

Subject: Re: For Your information. I did it.

Date: Friday, 2 June 2017 14:27:30 Australian Eastern Standard Time

From: Warren Lewington

To: Adela Sobotkova

Thanks for the heads up on the GCP pegs. Closer inspection of the overlaid map in QGIS, which I'll show you on Monday, demonstrates it is absolutely clear that you need a large number of GCP pegs for accuracy. You're right, you can see it when there are too few pegs!

The good thing with this load is that I can clearly see where I need to lay GCP pegs down on a raster file, and places that seem to require more attention. My first 23 pegs would have nailed it, but may not have shown up errors. Pity I was on the wrong CRS projection first time ...

Now the GCP table is the one question I cannot answer. I'll have a look at that. As I interpreted it – the error message and the view of the UI, and experience, makes it 'look' like a bug. We'll explore that on Monday please?

Thanks for your faith – although I knew I could do it! Your support on last Monday was the key. Thanks again.

Regards;

Warren Lewington
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From: Adela Sobotkova <adela@fedarch.org>

Date: Friday, 2 June 2017 14:12

To: Warren Lewington <wjlewington@bigpond.com>

Cc: Brian Ballsun-Stanton <brian@fedarch.org>, Kerrie Leech <Kerrie.Leech@awm.gov.au>

Subject: Re: For Your information. I did it.

Hi Warren,

three cheers on your progress. Two notes:

> Error seems to move in as GCP points become more distributed across the raster – simply I guess it shows the maths is not proportional even at this small level, and closely-placed GCPs appear to be important

- you can peg a raster to a digital reference in 4 points. However, only once you get more GCPs on the map will the software be able to calculate error with any accuracy. With 4 GCPs the software cannot know what's good and what's a bad point.

> My GCP table from my first attempt appeared to load, but was not read by the georeferencing routine -How did you save your 'GCP table from the first attempt'? (If you did not save, you probably only saw the 'artefacts' of the first attempt.)

cheers,

Adela

Dr Adela Sobotkova

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On Fri, Jun 2, 2017 at 2:06 PM, Warren Lewington <wjlewington@bigpond.com> wrote:

Hi all. For general interest.

I have actually managed to get a map section into QGIS, and I can explain how I did it on my second attempt! Ad infinitum if you would like...

My first attempt failed because I used the Lisboa_Bessel_Bonne | EPSG:102163 CRS conversion. There are three Bonne CRS choices – so it was a systematic try each until I found something successful.

Refer to Technical logs:

<https://github.com/Dapscoptyltd/QGIS/issues/11>

<https://github.com/Dapscoptyltd/QGIS/issues/10>

Kerrie: For you and your colleagues, the map section is drawn from AWM resource: RCDIG1014546.pdf.

- My preparation of this file is described in the 'issues/10' link.
- Using the roads appear to be the way forward for reference points.

Adela: I used these successful settings:

Target EPSG:3395 WGS 84 / World Mercator.

I used the source EPSG to be: EPSG:53024 Bonne Sphere.

Brian and Adela: I found what I think could be a bug in the GDAL Georeferencer which I will further investigate and report if necessary.

- My GCP table from my first attempt appeared to load, but was not read by the georeferencing routine.
- I had to create a new GCP table – but I only used 6 points on the second attempt. (I noted various forum posts, and all the tutorials suggest you can use as few as four. I noted and can see from this exercise Adela's suggestion to use as many as you can is better.
- Error seems to move in as GCP points become more distributed across the raster – simply I guess it shows the maths is not proportional even at this small level, and closely-placed GCPs appear to be important.

I have also found two very useful resources (Deakin, R. conference presentation; and Warren, R. Blog post) about coordinate references in British and Australian mapping. The Deakin paper discusses all of the mathematical process to create a CRS relevant to the Belgian region, while the Warren paper discusses the intricacies of errors in the mapping grid referencing.

The British used yards while the original maps were metres and no conversion had been done.

Deakin's mathematical work apparently claims error reduction to a theoretical 1m for every 1km in 1:40,000 scale maps.

Having a better day!

Regards;

Warren Lewington

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