TSCOM XXIX Activities and Preoccupations

1 October 2012
Principality of Monaco

TSCOM Topics

- TSCOM leadership issues

- Science Day

- Updating GEBCO_08

- IHO-IOC GEBCO Cook Book

- GEBCO Data Store

- Metadata

- Gridding

- Suggested break-out sessions

TSCOM leadership issues

- Walter Smith has been Chairman since 2004

- Bruce Goleby appointed Vice-Chair of TSCOM at 2011 GEBCO GC Meeting

- GC is considering TSCOM membership/succession plan

Science Day

- The 7th Annual GEBCO Bathymetric Science Day will be held on Oct. 2, 2012 at Salle du Ponant

- Paul Elmore is the Science Day coordinator, Tony Pharaoh the local coordinator, and Pauline Weatherall the GEBCO webmaster

- 15 oral and 14 poster presentations scheduled for science day

- IHO/IAG Advisory Board on the Law of the Sea (ABLOS) attendees invited to contribute and attend

- Science Day is a popular feature of the GEBCO meetings

Updating GEBCO_08

- GEBCO_08 is a continuous terrain model for ocean and land on a 30 arc-second grid available on www.gebco.net

- Ocean portion of current GEBCO_08 version is based on SRTM30_Plus V5

- SRTM30_Plus is a 30-arc second global topography/bathymetry model based on Smith & Sandwell's bathymetric model that combines depths estimated from altimetric gravity with ship soundings

- Update with SRTM30_Plus V7?

- Preliminary comparisons by Marks and Weatherall (Science Day poster) suggest value of updating to V7 is equivocal at this time

# Value of updating GEBCO_08 with SRTM30_Plus V7 is unequivocal at this time

- Comparisons with MB surveys not in GEBCO_08 or V7 reveal:

- In the Pacific Ocean study area, additional controls may not be improving V7

- In the Cape Verde study area, additional controls may be improving V7

- Additional comparisons would help

- See Poster at GEBCO Science Day
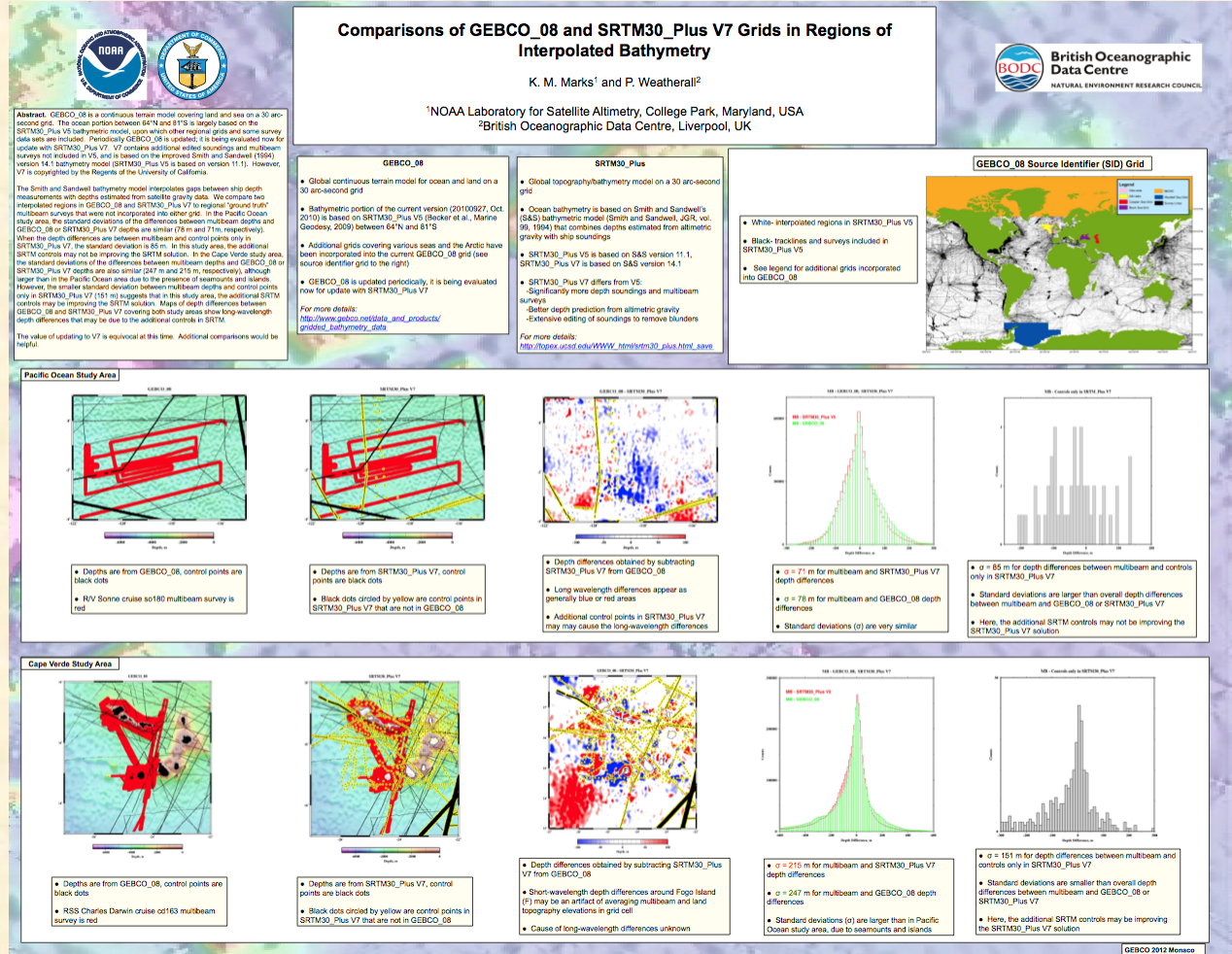
IHO-IOC GEBCO Cook Book

At the 2009 GEBCO 25th Meeting of TSCOM, the "Cook Book Working Group" was formed to "create a manual that enables users to prepare and grid data for inclusion in GEBCO products," resulting in:

• Contributions from scientific experts

• Completing a draft version of Cook Book that is available for download:
http://ibis.grdl.noaa.gov/SAT/GEBCO_Cookbook/index.php

• Approval by GC and IHO for publication as IHO Publication B-11

• Awaiting approval by IOC for publication as IOC Manual and Guides, 63

• EOS "News Brief" announcement drafted
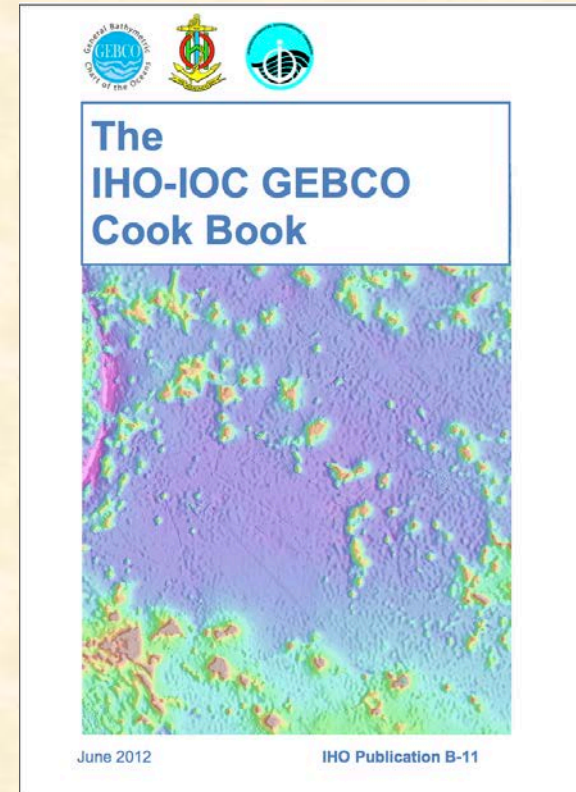
See poster at GEBCO Science Day

GEBCO Data Store

- At the 2011 GEBCO meeting, NGDC agreed to set up a "GEBCO Data Store" to provide access to trackline and gridded data used to produce the GEBCO grid

- NGDC pulled cleaned bathymetric trackline data from Scripps using rsync with an SSH log-in to a Scripps machine. This was a test to see if rsync would work and has not yet been automated to pull data on a regular basis

- NGDC coordinated with BODC to set up a direct rsync with the GEBCO Data Store using a BODC IP address. BODC successfully pulled data from the GEBCO Data Store

- NGDC is working with BODC to push and pull data in ways that satisfy computer security concerns and ease of use

Metadata

- SID grid accompanies GEBCO grid, it identifies which cells are based on existing surveys or are interpolated

- GEBCO has adopted the system used by SRTM30_Plus team at SIO: each survey has a unique SID number, which ties it to a corresponding survey metadata record

- In collaboration with colleagues at SIO, the SID metadata are undergoing quality control checks

- Original list of SID metadata fields has been extended to include more information

- Future plans include making a queryable Web Map Service (WMS) for the SID grid that will allow users to click on a pixel to access metadata records for the contributing survey that provided the GEBCO_08 depth value at that point

- Some metadata work on ENC – SWB (Electronic Navigation Charts – Shallow Water Bathymetry) data sets

Gridding

- Various gridding techniques illustrated in Cook book:
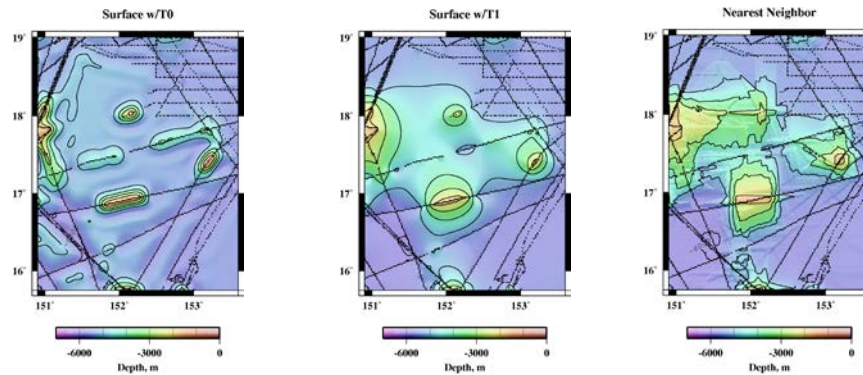
- GMT Surface and GMT Nearneighbor, same input data, different solutions
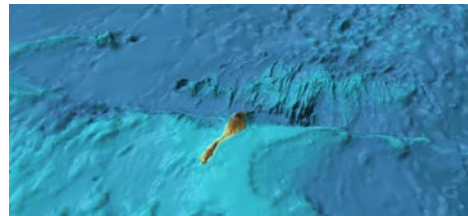
    - Hell & Jakobsson published "Gridding heterogeneous bathymetric data sets with stacked continuous curvature splines in tension" (MGR 2011)

    - Their method offers a good balance between resolving power in well-mapped areas and stability where data are sparse

Suggested Break-out Sessions

- Updating the GEBCO_08 grid

- Cook Book Working Group

- Metadata

- GEBCO Data Store

- Gridding & Error Analysis

Cook Book Working Group topics for discussion

- Potential editorial board?

- Author guidelines?

- Suggestions for improvement

- Soliciting more contributions

- EOS "News Brief" announcement

GEBCO

The
IHO-IOC GEBCO
Cook Book

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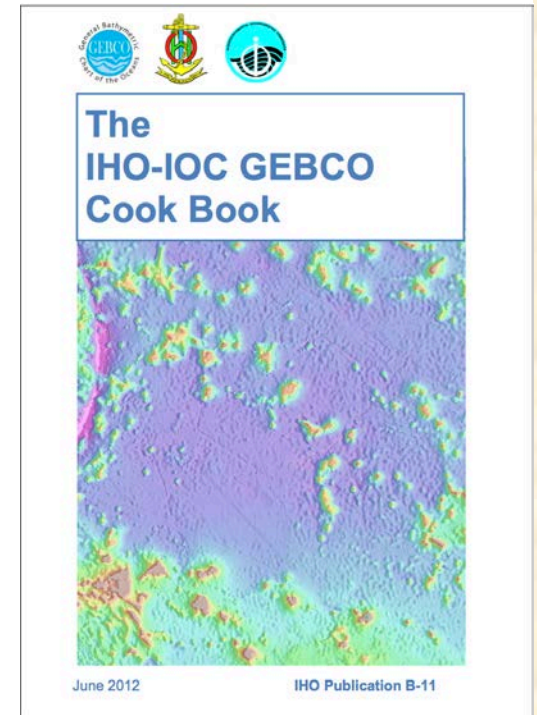
Gridding (Hell & Jakobsson, MGR 2011)

Gridding concept- "stacked splines in tension":