Subject: Map_Set verses Map_Proj_Init in Mercator Projections
Posted by David Fanning on Tue, 02 Oct 2012 12:51:33 GMT

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Folks,

I spent an interesting couple of hours yesterday
tracking down a map problem. We have been studying
the High Park Fire, which burned a significant chunk
of our normal recreational hiking area near here
this summer. As part of our work, we needed to send
students out to collect ground truth at various
locations in the fire area.

As an aid to the students, I wrote a program that
produced satellite and terrain maps with my
cgGoogleMapWidget program, which I then annotated
with the random study locations.

The problem was, when the students were out in the
field, searching for the location with their GPS
instruments, the students were not finding the maps
all that handy. In fact, they were being confused
by them. It seems that the position on the map
was quite a bit different from the actual position
on the ground (on the order of several hundred meters).

Long story short, this turned out to be caused by
the program using Map_Set to set up the Mercator
map projection I was using to navigate the Google
image. When I switched to Map_Proj_Init, the map
and the ground coordinates aligned exactly.

I'm not certain *why* this program was using Map_Set
in the first place, since I have a firm rule to always
use Map_Proj_Init (via my cgMap object) when I am
working with maps, but I suspect it was because
I needed this program in a hurry, and Map_Set seemed
"easier" at the time. I should have known better. :-)

Cheers,

David

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