Crayfish - View, animate and analyse model outputs in QGIS

Lutra CONSULTING

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Outline I

Introduction

QGIS

Crayfish

- What is Crayfish?
- Supported formats
- Features

Introduction

Lutra Consulting

- Core QGIS developers
- General (GIS) software/web development
- Hydraulic modelling

Plan

Introduction

QGIS

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About QGIS

What is it and what can it do?

- Desktop, mobile and mapserver package:
  - It's free
  - It's Open Source
- QGIS can
  - View GI
  - Edit GI
  - Present and publish GI
  - Analyse GI
- QGIS is
  - Extensible (through plugins)

Supported formats/services

QGIS supports:

- Vector files:
  - ESRI Shapefile, Mapinfo MID/MIF or TAB, ESRI GDB, DXF,...
  - PostGIS, MS SQL, Oracle Spatial, ...
- Raster files:
  - TIF, PNG, ASCII, ECW, ESRI binary grid (HDR/ADF)
- OGC services
  - Web Mapping Service (WM(T)S)
  - Web Feature Service (WFS)
  - Web Processing Service (WPS, through plugin)

Editing/Digitizing

More options than CAD software!

- Numerical digitising
- Trace tool
- CAD tools

Cartography

Flexible styling

- Rule-based labelling and styling
- Advanced Print Composer
- Catalogue/Atlas generator

Processing

Analysis and Geo-Processing

- Over 600 modules
- Model builder
- Scripting

Plugins

Python plugins

- 100s of existing plugins
- Easy to develop

QGIS...

So...why QGIS?

- Why not?

Plan

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About Crayfish

- A C++/python QGIS plugin
- Reads temporal datasets
- Supports structured/unstructured mesh

Supported file formats

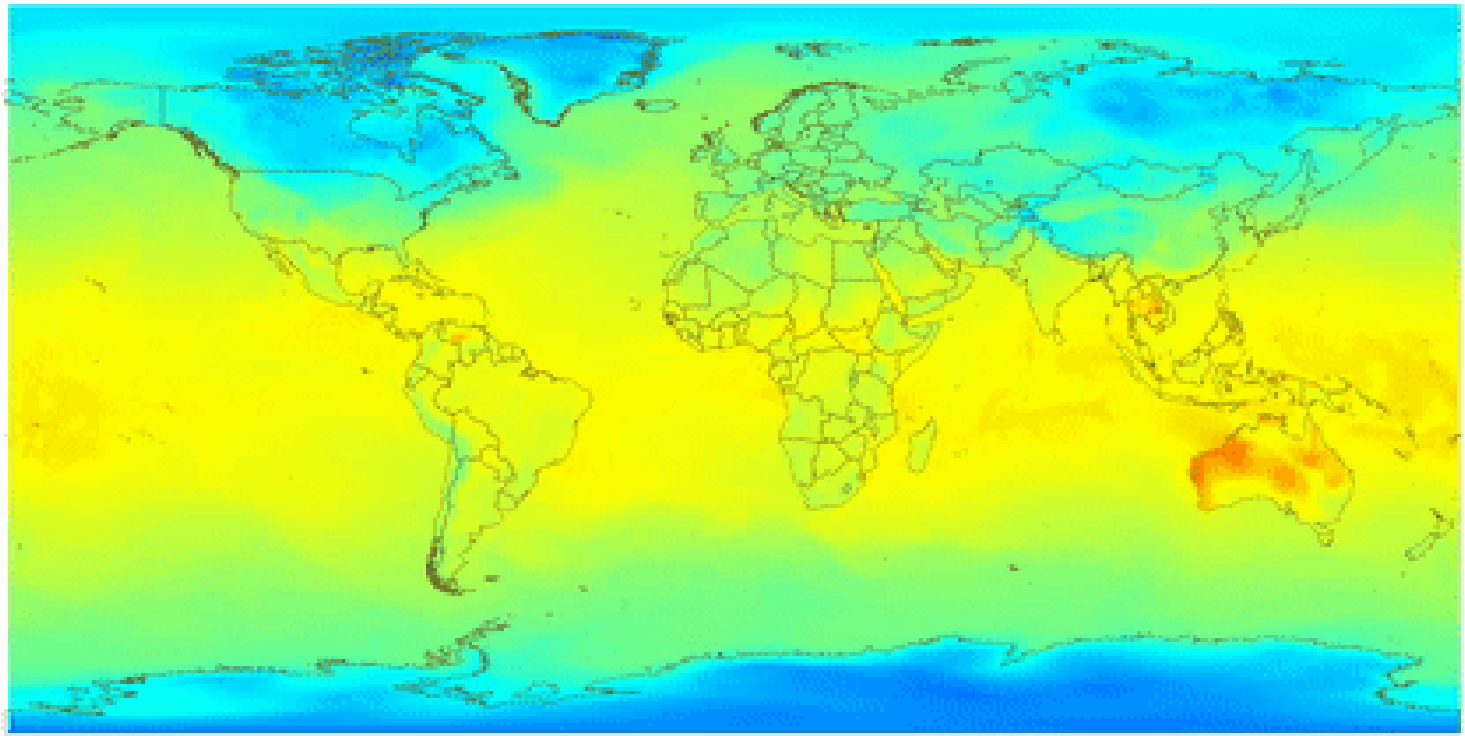
Hydraulic modelling packages:

- SMS (Map) Output binary and ASCII (.dat Files)
  - Hydro_AS-2D
  - BASEMENT
  - TUFLOW
  - Flood Modeller Pro 2D
- Selafin files
  - TELEMAC 2D
- SWW format
  - AnuGA
- HDF format
  - Hec RAS 2D
  - TUFLOW (xmdf: based on HDF5)

Supported file formats

Others(for used for metereology and oceanography):

- NetCDF format
- Gridded Binary (GRIB)



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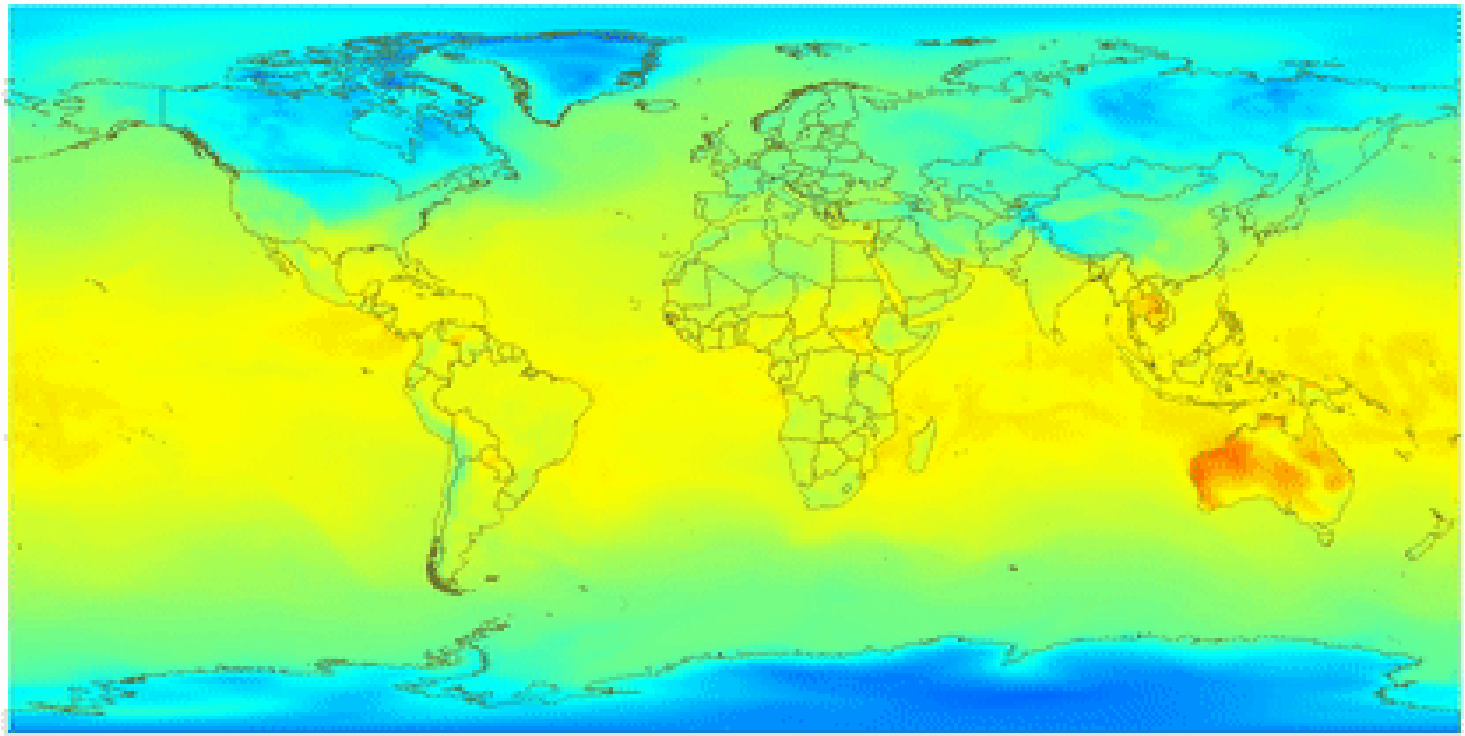

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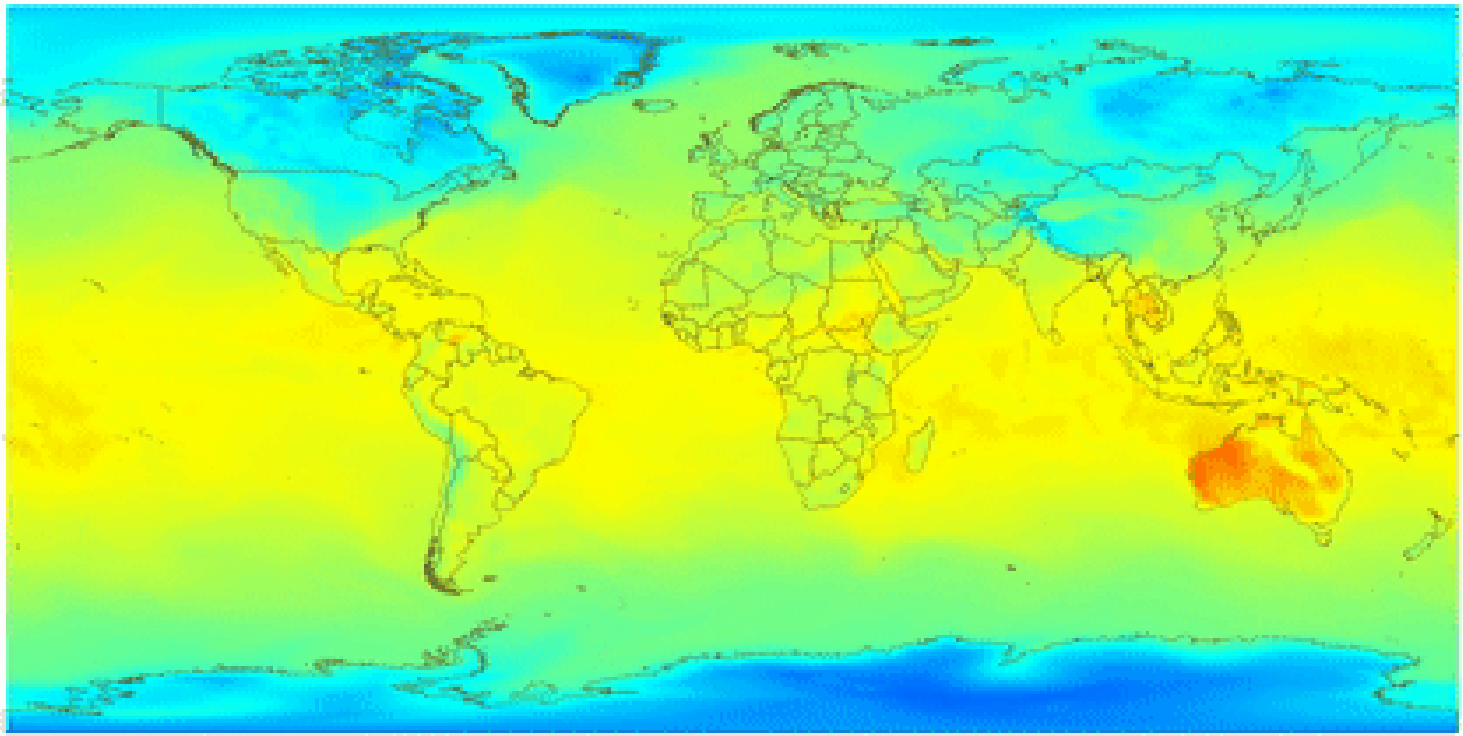

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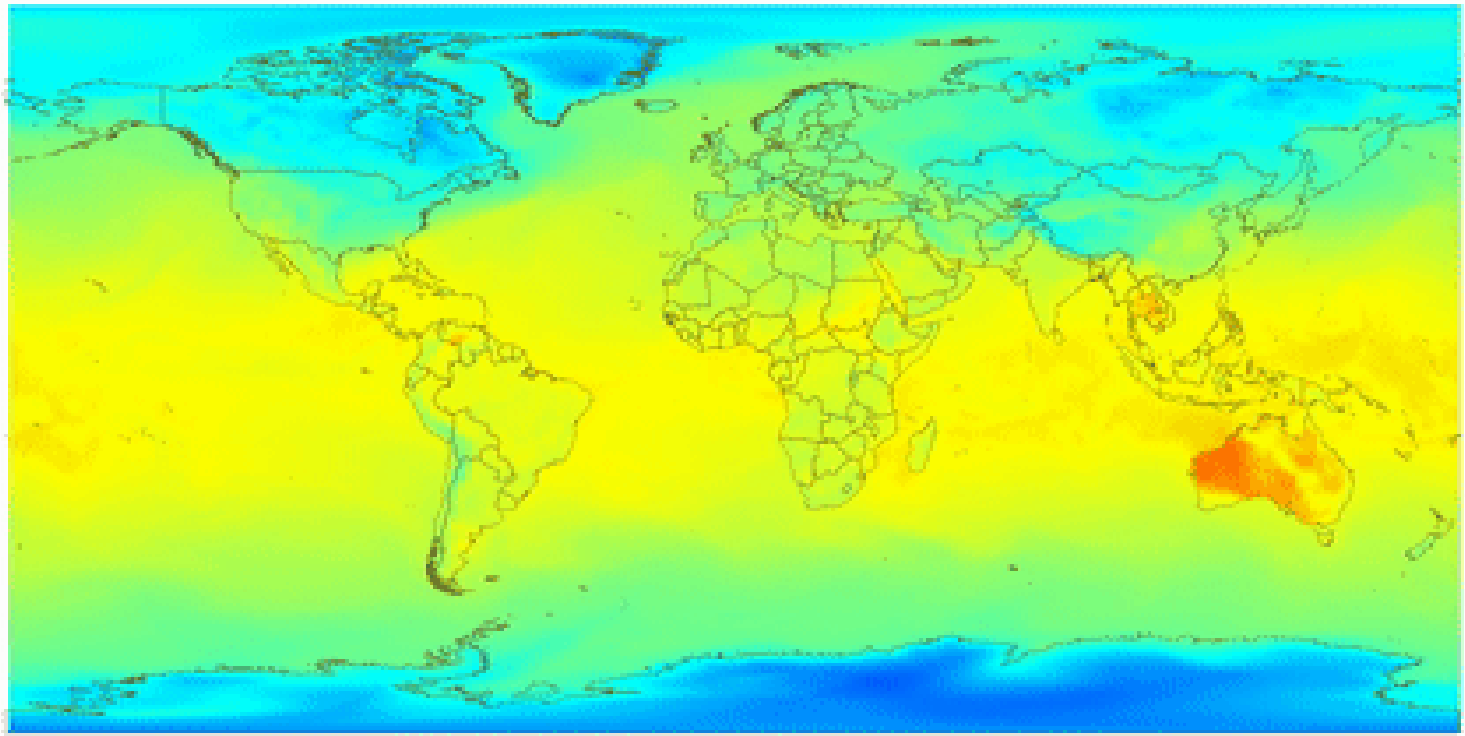

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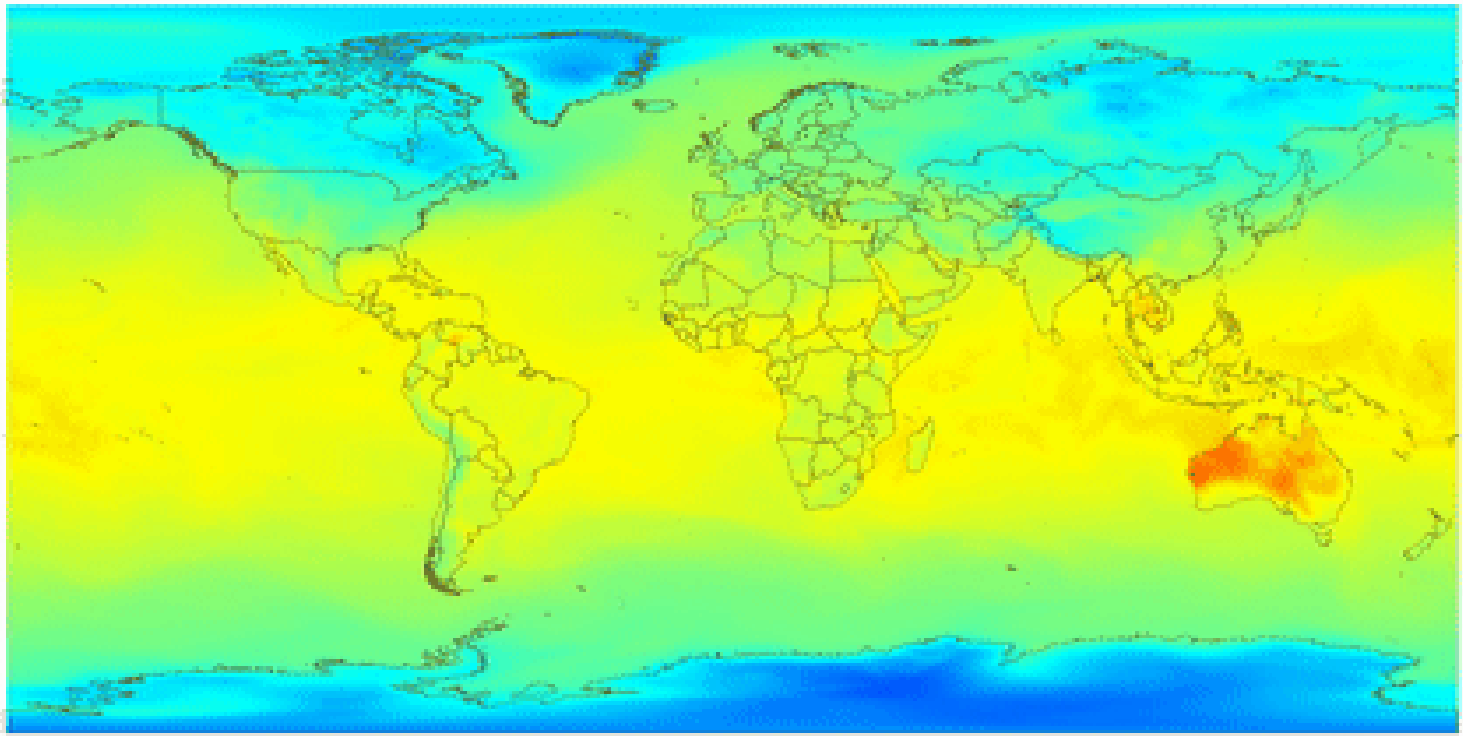

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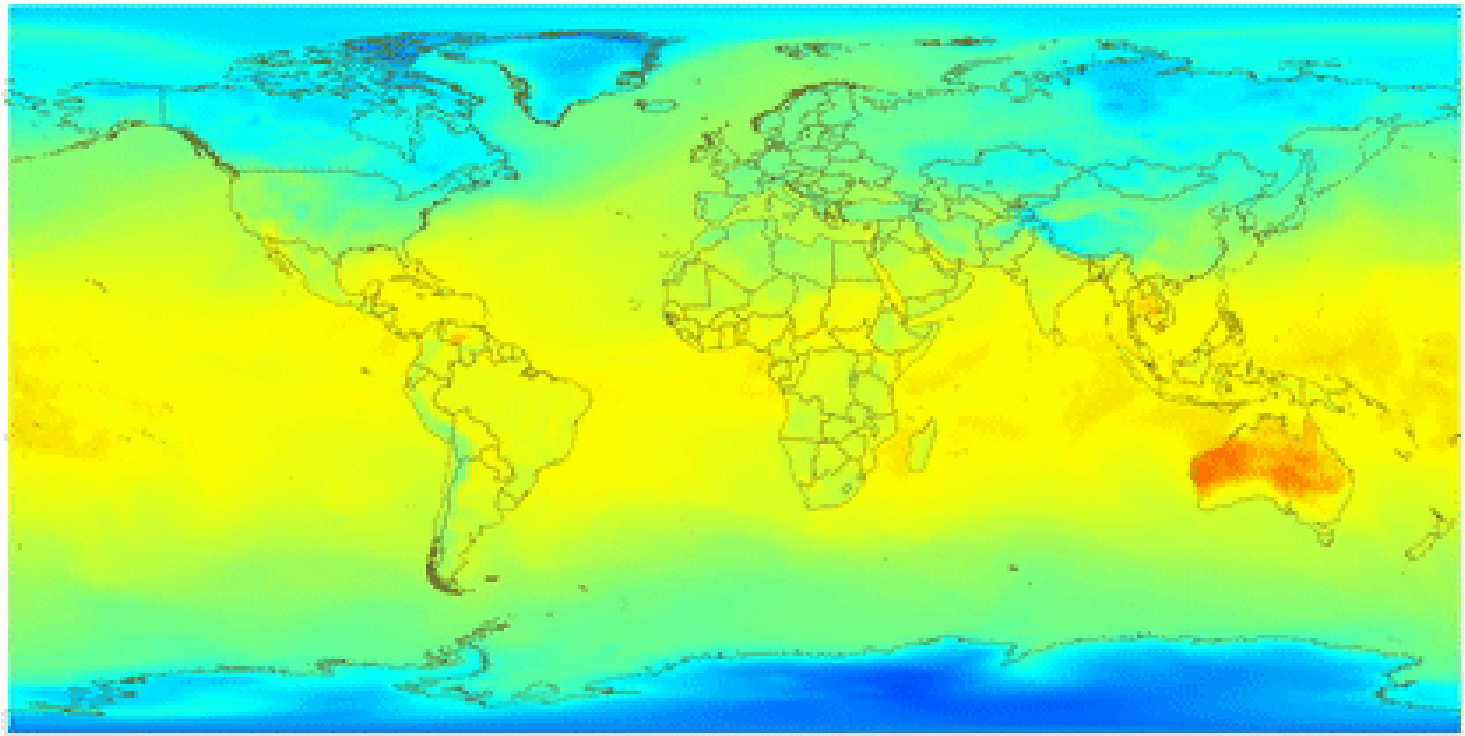

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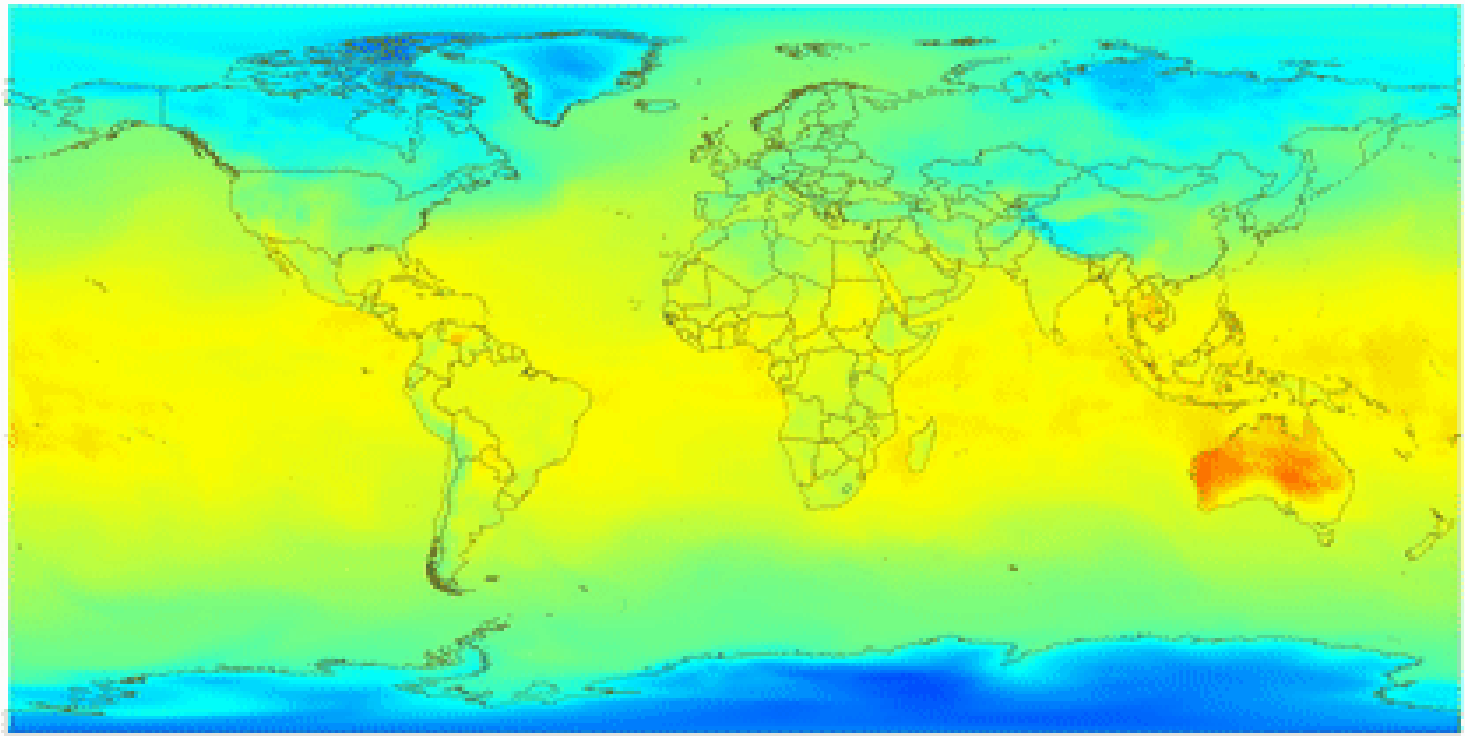

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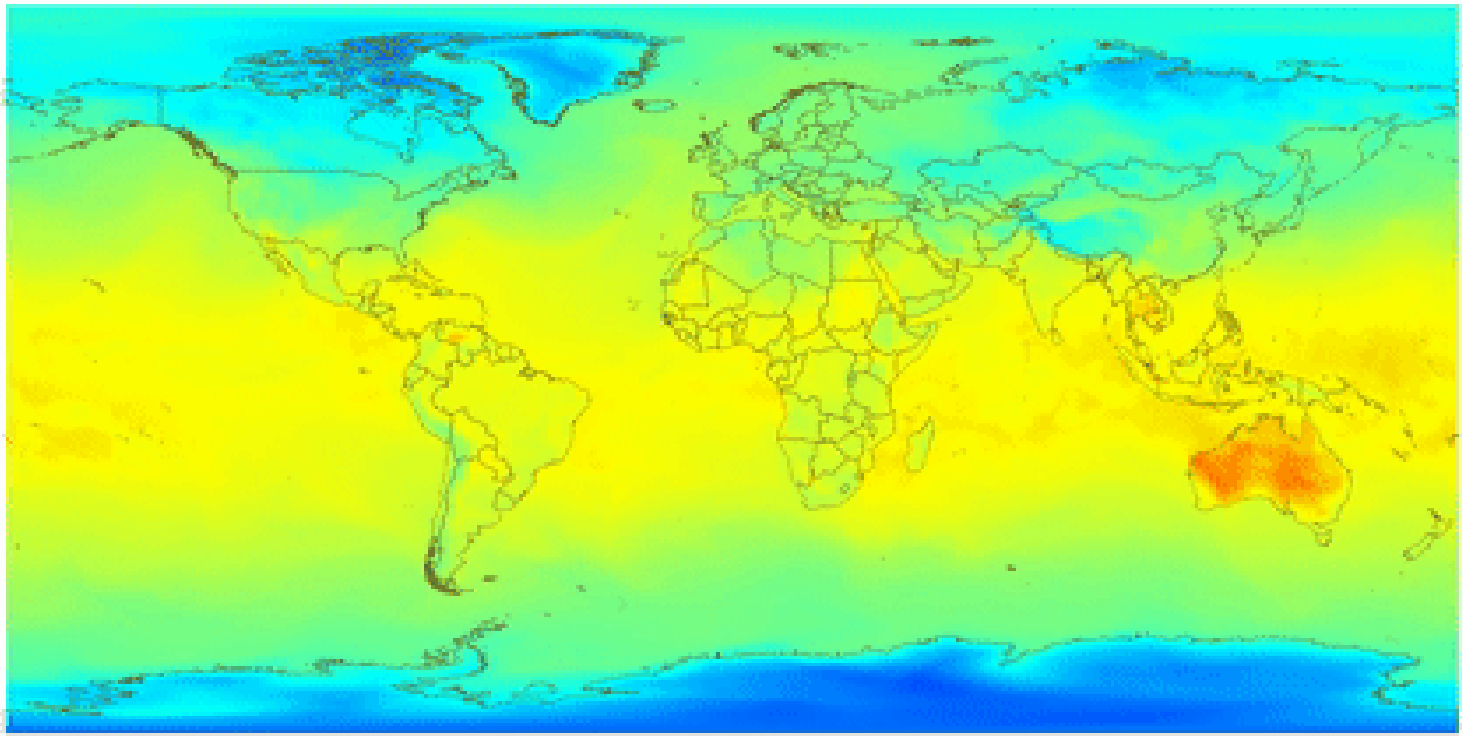

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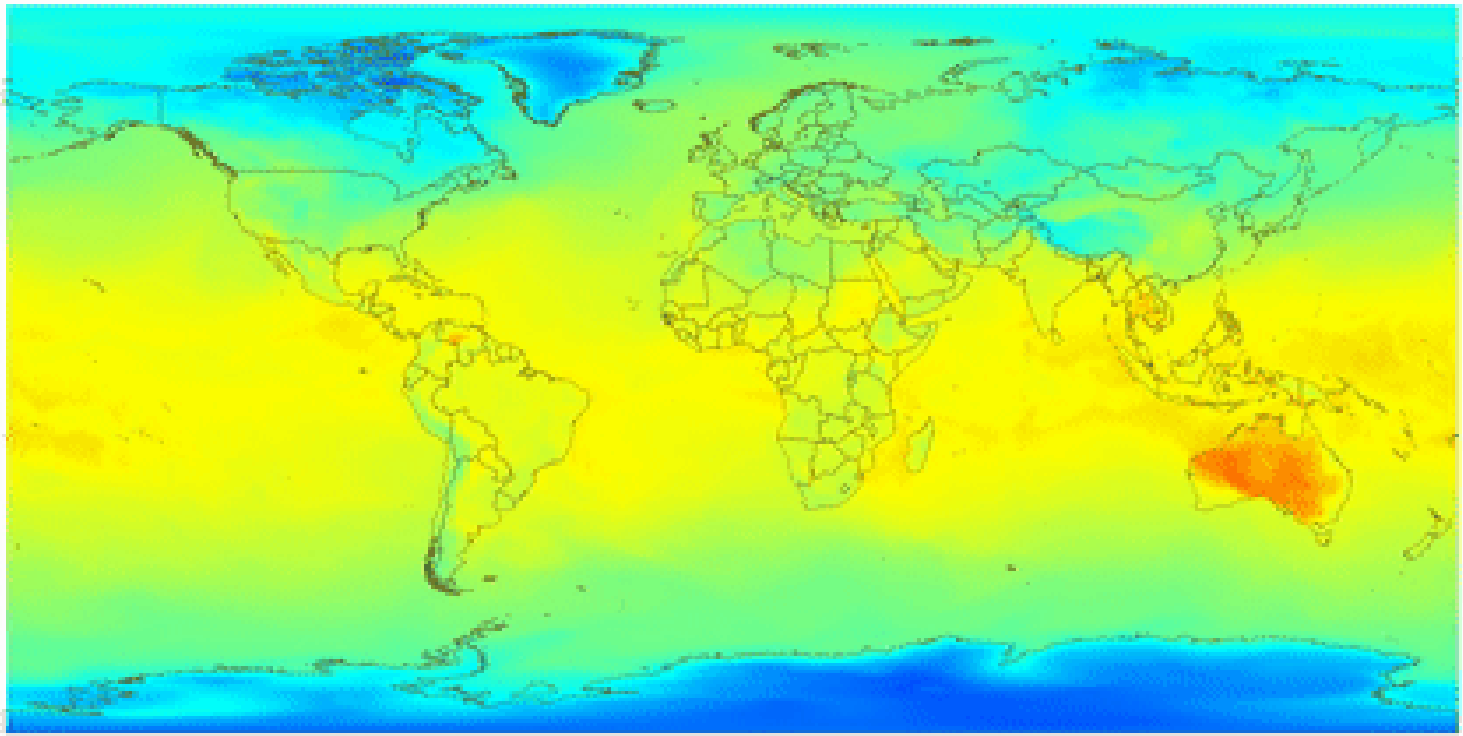

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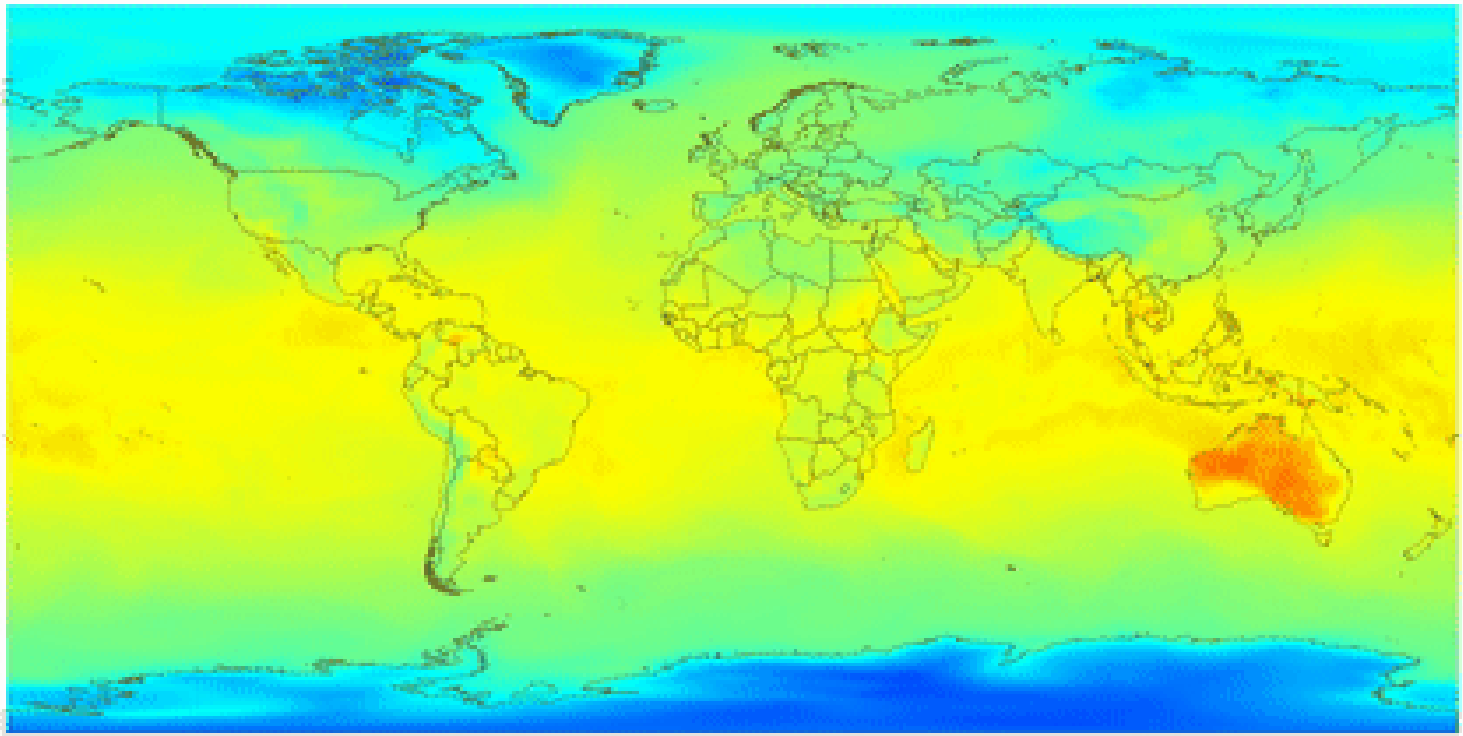

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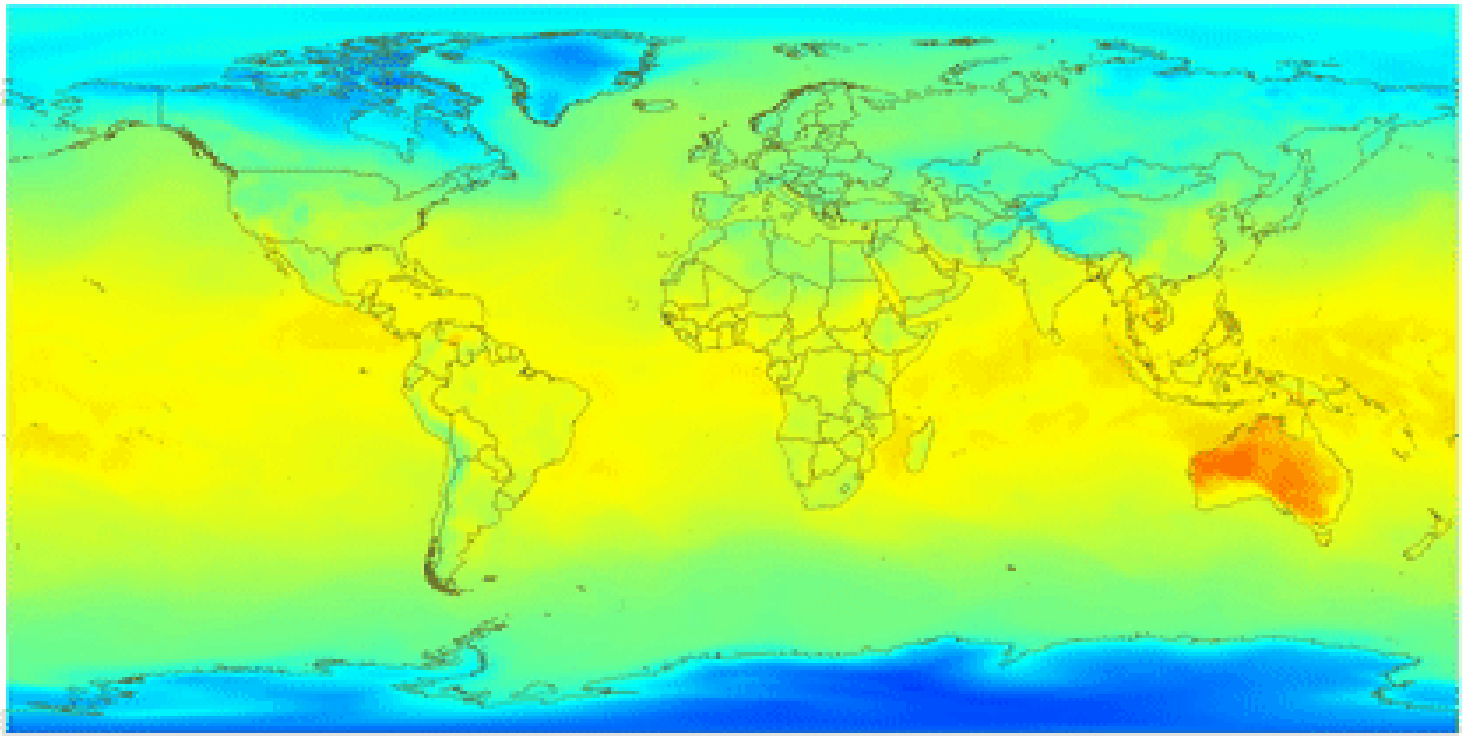
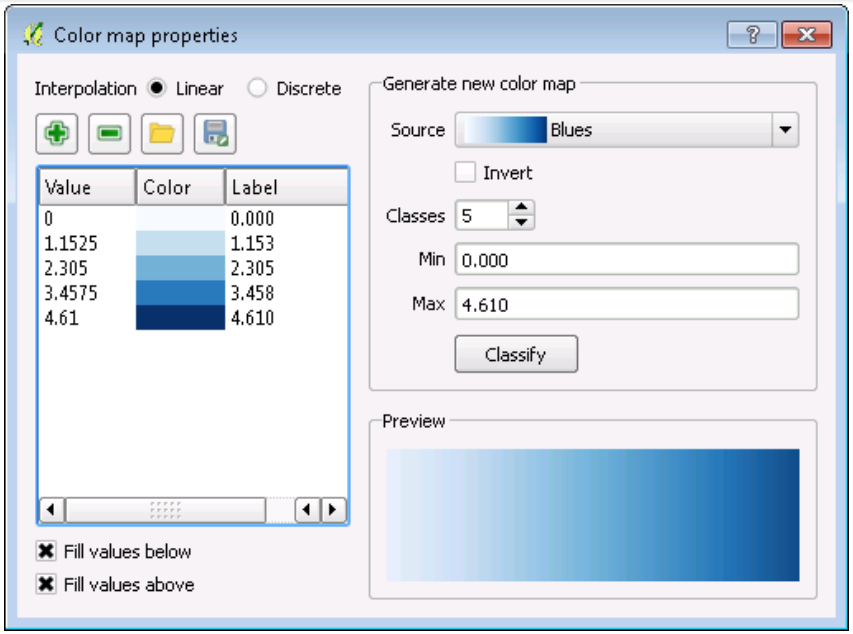


Contours

Display gridded data

- Various quantities
- Time slider
- Transparency
- Contour/vector/mesh options
- Mesh value tool



Contours

Display gridded data

- Styling and symbology
- Visible range