

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Water From Space: Societal, Educational and Cultural Aspects (6)

Author: Dr. James Burke
The Planetary Society, United States, jdburke@caltech.edu

Dr. Noel Siemon
The PC Users Group (ACT) Inc, Australia, siemon@pcug.org.au
Ms. Fresh Water Project Team
International Space University (ISU), Austria, ssp11@isu.isunet.edu
Dr. Laura Drudi
McGill University, Canada, laura.drudi@mail.mcgill.ca

TEAM PROJECT FRESH WATER: AN INTERDISCIPLINARY ATTACK ON A GLOBAL PROBLEM

Abstract

Earth has abundant water but most of it does not support human life and civilization. The water cycle, oceans to atmosphere to oceans, with freshwater storage enroute in snowpack, glaciers, rivers, lakes and aquifers, does not reliably deliver enough water where and when it is needed by a growing population. Furthermore, that population pollutes and wastes much of what is available, and shortages are exacerbated by climate change. Already in many parts of the world a lack of clean and plentiful water is driving dangerous social trends. Ameliorating this situation will require global advances in education, policy, technology and public will. Space systems and space-drawn management and outreach experience can be important contributors to public understanding of the water cycle, to conservation and recycling, and to improving access by humanity to sustained availability of safe fresh water. Past space programs have collected and delivered needed information to decision-makers and the affected public. In the future, space missions could do that on a more global and more influential scale. Space technologies and applications may effect solutions including management of water supply and demand, protection of natural resources for future generations, and new technologies, information, and methods to enable alternate concepts such as desalination. This paper will present the outcome of a student team project in this year's Space Studies Program (SSP 2011) of the International Space University in Graz, Austria. The students in each such annual project are invited to mount an interdisciplinary attack on a problem of current world importance. The Fresh Water project team will address the complementary application of existing and near-future space-based and Earth-based technologies and education as enablers to support sustainability of safe drinking water and to determine how communities in both developing and developed countries could benefit from this understanding.