Global Predicted Bathymetry for Google Earth and Beyond

1. Need for improved global bathymetry and high-resolution shoreline.
   1. In the deep ocean more 50% of seafloor is more that 10 KM from a real sounding.
2. Origin of current global gravity and predicted depth.
   1. What is the unique contribution of SIO and NRL to global ocean bathymetry models?
   2. What is the contribution from NOAA, GEBCO, and NGDC?
   3. Why IBCAO is really important for latitudes > 70 degrees.
3. Improvements in global gravity and predicted depth – Funded by ConocoPhillips, NSF, ONR, and NGA
   1. SIO will achieve a factor of 2 improvement in global gravity at latitudes < 72 degrees and a factor of 2-4 times in the Arctic. This translates directly into improved global bathymetry.
4. Status of global cleaned soundings
5. GE Statement of Work
   1. Create new 1-minute prediction based on new global gravity.
   2. Update multibeam data from NGDC in global sounding database at 500 m.
   3. Provide SRTM15\_PLUS to GE in advance (6 mo.) of publication.
   4. Work with Google researchers to provide open access to predictions and edited raw sounding data.
6. Outcome if proposal is not funded.
   1. Global 1-minute predicted depth will become freely available to everyone but GE will have no input and timeline will be delayed.
   2. Global multibeam bathymetry may or may not be updated. There will be no focus on shorelines.
   3. SRTM15\_Plus will become freely available.
7. Timeline and Budget
   1. Deliver a preliminary SRTM30\_PLUS in November of 2013 based on the full 409 days of Jason-1 altimetry and current sounding data.
   2. Update and edit global multibeam soundings using new data at NGDC. March 1, 2014.
   3. Work with GE researchers to validate and improve global shoreline.
   4. Deliver new SRTM15 PLUS global bathymetry in September, 2014.
   5. SIO Budget 9 months/yr postdoc for 3 years - $60k/yr.
   6. NRL Budget 3m/yr for 3 years - $60k/yr