

International Digital Elevation Model Service (IDEMS)

Director: **Kevin M. Kelly** (USA)

<https://idems.maps.arcgis.com/home/>

Introduction

The International Digital Elevation Model Service (IDEMS) is one of five centres of the International Gravity Field Service (IGFS) of the International Association of Geodesy (IAG). IDEMS provides a focus for distribution of data and information about digital elevation models, spherical-harmonic models of Earth's global topography, lunar and planetary DEM, relevant software and related datasets (including representation of Inland Water within Digital Elevation Models) which are available in the public domain.

Products

IDEMS will provide the following DEM related products:

- Compilation, tutorial-style provision and maintenance of information on global gridded DEMs;
- Compilation of available national elevation data sets with information on data resolution, methods used for DEM generation and links to providers;
- Generation and dissemination of spherical-harmonic models of Earth's global topography and bathymetry;
- Compilation of geodesy-relevant DEM-studies;
- Extension of the focus from Earth to Moon and terrestrial planets through compilation of information on available planetary topography models.

Structure

IDEMS will be hosted and operated by Environmental Systems Research Institute (Esri) (<http://www.esri.com/>)

under the lead of Kevin M Kelly (director) and Jianbin Duan (deputy director). Esri currently hosts two dynamic world elevation image services: Terrain ([http://www. arcgis.com/home/item.html?id=58a541efc59545e6b7137f961d7de883](http://www.arcgis.com/home/item.html?id=58a541efc59545e6b7137f961d7de883)) and TopoBathy ([http://www. arcgis.com/home/item.html?id=c753e5bfadb54d46b69c3e68922483bc](http://www.arcgis.com/home/item.html?id=c753e5bfadb54d46b69c3e68922483bc)).

These services provide online access to a global collection of multi-resolution and multi-source elevation data, including comprehensive metadata and source information for its global data holdings. This collection includes the best publicly available data and community contributed data with resolutions ranging from 1000 meters to 3 meters. The services provide a single endpoint for desktop and web applications to access elevation values and derived products. Access to IDEMS will not require Esri software. However, for users with Esri software – which includes many academic institutions globally – a number of pre-defined, common terrain data analysis tools become available such as data aggregation, interpolation, density, buffering, flow analysis, and more.

Although currently in development, operation of IDEMS by Esri will comprise:

- Set up of a dedicated website to compile and disseminate all relevant information, data and software.
- Maintenance of the website including regular updates and inclusion of new material as it becomes available.
- Active encouragement of users to contribute their experiences, studies, and information on the multitude of global, regional and national data sets to the website.
- Close liaison of the IDEMS team members with the producers of DEM data to obtain up-to-date information on improved releases or clarification of processing details.

Governing Board

The Governing Board (GB) consists of five members and will oversee the operation and general activities of the service. Members of the GB will be appointed by the IAG Executive committee for a maximum term of four years. The GB is structured as follows:

Director of IDEMS:	Kevin M Kelly, USA
Deputy Director of IDEMS:	Jianbin Duan, USA
IAG/IGFS representative:	Riccardo Barzaghi, Italy
Advisory member:	Christian Hirt, Australia
Advisory member:	Michael Kuhn, Australia