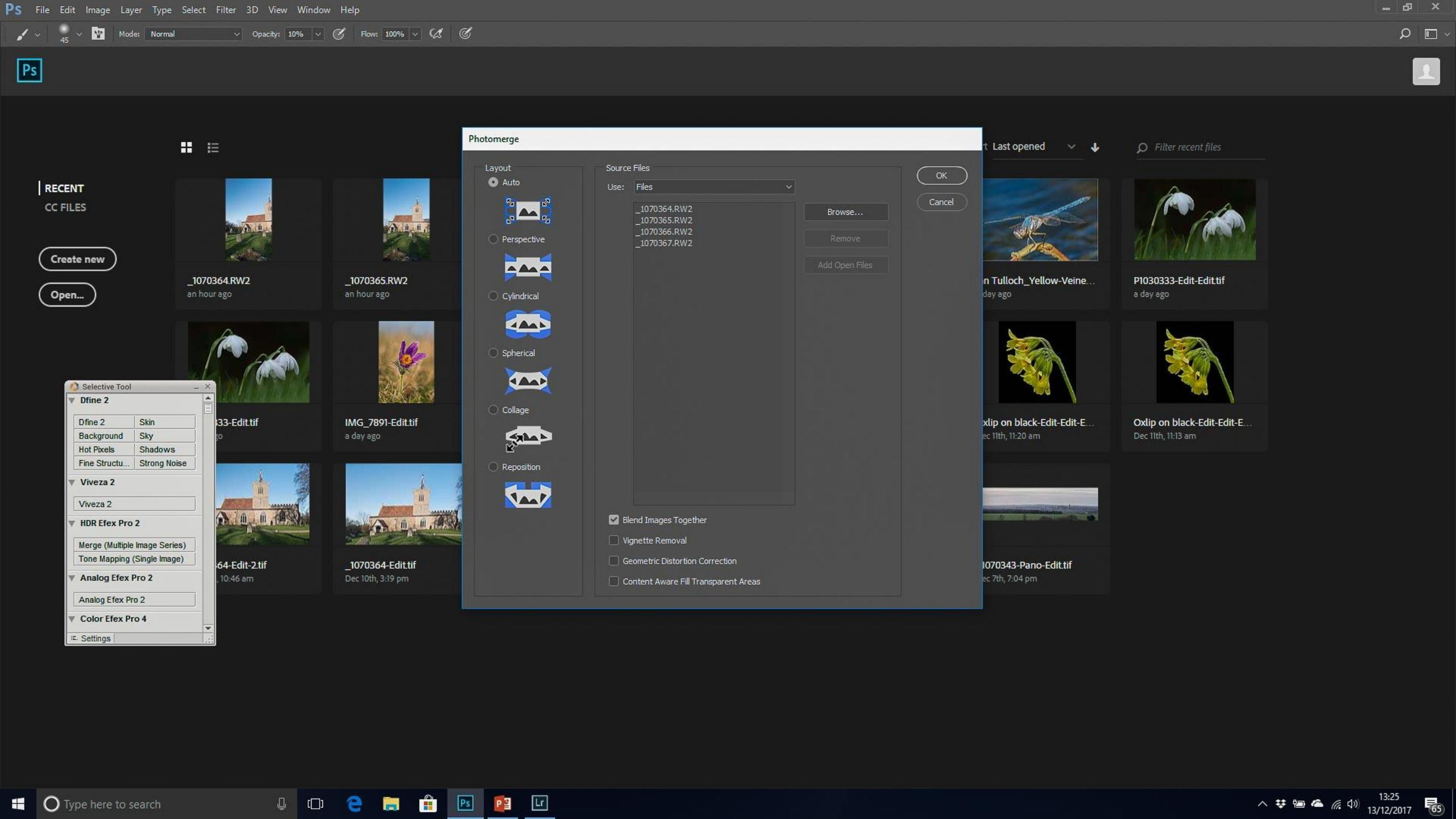
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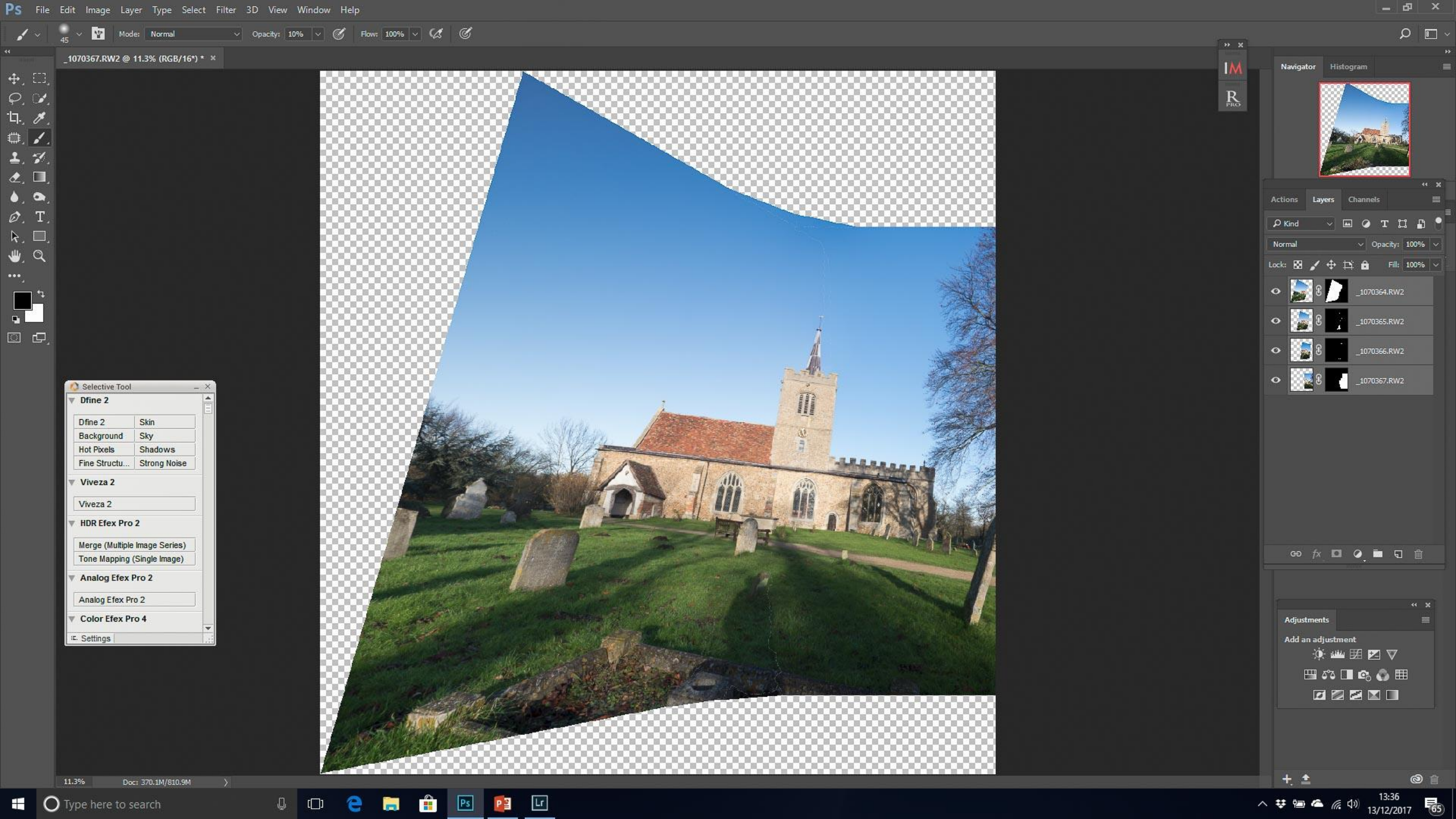
Folder 2017-12-08

Metadata Status Has been changed

Sync Metadata Sync Settings

Filter: Filters Off





Comparison of Panoramas: LR vs PS vs In-Camera



Lightroom



Photoshop



In-Camera (Panasonic FZ2000)

MERRY
CHRISTMAS

