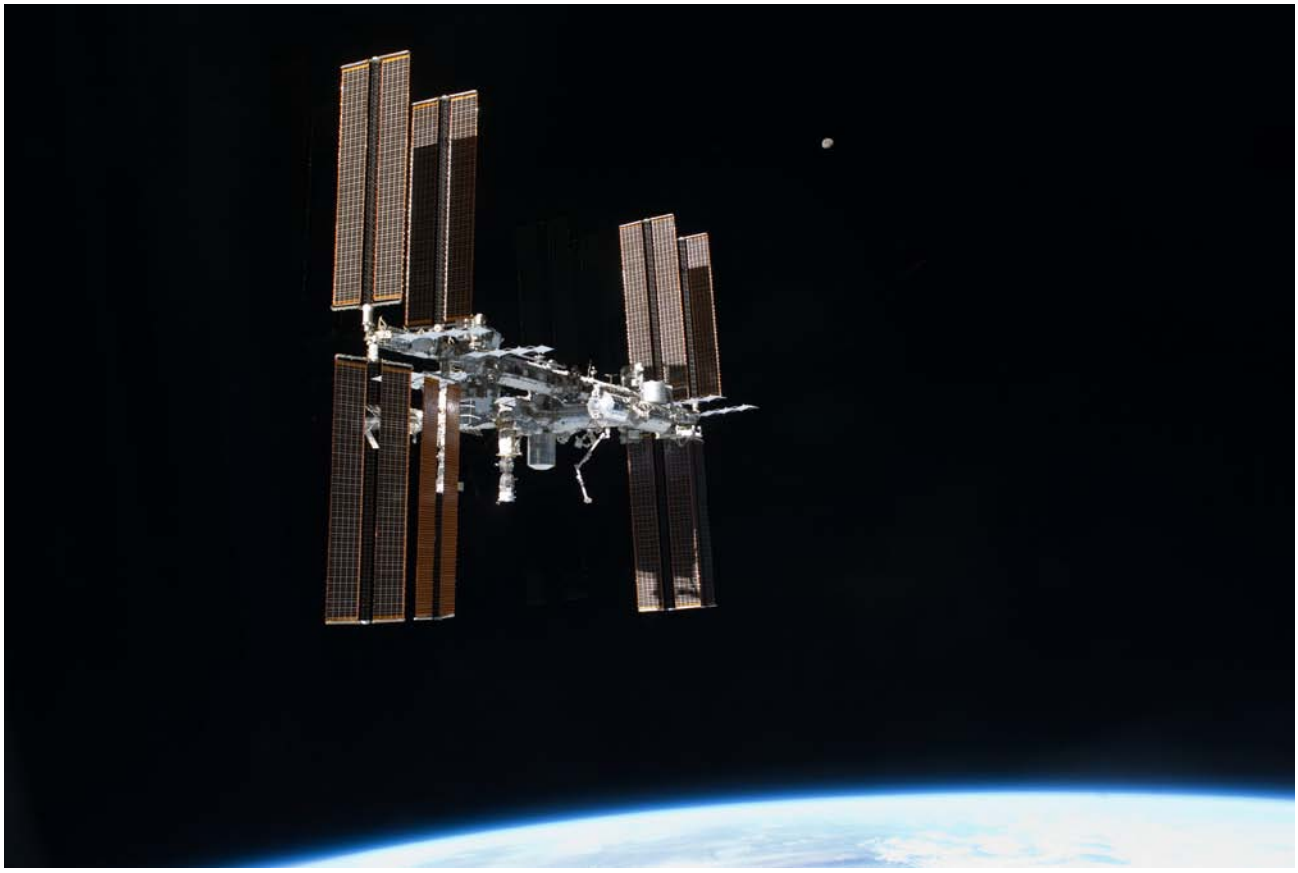
International Space Station Utilization Statistics Expeditions 0-32

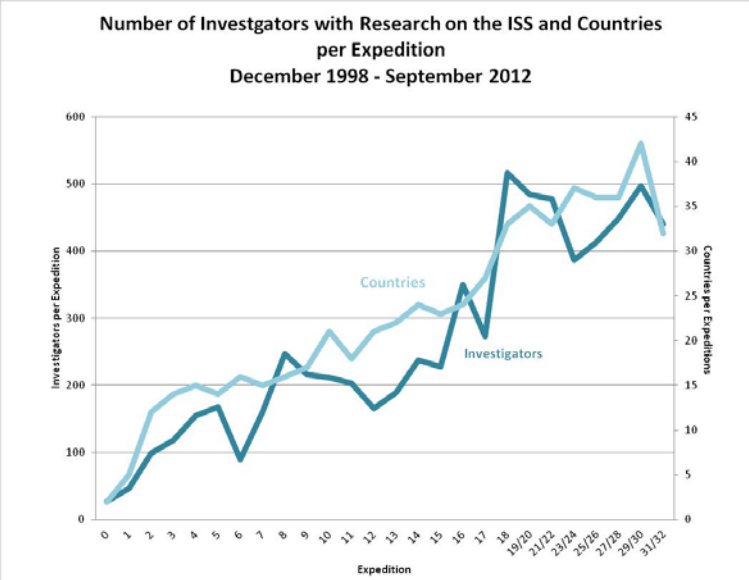
December 1998 – September 2012

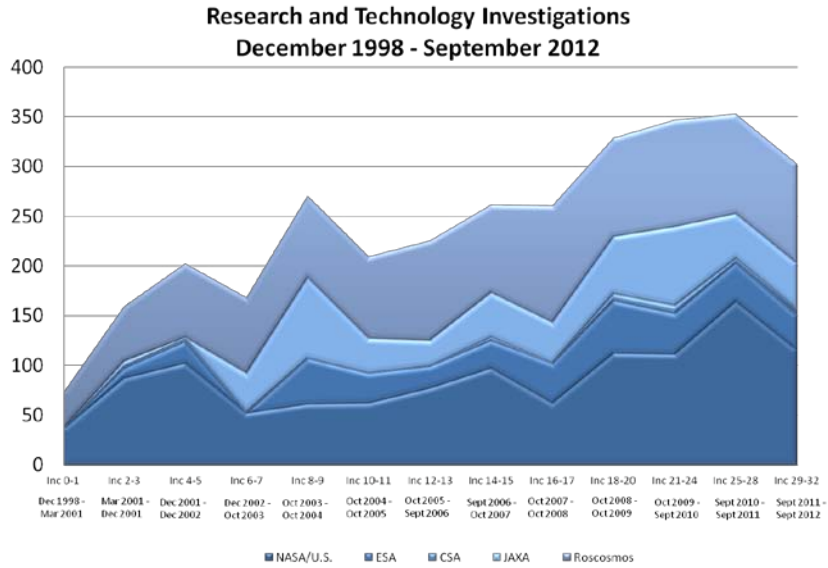


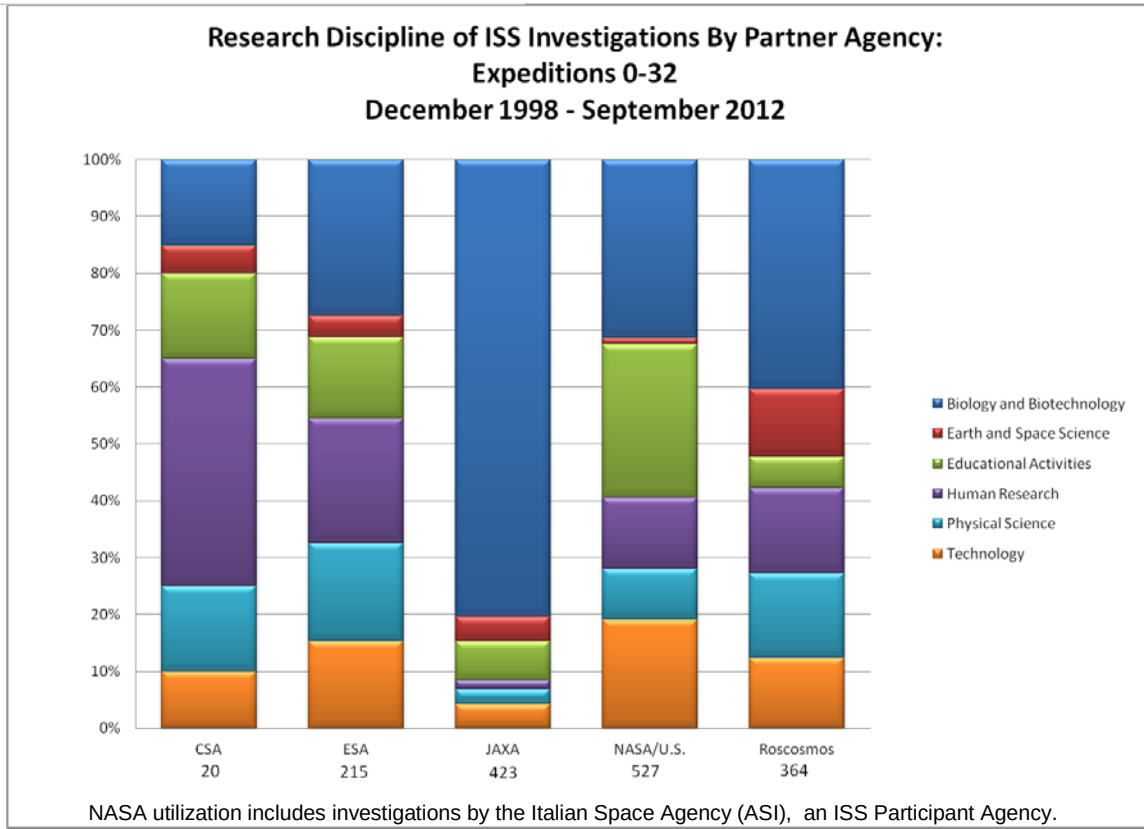
Number of Investigations Performed on the International Space Station

The information below provides an overview of ISS utilization up to the end of September 2012. An expedition refers to the nominal 6-month period that a single crew is on ISS. The utilization reflects activities of all of the ISS International Partners: CSA, ESA, JAXA, NASA, and Roscosmos. An investigation is defined as a set of activities and measurements (observations) designed to test a scientific hypothesis, related set of hypotheses, or set of technology validation objectives. Investigators include the principle investigator(s) and co-investigator(s) that are working to achieve the objective of the investigation.

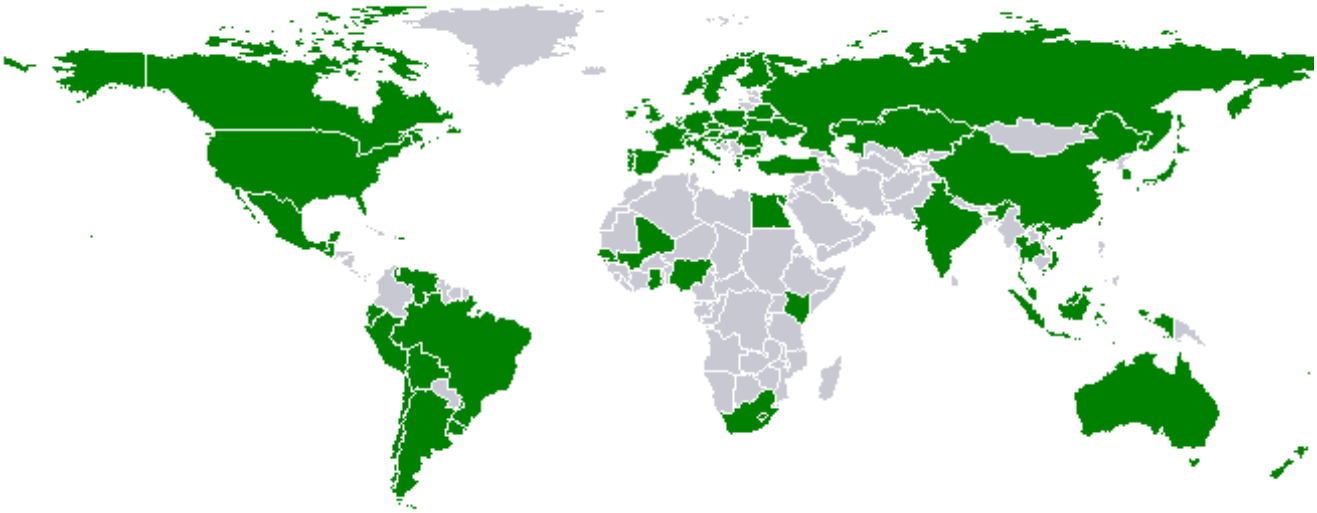
	ISS Expeditions 29/30 Oct 2011 – Apr 2012	ISS Expeditions 31/32 Apr 2012 – Sept 2012	ISS Expeditions 0-32 Dec 1998 – Sept 2012
Number of Investigations	237	215	1549
New Investigations	58	48	-
Completed/Permanent Investigations	42	42	1081
Number of Investigators with Research on the ISS	497	440	1534
Countries with ISS Investigations	42	32	68







NASA utilization includes investigations by the Italian Space Agency (ASI), an ISS Participant Agency.



All the highlighted countries have participated in ISS Research and Education Activities.

Research Resources

Resources for the ISS are often described as upmass (mass of material brought to the ISS), downmass (mass of material returned from ISS) and crewtime (amount of time crew dedicates to an activity).

Research Resources	ISS Expeditions 29/30 Oct 2011 – Apr 2012	ISS Expeditions 31/32 Apr 2012 – Sept 2012	ISS Expeditions 0-32 Dec 1998 – Sept 2012
Upmass	421.8 kg	771.6 kg	38,999.4 kg
Facility	108.6 kg	58.3 kg	26,117.4 kg
Resupply	313.2 kg	713.3 kg	12,837.1kg
Downmass	37.0 kg	72.3 kg	8430.1 kg
Crew time	2170.2 hrs	1176.7 hrs	14,436.1hrs

Number of Current and Future Investigations on the International Space Station

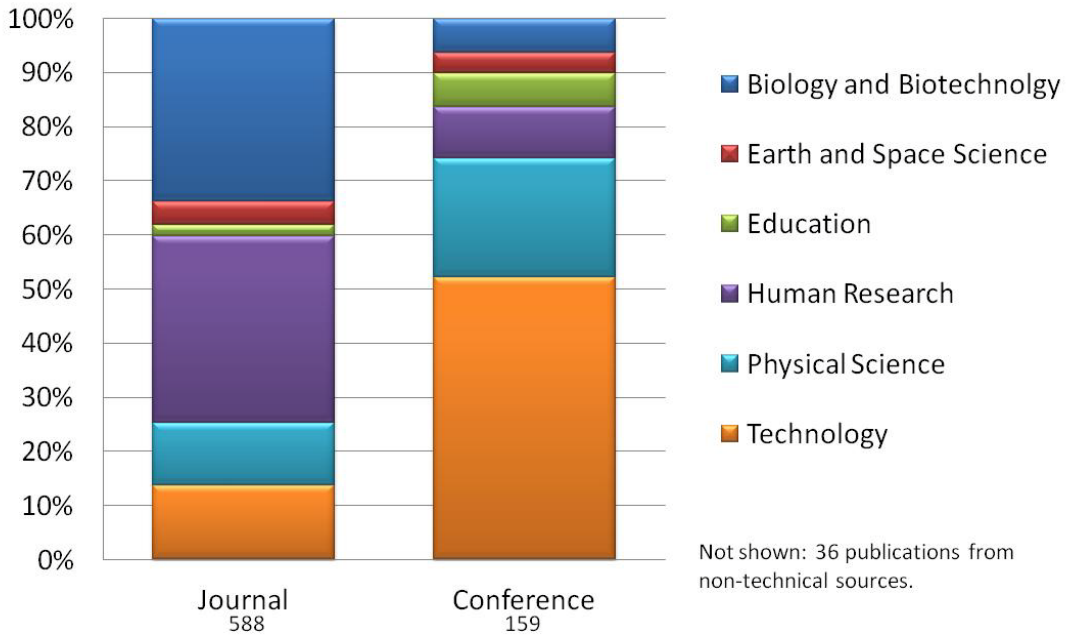
The investigations statistics represented below reflect research planned for Expeditions 33/34 and 35/36. The numbers of investigations actually performed can only be reported after completion of the expeditions.

	ISS Expeditions 33/34 Sept 2012 – Mar 2013	ISS Expeditions 35/36* Mar 2013 – Sept 2013	ISS Expeditions 33-36* Sept 2012 – Sept 2013
Total Investigations*	226	212	257
New Investigations	52	33	85
Number of Investigators with Research on the ISS	464	441	591
Countries with ISS Investigations	23	28	29

Top 20 Journals with ISS Results*
1. Nature
2. Proceedings of the National Academy of Sciences of the United States of America
3. Physical Review Letters
4. Journal of Biological Chemistry
5. PLoS ONE
6. Journal of Neuroscience
7. Journal of Geophysical Research
8. Journal of Physical Chemistry B
9. Geophysical Research Letters
10. Langmuir
11. NeuroImage
12. Applied and Environmental Microbiology
13. New Journal of Physics
14. Brain Research
15. FASEB Journal
16. Journal of Urology
17. Radiology
18. American Journal of Physiology: Heart and Circulatory Physiology
19. New Phytologist
20. Ophthalmology

*Journals are listed in *Eigenfactor*® order. *Eigenfactor*® is an estimate of the percentage of time users spend with a journal, with citations from influential journals ranked higher.

ISS Research Results Publications through October 2012



Not shown: 36 publications from non-technical sources.

International Space Station Research – Did you know?

- Virulence of *Salmonella* microbes increases in space; researchers have used this discovery to create an approach to develop new candidate vaccines.
- Nutrition studies conducted on the space station show that diets rich in Omega-3 fatty acids are correlated with reduced bone loss.
- Candidate treatments for a form of muscular dystrophy and for testicular cancer have been developed based on space station research results.
- Space station research has involved over 1.2 million students in the U.S., and 40 million more have participated in educational demonstrations performed by astronauts onboard ISS.
- Capillary flow experiments on the space station have produced universal equations for modeling the behaviors of fluids in space.
- The space station serves as a platform to monitor climate change, disaster areas and urban growth on Earth.
- Recent plant studies conducted on the ISS indicate that some of the root growth strategies that had always been thought to require gravity also occur on orbit. This finding provides fundamental insight into the processes of plant growth and development on earth, as well as contributing to our understanding of how best to grow food in space and other novel environments.

This is a product of the Program Science Forum comprised of representatives from the Canadian Space Agency (CSA), European Space Agency (ESA), Japan Aerospace Exploration Agency (JAXA), National Aeronautics and Space Administration (NASA) and the Federal Russian Space Agency (Roscosmos).

Additional Resources:

ISS Research and Technology on the Web:
http://www.nasa.gov/iss-science/
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