Subject: Re: Divide the world into hexagons
Posted by Kenneth P. Bowman on Mon, 18 Oct 2010 16:02:31 GMT
View Forum Message <> Reply to Message

In article
<3493fa57-c263-4cdb-a375-8f06146cd67c@42g2000prt.googlegroups.com>,
 Ed Hyer <ejhyer@gmail.com> wrote:

> I recall reading a paper some time back where the rectangular lat/lon
> grid was replaced with a hexagonal grid, whose polygons did not change
> size with distance from the poles. Does anyone know where there might
> be some code to create these grids? Not thinking specifically of
> graphics, although any routine that could generate the graphical part
> could also do the part I'm interested in.
>
> Any leads welcome,
>
> --Edward H.

There are a number of global meteorological models that use a
grid based on an icosahedron, which has 20 faces, each face is an
identical equilateral triangle.

Try googling "icosahedral atmospheric model", e.g.,

  http://www.wrfportal.org/CIRA-Magazine-GIMTool.pdf

Note that the resulting grid is not perfectly uniform. Most cells
are hexagons. Some cells near the vertices of the original
icosahedron are pentagons. Also, it is not possible to make the
hexagons complete regular, but they are close.

Ken Bowman

Subject: Re: Divide the world into hexagons
Posted by MarioIncandenza on Mon, 18 Oct 2010 17:33:57 GMT
View Forum Message <> Reply to Message

Thanks Ken!

Looks like there's some relevant code out there in MATLAB:

 http://people.sc.fsu.edu/~jburkardt/m_src/sphere_grid/sphere _grid.html

But still a lot of work to turn that into even a rudimentary Earth
coordinate system.

What I am actually hoping to get out of this is a cheap way to bin observations into equal-size areas across the globe. This does not require a full geoid or other complications.

--Edward H.

On Oct 18, 9:02 am, "Kenneth P. Bowman" <k-bow...@null.edu> wrote:
> In article
> < 3493fa57-c263-4cdb-a375-8f06146cd...@42g2000prt.googlegroups .com >,
> Ed Hyer <ejh...@gmail.com> wrote:
>
>> I recall reading a paper some time back where the rectangular lat/lon
>> grid was replaced with a hexagonal grid, whose polygons did not change
>> size with distance from the poles. Does anyone know where there might
>> be some code to create these grids? Not thinking specifically of
>> graphics, although any routine that could generate the graphical part
>> could also do the part I'm interested in.
>
>> Any leads welcome,
>
>> --Edward H.
>
> There are a number of global meteorological models that use a
> grid based on an icosahedron, which has 20 faces, each face is an
> identical equilateral triangle.
>
> Try googling "icosahedral atmospheric model", e.g.,
>
> http://www.wrfportal.org/CIRA-Magazine-GIMTool.pdf
>
> Note that the resulting grid is not perfectly uniform. Most cells
> are hexagons. Some cells near the vertices of the original
> icosahedron are pentagons. Also, it is not possible to make the
> hexagons complete regular, but they are close.
>
> Ken Bowman

Subject: Re: Divide the world into hexagons
Posted by jkeller on Tue, 19 Oct 2010 08:18:28 GMT
View Forum Message <> Reply to Message

On Oct 18, 7:33 pm, Ed Hyer <ejh...@gmail.com> wrote:
> Thanks Ken!
>
> Looks like there's some relevant code out there in MATLAB:
>
> http://people.sc.fsu.edu/~jburkardt/m_src/sphere_grid/sphere _grid.html

>
> But still a lot of work to turn that into even a rudimentary Earth
> coordinate system.
>
> What I am actually hoping to get out of this is a cheap way to bin
> observations into equal-size areas across the globe. This does not
> require a full geoid or other complications.
>
> --Edward H.
>

A while back I wrote IDL code to plot such a grid. If you are
interested I could send you a copy.

Sincerely,
Jan

Subject: Re: Divide the world into hexagons
Posted by chnicoloso on Tue, 15 Nov 2016 04:50:32 GMT
View Forum Message <> Reply to Message

On Tuesday, October 19, 2010 at 1:18:28 AM UTC-7, jkeller wrote:
> On Oct 18, 7:33 pm, Ed Hyer <ejh...@gmail.com> wrote:
>> Thanks Ken!
>>
>> Looks like there's some relevant code out there in MATLAB:
>>
>> http://people.sc.fsu.edu/~jburkardt/m_src/sphere_grid/sphere _grid.html
>>
>> But still a lot of work to turn that into even a rudimentary Earth
>> coordinate system.
>>
>> What I am actually hoping to get out of this is a cheap way to bin
>> observations into equal-size areas across the globe. This does not
>> require a full geoid or other complications.
>>
>> --Edward H.
>>
>
> A while back I wrote IDL code to plot such a grid. If you are
> interested I could send you a copy.
>
> Sincerely,
> Jan

Hello!

I came across your post. Would you be able to send me a copy as well?

Thank you!
Best,
Christian