
Subject: Re: Precision Problem

Posted by [Paul Van Delst\[1\]](#) on Mon, 24 Jul 2006 19:33:03 GMT

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Bruce Bowler wrote:

> On Mon, 24 Jul 2006 09:51:40 -0700, DMac put fingers to keyboard and said:

>

>

>> shapefile. The X coordinates are fine. The X coordinates are 6 digits

>> to the left of the decimal place while the Y coordinates are 7 digits

>> to the left of the decimal place

>

>

> As Paul pointed out, you're getting single precision rather than double

> precision.

>

> Are the 6 and 7 digits before or after the conversion? If after, the

> problems are both related as 7 digits is typically the limit of the number

> of significant digits in a SP number (I think :-). The range is

> $10^{(+/-)38}$, but # of significant digits is much less.

Ah, yeah. I misunderstood the explanation and totally missed the 6-7 digit clue there. I thought the y-values were just integers, no decimals at all.

You're correct. If you want more than 6/7 decimal place precision, you need double (at least, for it to be meaningful):

```
IDL> x=10000000.0
```

```
IDL> print, x, format='(f12.2)'
```

```
10000000.00
```

```
IDL> x=x+0.1
```

```
IDL> print, x, format='(f12.2)'
```

```
10000000.00
```

```
IDL> x=10000000.0d
```

```
IDL> print, x, format='(f12.2)'
```

```
10000000.00
```

```
IDL> x=x+0.1d
```

```
IDL> print, x, format='(f12.2)'
```

```
10000000.10
```

paulv

--

Paul van Delst Ride lots.

CIMSS @ NOAA/NCEP/EMC

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