## NASA Breaks Most Contact With Russia

NASA said Wednesday that it was suspending most contacts with Russian space agency officials, underscoring just how rapidly the Russian-American relationship is deteriorating in the wake of the Kremlin's annexation of Crimea and hinting at further ramifications that will go beyond previous rifts.

The one exception, NASA said, would involve operations of the International Space Station, the primary space collaboration between the two countries.

Otherwise, the extent of NASA's break in relations is broad and includes "travel to Russia and visits by Russian government representatives to NASA facilities, bilateral meetings, email, and teleconferences or videoconferences," Michael F. O'Brien, the agency's associate administrator for international and interagency relations, wrote in an email to top NASA officials.

Over the years of collaboration, the Russian-American partnership in space has continued largely immune to the geopolitical ups and downs between Washington and Moscow, and as recently as a few weeks ago officials expressed optimism that would still be the case, with the NASA administrator, Charles F. Bolden Jr., saying, "Right now, everything is normal in our relationship with the Russians."

But as the confrontation over Ukraine intensifies, it became untenable for the Obama administration to continue sending NASA officials to Russia or hosting their space agency officials in the United States as if all were normal, even as Washington cut off trade talks and military cooperation and threw Russia out of the Group of 8 industrial nations.

Defense Secretary Chuck Hagel has also directed the Air Force to review the use of Russian engines in rockets that send American military satellites into orbit. The Atlas 5 rockets, now produced by a joint venture of Boeing and Lockheed Martin, have been built for years with Russian-made RD-180 engines. American

officials are exploring the consequences of possible supply interruptions.

Still, the administration was not going so far as to cut off all cooperation, especially just a week after sending a NASA astronaut to the International Space Station along with two Russian cosmonauts in a Russian capsule. Further measures could seriously jeopardize the American space program.



## The Russification of Crimea

As Moscow's grip on Crimea tightens, ethnic Russians who were born under Soviet rule are eager to recapture their identity.

Since the retirement of the space shuttles, NASA astronauts get their rides into orbit aboard Russian Soyuz rockets at a cost of up to \$70 million a seat. NASA is financing commercial companies to develop rockets and spacecraft to start carrying astronauts as soon as 2017. At a congressional hearing last week, Mr.

Bolden said the program, called commercial crew, was the "critical need" for the human spaceflight program.

The new restrictions are similar to ones that limit what NASA is allowed to do with China because of worries, particularly by Representative Frank R. Wolf, Republican of Virginia, that China would take advantage of collaborations to copy American technologies. Under those rules, NASA cannot host any Chinese citizens.

The decision to suspend the relationship with the Russian space agency is unusual for several reasons, not least because keeping the space enterprises alive has long been a symbol of Washington's commitment to an apolitical working relationship with Moscow. Breaking it, some government officials have feared, would invite the Russians to retaliate by suspending nuclear inspections under the new Start treaty — inspections that have continued despite the differences over Ukraine.

But the Obama administration's decision was made easier by the dwindling nature of the nation's space program. Grand plans for international space programs have largely withered, as the space shuttle program has ground to an end. "There's a sense that we don't need the space relationships the way we once did," one senior government scientist said, "because we don't have as much going on in space."