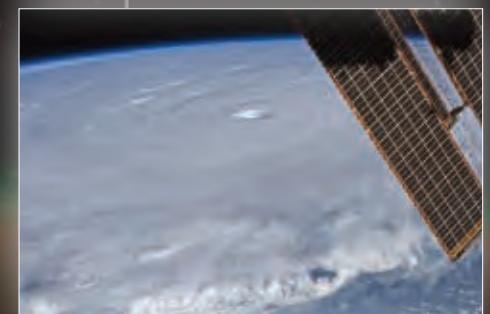
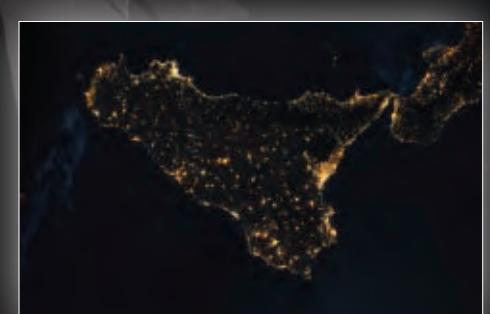




To see when the International Space Station  
will be flying over your town, go to:

<http://spaceflight.nasa.gov/reldata/sightings/index.html>.



[www.nasa.gov/station](http://www.nasa.gov/station)

National Aeronautics and  
Space Administration



2013

International  
Space  
Station  
Calendar



# A message from the Program Manager for the International Space Station



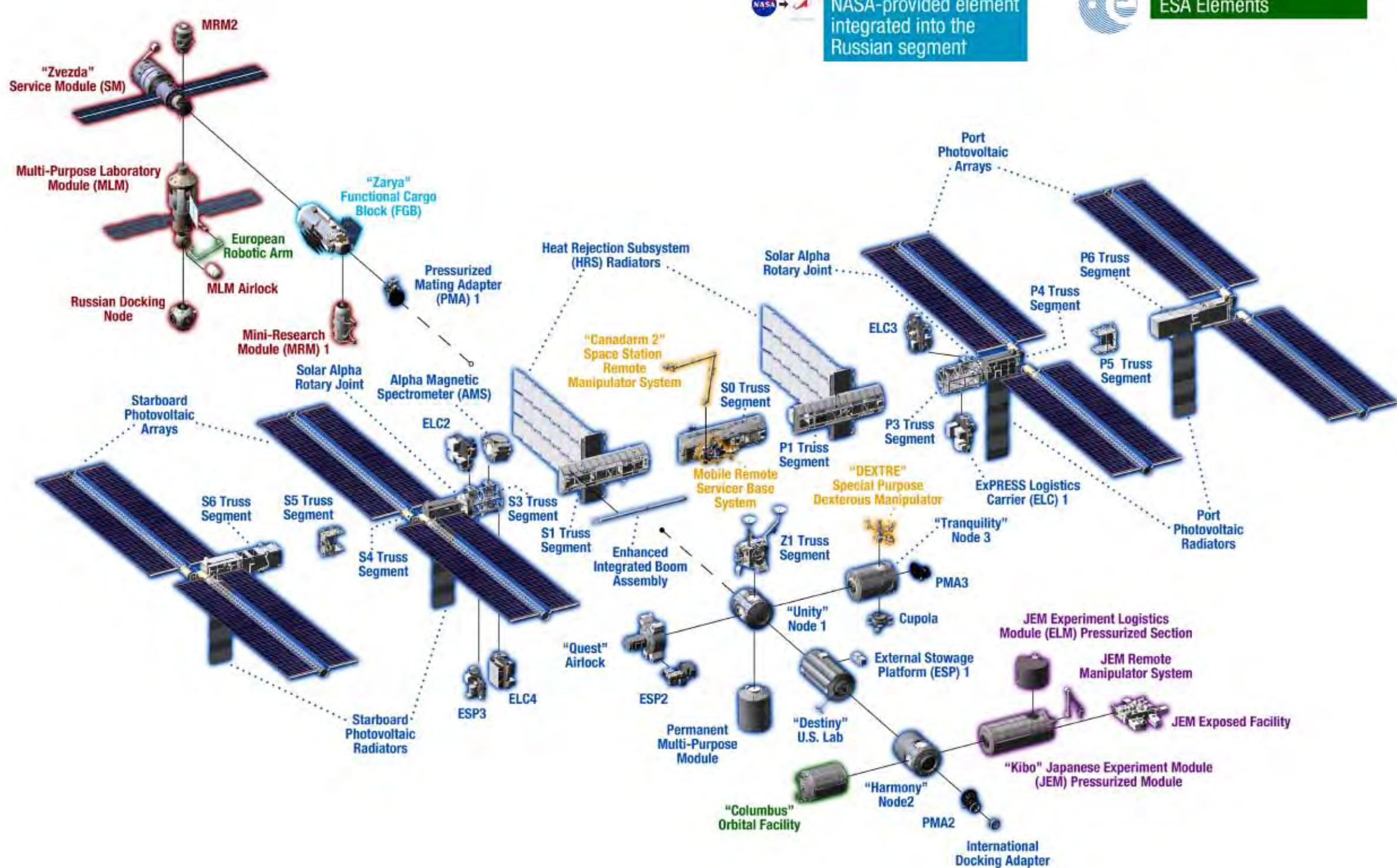
The International Space Station (ISS) is an unprecedented technological and political achievement in global human endeavors to build, operate, and utilize a unique science platform in space to benefit life here on Earth. It is the latest step in humankind's quest to explore and learn in order to improve life on Planet Earth.

As soon as the ISS was habitable, researchers began using it as a laboratory to study microgravity and the space environment and how phenomena studied in space can benefit our daily lives. This unique scientific platform continues to enable researchers from all over the world to put their talents to work on innovative experiments that cannot be performed anywhere else and we already have some amazing breakthroughs! In human health, telemedicine, education and observations of our Earth from space, there are already demonstrated benefits to human life. Research in vaccine development for salmonella and MRSA (a bacteria that is resistant to many forms of antibiotics), candidate treatments for Duchenne's Muscular Dystrophy, improvements in cancer treatment drug delivery, space station-generated images that assist with disaster relief and farming, and education programs that inspire future scientists, engineers and space explorers are just some examples of research benefits.

NASA recognizes the importance of leveraging space station as an educational platform to encourage and motivate today's youth to pursue careers in math, science, engineering and technology (STEM). The agency has an appreciation for all of America's educators who commit themselves to motivating young students to pursue STEM careers and guiding them to become our future innovators, explorers and leaders. I hope you enjoy this calendar featuring astounding imagery of our Earth from the International Space Station, and that it will inspire you to learn more about the space station's benefits to humanity.

Regards,

MICHAEL T. SUFFREDINI  
ISS Program Manager

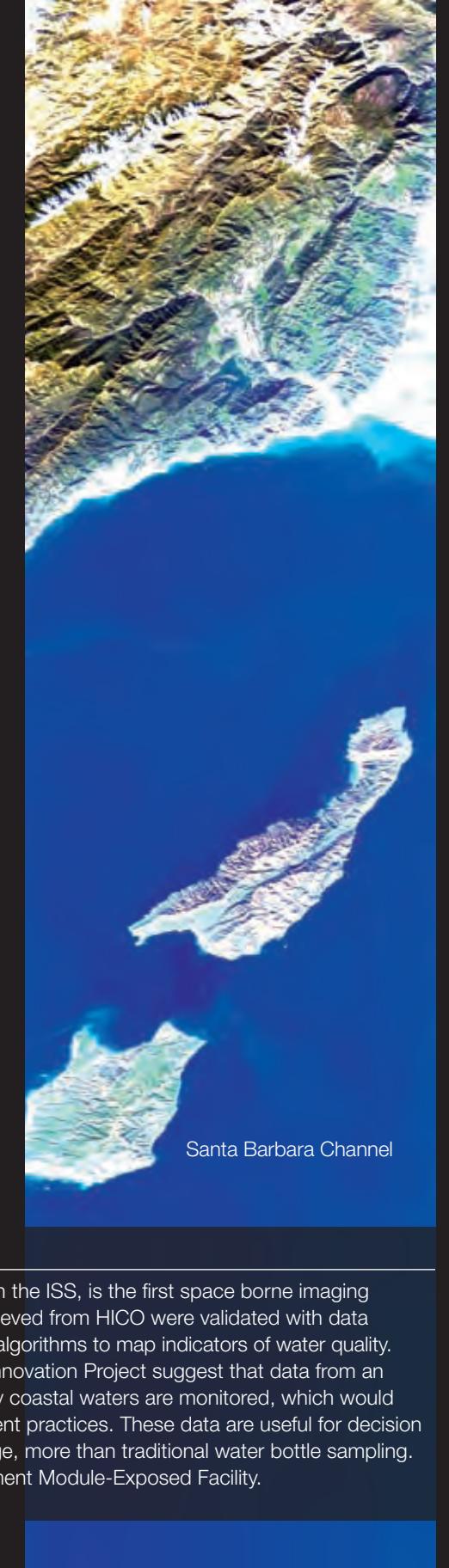


**JANUARY 2013**

Large metropolitan areas and other easily recognizable sites from the Virginia/Maryland/Washington, D.C. areas are visible in this image that spans almost to Rhode Island. Boston is just out of frame on the right. Long Island and New York City are visible in the lower right, with Philadelphia and Pittsburgh near the center. Parts of two Russian vehicles parked at the orbital outpost are seen in the left foreground. **BELOW:** View of Earth from the Cupola, the International Space Station's window.

**JANUARY 2013**

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 New Year's Day	2 1959: Luna 1, first spacecraft to reach escape velocity and orbit the sun	3 2004: Spirit lands on Mars	4	5
6	7	8	9	10	11	12 1997: STS-81, Shuttle - Mir
13	14	15	16	17	18	19
20	21 Martin Luther King, Jr. Day 2003: STS-107, Inaugural Spacehab flight	22 1998: STS-89 Shuttle - Mir	23	24 1986: Voyager 2 - first spacecraft to observe Uranus; 2004: Opportunity lands on Mars	25 1984: President Ronald Reagan announces U.S. plans to build a space station	26
27 1967: Apollo 1 fire	28 1986: STS-51L, Space Shuttle Challenger accident	29 1998: Intergovernmental Agreement on Space Station Cooperation signed	30	31 1958: Explorer 1, first U.S. satellite		



FEBRUARY 2013

The Hyperspectral Imager for Coastal Ocean (HICO), located on the ISS, is the first space borne imaging spectrometer designed to sample the coastal ocean. Data retrieved from HICO were validated with data collected from in situ samples and used in the development of algorithms to map indicators of water quality. Results from an Environmental Protection Agency Pathfinder Innovation Project suggest that data from an instrument like HICO represents a vast improvement in the way coastal waters are monitored, which would help inform local stakeholders of responses to best management practices. These data are useful for decision support since they provide broad spatial and temporal coverage, more than traditional water bottle sampling.

**BETWEEN:** The HICO payload installed on the Japanese Experiment Module-Exposed Facility.

# FEBRUARY 2013

January					March					
1	2	3	4	5	6	7	8	9	1	2
13	14	15	16	17	18	19	20	21	10	11
20	21	22	23	24	25	26	27	28	12	13
27	28	29	30	31	24/31	25	26	27	14	15

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
3 <small>1995: STS-63, Eileen Collins first female space shuttle pilot</small>	4	5	6	7 <small>1984: STS-41B, first untethered spacewalks; 2001: STS-98/5A, U.S. - Destiny Laboratory launched; 2008: STS-122/1E, ESA-Columbus launched</small>	8 <small>2010: STS-130/20A, U.S.- Tranquility Connecting Module and ESA-Cupola launched</small>	1 <small>2003: STS-107, Space Shuttle Columbia accident</small>	2
10	11	12	13	14	15	16	
17	18 <small>Washington's Birthday 1977: Space Shuttle Enterprise first flight test atop Boeing 747 Shuttle Carrier Aircraft</small>	19	20 <small>Inauguration Day 1962: Friendship 7, John Glenn first American to orbit Earth</small>	21	22	23	
24 <small>2011: STS-133/ULF5, ELC4, PMM launched</small>	25	26 <small>1966: Apollo/Saturn 201, first flight of the Saturn 1B launch vehicle with an Apollo command and service module attached</small>	27	28			

MARCH 2013

The municipality of Dubai is the largest city in the Persian Gulf and has built a global reputation for large-scale developments and architectural works. Among the most visible of these developments are three human-made archipelagos. Palm Jumeirah (bottom left) appears as a stylized palm tree when viewed from above. The World Islands (middle right) evoke a rough map of the world from a space-borne perspective. **BELOW:** The City of Dubai—the largest metropolitan area within the emirate of Dubai—is a favorite subject of astronaut photography. The city presents an eye-catching appearance at night that vividly displays an urban development pattern.



# MARCH 2013

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3 <small>1959: Pioneer 4, first successful lunar mission by U.S. spacecraft; 1969: Apollo 9, first manned flight of the Command/Service Module along with the Lunar Module</small>	4 	5	6	7	8 <small>2001: STS-102/5A.1, first MPLM flight, ESP-1 launched, &amp; ISS Expedition 2, first crew rotation</small>	9 <small>2008: First ESA ATV</small>
10	11 <small>2008: STS-123/1JA, JAXA-ELM-PS launched</small>	12	13	14	15 <small>2009: STS-119/15A, S6 truss and solar arrays launched</small>	16 <small>1926: First liquid-fueled rocket; 1966: Gemini VIII, first docking of two spacecraft in orbit; 2011: ISS Expedition 27</small>
17	18 <small>1965: Cosmonaut Alexei Leonov, first person to spacewalk; 2010: ISS Expedition 23</small>	19 	20 <small>Spring Begins</small>	21	22	23 <small>1965: Gemini III, first crewed mission of Gemini Project</small>
24/31	25	26 <small>2009: ISS Expedition 19</small>	27 	28	29 <small>2006: ISS Expedition 13</small>	30

February		April											
		1	2	3	4	5	6	7	8	9	10	11	12
10	11	12	13	14	15	16	17	18	19	20	21	22	23
18	19	20	21	22	23	24	25	26	27	28	29	30	



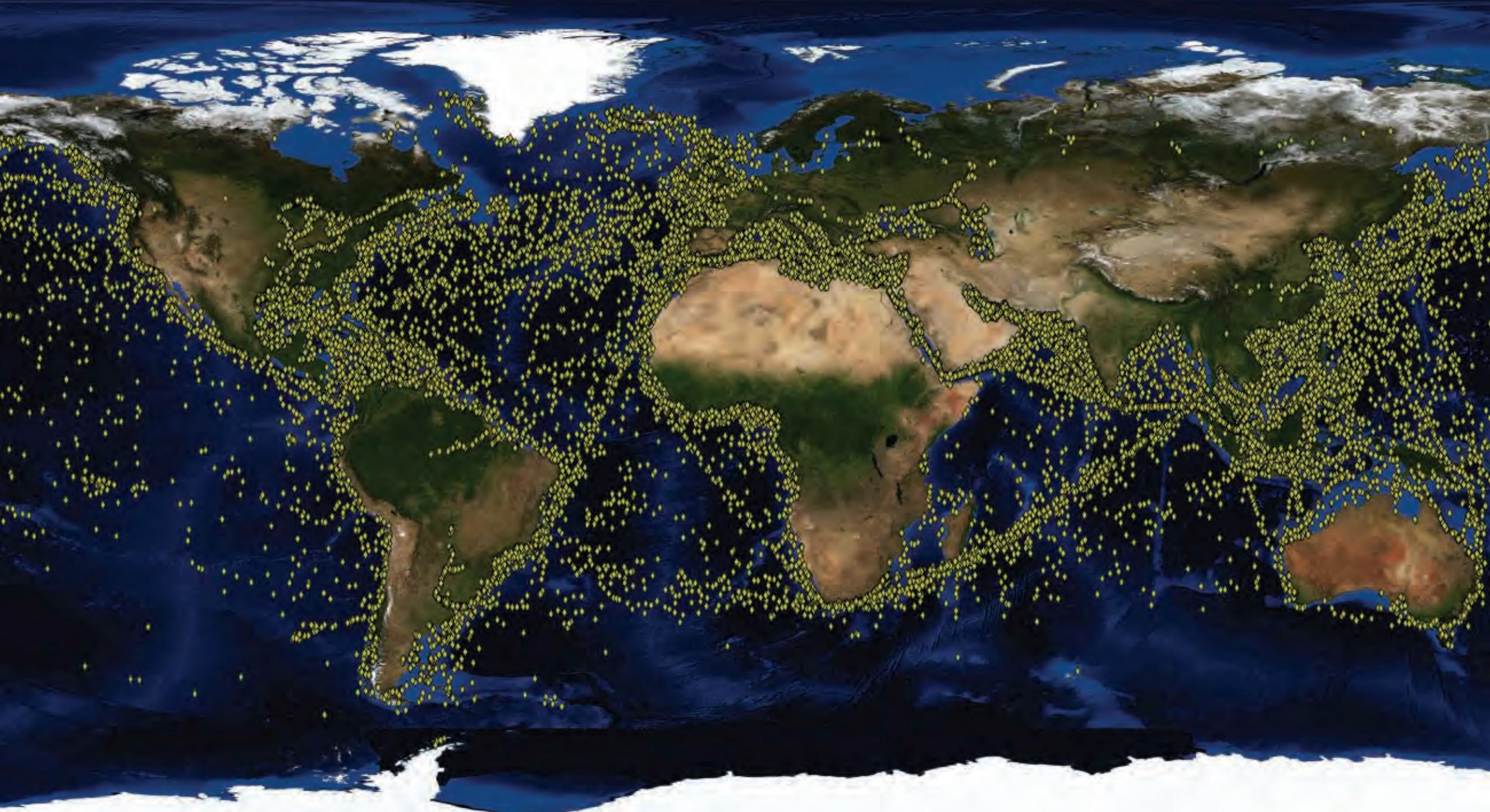
APRIL 2013

Nighttime photo featuring the bright lights of Cairo and Alexandria, Egypt, on the Mediterranean coast, with the Nile River and its delta standing out clearly.

**BELOW:** A daytime photograph of the Nile River Delta and Cairo, Egypt.

# APRIL 2013

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5 <small>2010: STS-131/19A, MPLM launched</small>	6 <small>1984: STS-41C, first orbital satellite repair mission</small>	
7 <small>2007: ISS Expedition 15</small>	8 <small>1964: Gemini I test flight; 2002: STS-110/8A, SO truss launched; 2008: ISS Expedition 17</small>	9 <small>1959: NASA announces Mercury 7, NASA's first astronaut class</small>	10	11	12 <small>1961: Cosmonaut Yuri Gagarin, first human in space; 1981: STS-1, first space shuttle (Columbia) mission</small>	13
14 <small>2005: ISS Expedition 11</small>	15	16	17	18 <small>2004: ISS Expedition 9</small>	19 <small>2001: STS-100/6A, CSA-Canadarm2 &amp; MPLM launched</small>	20
21	22	23	24 <small>1967: Soyuz 1 accident; 1990: STS-31, Hubble Space Telescope launched</small>	25 <small>2003: ISS Expedition 7</small>	26	27 <small>2012: ISS Expedition 31</small>
28	29	30				



MAY 2013

The Vessel ID system on the International Space Station tracks an individual ship's speed, position, course, cargo, and voyage information in open waters. Results have already led to improvements in ship travel safety by predicting travel pattern behaviors or different vessel types. Photo courtesy of Norwegian FFI (Defence Research Establishment) **BELOW:** Astronaut Randolph Bresnik seen during *Atlantis* EVA-2 on Nov. 21, 2009 with the unfurled AIS (Automatic Identification System) antenna, attached to Columbus to be used for experimental tracking of VHF signals at sea.

# MAY 2013

April						June										
1	2	3	4	5	6	1	2	3	4	5	6	7	8			
7	8	9	10	11	12	13	9	10	11	12	13	14	15			
14	15	16	17	18	19	20	16	17	18	19	20	21	22			
21	22	23	24	25	26	27	28	29	30	23/30	24	25	26	27	28	29

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2	3	4
5 <small>1961: Freedom 7, Alan Shepard Jr., first American in space</small>	6	7	8	9	10	11
12	13	14 <small>1973: Skylab space station launched; 2010: STS-132/ULF4, MRM1 launched</small>	15	16 <small>2011: STS-134/ULF6 launched</small>	17	18
19 <small>2000: STS-101/2A.2a, Spacehab launched</small>	20	21	22 <small>2012: Launch of Space-X/Dragon, first commercial craft to launch to the space station</small>	23 <small>2011: Expedition 28</small>	24	25 <small>1973: Skylab 2, first U.S. space station crew; 2012: Docking of Space-X/Dragon capsule, first docking of a commercial craft to the space station</small>
26	27 <small>Memorial Day; 1999: STS-96/2A-1 launched, first space shuttle to dock with ISS; 2009: ISS Expedition 20</small>	28	29	30	31 <small>2008: STS-124/1JA, JAXA- JEM-PM, JEM-RMS launched</small>	



JUNE 2013

The lights of the cities of Ireland (foreground) and the United Kingdom (back and to the right) are contrasted by the bright sunrise in the background. The greens and purples of the Aurora Borealis are seen along the rest of the horizon. **BELow:** The Aurora Borealis taken by an Expedition 23 crew member.

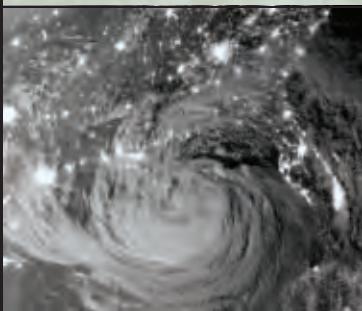
# JUNE 2013

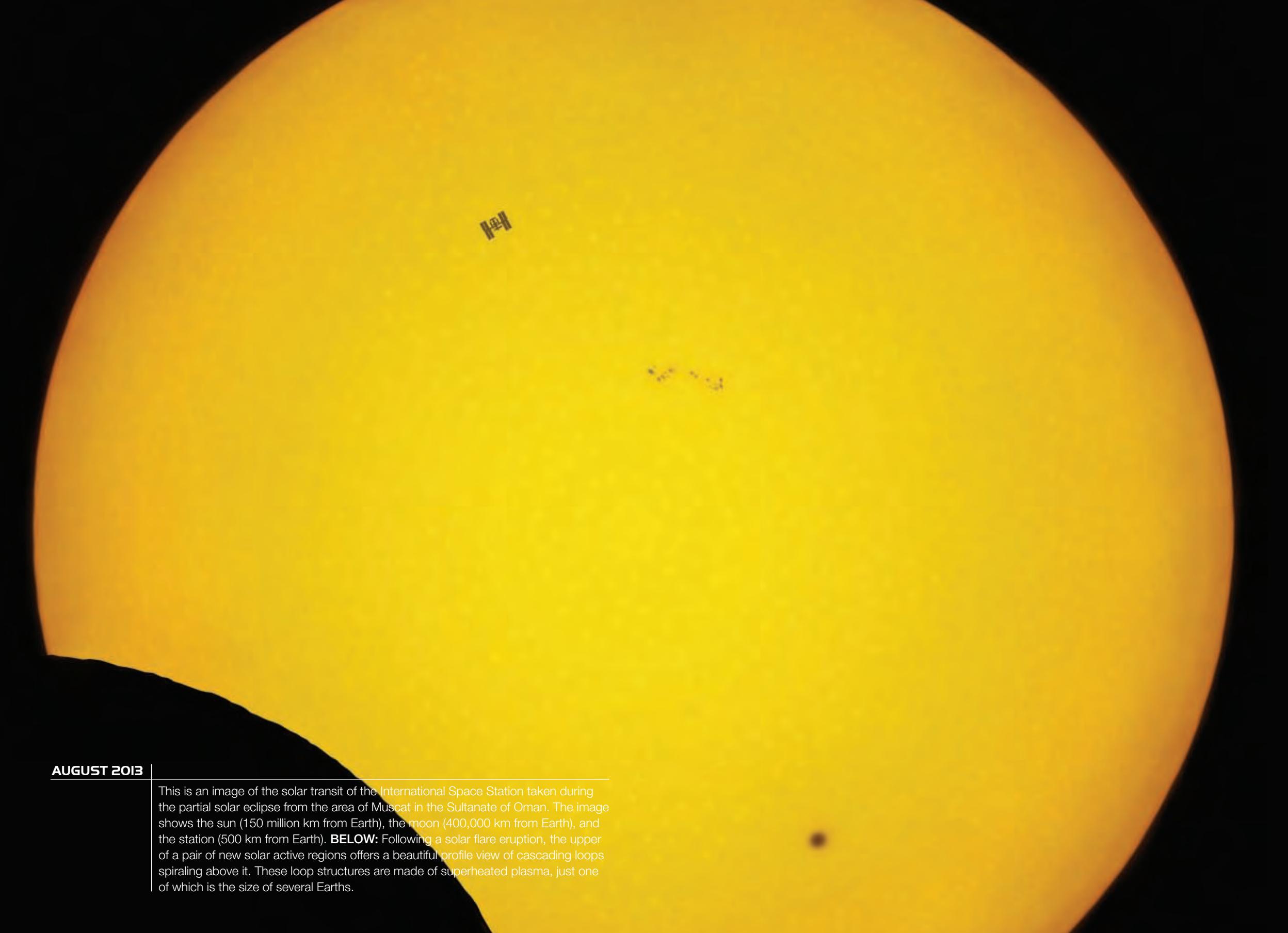
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
2 <small>1966: Surveyor I, first U.S. spacecraft to soft land on the moon</small>	3	4 <small>2010: SpaceX Falcon 9 Block 1, first successful flight</small>	5 <small>2002: STS-111/UF-2, MBS &amp; MPLM launched &amp; ISS Expedition 5</small>	6	7	1 <small>2010: ISS Expedition 24</small>
9	10	11	12	13	14	15
16 <small>1963: Cosmonaut Valentina Tereshkova, first female in space</small>	17	18 <small>1983: STS-7, Sally Ride, first U.S. female in space</small>	19	20	21 <small>Summer Begins</small>	22
23/30 <small>1971: Soyuz 11 accident</small>	24	25	26	27	28	29 <small>1995: STS-71 Atlantis, first shuttle to dock with Russian Mir space station</small>
May			July			
1	2	3	4	5	6	7
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	28
						29
						30

**JULY 2013**

The Moderate Resolution Imaging Spectroradiometer (MODIS) instrument on NASA's Terra satellite captured this image of Tropical Storm Isaac on Aug. 28, 2012, at 12:30 p.m. EDT as it was moving northwest through the Gulf of Mexico. Isaac's large reach is seen by its eastern cloud cover over the Gulf of Mexico. **BELOW:** The Visible Infrared Imaging Radiometer Suite (VIIRS) on the Suomi-NPP satellite captured this nighttime view of Tropical Storm Isaac and the cities near the Gulf Coast of the United States early on Aug. 28. The image was acquired just after local midnight by the VIIRS "day-night band," which detects light in a range of wavelengths from green to near-infrared and uses light intensification to enable the detection of dim signals. In this case, the clouds of Isaac were lit by moonlight.

# JULY 2013

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 <b>1962:</b> Cape Canaveral, Fla., established as NASA Launch Operations Center; <b>2012:</b> ISS Expedition 32	2	3	4 <b>Independence Day:</b> <b>1997:</b> Pathfinder lands on Mars; <b>2006:</b> STS-121/ULF1-1, MPLM launched	5	6
7	8 <b>2011:</b> STS-135/ULF7 launched (Final shuttle mission)	9	10 <b>1962:</b> Telstar-1, first commercial communications satellite	11 <b>1979:</b> Skylab re-enters Earth's atmosphere	12 <b>2001:</b> STS-104/7A, U.S.-Quest Airlock launched; <b>2000:</b> Proton/1R, Russia-Zvezda Service Module launched	13
14 <b>1965:</b> Mariner 4 takes first close-up pictures of Mars	15 <b>1975:</b> Apollo-Soyuz, first joint Russia-U.S./Soyuz spaceflight; <b>2009:</b> STS-127/JA, JAXA-JEM-EF and ELM-ES launched	16 	17	18	19	20 <b>1969:</b> Apollo 11, first manned lunar landing; <b>1976:</b> Viking 1, first U.S. spacecraft to land on Mars
21	22 	23 <b>1999:</b> STS-93, Eileen Collins, first female space shuttle commander	24	25	26 <b>1963:</b> Syncom 2-world's first geosynch comm. satellite; <b>2005:</b> STS-114, first shuttle flight following the Space Shuttle Columbia accident	27 
28 <b>1973:</b> Skylab 3	29 <b>1958:</b> President Eisenhower signed the National Aeronautics and Space Act	30	31			



AUGUST 2013

This is an image of the solar transit of the International Space Station taken during the partial solar eclipse from the area of Muscat in the Sultanate of Oman. The image shows the sun (150 million km from Earth), the moon (400,000 km from Earth), and the station (500 km from Earth). **BELOW:** Following a solar flare eruption, the upper of a pair of new solar active regions offers a beautiful profile view of cascading loops spiraling above it. These loop structures are made of superheated plasma, just one of which is the size of several Earths.

# AUGUST 2013

July						September						
1	2	3	4	5	6	1	2	3	4	5	6	7
7	8	9	10	11	12	13	8	9	10	11	12	13
14	15	16	17	18	19	20	15	16	17	18	19	20
21	22	23	24	25	26	27	22	23	24	25	26	27
28	29	30	31				29	30				

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5		6 <small>2012: Curiosity Rover lands on Mars</small>	7	8 <small>1978: Pioneer 13-Venus, first U.S. spacecraft to study Venus in detail; 2007: STS-118/13A.1, S5 truss, Spacehab and ESP-3 launched</small>	9
11	12 <small>1977: Space Shuttle Enterprise, first free-flight test</small>	13		14	15	16
18	19	20		21	22	23
25 <small>1989: Voyager 2, reaches closest approach to Neptune</small>	26	27		28 <small>2009: STS-128/17A, MPLM launched</small>	29	30
						31



SEPTEMBER 2013

This picture of the active Soufriere Hills volcano on Montserrat Island was photographed on Oct. 11, 2009, by the Expedition 21 crew members onboard the International Space Station. Soufriere Hills is identified as a "stratovolcano" by geologists because it is built of layers (the "strato" part of the name) of both lavas and pyroclastic flows from older eruptions. **BELOW:** The Hawaiian islands are the exposed peaks of a great undersea mountain range known as the Hawaiian-Emperor seamount chain, formed by volcanic activity over a hotspot in the Earth's mantle.

# SEPTEMBER 2013

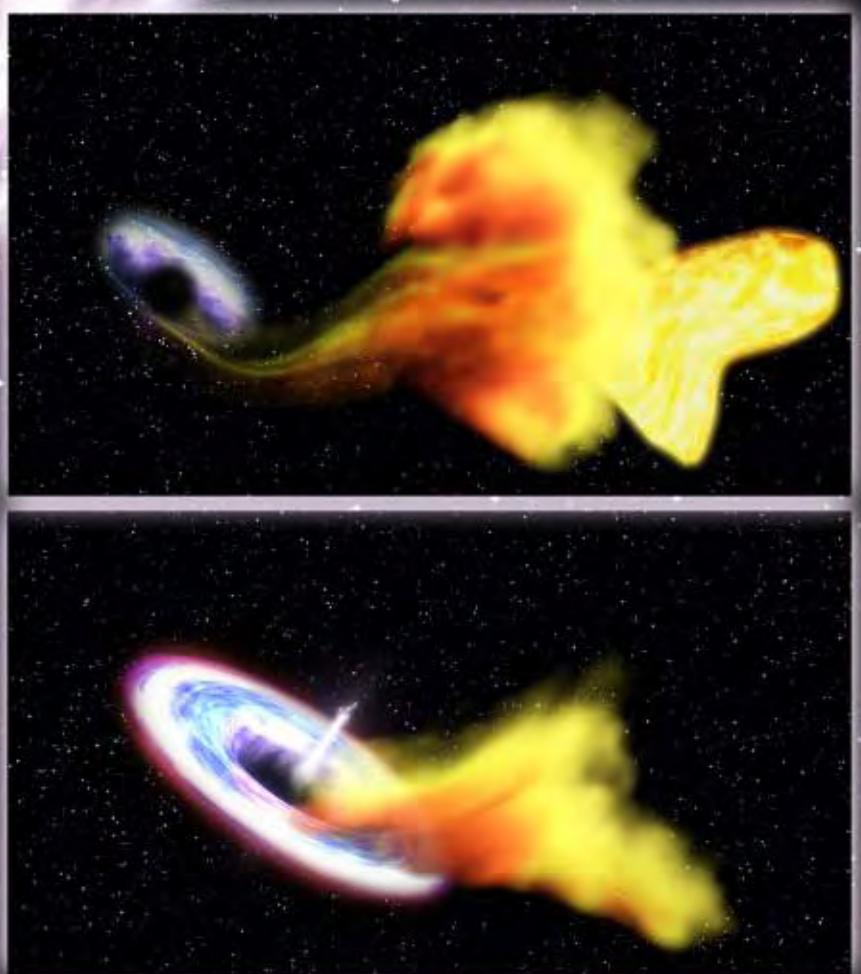
August

1	2	3				
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

October

1	2	3	4	5		
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 Labor Day	3	4	5 <small>1977: Voyager 1 returns first spacecraft photo of Earth and Moon</small>	6	7
8 <small>2000: STS-106/2A.2b, Spacehab launched</small>	9 <small>1975: Viking 2 launched, first spacecraft to successfully land on Mars; 2006: STS-115/12A, P3/P4 truss launched; 2011: ISS Expedition 29</small>	10 <small>2009: First JAXA HTV launched</small>	11	12	13	14 <small>2001: Soyuz/4R, Pirs docking compartment launched</small>
15	16	17 <small>2012: ISS Expedition 33</small>	18 <small>2006: ISS Expedition 14</small>	19	20	21 <small>2003: Galileo, first spacecraft to enter Jupiter's atmosphere</small>
22 <small>Autumn Begins</small>	23	24	25	26	27	28
29 <small>1988: STS-26, first shuttle flight following the Space Shuttle Challenger accident</small>	30 <small>2005: ISS Expedition 12</small>					



#### OCTOBER 2013

The Monitor of All-sky X-ray Image (MAXI), in coordination with the gamma-ray burst satellite Swift, observed for the first time the instant that a massive black hole swallowed a star located in the center of a galaxy 3.9 billion light years away. Super massive black holes have powerful gravitational fields that can destroy stars that get too close, producing a bright flare in the ultraviolet and X-ray spectral regions and a stellar debris field around the black hole.

**BETWEEN:** View of the MAXI hardware on the Japanese Module-Exposed Facility.

# OCTOBER 2013

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 <small>1958: NASA officially begins operations</small>	2	3	4 <small>1957: Sputnik 1 (U.S.S.R.), first satellite</small>	5
6	7 <small>2002: STS-112/9A, S1 truss launched; 2010: ISS Expedition 25</small>	8	9	10 <small>2007: ISS Expedition 16, Peggy Whitson, first female ISS commander</small>	11 <small>1958: Pioneer 1, first NASA Launch; 1968: Apollo 7, first crewed Apollo mission; 2000: STS-92/3A, Z1 truss launched; 2009: ISS Expedition 21</small>	12 <small>1964: Voskhod 1 (U.S.S.R.), first flight with multiple crew members; 2008: ISS Expedition 18</small>
13	14 <small>Columbus Day</small>	15	16	17	18 <small>2003: ISS Expedition 8</small>	19
20	21	22	23 <small>2007: STS-120/10A, ESA-Harmony Connecting Module launched</small>	24	25	26
27	28 <small>2009: Ares - 1X launch</small>	29	30	31 <small>2000: Expedition 1 launched, start of permanent human presence on the ISS</small>		



NOVEMBER 2013

A picture of Comet Lovejoy taken by an Expedition 30 crew member from about 240 miles above the Earth's horizon. **BELOW:** Flyaround view of the zenith (top) of the station taken onboard the space shuttle *Atlantis* during the STS-135 mission.

# NOVEMBER 2013

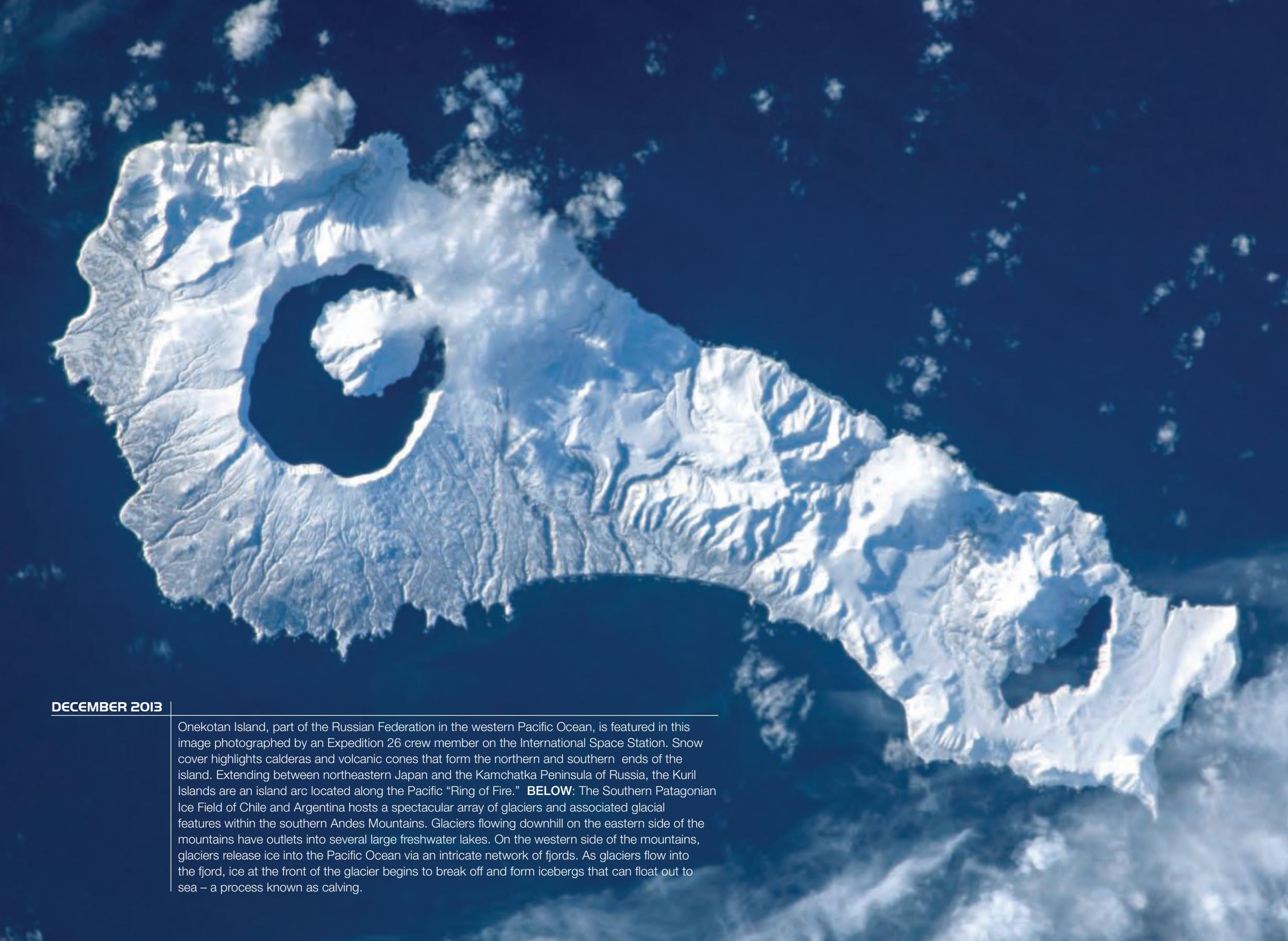
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2 <small>2000: Expedition 1 arrives at ISS. Continuous human occupation of ISS begins.</small>
3 <small>1973: Mariner 10, first spacecraft to explore Mercury</small>	4	5	6	7	8	9
10	11 <small>Veterans Day; 1982: STS-5, first space shuttle operational mission</small>	12	13 <small>1971: Mariner 9-Mars, first spacecraft to orbit another planet</small>	14 <small>2008: STS-126/ULF2, MPLM launched</small>	15 <small>2010: ISS Expedition 26</small>	16 <small>1973: Skylab 4; 2009: STS-129/ULF3, ELC1, and ELC2 launched; 2011: ISS Expedition 30</small>
17	18	19	20 <small>1998: Proton – Russia, Zarya Control Module, ISS first element launch</small>	21	22	23 <small>2002: STS-113/11A, P1 truss launched; ISS Expedition 6</small>
24	25	26	27	28 <small>Thanksgiving Day; 1983: STS-9, First international agency participates in U.S. mission</small>	29	30 <small>2000: STS-97/4A, P6 truss, first set of solar arrays launched; 2009: ISS Expedition 22</small>

O c t o b e r

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6 7 8 9 10 11 12  
13 14 15 16 17 18 19  
20 21 22 23 24 25 26  
27 28 29 30 31

D e c e m b e r

1 2 3 4 5 6 7  
8 9 10 11 12 13 14  
15 16 17 18 19 20 21  
22 23 24 25 26 27 28  
29 30 31



DECEMBER 2013

Onekotan Island, part of the Russian Federation in the western Pacific Ocean, is featured in this image photographed by an Expedition 26 crew member on the International Space Station. Snow cover highlights calderas and volcanic cones that form the northern and southern ends of the island. Extending between northeastern Japan and the Kamchatka Peninsula of Russia, the Kuril Islands are an island arc located along the Pacific "Ring of Fire." **BELOW:** The Southern Patagonian Ice Field of Chile and Argentina hosts a spectacular array of glaciers and associated glacial features within the southern Andes Mountains. Glaciers flowing downhill on the eastern side of the mountains have outlets into several large freshwater lakes. On the western side of the mountains, glaciers release ice into the Pacific Ocean via an intricate network of fjords. As glaciers flow into the fjord, ice at the front of the glacier begins to break off and form icebergs that can float out to sea – a process known as calving.

# DECEMBER 2013

November						January			
						1	2	3	4
3	4	5	6	7	8	9	5	6	7
10	11	12	13	14	15	16	12	13	14
17	18	19	20	21	22	23	19	20	21
24	25	26	27	28	29	30	26	27	28
							29	30	31

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 <small>1973: Pioneer 10-first flyby of outer planet (Jupiter)</small>	2	3	4 <small>1998: STS-88/2A, Unity Connecting Module, first U.S. component launched</small>	5 <small>2001: STS-108/UF-1, MPLM launched &amp; ISS Expedition 4</small>	6	7 <small>1972: Apollo 17, final Apollo mission</small>
8	9 <small>2006: STS-116/12A.1, Spacehab &amp; P5 truss launched</small>	10	11	12	13	14 <small>1962: Mariner 2, first flyby of Venus</small>
15 <small>1965: Gemini VII-A and VII, first manned rendezvous between two spacecrafts; 1970: Venera 7 (U.S.S.R.), first man-made spacecraft to successfully land on another planet (Venus) and to transmit data from there back to Earth;</small>	16	17 <small>1968: Apollo 8, first crewed mission to orbit the moon</small>	18	19	20	21 <small>Winter Begins</small>
22	23	24	25 <small>Christmas Day</small>	26	27	28
29	30	31				