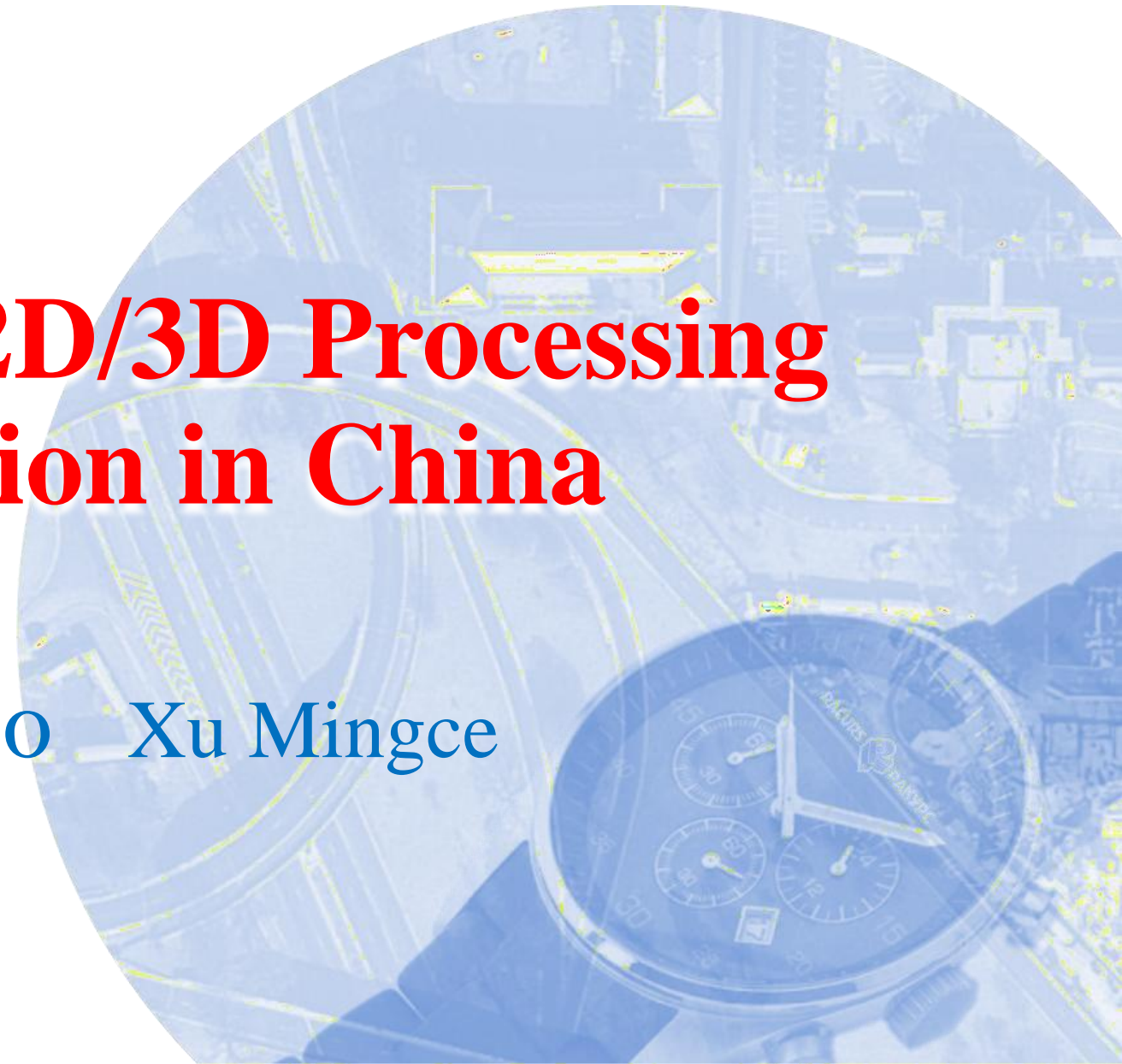




PHOTOMOD 2D/3D Processing & Application in China

SmartSpatio Xu Mingce





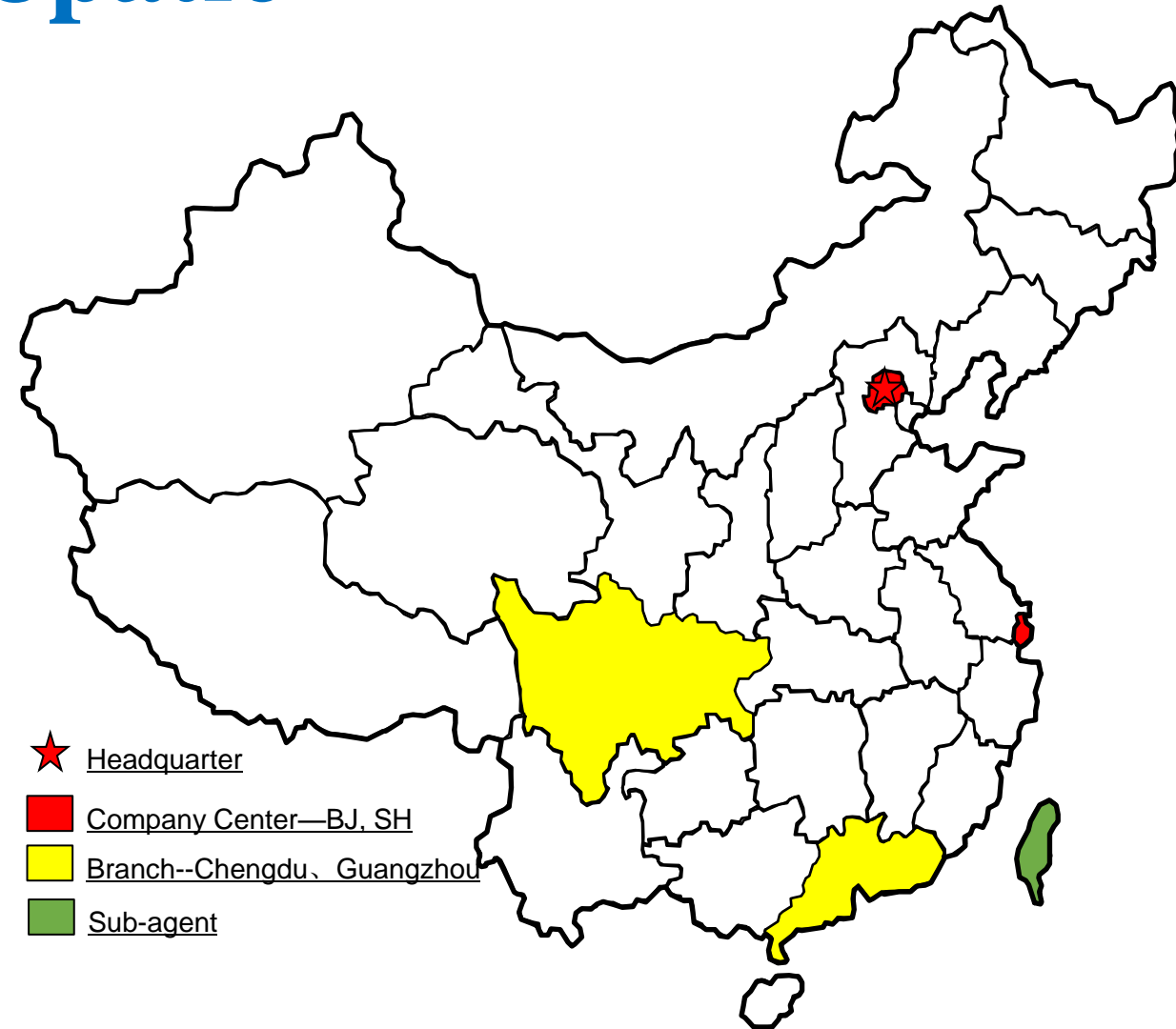
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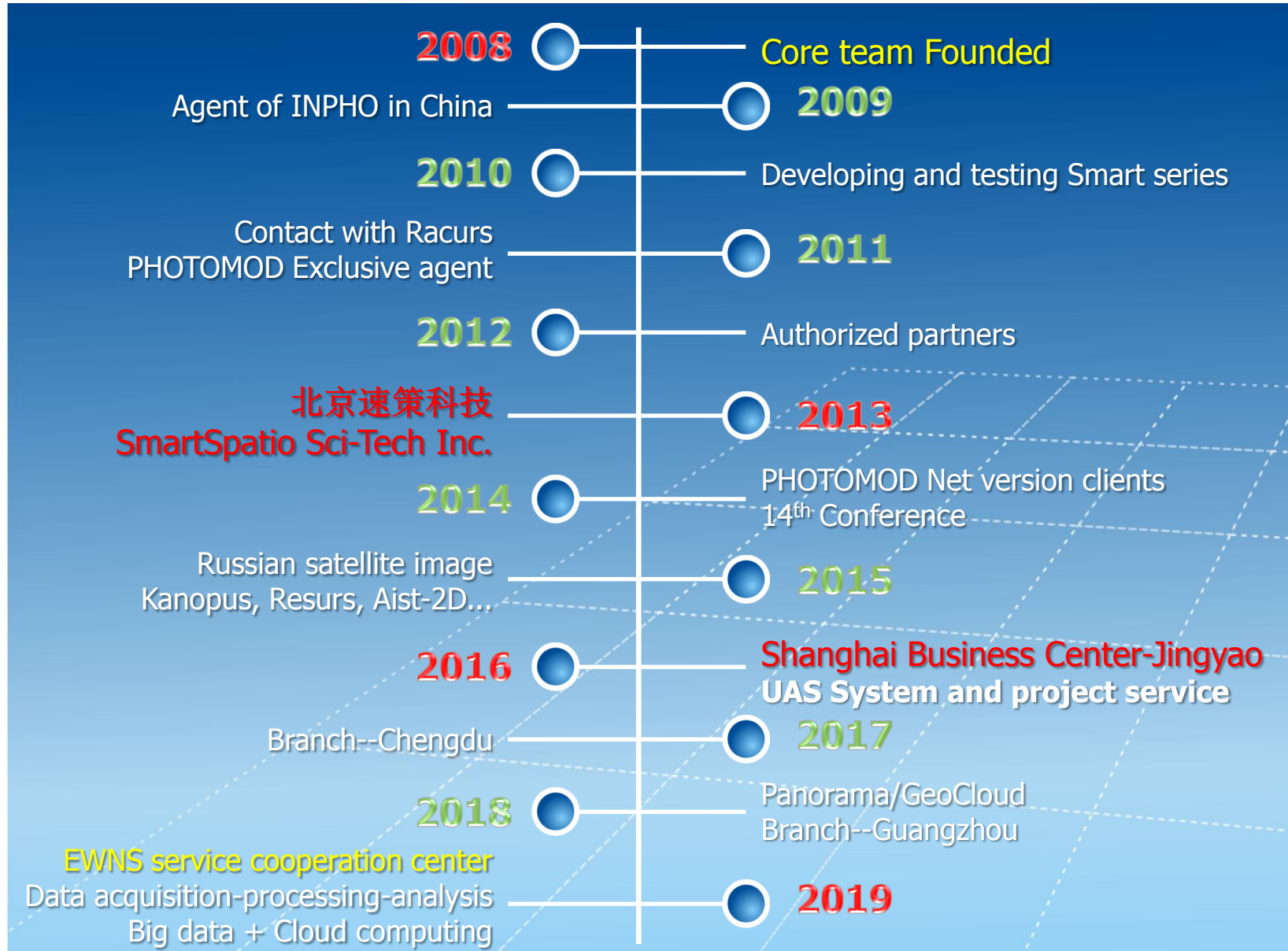
SmartSpatio

- 2008 found “SmartSpatio”
- 2013 Registered (2 million RMB)
- GeoSpatial & UAS Industry
RS, PRS, GIS, IT... Service and Solution supplier
UAS (Sensors, Platform, Service...)
- Technology innovation company
15+ Software copyrights & patent for invention
- International sharing cooperation
Racurs, KB Panorama, GeoCloud...
- 25+ employees
- Business Center: Beijing, Shanghai





Milestones



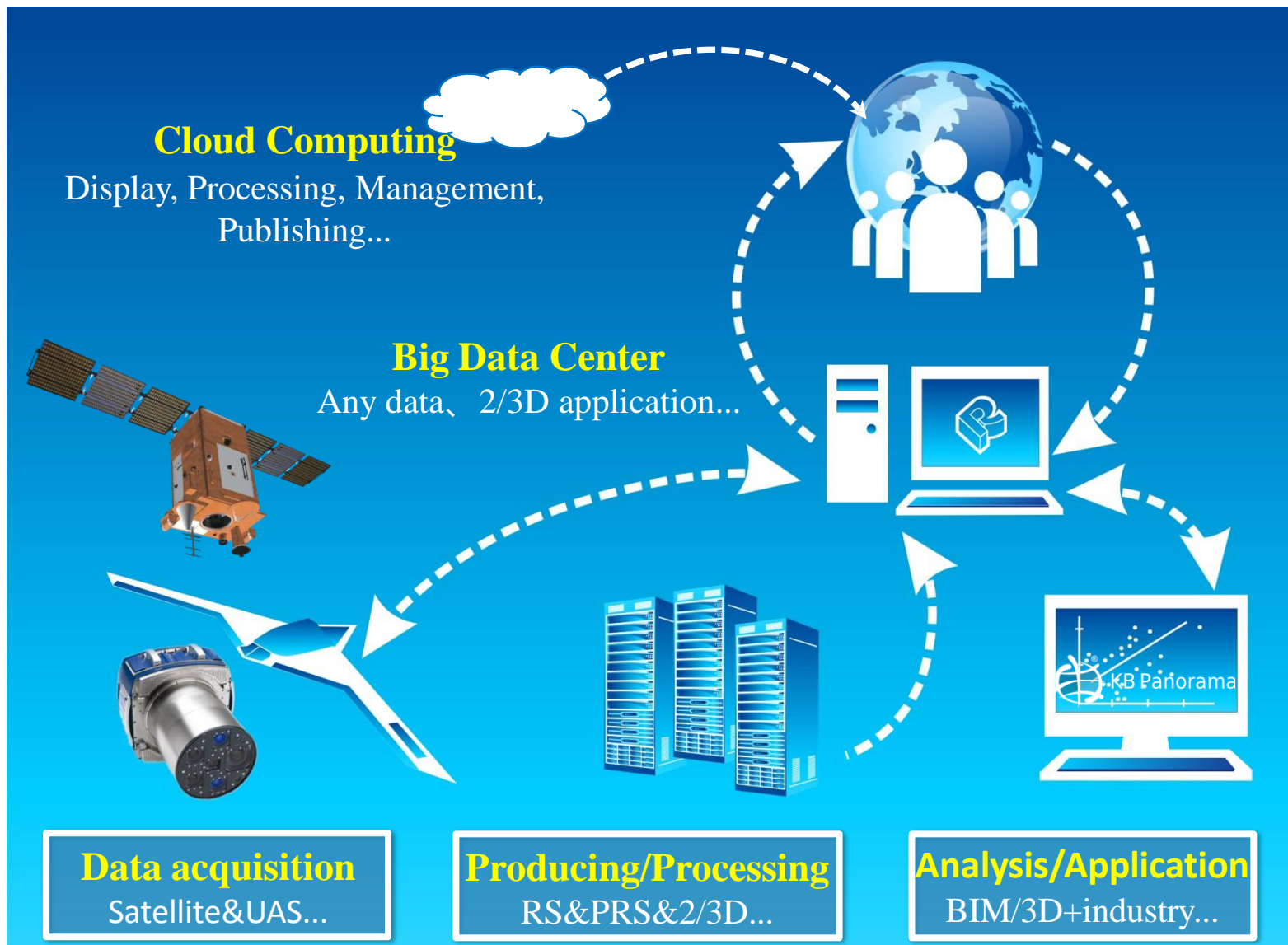


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Main Business





Main Business

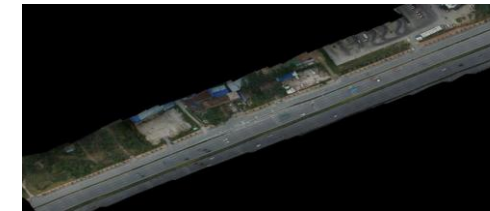
- Racurs PHOTOMOD
- KB Panorama
- GeoCloud
- Satellites image
- SmartSpatio **Lidar sensor** for UAS
- Customized **3D processing** & **2/3D display and release platform**
- **UAS & Data** Service



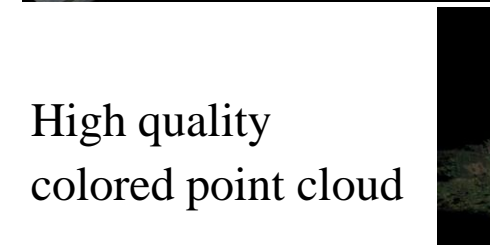
UAS Lidar sensor



Laser intensity value information



Same time , Same width images

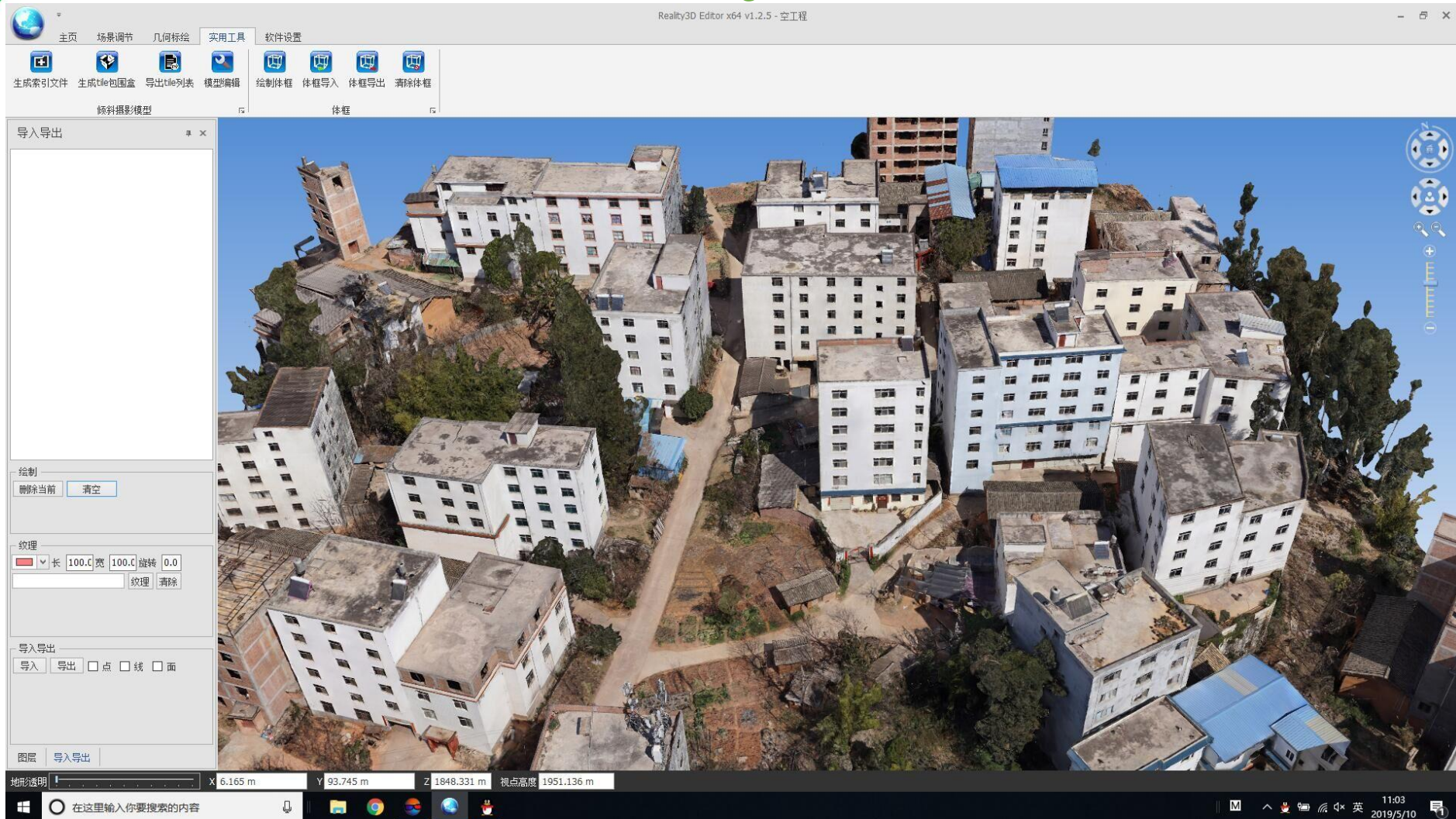


High quality colored point cloud





Reality 3D

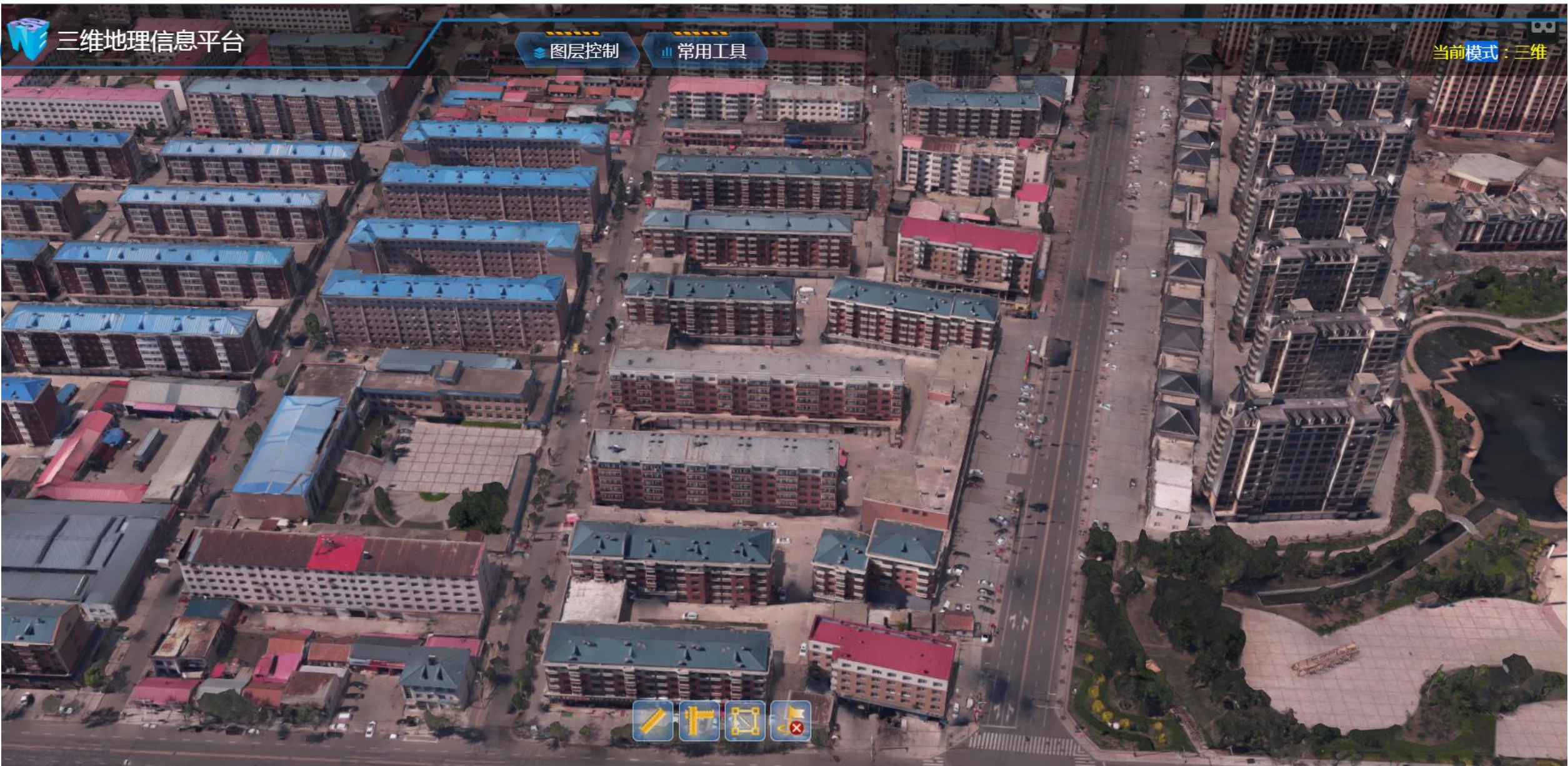


三维地理信息平台

图层控制

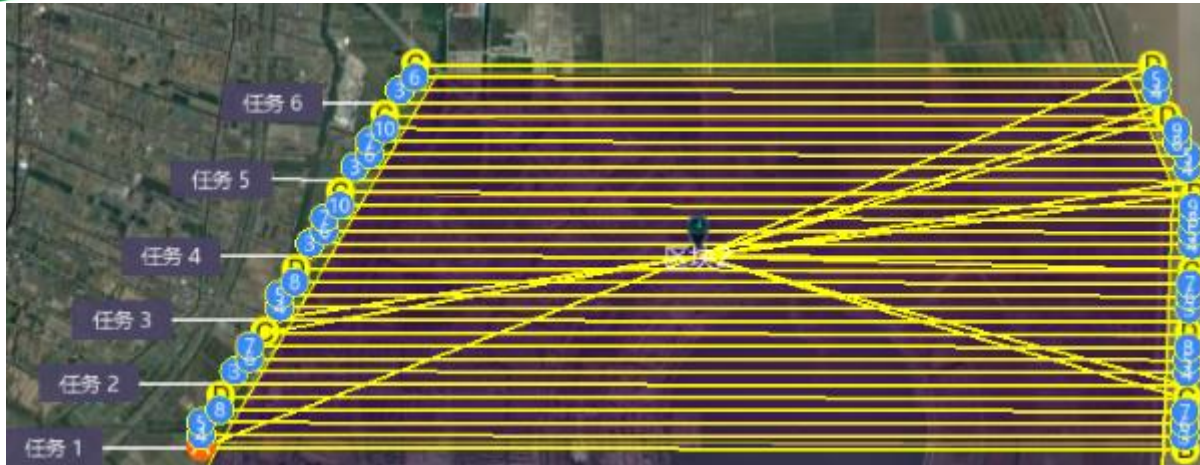
常用工具

当前模式：三维





UAS & Data Service



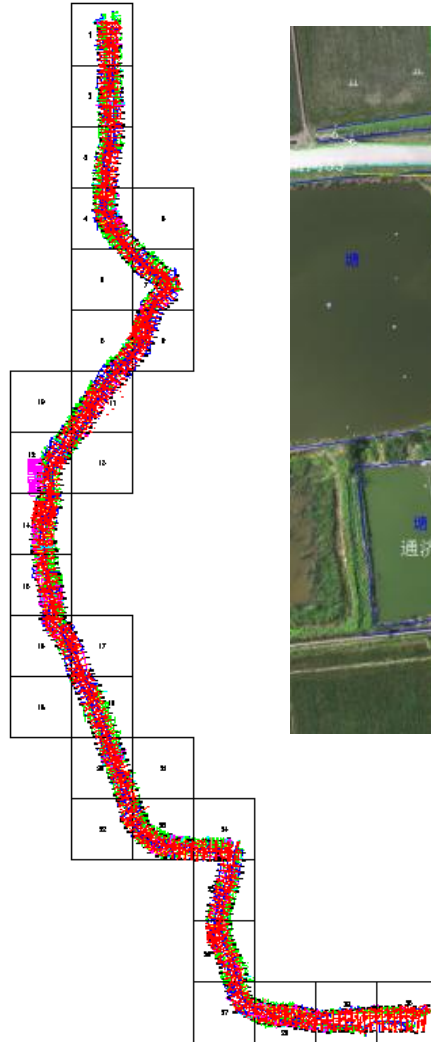
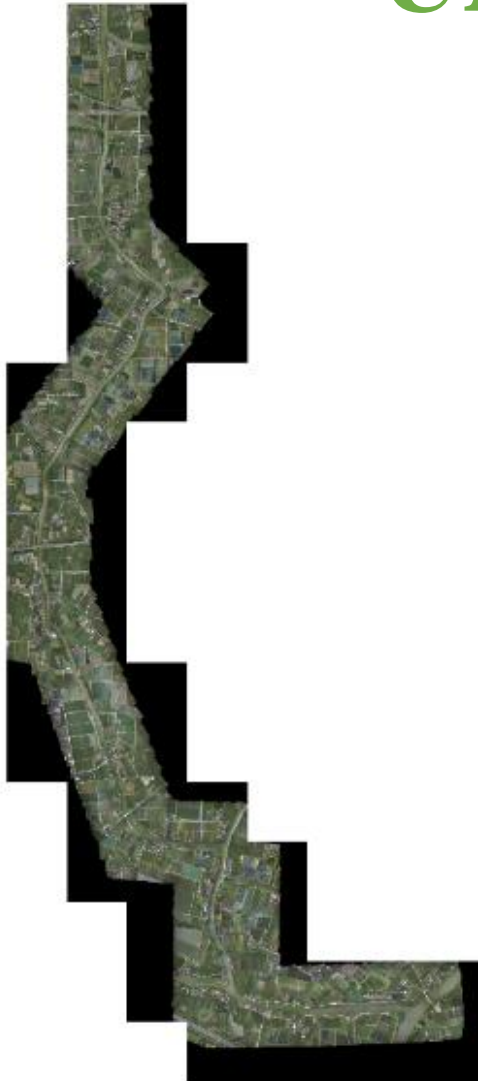


UAS & Data Service





UAS & Data Service





Main application industries

- 1、 Natural resources
- 2、 Agriculture & forestry
- 3、 Ecology
- 4、 Water conservancy
- 5、 Energy and power
- 6、 Transportation
- 7、 Smart City
- 8、 Archaeology
- 9、 Military
- 10、 Emergency rescue...



Main Users in China

- **PHOTOMOD Users**

- **120+ dongles**

- **600+ Licenses**

Core
AT
SA/SS
DTM
Mosaic
GeoMosaic
UAS

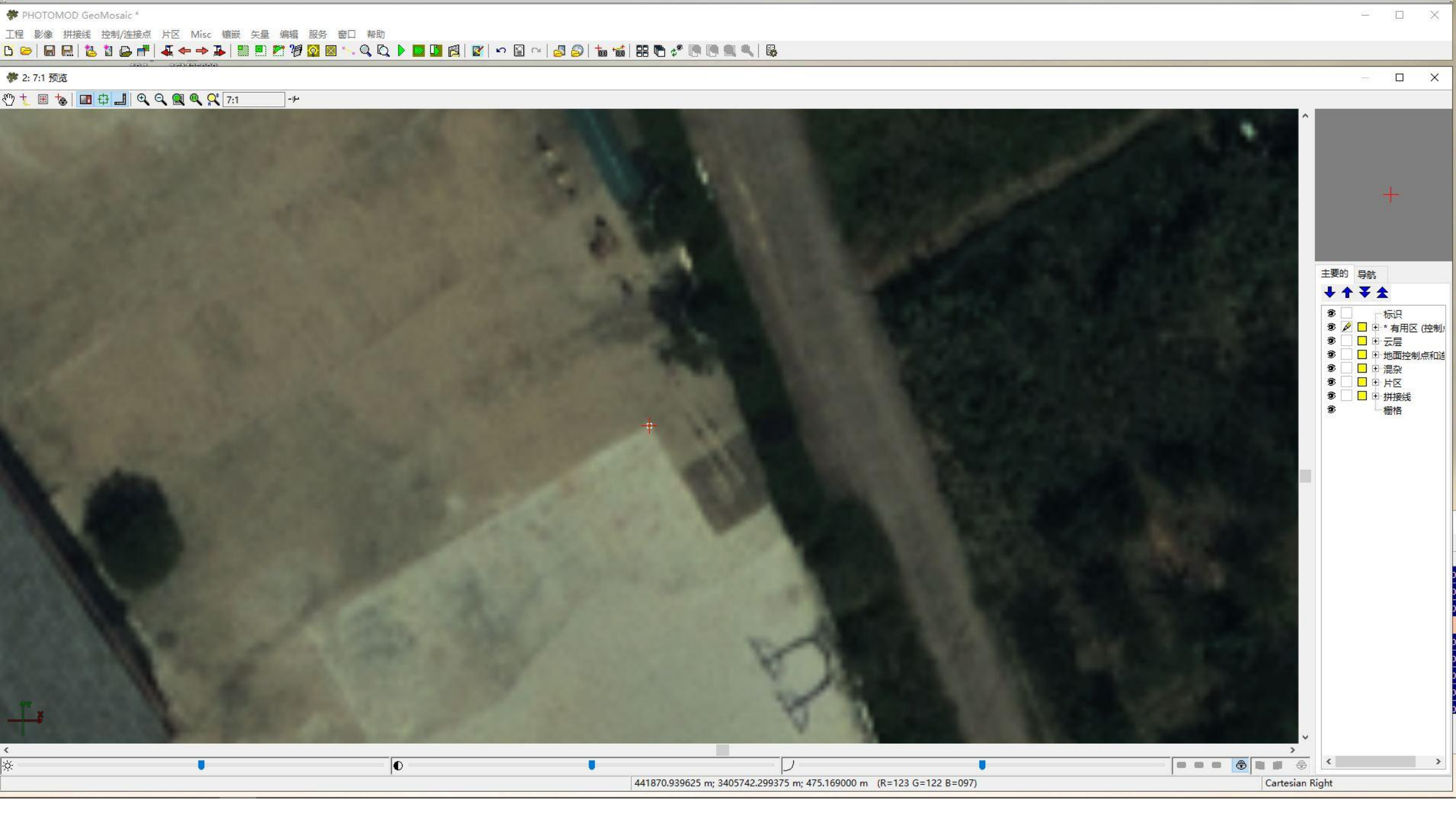
DenseDSM
3D-MOD



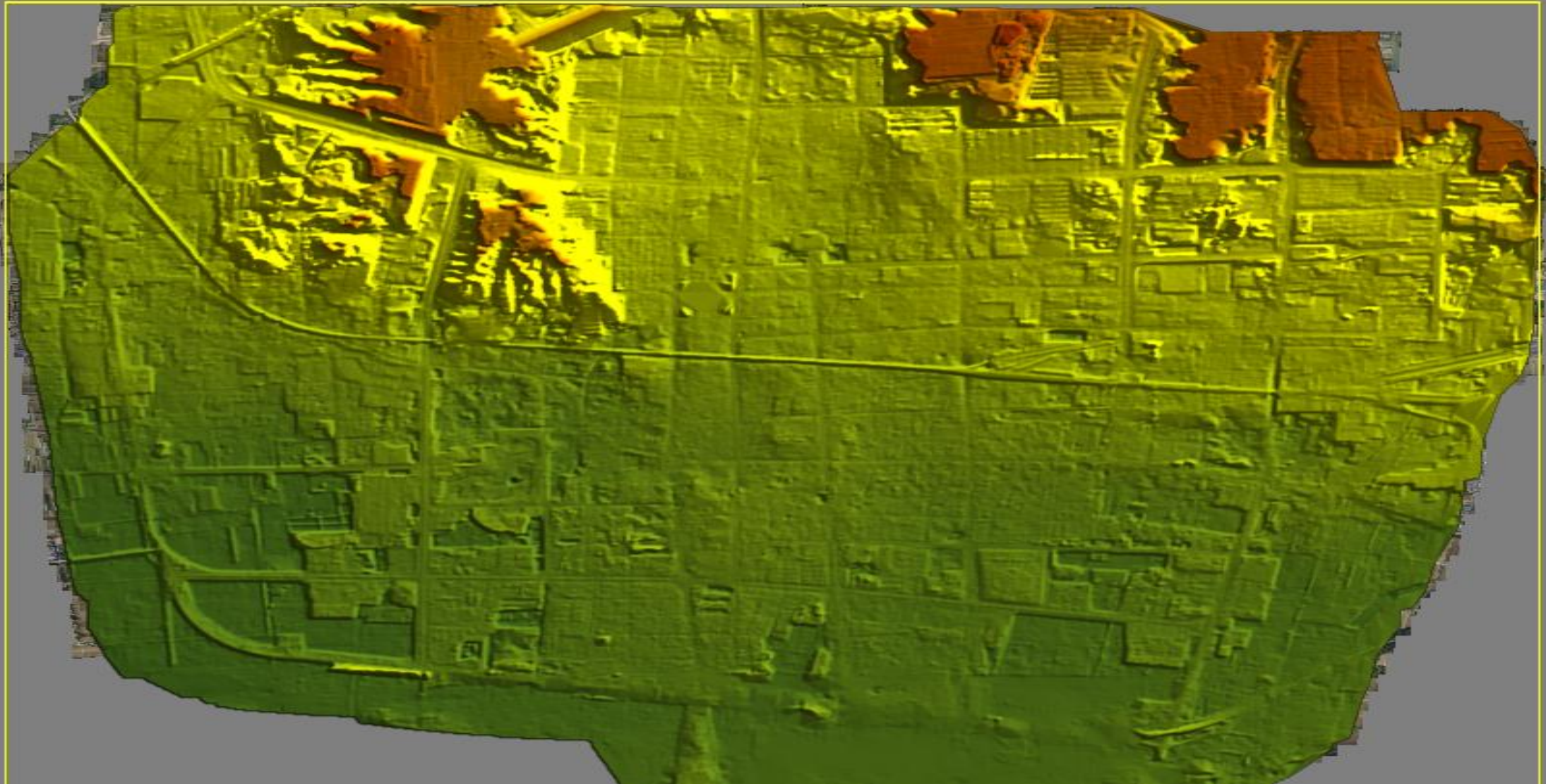


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- 主要的 导航
- 标识
 - * 有用区 (控制)
 - 云层
 - 地面控制点和道
 - 混杂
 - 片区
 - 拼接线
 - 栅格



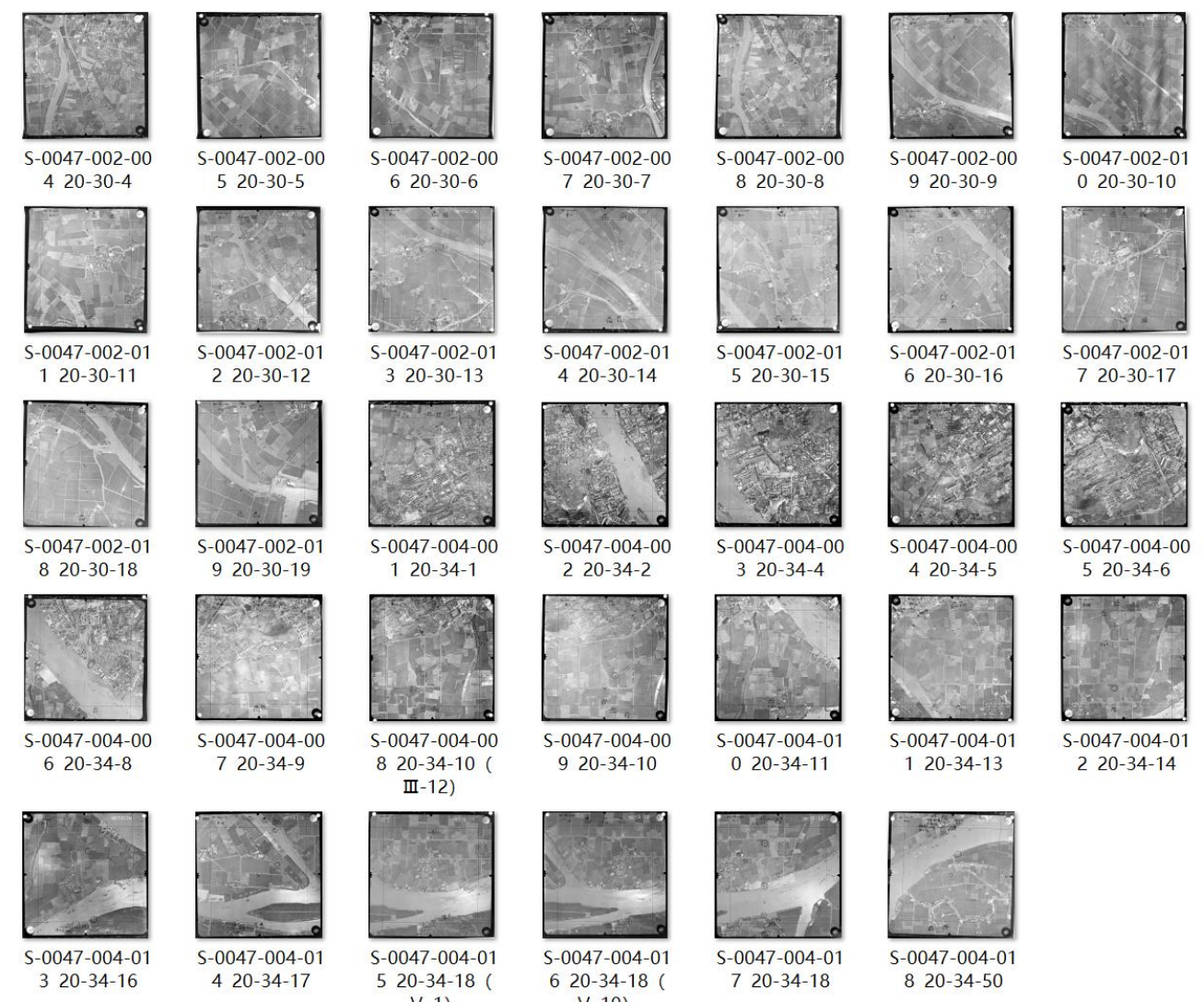
场方数	0.044	0.044	0.115	0.065
最大:	0.142	0.170	0.287*	0.193
点数(差异):	91 (91	91	91

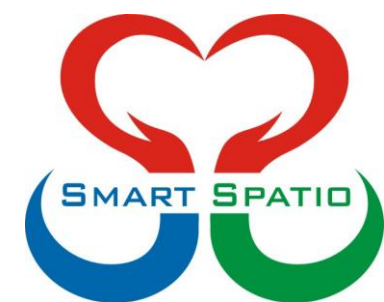


PHOTOMOD 2D-- “Old” Images

1978 Just Aerial image

- No Other information
- Camera
- Overlap
- GCPs
- GPS...





PHOTOMOD 2D-- “Old” Images

S-0047-002-006 20-30-6 - 20190525广州70年代胶片影像 - 内定向

The screenshot displays the PHOTOMOD 2D software interface. The main window shows a historical aerial photograph with a red crosshair and a green 'X' indicating a measurement point. The interface is divided into several panels:

- 影像信息 (Image Information):** Name: S-0047-002-006 20-30-6; Width: 9859 pix.; Height: 10052 pix.
- 相机信息 (Camera Information):** Name: 新相机.x-cam; Type: 仅主点; Focal Length: 152.0000000 mm; Distortion: 无.
- 量测 (Measurement):** A table showing measurement data:

	.m	Y, mm	Xp, pix.	Yp, pix.
<input checked="" type="checkbox"/>	.000	0.0000	4929.500	5026.000
- 标识坐标 (pix.):** X: 4929.500, Y: 5026.000
- 标识坐标 (mm):** X: 0.0000, Y: 0.0000
- 扫描分辨率 (Scan Resolution):** X: 1350.000000, Y: 1350.000000
- 单位 (Unit):** mm, dpi

[1:24] / [1:1] 标识: (4929.500, 5026.000) pix., (0.0000, 0.0000) mm (相机) / (0.0000, 0.0000) mm | 像元大小: (0.0188, 0.0188) mm

好 取消 应用



AT

20190525广州70年代胶片影像 - PHOTOMOD

工程 测区 方位 格网 地形 矢量 栅格 编辑 服务 窗口 帮助

1:1:10 测区图解

1:10

测区编辑器

	1	2	3	4	5
1	01 20-30-1 →	S-0047-002-002 20-30-2 →	S-0047-002-003 20-30-3 →	S-0047-002-004 20-30-4 →	S-0047-004-001 20-34-1 →
2	05 20-30-5 →	S-0047-002-006 20-30-6 →	S-0047-002-007 20-30-7 →	S-0047-002-008 20-30-8 →	S-0047-004-004 20-34-5 →
3	09 20-30-9 →	S-0047-002-010 20-30-10 →	S-0047-002-011 20-30-11 →	S-0047-002-012 20-30-12 →	S-0047-004-007 20-34-9 →
4	13 20-30-13 →	S-0047-002-014 20-30-14 →	S-0047-002-015 20-30-15 →	S-0047-002-016 20-30-16 →	S-0047-004-011 20-34-13 →
5	17 20-30-17 →	S-0047-002-018 20-30-18 →	S-0047-002-019 20-30-19 →	S-0047-004-014 20-34-17 →	S-0047-004-016 20-34-18 (V-10) →

881 m (R=255 G=000 B=255) Cartesian Right

备注 批注 91%

2019/11/8

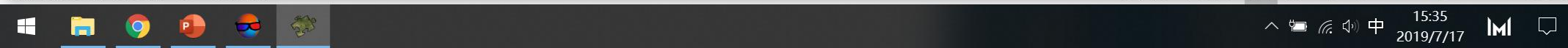
15:24 2019/7/17



DOM

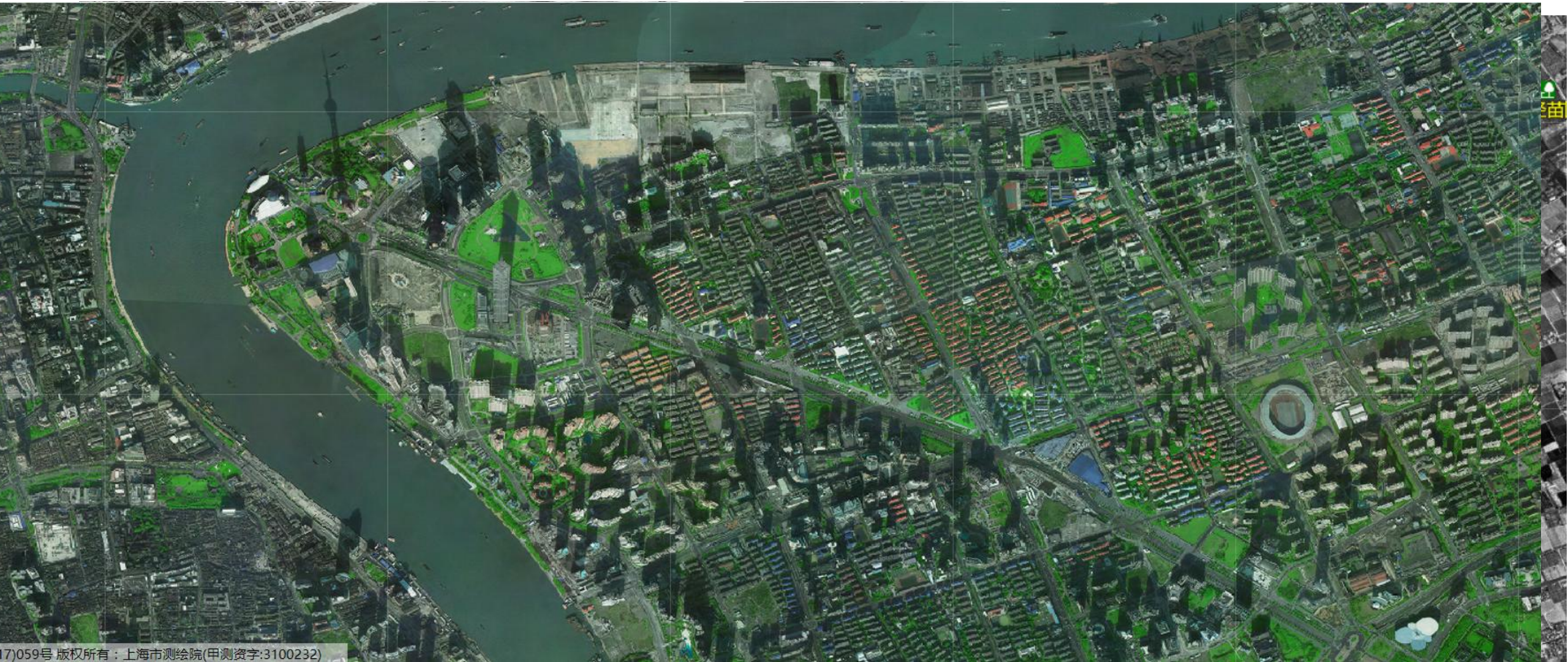


2019/11/8





PHOTOMOD 2D--Shanghai



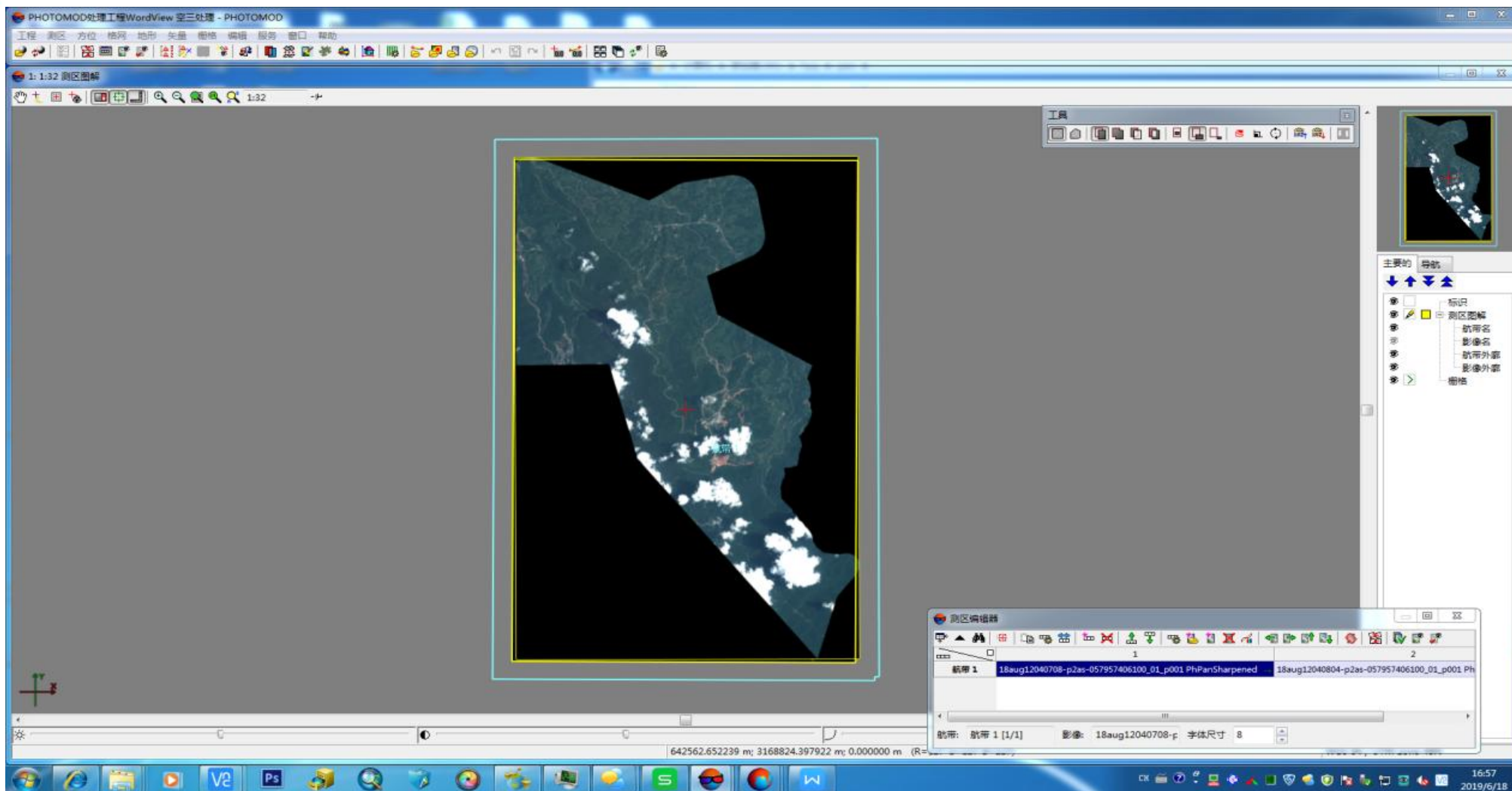


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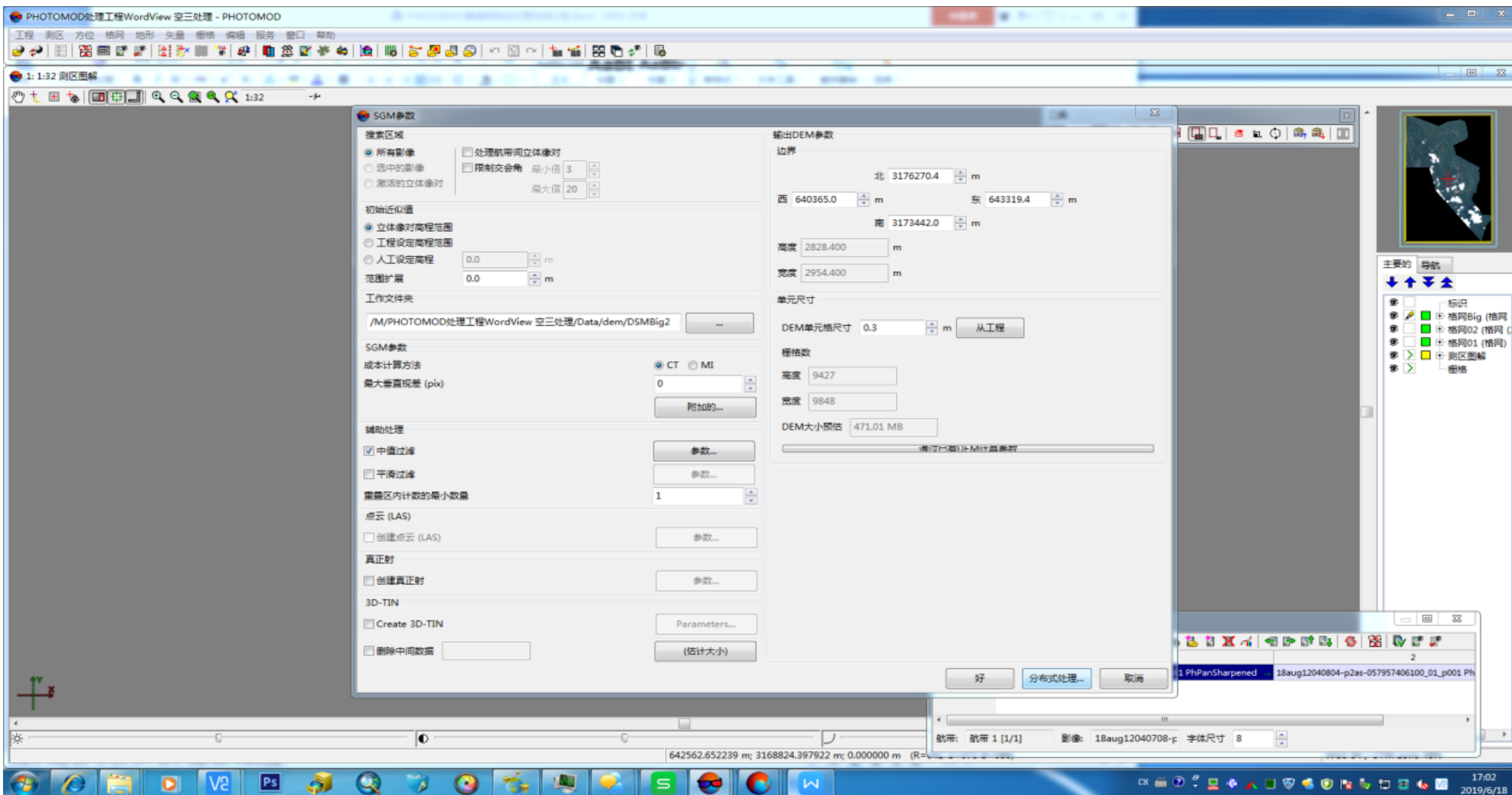


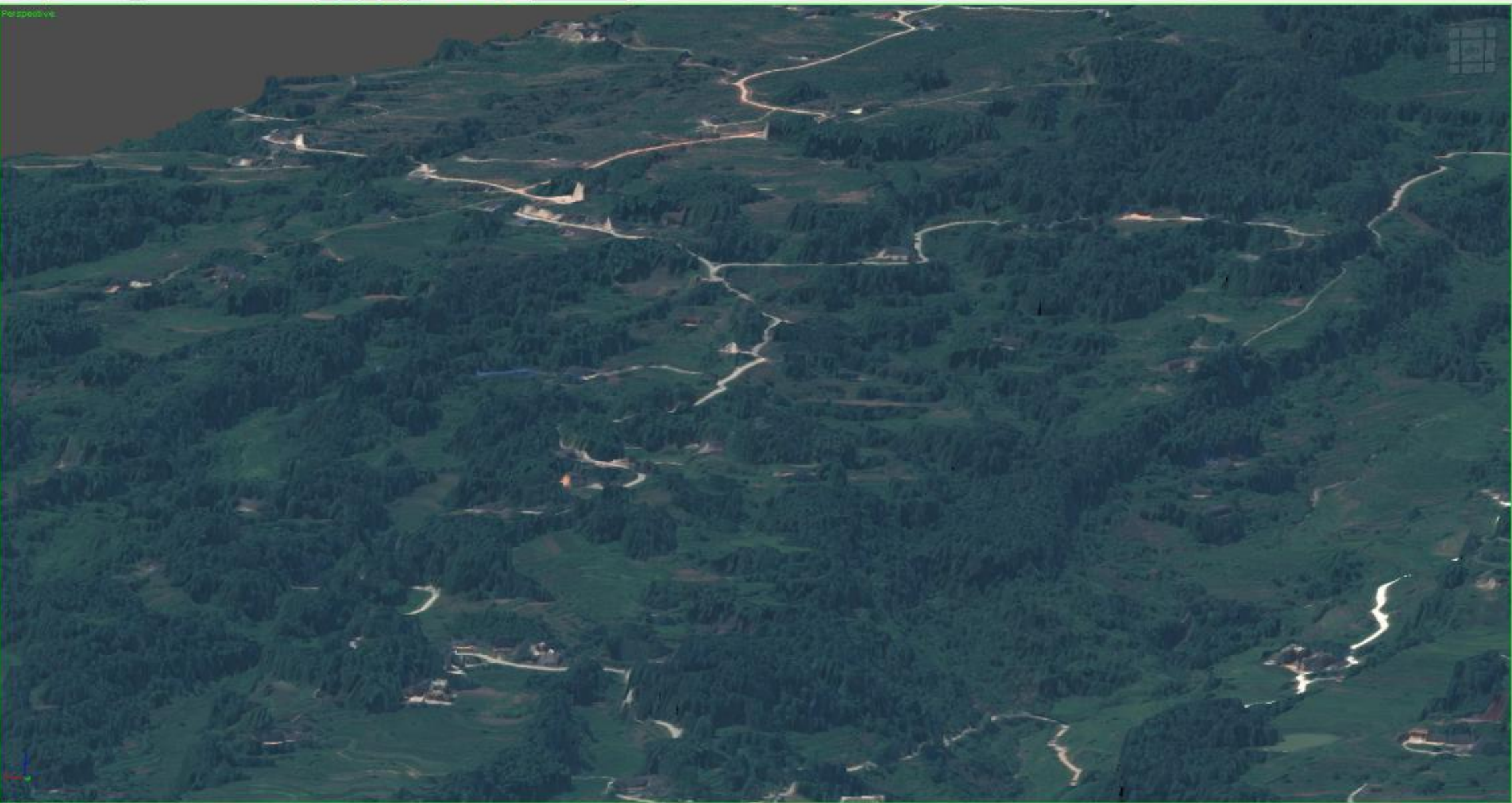
WordView3





WordView3

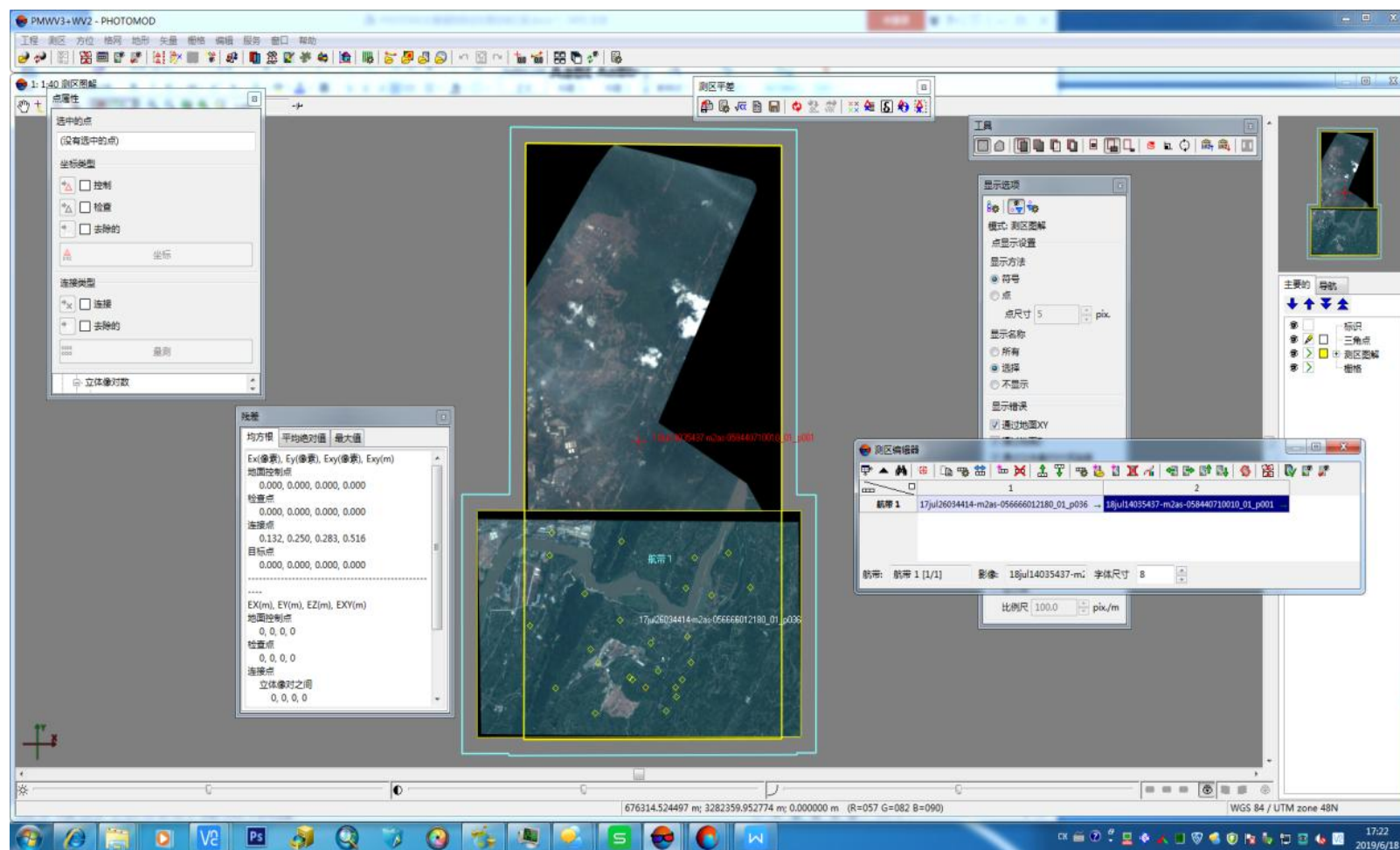






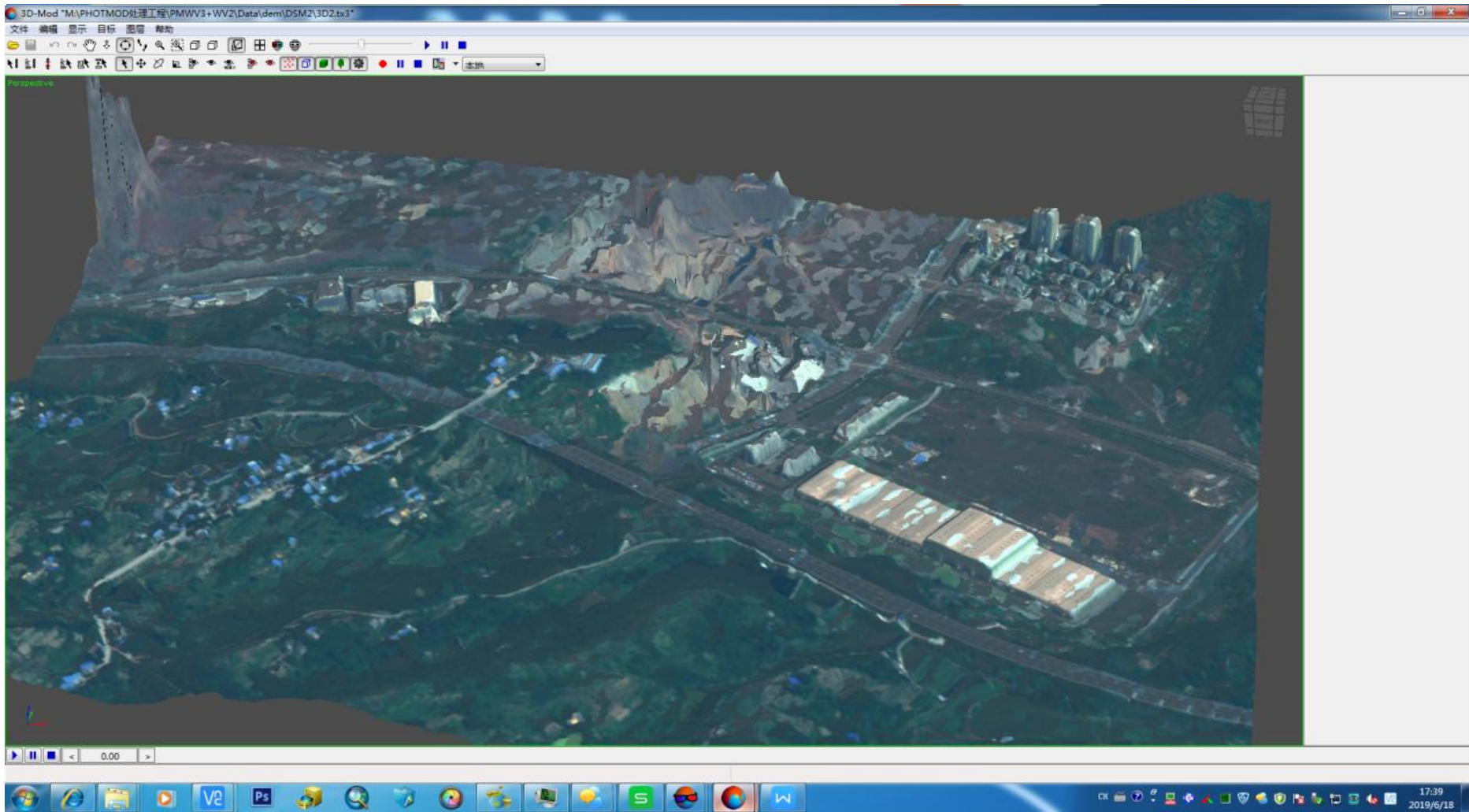
WV2&WV4

- Prepare





WV2&WV4





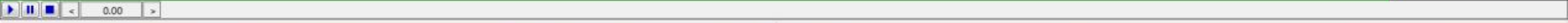
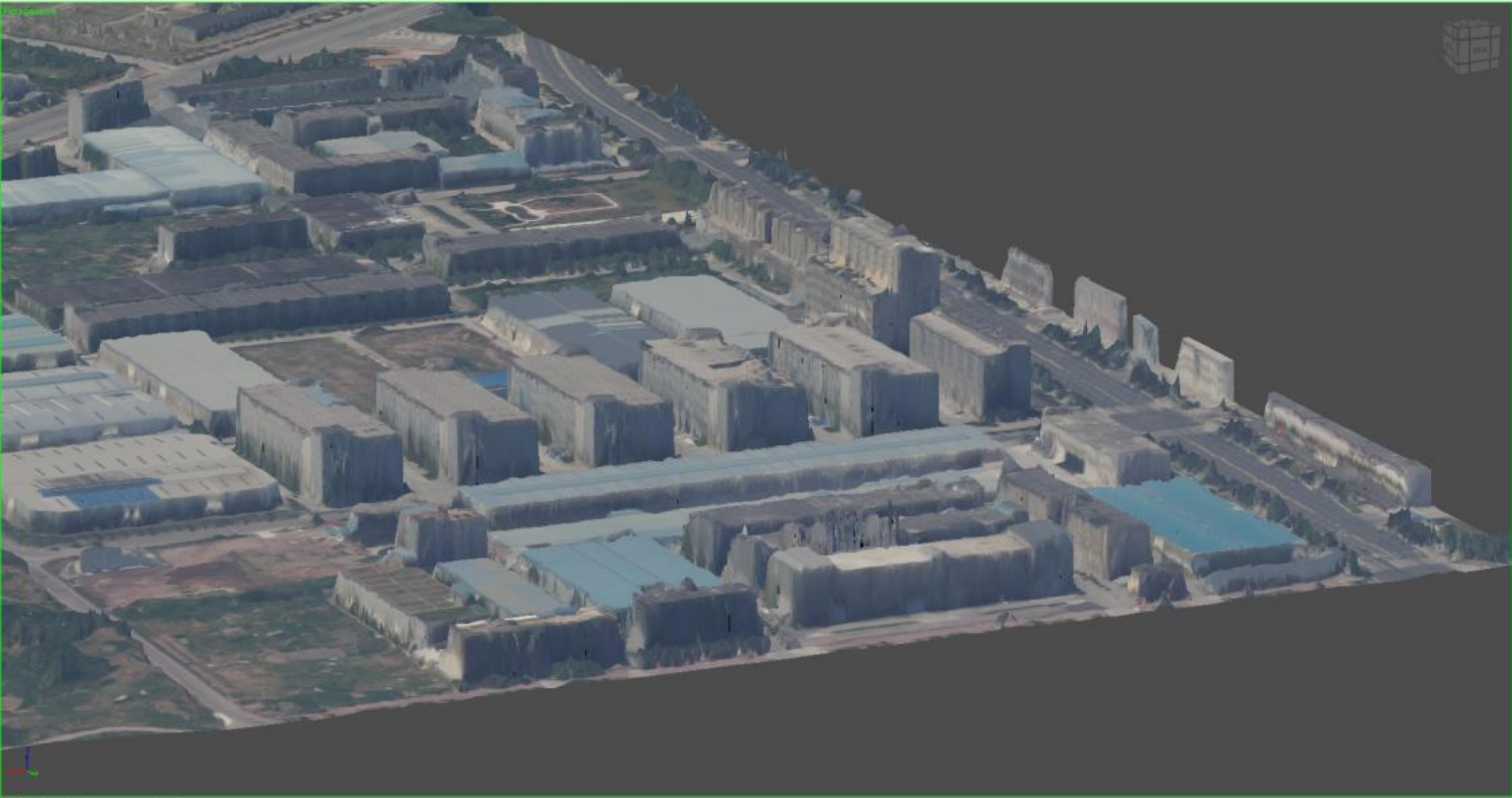
Aerial image (60%/30%)

The screenshot displays the PHOTOMOD software interface. The main window shows an aerial photograph with a grid of yellow lines overlaid on it. The grid is labeled with various identification numbers, such as 183405002008, 183405002009, 183405002010, 183405002011, 183405002012, 183405002013, 183405003008, 183405003009, 183405003010, 183405003011, 183405003012, 183405003013, 183405004008, 183405004009, 183405004010, 183405004011, 183405004012, and 183405004013. A red crosshair is visible on the grid. The software interface includes a top menu bar, a toolbar, a left-hand tool palette, a right-hand navigation panel, and a bottom status bar. The status bar shows the coordinates 603911.294884 m; 3301778.385408 m; 0.000000 m (R=077 G=090 B=101) and the text "Cartesian Right".

183405002008
183405002009
183405002010
183405002011
183405002012
183405002013
183405003008
183405003009
183405003010
183405003011
183405003012
183405003013
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183405004009
183405004010
183405004011
183405004012
183405004013

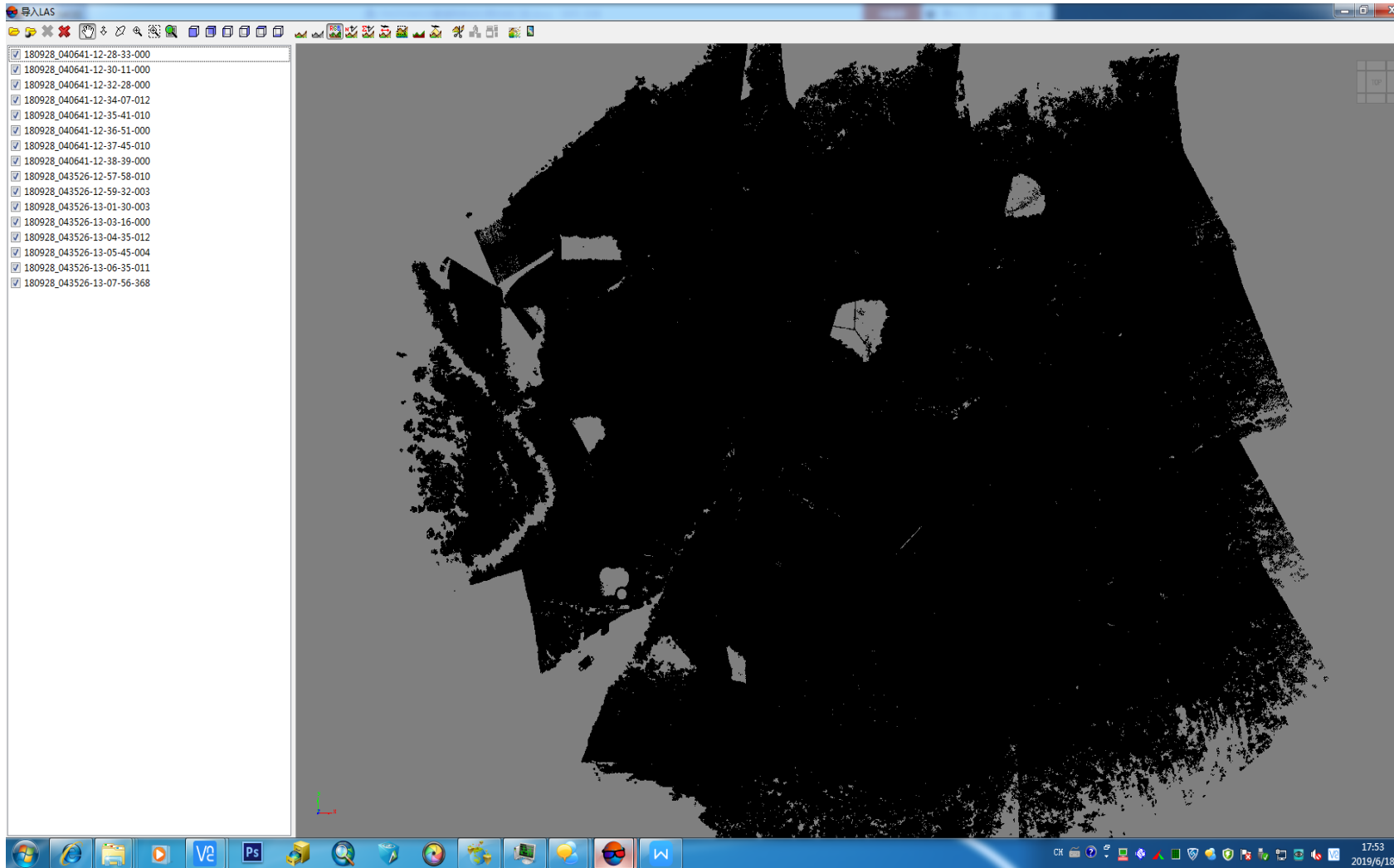
	1	2	3	4	5	6
1	183405002008	183405002009	183405002010	183405002011	183405002012	183405002013
2	183405003008	183405003009	183405003010	183405003011	183405003012	183405003013
3	183405004008	183405004009	183405004010	183405004011	183405004012	183405004013

航带: 3 [3/3] 影像: 183405004011 [4] 字体尺寸: 8



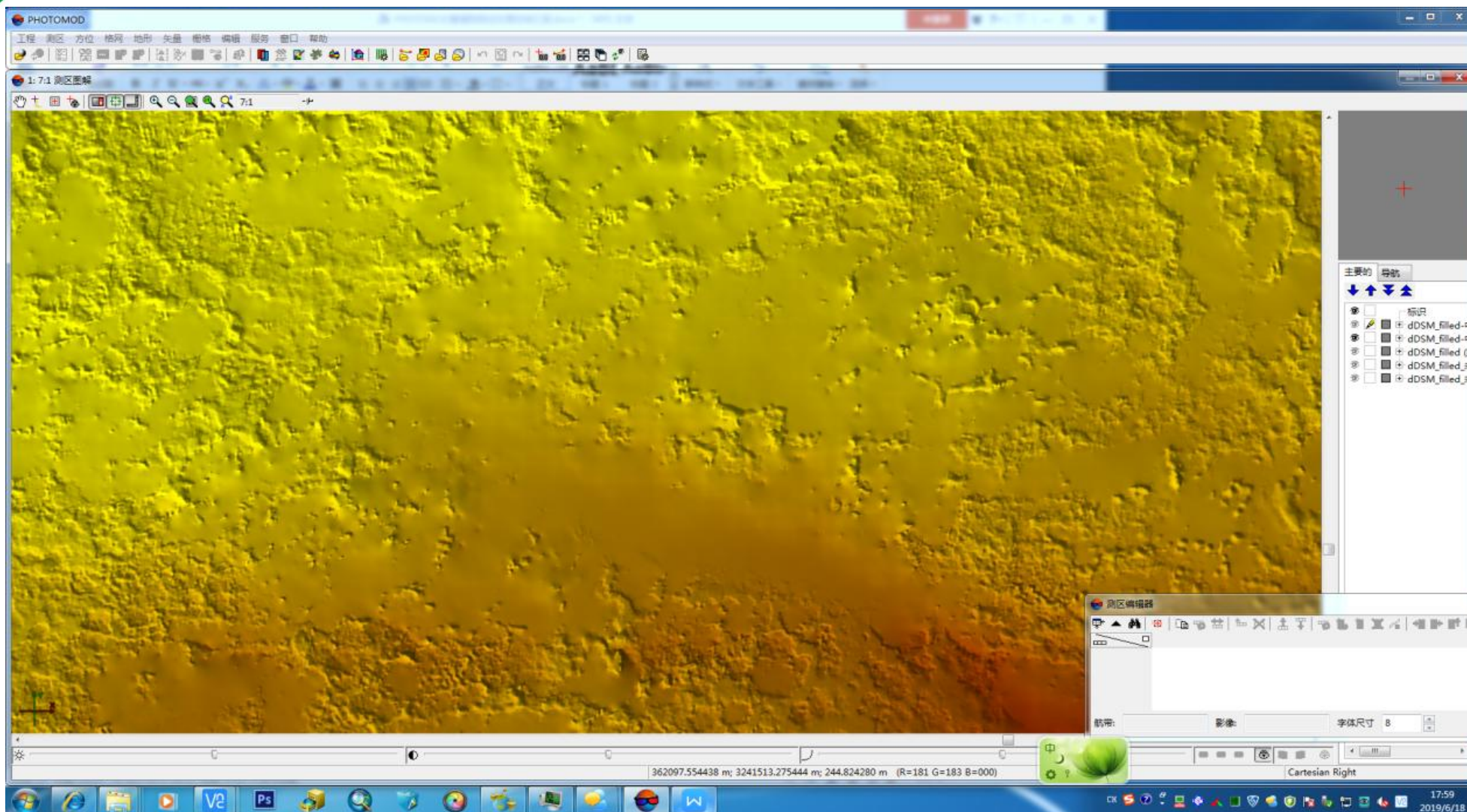


UAS Lidar





UAS Lidar









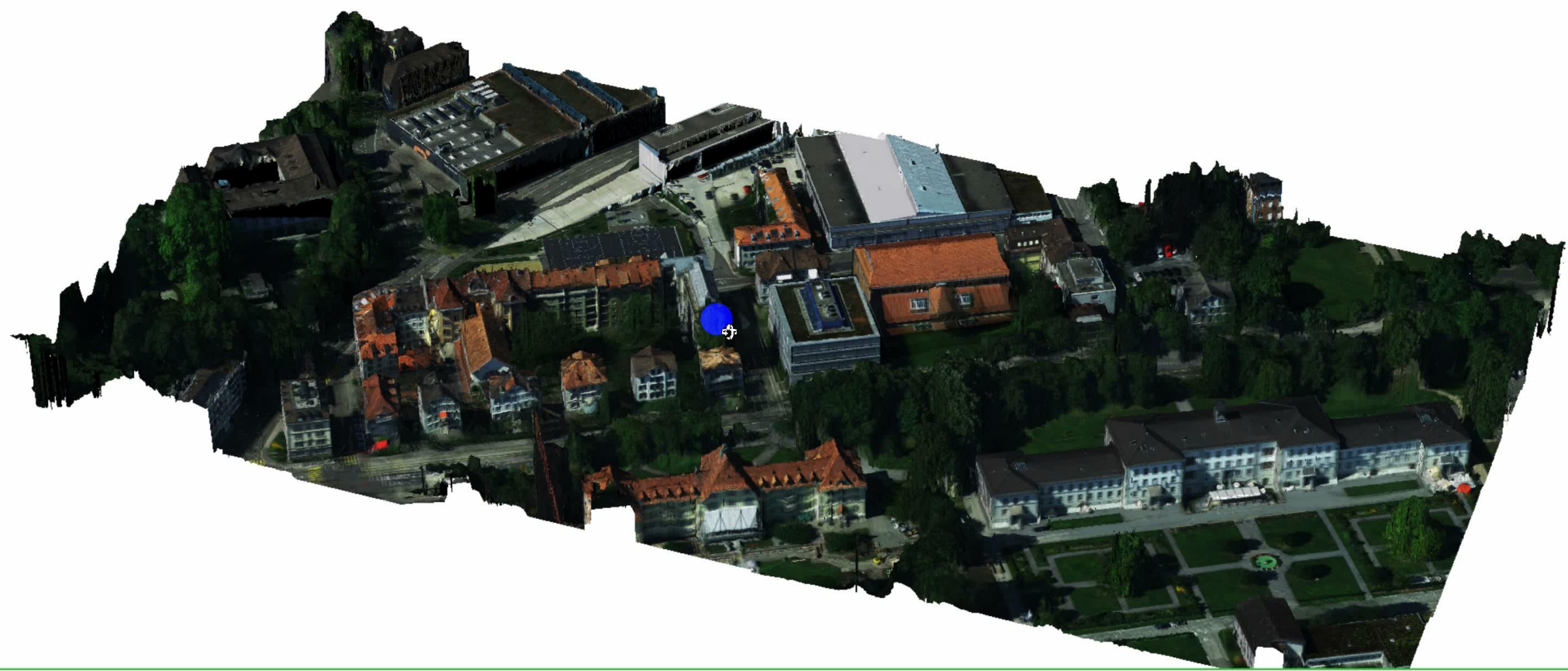
ADS Data

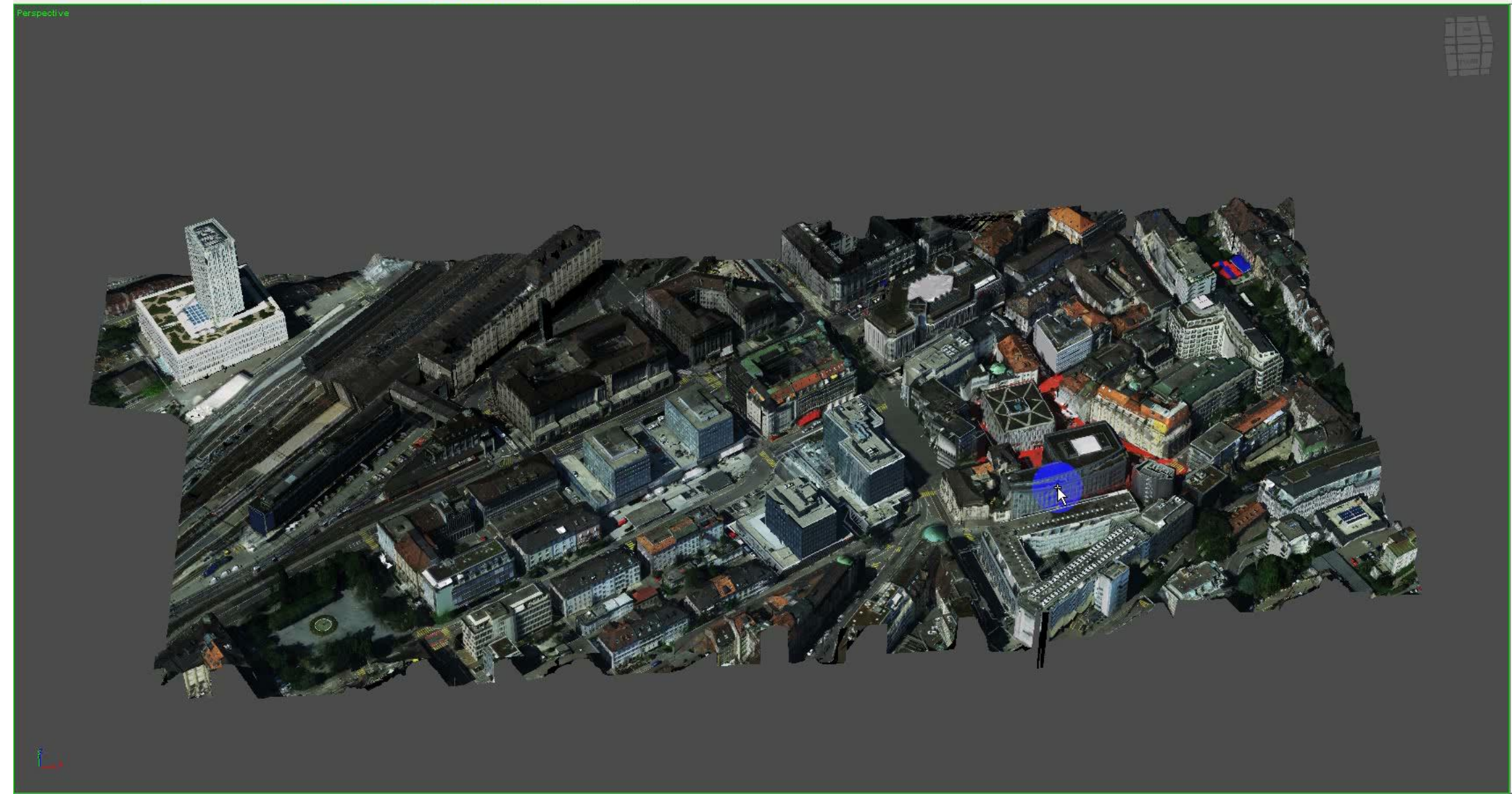




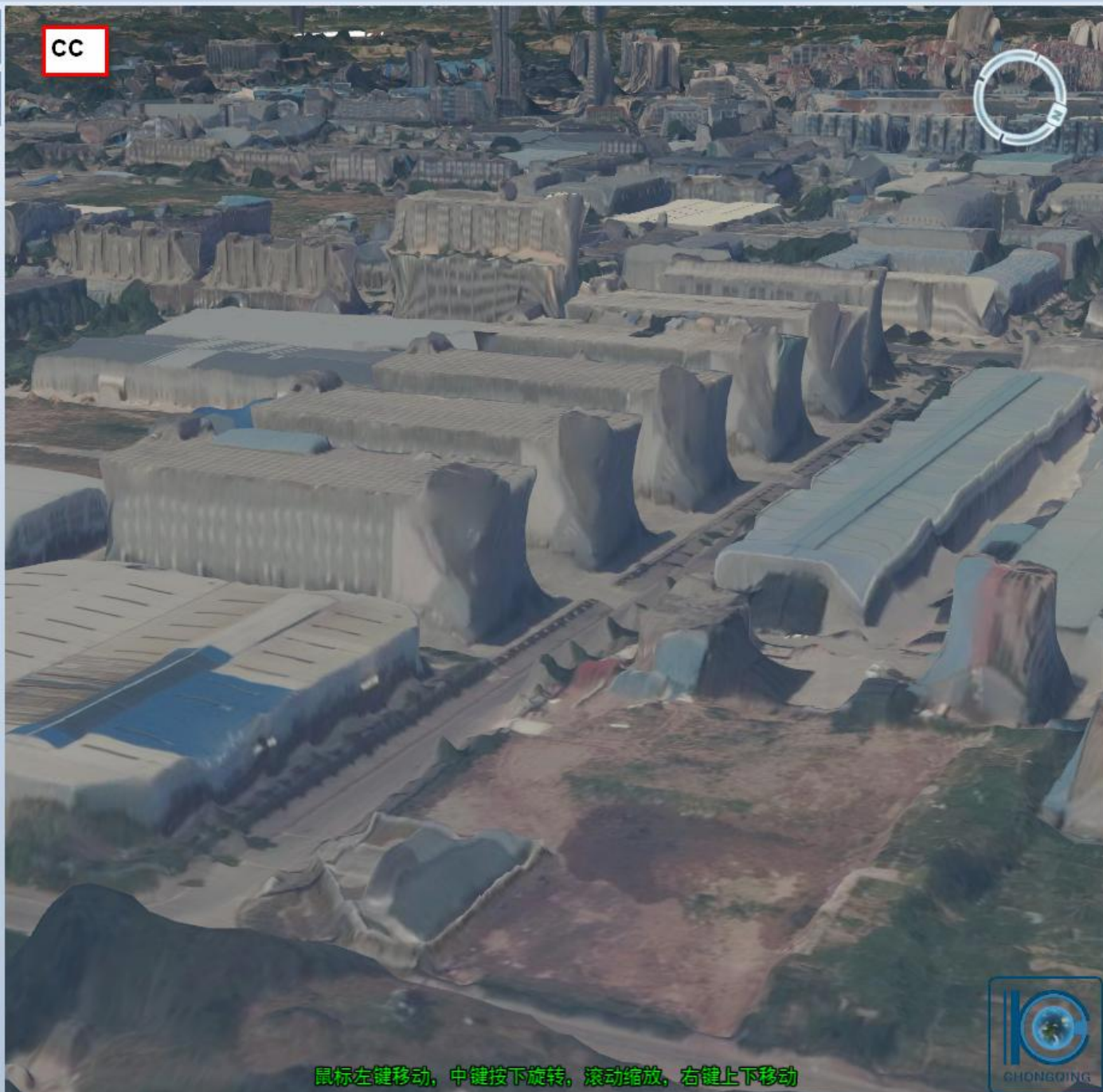


Perspective



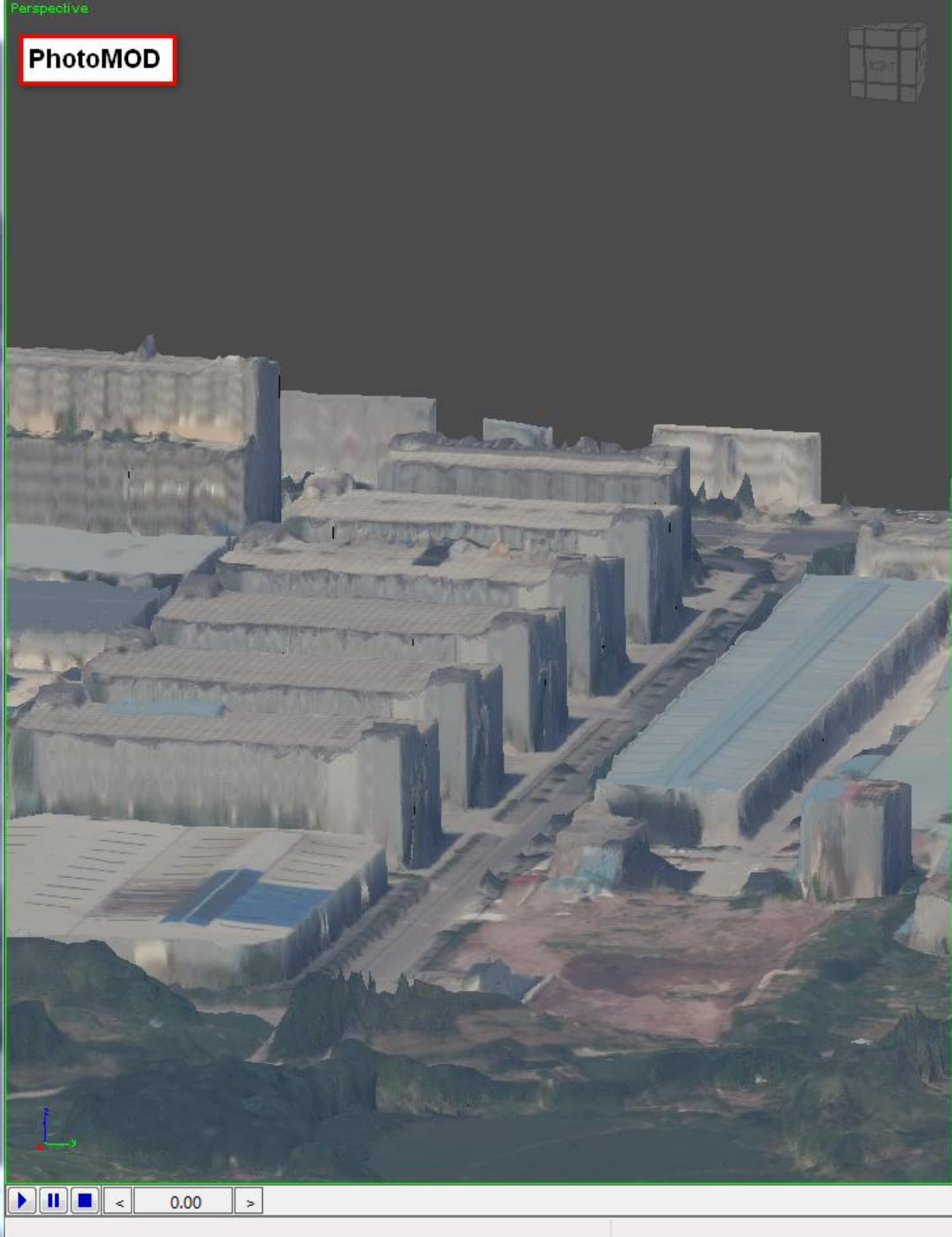


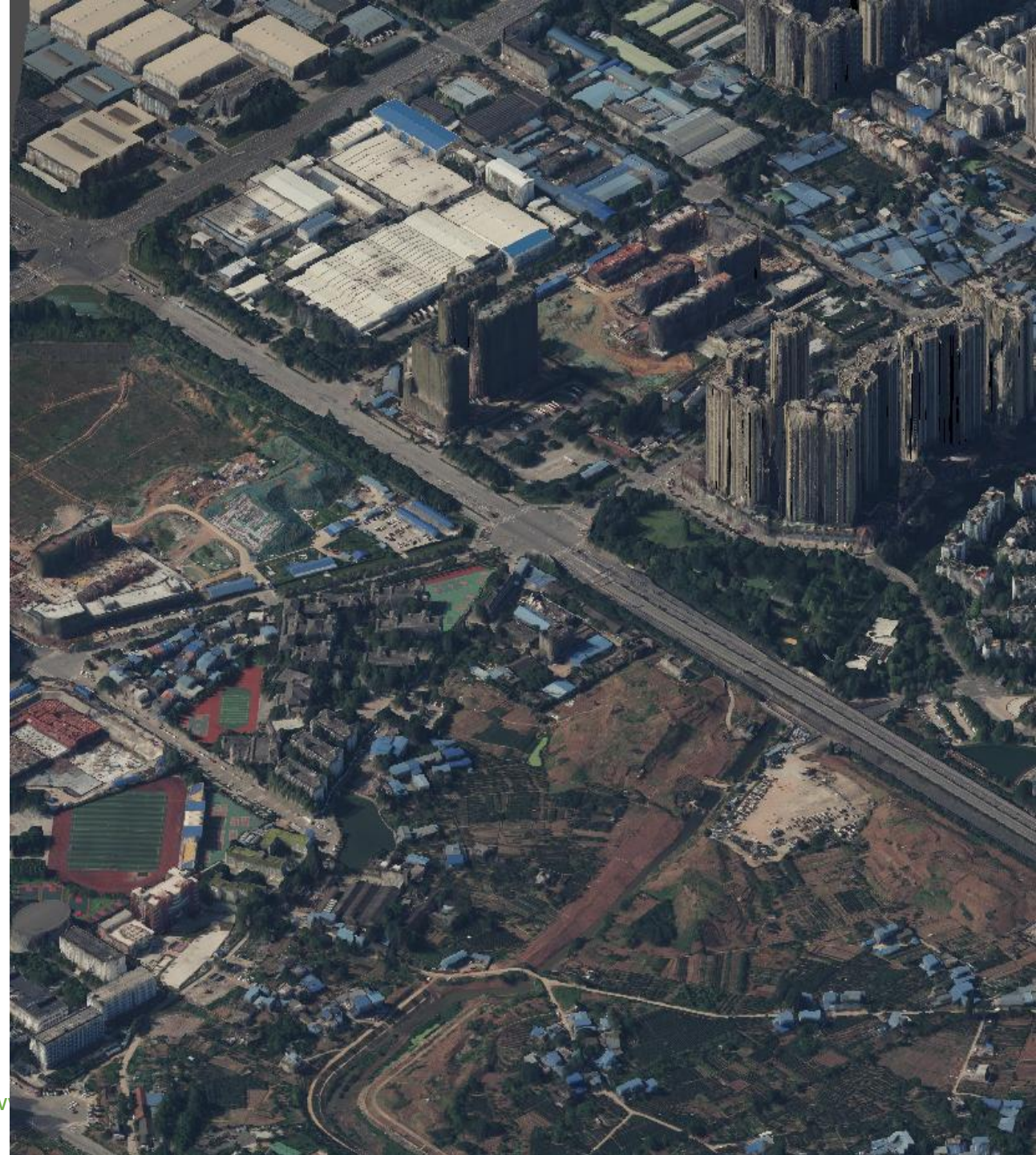
CC

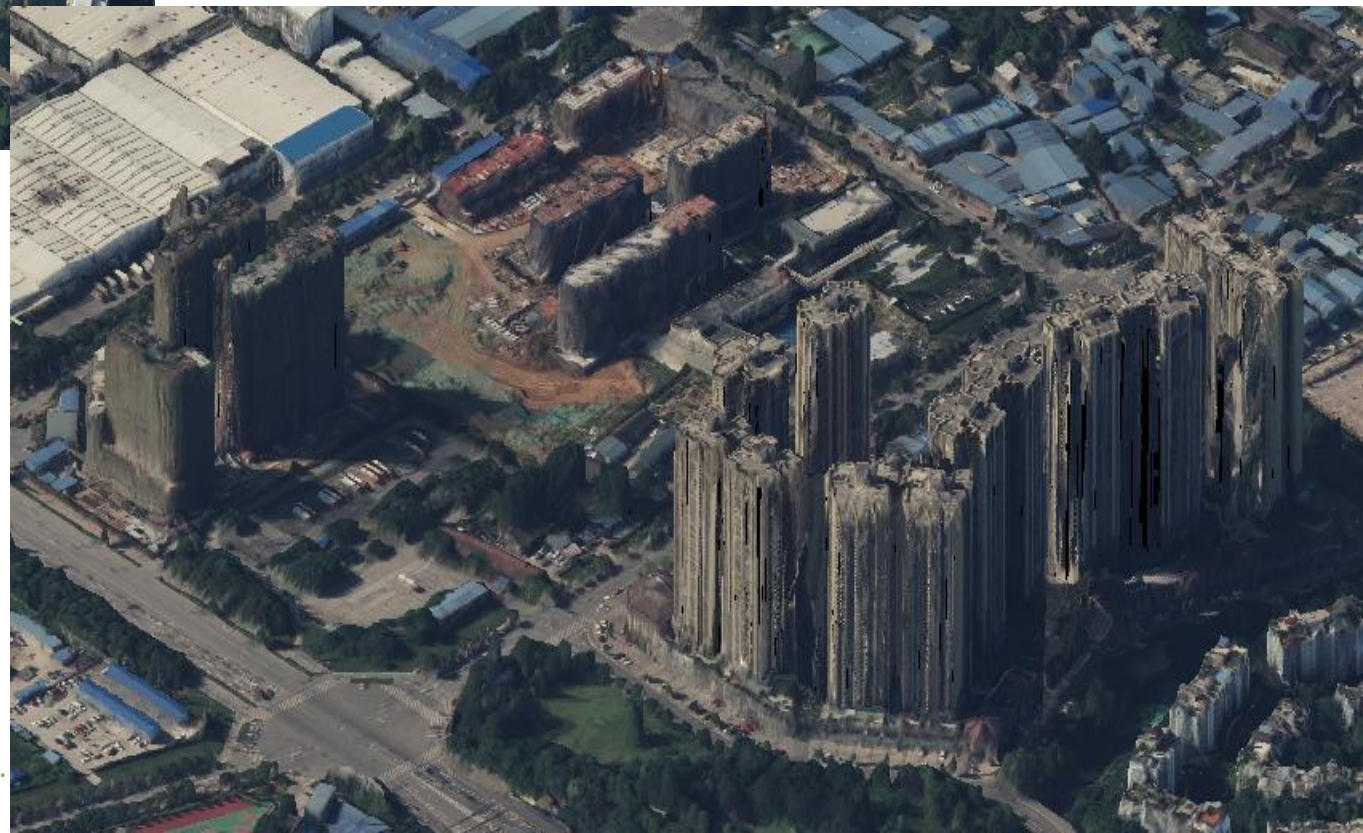


鼠标左键移动，中键按下旋转，滚动缩放，右键上下移动

PhotoMOD







2019/11/8

北京速策科技有限公司 SmartSpatio Sci-Tech Inc.













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Problems

- **Oblique Images AT**
- **Oblique Images 3D**
- **“Old” (Scanned) Images 3D**
- **3D format supporting(OSGB)**
- **DSM/DTM/dDSM Editing or Filtering**
- **3D and point cloud generating Processing Efficiency (ADS dDSM)**
- **True ortho images quality**



Suggestions

- **Better Solution for Oblique Images Processing**
- **Scanned Images Black Area Remove**
- **More Efficient**
- **More Automatic Processing**
- **More format supporting**



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Tel.: +86-10-15811246258 xumingce@qq.com

**Thank you very much
For your attention!**

Any questions?

