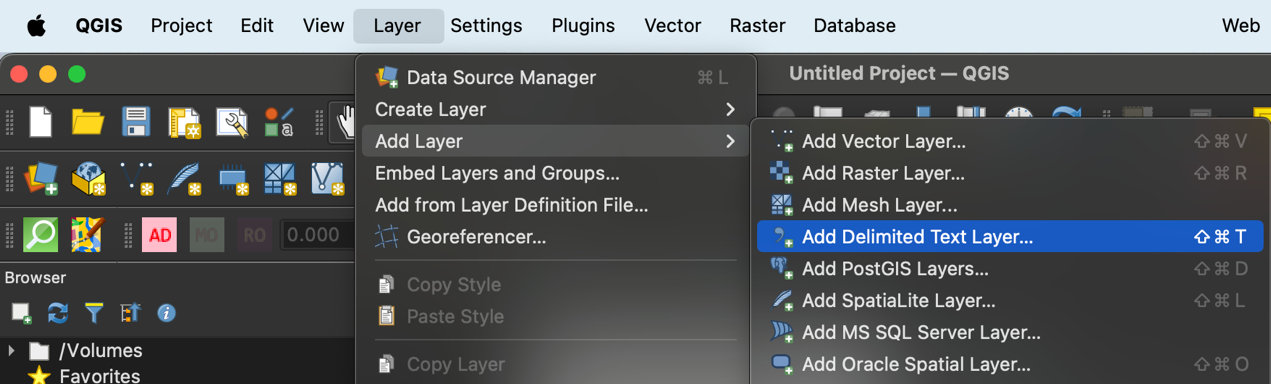
Use QGIS to transfer the utm coordinates of sampling points of the Doubs dataset into geographic ones.

姓名：廖一旭 学号：SA23008212

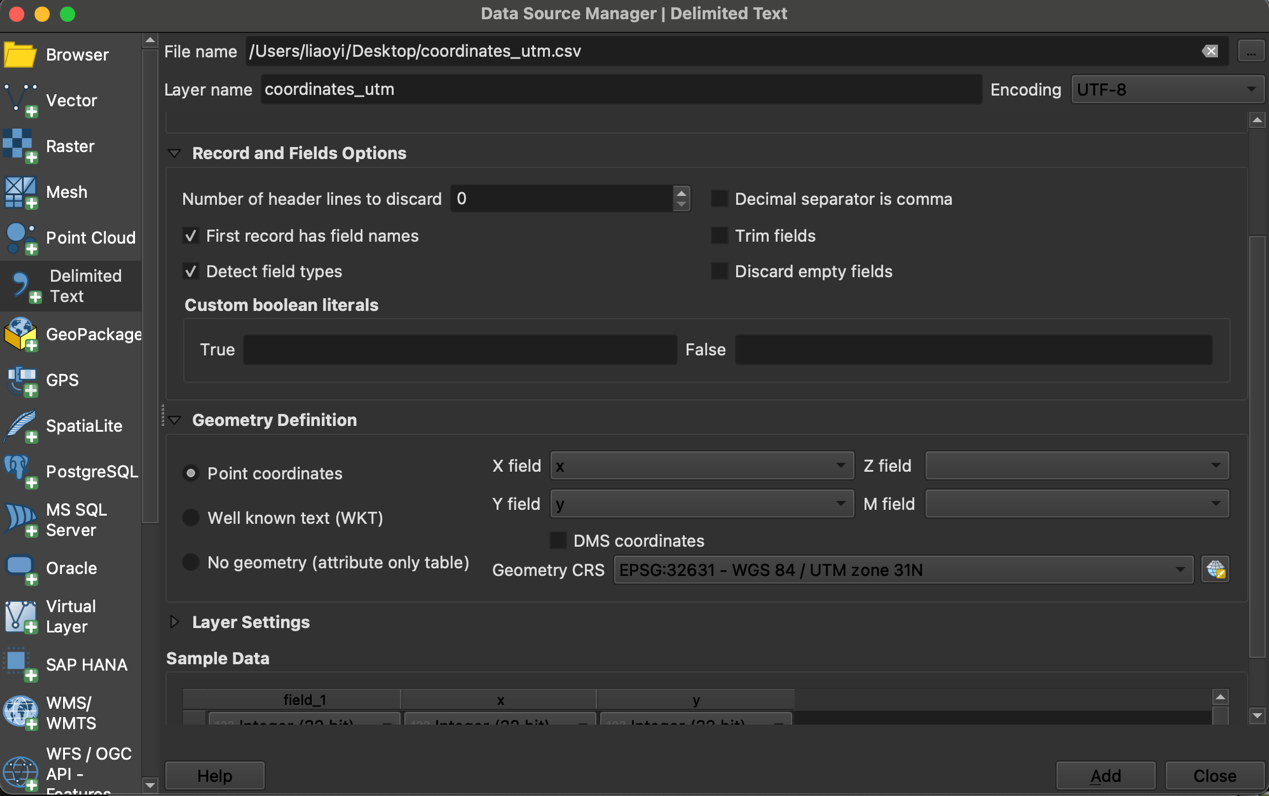
1、数据准备，使用R将Doubs数据集中30个采样点的xy数据导出为”coordinates\_utm”



2、将采样点的csv文件导入QGIS



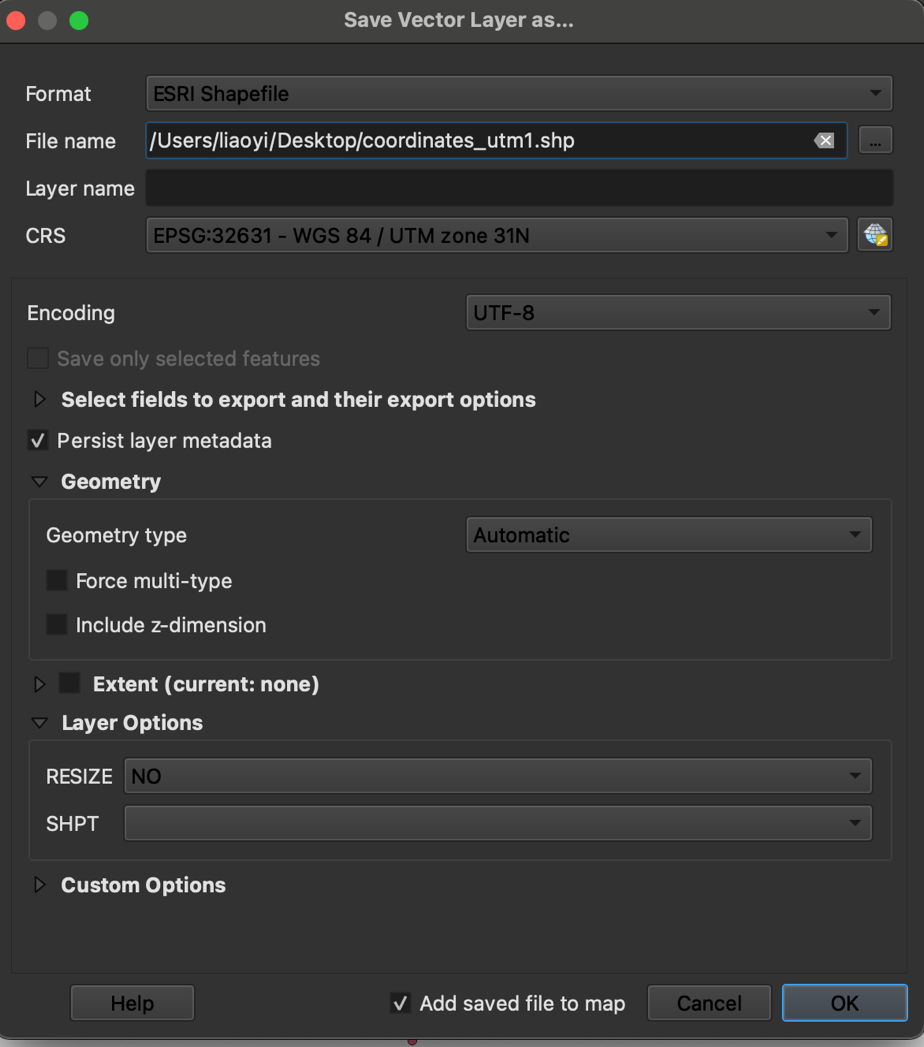
选择Geometry CRS为EPSG：32631



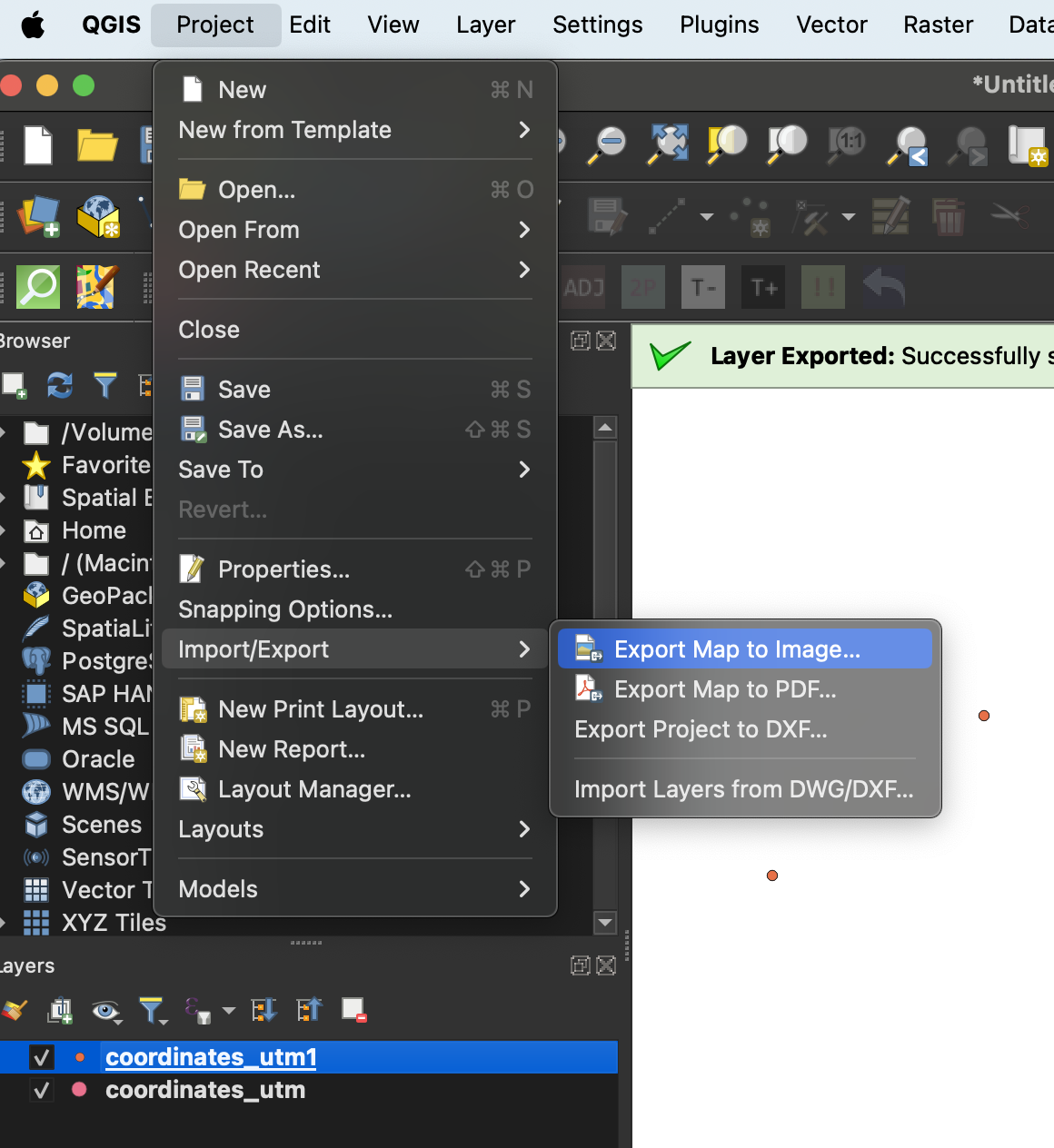
成功导入后为以下界面（显示30个采样点）

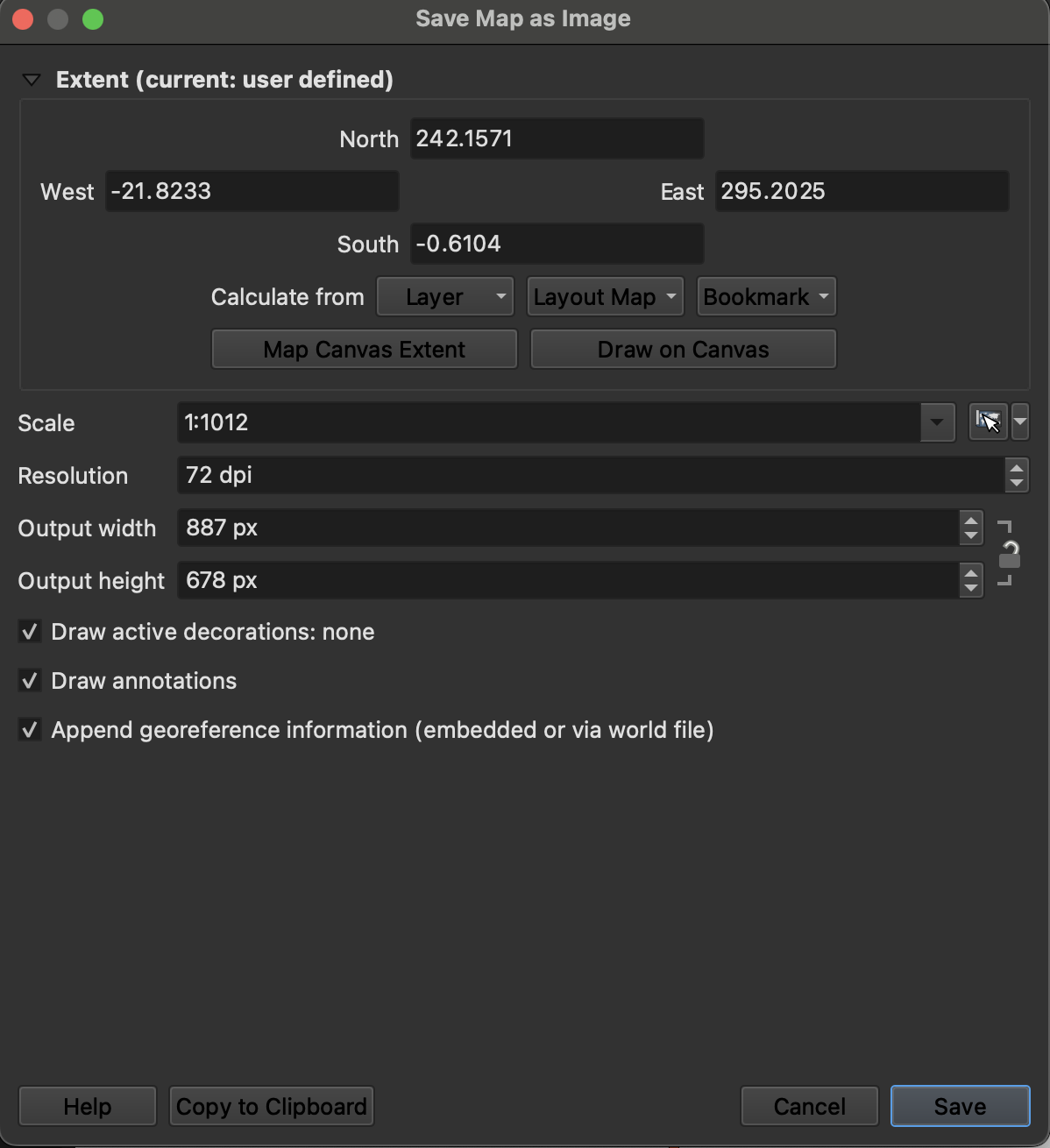


3、将coordinates\_utm图层导出，选择导出模式为shapefile，命名为“coordinates\_utm1”

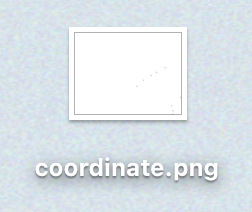
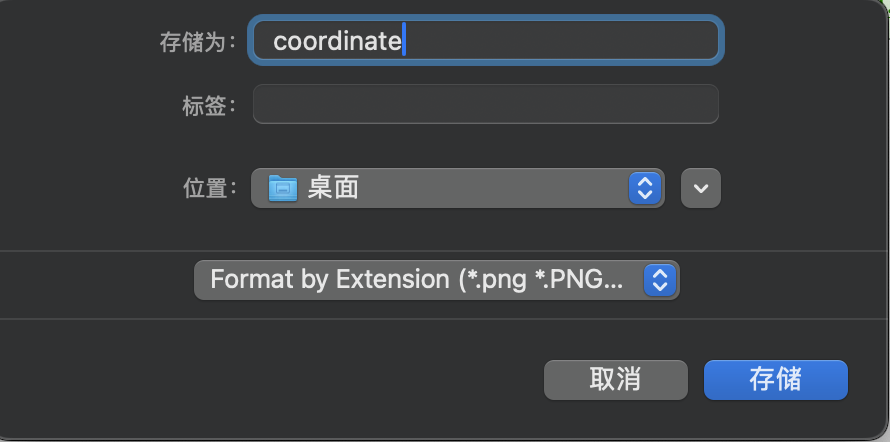


4、将coordinates\_utm1图层导出image



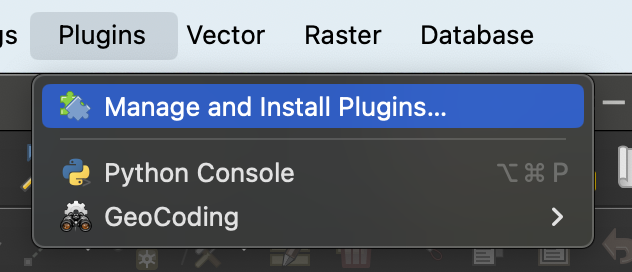


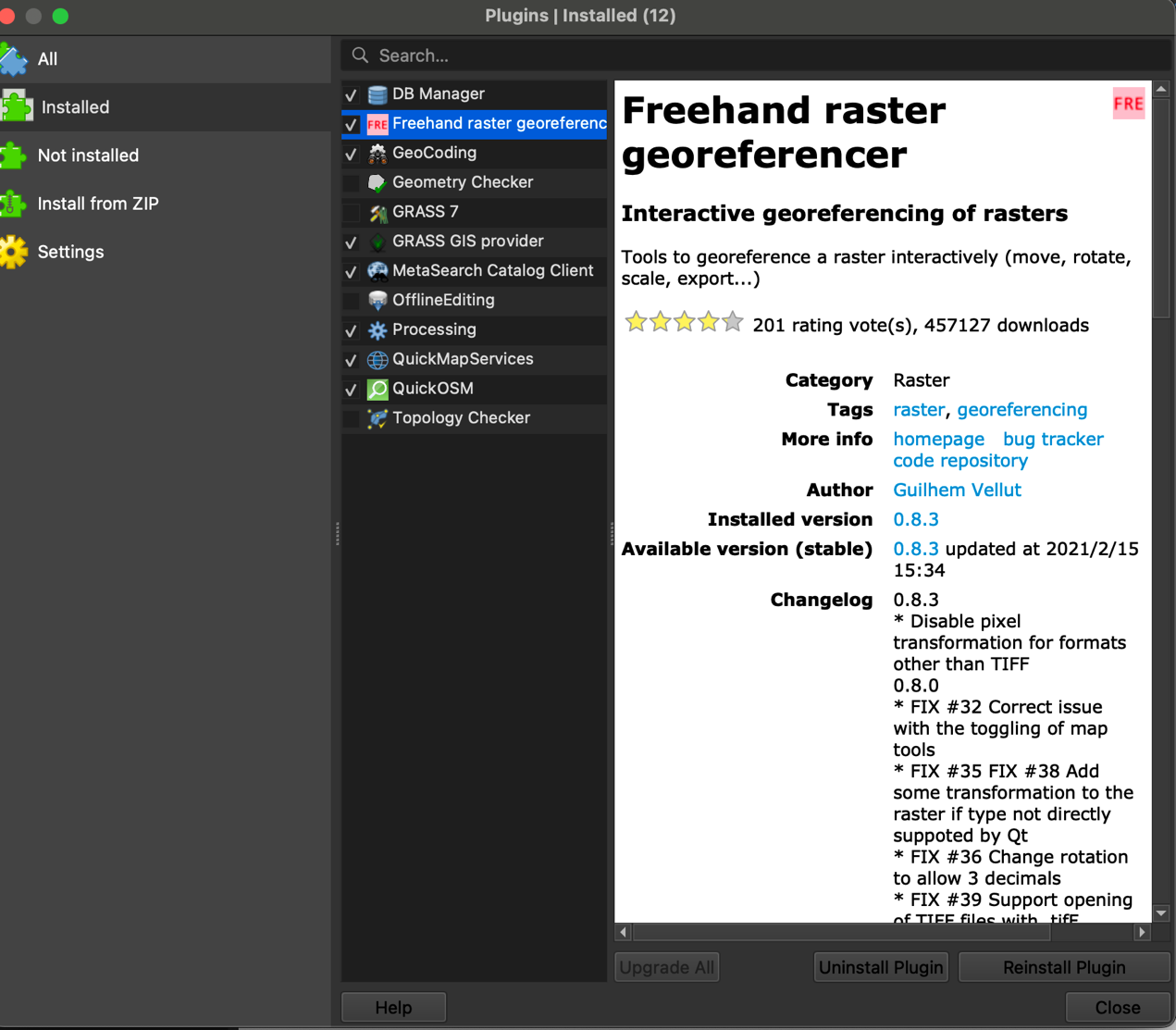
导出名为“coordinate”的png文件



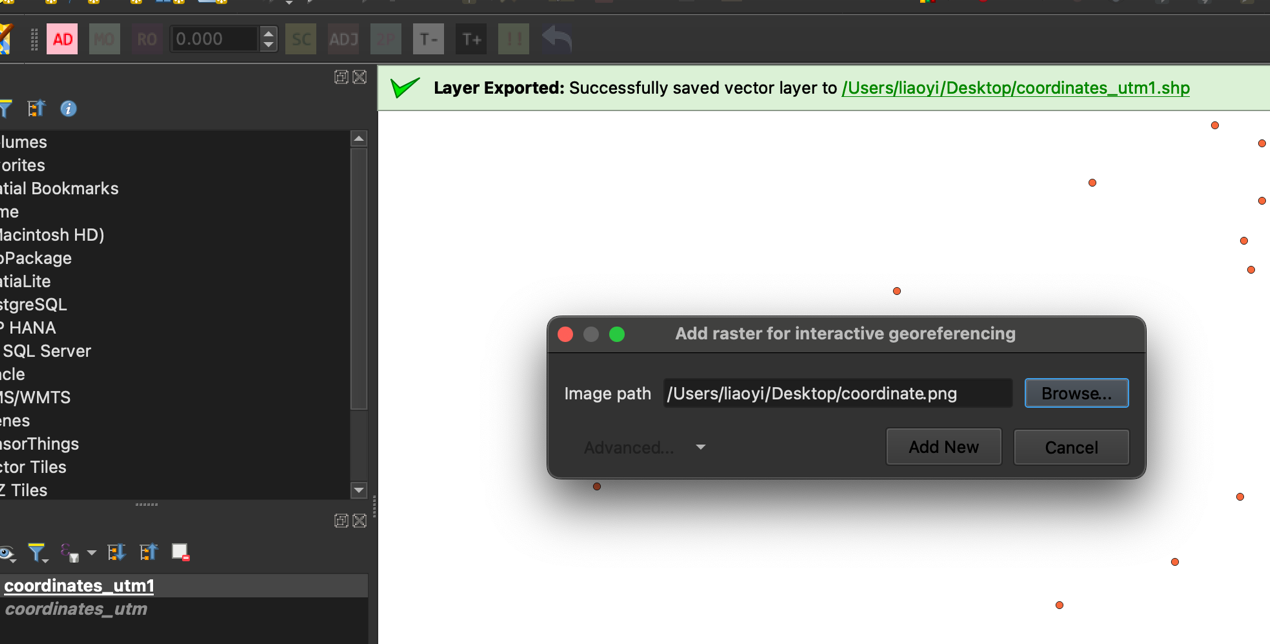
5、安装并使用插件Freehand raster georeference

使用Plugins栏查找插件

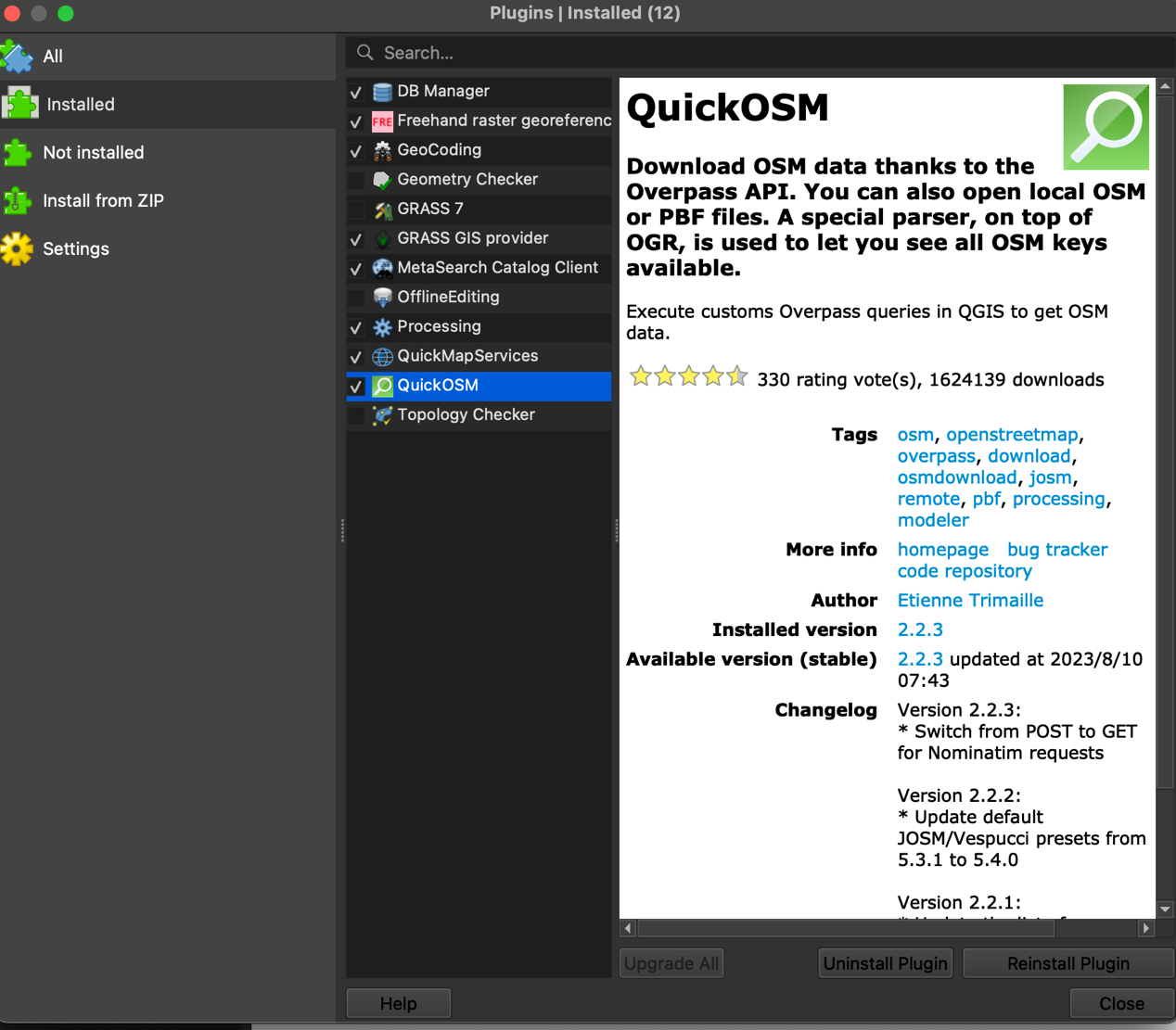




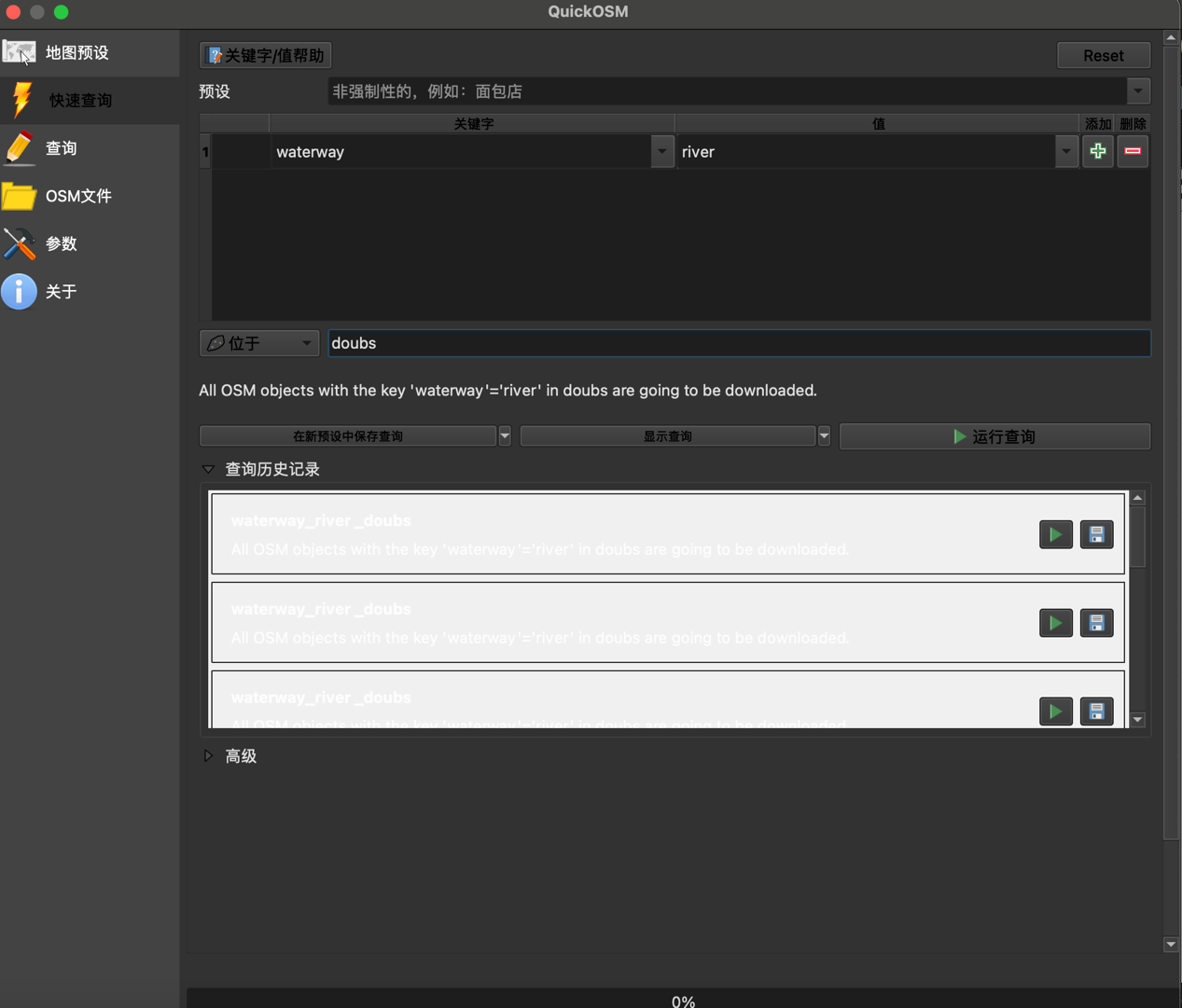
使用freehand raster georeferencer插件，打开储存的“coordinate”png文件



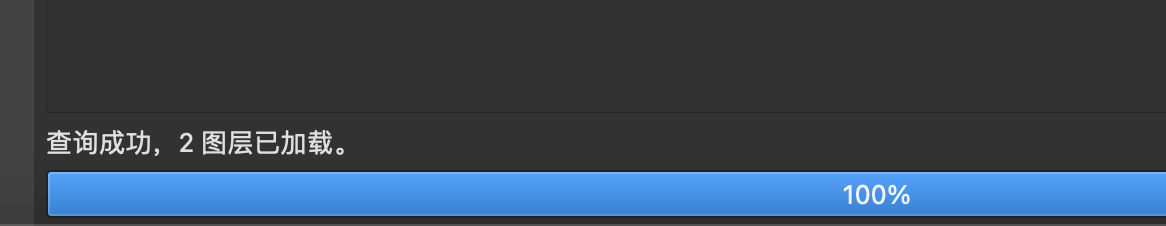
6、安装并使用插件QuickOSM



使用QuickOSM查询Doubs\_river

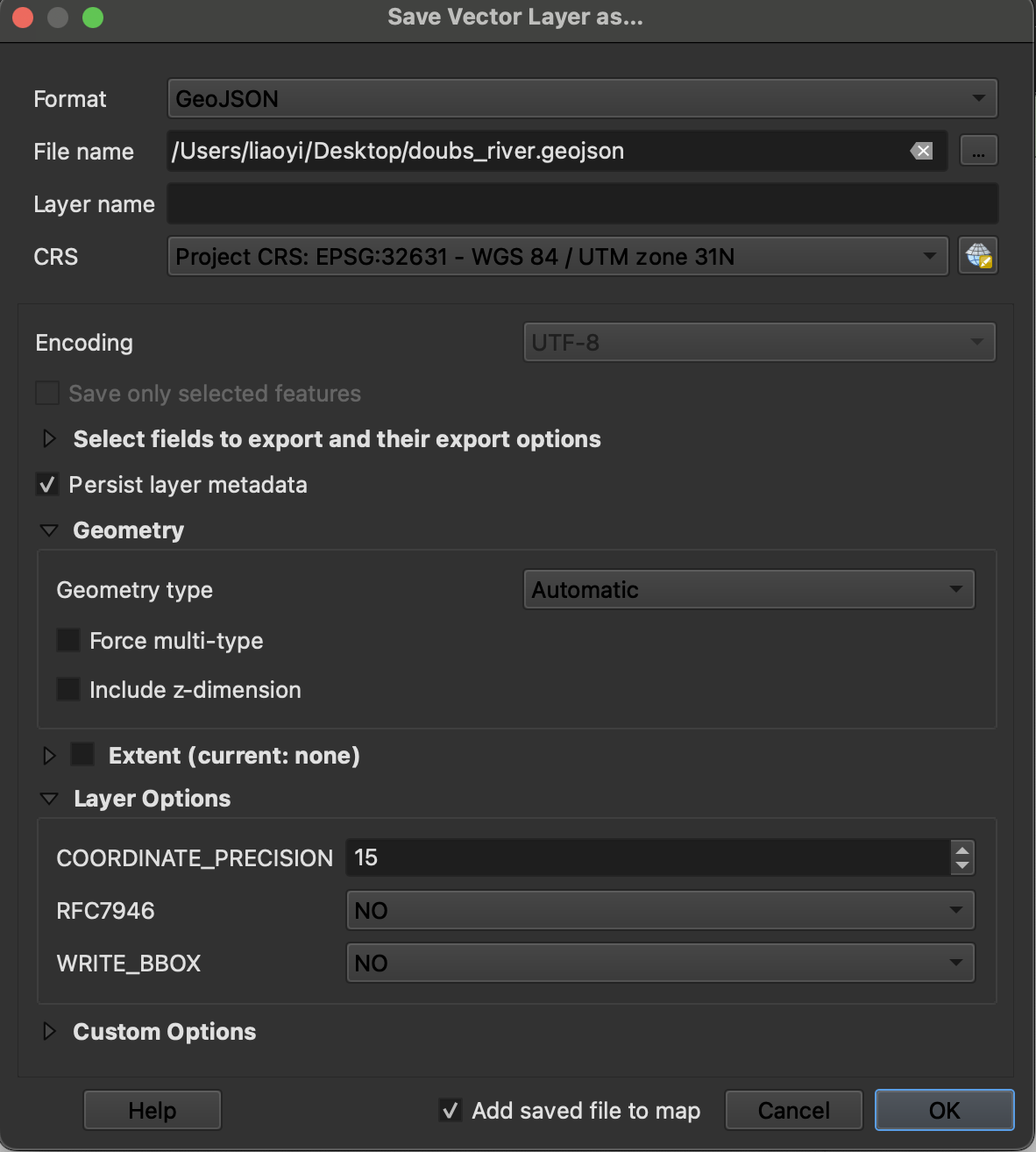


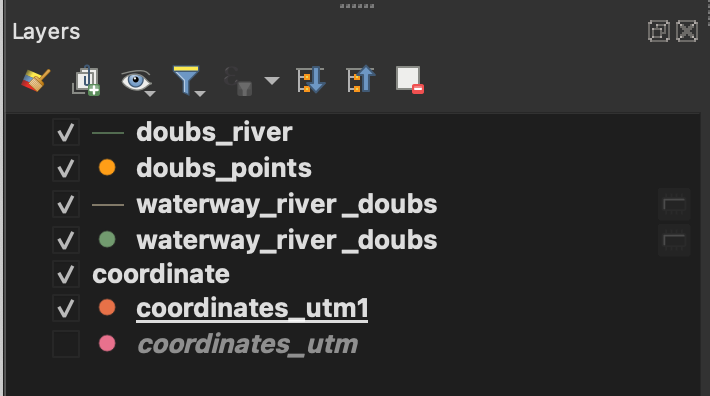
查询成功





将doubs\_river图层保存为geojson格式

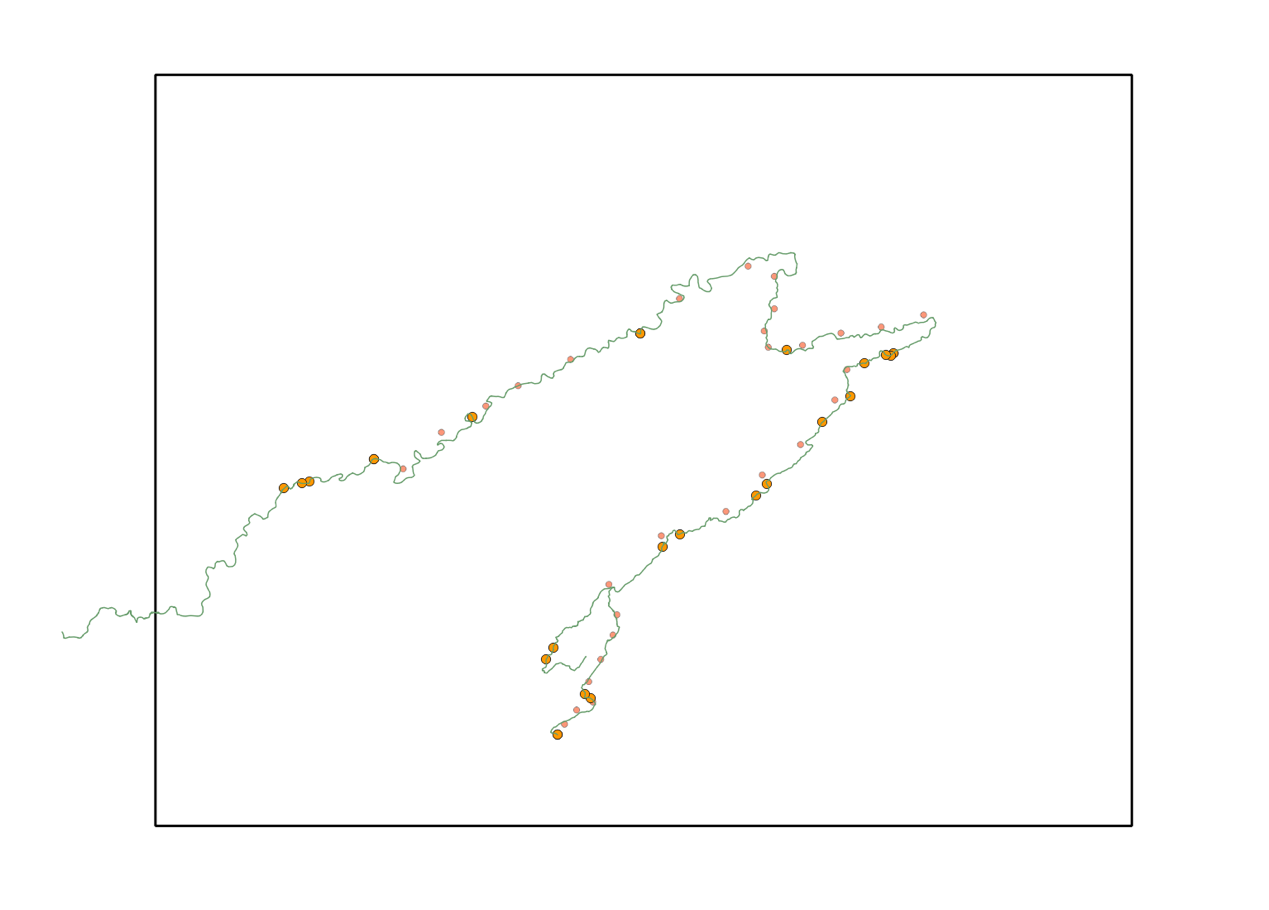




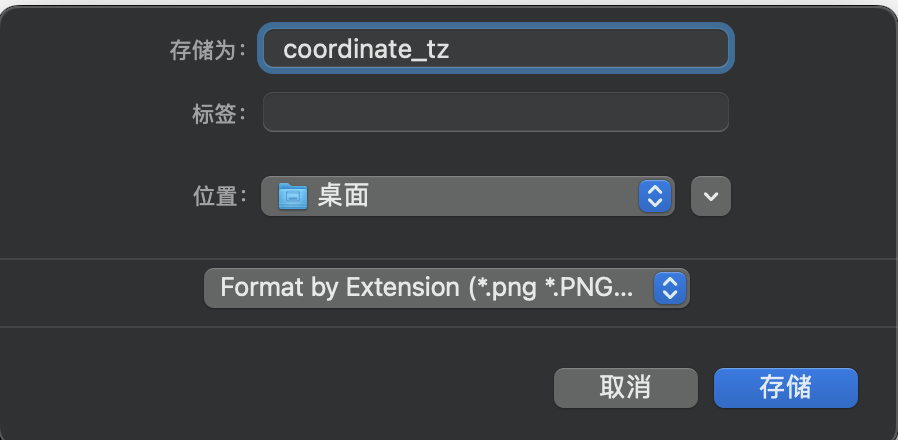
7、使用Freehand raster georeference工具调整“coordinate”图像与实际doubs\_river重合



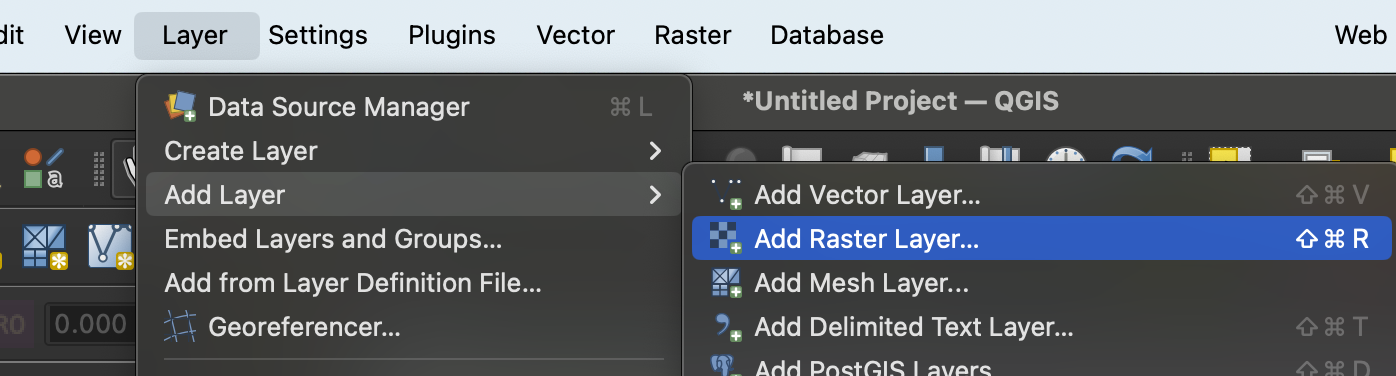
调整至基本将点压在doubs\_river上



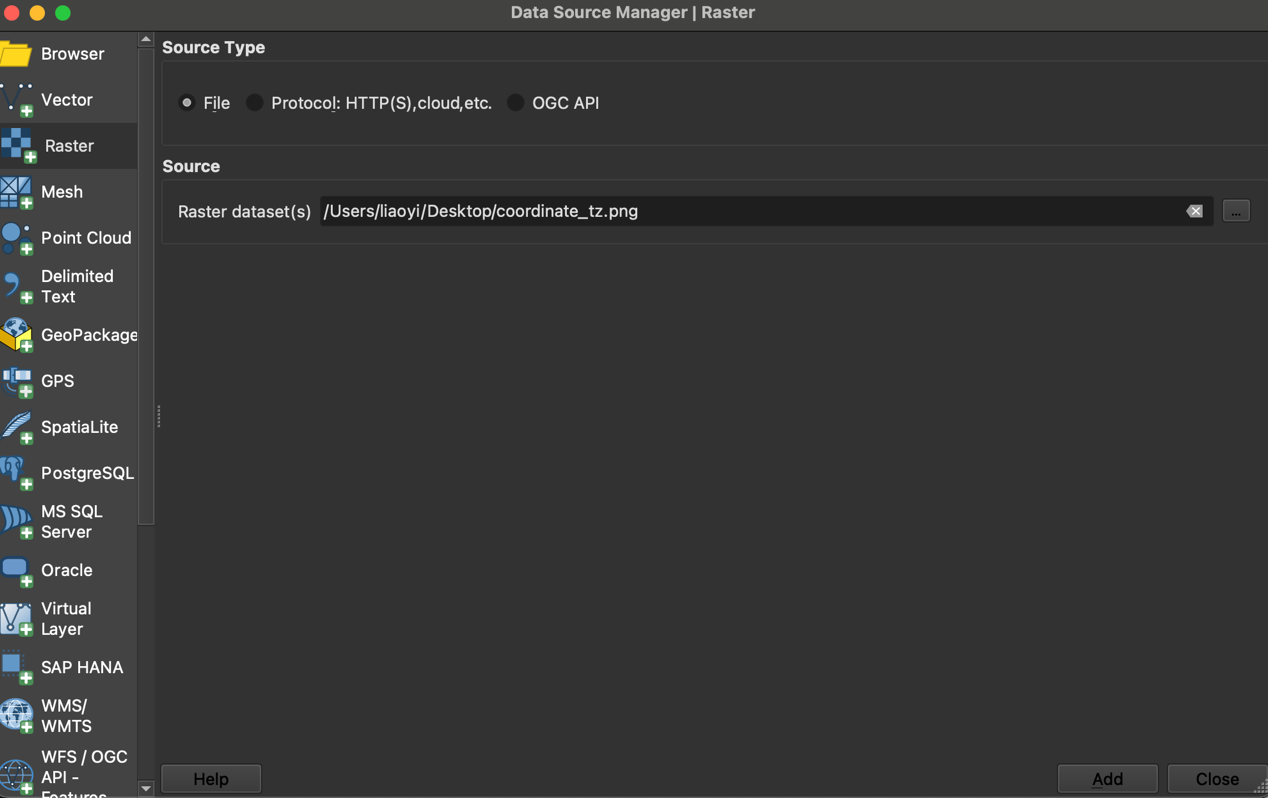
将调整好的图像保存为“coordinate\_tz”，之后用于创建点的地理坐标



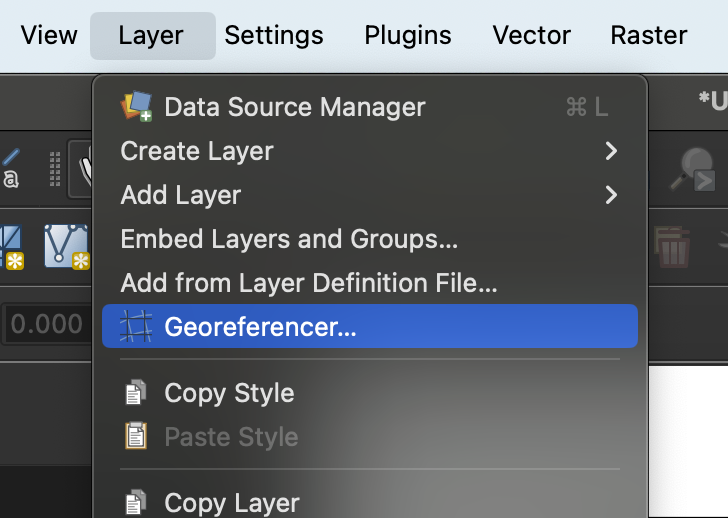
8、创建栅格文件

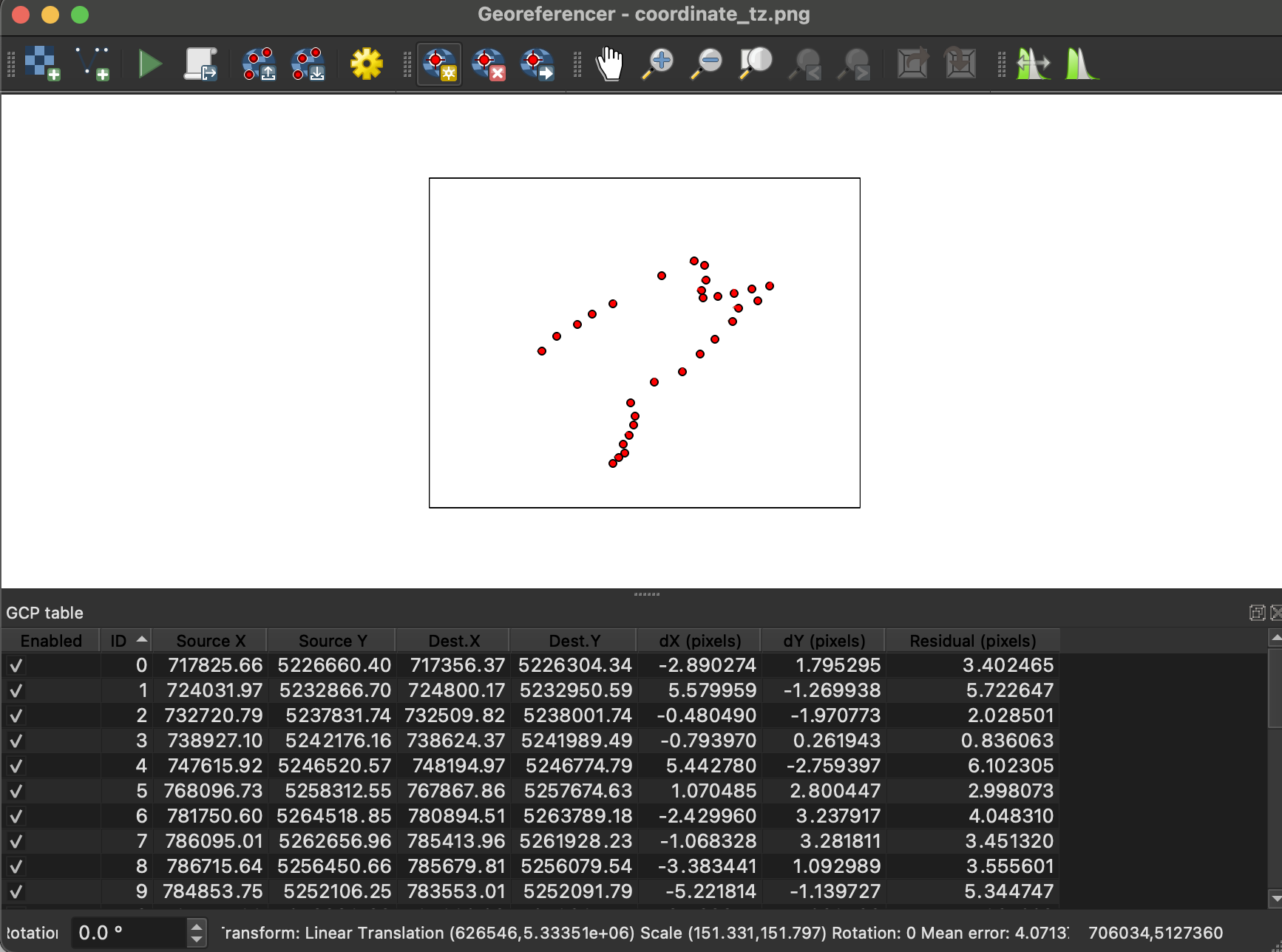


导入“coordinate\_tz”图像

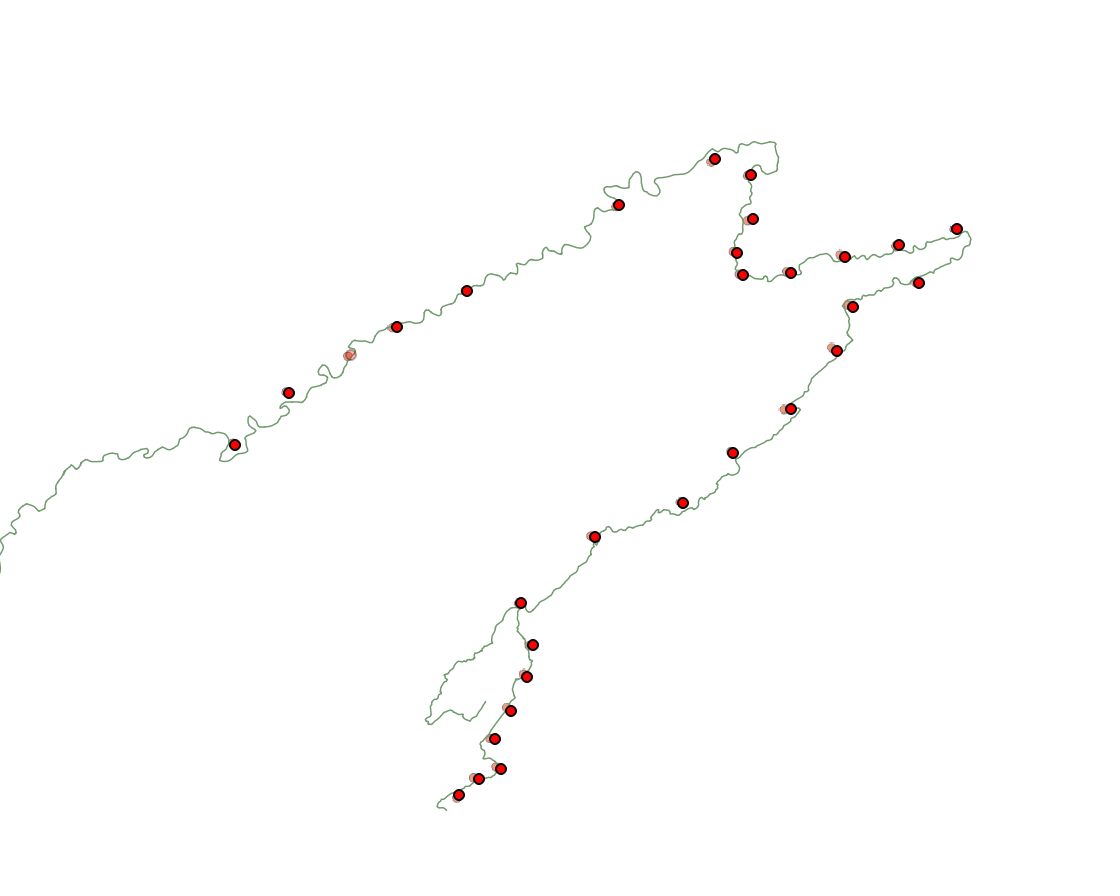


9、使用Georeferencer进行配准，获取30个采样点的地理坐标

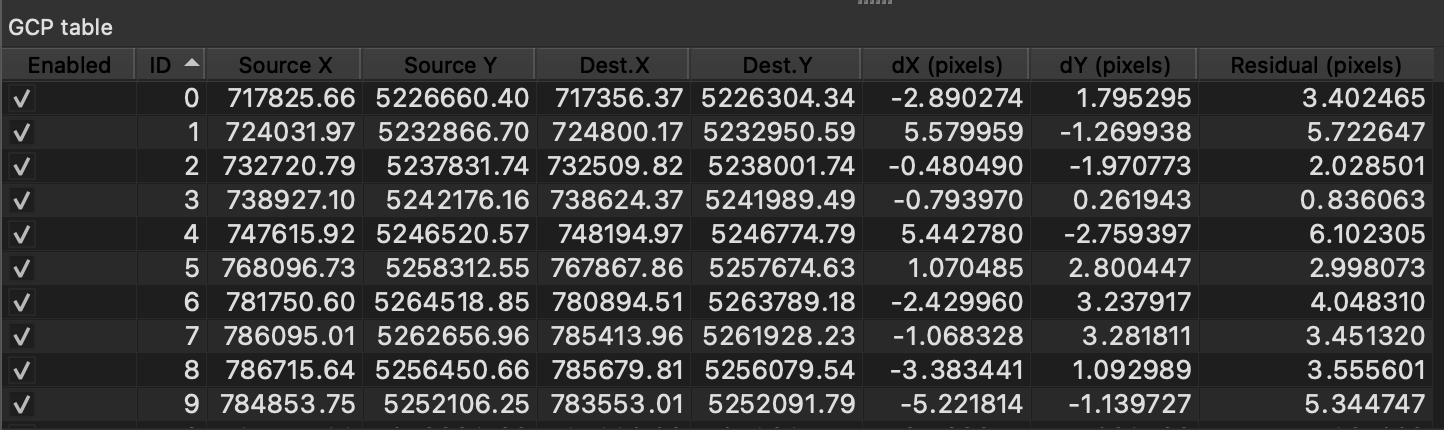


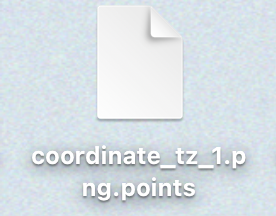
通过From Map Canvas在真实坐标系中确定采样点位置

从而获得ID：“0-29“30个采样点的地理信息

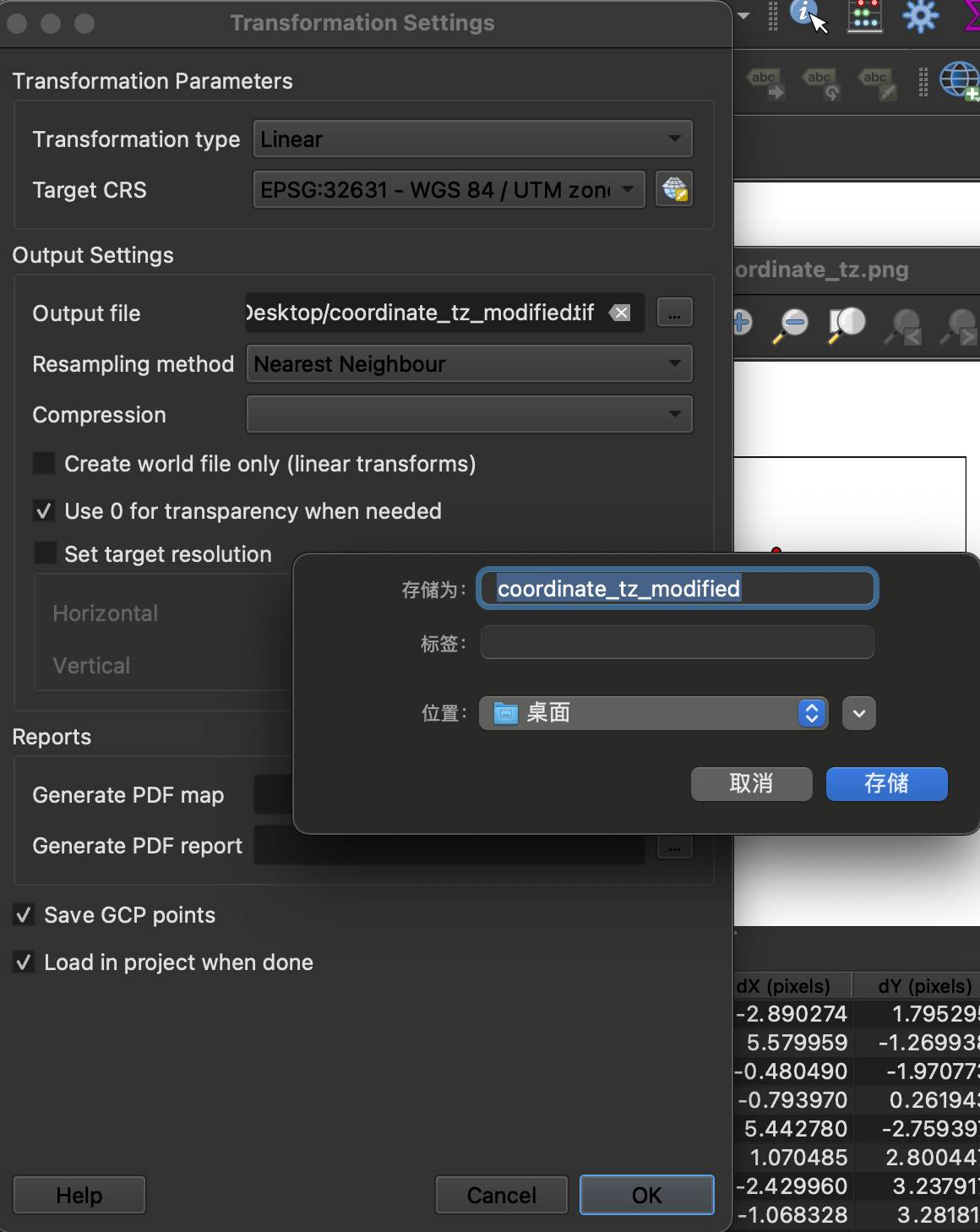


将获得的点的坐标另存为”coordinate\_tz\_1.png.points”文件

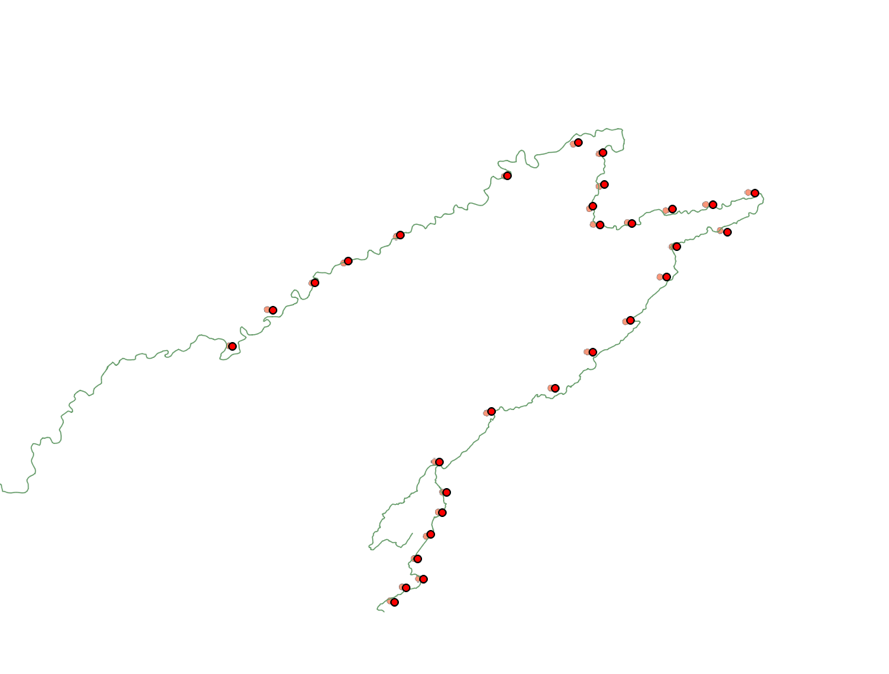




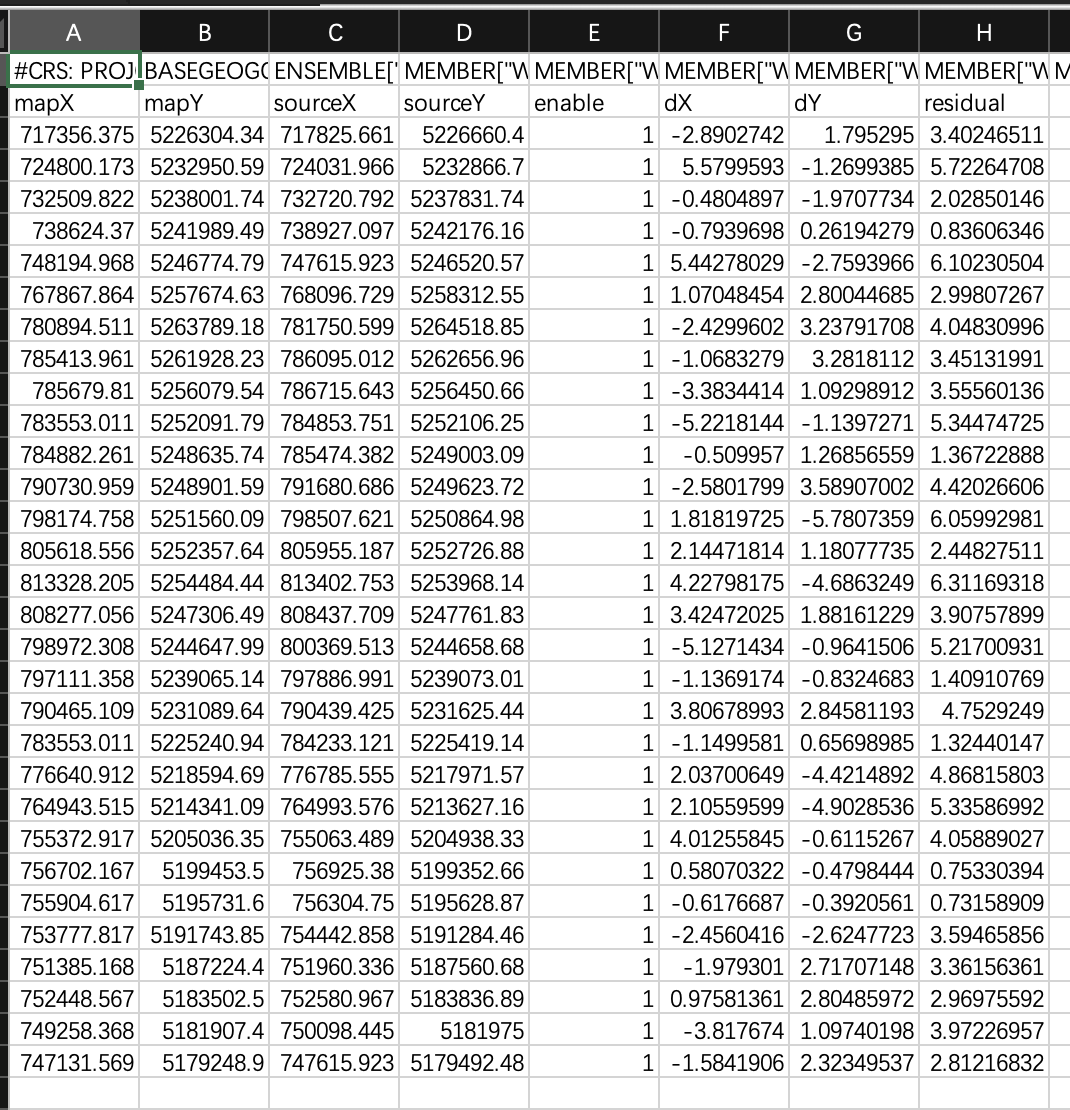
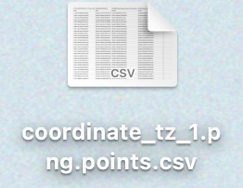
9、进行转换的参数设置，将获得的点坐标储存为“coordinate\_tz\_modified



查看“coordinate\_tz\_modified”配准情况

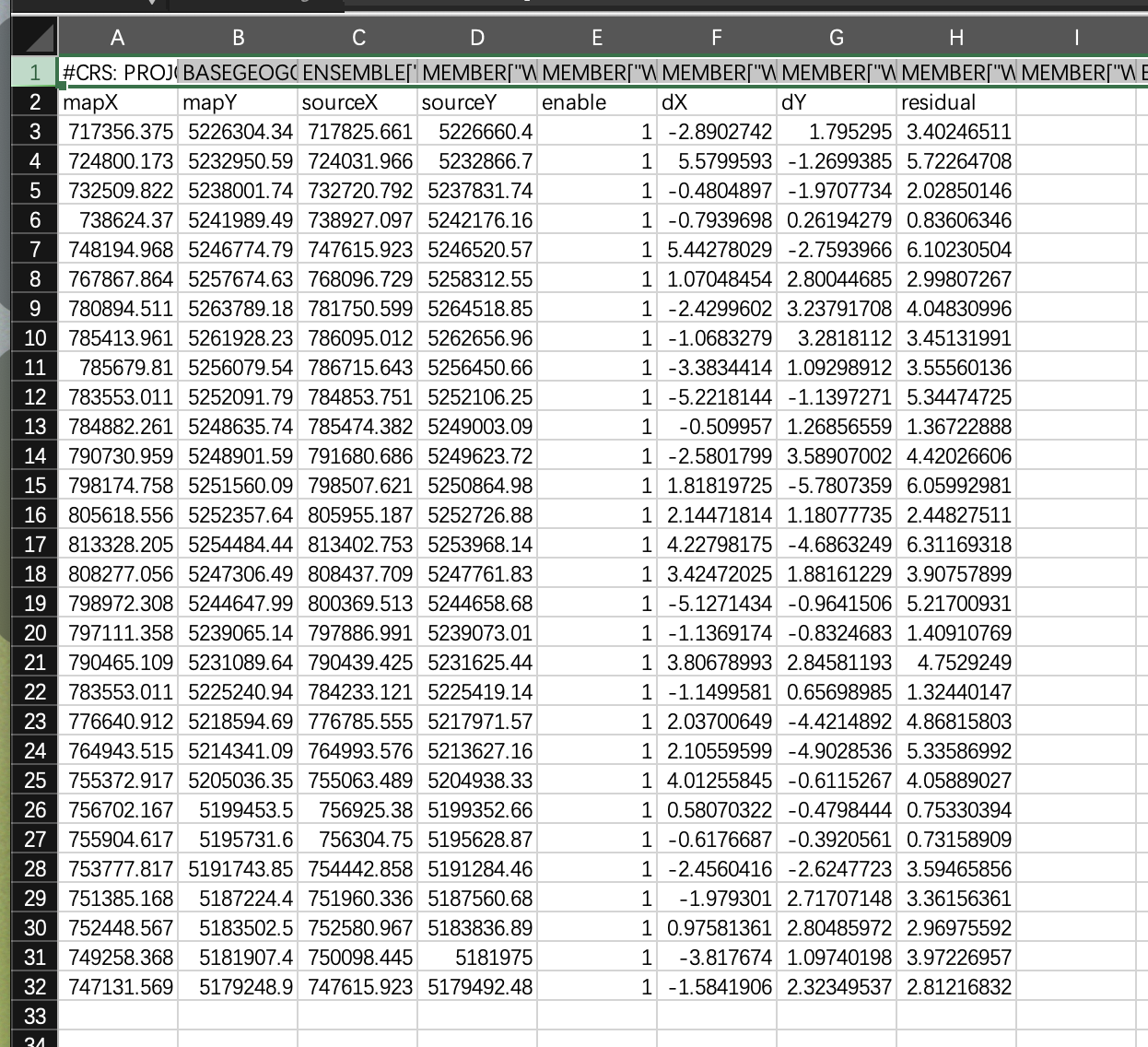


10、查看所获得的采样点数据，将文件名后缀改为.csv,及可用Excel表格打开查看

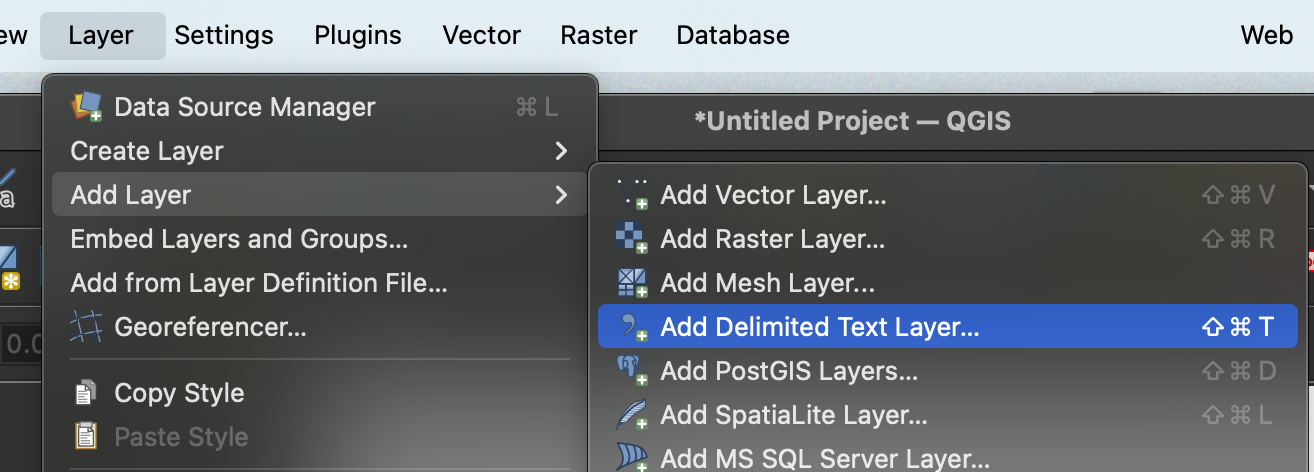


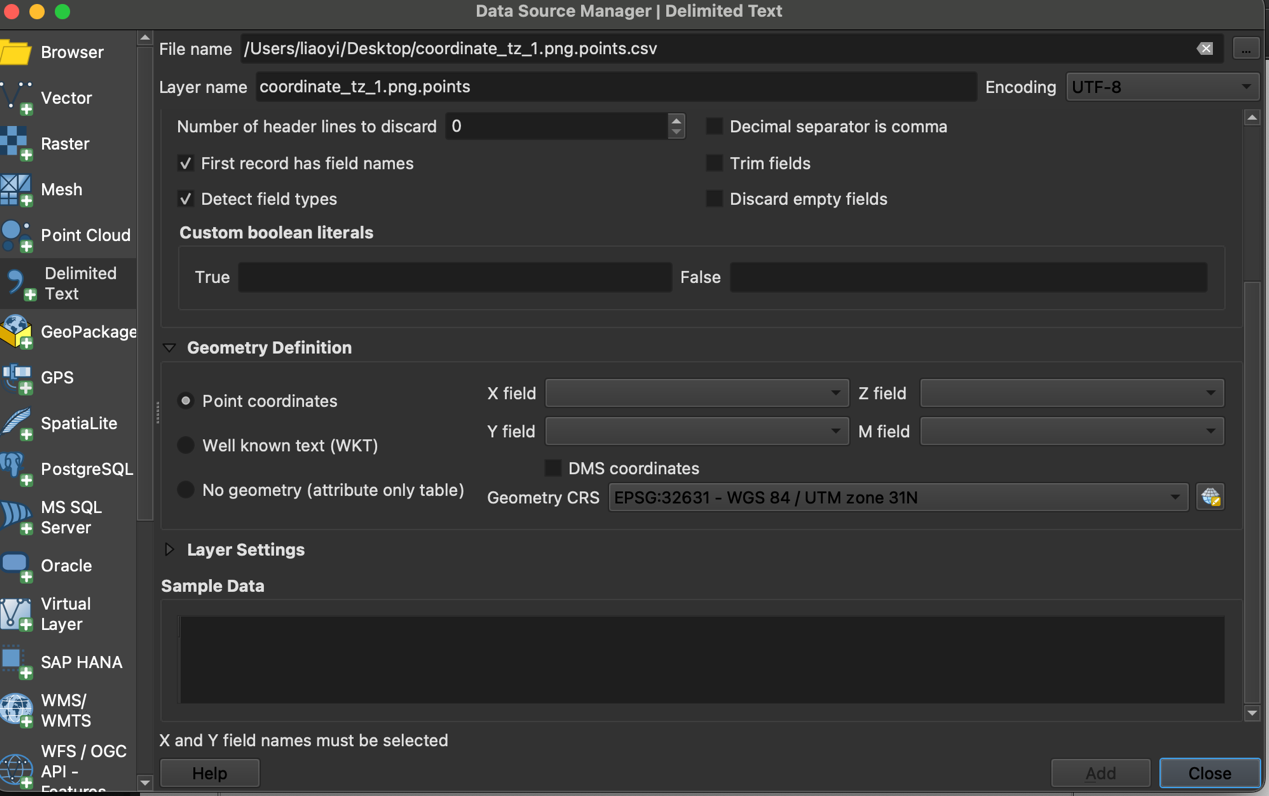
11、将所获得的\_csv文件导入QGIS

首先删除第一行数据

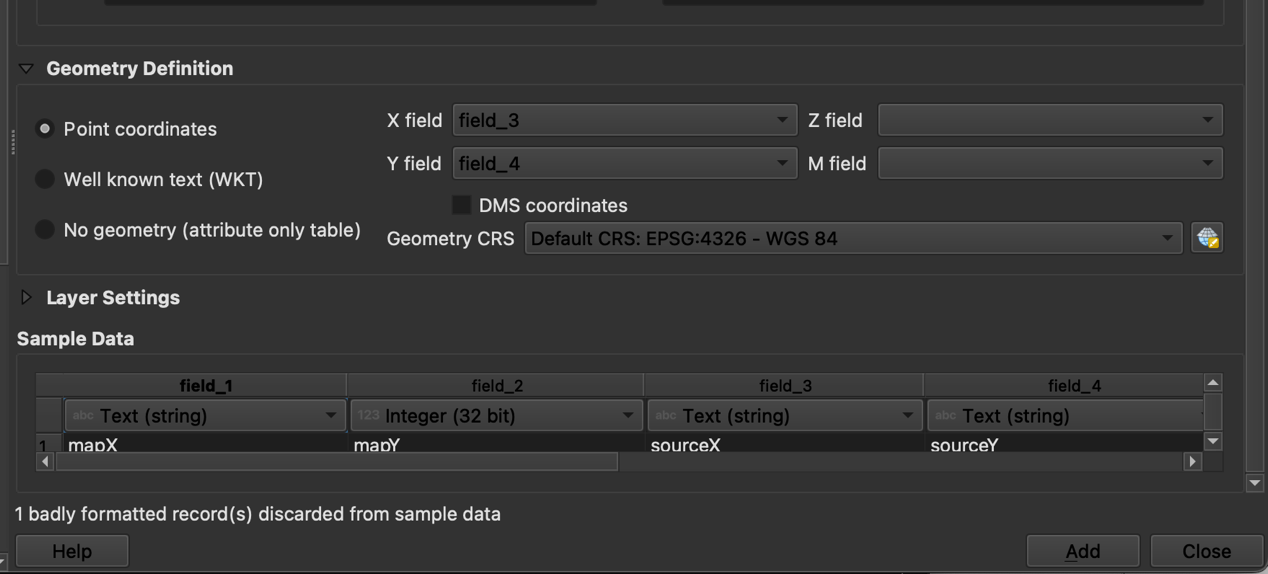


添加”coordinate\_tz\_1.png.points.csv”文件





设置x field和y field的取值，x field取sourceX，y field取source Y



检验生成的图形，发现与实际点相符合，工作完成。

