The vital role of world navies this past year could be best viewed through a sampling of regional hot spots. The South China Sea remained high on the danger list because of the many contested territorial assertions in the energy-rich region, and the naval buildups that are intended to protect and enforce these claims. The Persian Gulf is another problem area that saw increased tension stemming largely from Iran’s nuclear ambitions and its ever-present threats to close the Strait of Hormuz. The Mediterranean Sea was added to the list during 2011 as the “Arab Spring” brought both hope and chaos to North Africa and the Middle East, and as NATO intervened to protect civilians in the Libyan civil war. Scores of other maritime operations included piracy prevention, counterterrorism, and maintaining freedom of the world’s waterways. These missions serve as a constant reminder that the power and impact of maritime forces have a major role in shaping current events.

This review of the world’s navies presents a snapshot of activities and developments during the past year. It is arranged by region, with nations discussed alphabetically under each subheading.

**Australia/Asia**

Australia’s navy has been plagued by crew shortages and warship-reliability challenges during recent years, and these issues have been particularly acute among submarines and amphibious ships. During 2011 the amphibious fleet suffered a number of setbacks, including the discovery of major hull corrosion on HMAS Manoora, a retired U.S. Newport-class auxiliary transport (the ex-Fairfax County [LST-1193]). The problem forced an early retirement of the 8,000-ton vessel along with sister ship Kanimbla (the ex-Saginaw [LST-1188]).
The time frame for service entry of the new boats is likely by 2033, based on the projected development and construction estimates.

Australia has selected the MH-60R Seahawk as its next generation of naval-combat helicopter. The aircraft are expected to begin entering Australian service in 2014 with initial operational capability scheduled for roughly 2015. Twenty-four of the new helicopters ultimately will replace the S-70B Seahawks now flying.

Bangladesh’s navy is in the process of establishing a long-sought fixed-wing maritime-patrol aircraft capability. In July 2011 two Do-228 NG (Next Generation) aircraft were ordered and are due to enter service in 2013 for search-and-rescue, fisheries and environmental-monitoring operations, and general patrol duties. They will be the first fixed-wing assets to join the fleet. Bangladesh also has ordered two AW109 helicopters for use from land bases or on board the frigate Bangabandhu.

Brunei’s navy continues to modernize, and its third and final 80-meter Darul-salam-class offshore-patrol vessel, the Darulaman, was delivered from Germany in August 2011.

China’s naval operations in the Pacific and South China Sea during 2011 have continued to cause concern among its neighbors, as witnessed by large Chinese warship flotillas sailing through international waters near Okinawa, and accusations that Chinese vessels fired on Philippine fishing ships while operating in the Spratly Islands. There also have been reports of a Chinese ship cutting cables from a Vietnamese surveillance vessel operating inside Vietnam’s own 200-mile Exclusive Economic Zone. China repeatedly has warned the United States to stay out of what it considers local disputes. To bolster its power in contested regional waters, China’s Maritime Surveillance Agency, a maritime law-enforcement organization, announced vast expansion plans during 2011, including the expected acquisition of 36 ships over the next five years.

In 2011 Australia acquired the surplus dock landing ship Largs Bay from Britain’s Royal Navy and renamed her HMAS Choules.

and put significant strain on the fleet. As a stopgap measure, the Australian government has acquired the surplus 16,000-ton dock landing ship Largs Bay from the British navy. The ship has been renamed HMAS Choules and was commissioned into the Royal Australian Navy in December 2011.

Work on the new Hobart-class air warfare destroyer continues, although reports began to surface in mid-2011 that the program would likely face additional delays, and the first of this class is now planned for completion in December 2015, with a second and third unit set to deliver in 2017. The enhanced air-defense radar and combat suite installed aboard the frigate HMAS Perth apparently has proven successful, and current plans now call for similar upgrades to be installed aboard all Australian members of the Anzac class.

Australia’s Collins-class submarines are still suffering from low operational reliability, and the unimpressive 32-percent availability rate reported for the six boats during 2009–10 is said to have been due to a combination of technical and maintenance problems along with crew shortages. Australia’s 2009 defense white paper has called for the acquisition of 12 new long-range submarines to replace the current subs beginning around 2025. Unfortunately, the program already appears to be behind schedule, and a more realistic
It is important to understand that garnering prestige and respect for the nation appears to be a vital role for the People’s Liberation Army Navy, and the desire to earn that respect for the country remains as high on the fleet’s priority list as do more typical operational requirements. This is perhaps best illustrated by the acquisition of China’s aircraft carriers, the first of which is expected to enter service in 2012 and likely will have a far bigger impact on fleet prestige than on naval power-projection capacity, at least in the short term. Sea trials for the first planned carrier, a 60,000-ton former Russian ship previously named the *Varyag* but rumored to have been renamed the *Shilang*, began in 2011, and the carrier is expected to commission in August 2012. China’s first aircraft carrier has been deemed a strategic asset and reportedly will be assigned under the direct control of China’s Central Military Commission rather than placed under the regular chain of command. Two additional carriers also are thought to be planned, with the launch of at least one unit expected by 2015, although these reports remain highly speculative.

Once operational, the Chinese carrier fleet likely will operate J-15 fighters, which, much to the chagrin of Russian defense contractors, are considered to be unlicensed reverse-engineered copies of the Russian Su-33 fighter. Chinese aircraft carriers can be expected to conduct training and show-the-flag missions at the outset, but also could exert power in contested waters such as the South China Sea and around the Spratly Islands chain if called on to do so. Some reports indicate that a fleet of five to six aircraft carriers may be planned during the decades ahead. Another element of Chinese naval aviation that may have gone unnoticed in some circles was the 2011 unveiling of a new maritime-patrol aircraft, the Y-8Q, a naval-patrol variant of the Y-8/Y-9 medium transport jet.

There is evidence that China has been responding to Western criticism and is attempting to increase military transparency. The shift was demonstrated this past year when military officials acknowledged the development of an antiship ballistic missile known to the media as the DF-21D. The officials stated that the developmental process was difficult, and a number of technical challenges were causing delays, with the weapon still years away from operational status.

The Chinese surface fleet is still seen by many as being at least a full decade away from being considered a true blue-water fleet. Production continues on new destroyers, and additional upgrades reportedly are planned for the Luhu-class destroyers, which are having their close-in weapon systems and radars modernized. 2011 saw the launching of the second and third Type 071-class amphibious transport docks, 19,000-ton ships able to transport 1,000 troops. A newer Type 081-class amphibious ship also is reportedly under development, though few details are yet available.

The Chinese submarine fleet today consists of about 60 submarines but is expected to grow possibly to 75 boats during the next 15 years. Some sources have estimated the number of submarines in service to reach as high as 100 by 2030. The force has moved rapidly from the aging Cold War-era boats to modern air-independent propulsion submarines, and the nuclear fleet also is seeing an expansion, now that Type 095-class nuclear-powered attack submarines are planned for service entry as early as 2015. Two Project 093 SSNs and two Project 094 nuclear-powered ballistic-missile submarines reportedly were in service by 2011, with up to three additional SSBNs planned.

East Timor is building up its fledgling fleet and in 2011 announced the order for two new fast-attack craft to be built in Indonesia.

India’s Kilo-class submarines are workhorses of the fleet and are due to be joined by newer Scorpène-class boats beginning around 2015.
During the past year India has been fostering new and closer defense ties with friends around the Pacific, including Japan. The Indian defense establishment remains highly concerned about China’s rapid naval growth and its close ties with neighboring Pakistan. India continues to turn itself into a local power-center that is widely viewed in the West as a source for stability and a potential counterweight to Chinese military might. The Indian fleet has taken an active role in conducting maritime exercises around the globe and saw a sizable increase to its 2011 defense budget compared with previous years. In 2011 India had 39 warships under construction at its public shipyards, although many of the programs faced serious delays. By 2025 India hopes to operate 162 ships, including new nuclear-powered submarines and two aircraft carriers; by then, its coast guard will have largely completed an extensive modernization.

Despite severe cost overruns in nearly all its warship programs, India’s surface fleet received a second Shivalik-class (Project 17) frigate, and a third unit is planned for delivery in 2012. The first of four Kamorta (project 28) corvettes is expected to enter service in 2012, as is the first of three Kolkata-class (Project 15A) destroyers. 2012 also will see the first of three new, improved Talwar-class frigates delivered from Russia. This latest Talwar variant is the first of the class to be fitted with the Brahmos surface-to-surface missile. Three follow-on Batch 3 Talwar-class frigates also are planned. The surface fleet suffered a sudden loss in 2011 when the frigate Vindhyagiri sank following a collision with a container ship.

India recently received the first of two 175-meter replenishment ships intended to extend the reach of the fleet, and a contract for five 2,000-ton offshore-patrol boats has been let to a private-sector shipyard. On the amphibious front, the navy plans to retire older tank-lading ships as it works to acquire four amphibious transport docks sometime in the future.

India’s submarine capability is still far short of where its navy had hoped it would be, but is making slow progress toward its goals. The long-planned transfer and lease of the Russian Akula-class attack submarine Nerpa to India was completed on 30 December 2011. She has been renamed the Chakra for Indian service, and the lease is expected to run through 2021. The new Chakra is not only a powerful addition to the fleet, but also will help submariners train as the nation builds its own nuclear-submarine construction capability. India’s first domestically produced nuclear-powered ballistic-missile submarine, the INS Aridant, is nearing completion and is planned for service by the end of 2012. At least two additional SSBNs are slated by 2017 as India seeks to establish a true nuclear-deterrent capability. Six non-nuclear Scorpène-class submarines are also on order although the program has faced a number of significant delays. Current plans call for the first Scorpène boat to enter service in 2015 and the final unit by 2021.

India’s investment in its naval-aviation capability is beginning to pay dividends as well. The 44,000-ton aircraft carrier INS Vikramaditya (a former Russian Kiev-class aircraft carrier) is expected to enter service by the end of 2012, though there could be delays if significant problems are uncovered during sea trials. Plans to commission a domestically built 40,000-ton carrier are planned for around 2015, and the service is acquiring MiG-29s and Tejas light-combat aircraft to operate from the carrier fleet. Twelve P-8I Neptune maritime-patrol aircraft, which are Indian variants of the U.S. P-8 Poseidon, are planned for service from land bases, with the first unit due to enter service in 2013. India also has expressed interest in acquiring Japanese US-2 amphibious seaplanes for search-and-rescue duties in the future.

Indonesia’s defense spending continues to rise, but its military and naval forces still face significant challenges. In mid-2011 it was reported that only 30 to 35 percent of Indonesian military equipment has been considered effectively operational since 2005. To police and monitor its territorial waters, the Indonesian fleet has an overall requirement for 300 new ships and boats, including offshore-patrol vessels and patrol craft. Though this will likely remain a largely unmet goal, the country has begun receiving new domestically built 40-meter patrol boats and fast-attack craft, at least some of which are being armed with Chinese-supplied antiship missiles. In December 2011 Indonesia also reportedly inked a deal to acquire three new German-designed Type 209/1200 submarines, two of which are to be built in South Korea and a third built locally in Indonesia for service by 2020.

The impact on Japan of the March 2011 earthquake and tsunami cannot be overstated. More than 15,000 people were killed and thousands remain missing. The event forced the deployment and mobilization of more than 100,000 military personnel and 58 ships from the Japan Maritime Self-Defense Force. Warships including helicopter-carrying destroyers, amphibious vessels, destroyers, and frigates played a key role in relief efforts. Recuperations from the event and its impact on the Japanese economy, naval budgets, and planning no doubt will continue to be felt for years to come.

Despite these challenges, the country remains concerned over what it views as Chinese naval aggression in regional waterways. Japan is working to cultivate ties with potential allies such as India, as well as to grow closer defense ties with the United States. Both countries are working to make their jointly developed SM-3 ballistic-missile interceptor available for export in view of Japan’s tight military export rules. The second 18,000-ton Hyuga-class helicopter carrying destroyer, the Ise, entered service in early 2011, and plans to build two similar, but even bigger 24,000-ton warships were also announced with construction planned to begin on the ships in 2012. The third of Japan’s Soryu-class submarines entered service last year and the first new Akizuki-class destroyer is expected to enter service in 2012. At least three additional units are planned through 2014. Introduction of Japan’s newest maritime-patrol aircraft, the P-1, may face minor delays as engineers work to correct wing cracks discovered on the test aircraft.

The December 2011 death of North Korea’s leader Kim Jong-il and the succession of his son Kim Jong-un to power did little to ease regional tensions on the peninsula. North Korean forces remain active and were sighted building a new naval-hoverscraft base in South Hwanghae Province during 2011. Once completed, the facility reportedly will be the southernmost hoverscraft base permanently operated by North Korea. The country also conducted extensive submarine exercises
last year that involved at least five Sang-O coastal submarines operating in the Yellow Sea.

With the 2010 sinking of South Korea’s corvette Cheonan by a North Korean submarine still fresh in its mind, the South Korean government is looking to the United States to continue playing a greater role in helping deter North Korea, and South Korea has promised to respond more forcefully to future attacks. It also is working to increase its ability to defend islands in the Yellow Sea. The country is in the process of modernizing its coast guard and is acquiring a number of new cutters. A third new Aegis-equipped KDX-III destroyer is planned for service in 2012, and the first new Incheon-class frigate is expected to commission around 2013. The country has a requirement for five new midget submarines to replace its aging Dolgorae-class boats. In addition to the three Type 214 air-independent-propulsion-capable submarines now in service, six more were ordered during 2008, marine, antiair, and antisurface operations. The Malaysian fleet has a requirement for five multipurpose troop- and cargo-transport ships and hopes to acquire three of the transport ships by 2015, though budget cuts could curtail the purchase. Budgetary setbacks also have delayed the planned acquisition of six new antisubmarine helicopters until at least 2013.

New Zealand’s multipurpose support ship HMNZS Canterbury was called on to form the core of a joint Australian–New Zealand natural-disaster response force during 2011. The Canterbury and other New Zealand naval and defense assets were able to respond quickly to the earthquake that struck Christchurch in February 2011. Two new landing craft are also planned for the support ship in the near future, replacing the two previous craft that have been deemed insufficient.

Despite Pakistan’s anger at the May 2011 U.S. raid that killed Osama bin Laden, its navy hopes to continue fostering ties with the United States, which transferred an Oliver Hazard Perry–class frigate to Pakistan during 2010. Pakistan’s naval forces have had to adapt in recent years from simply countering India to maintaining a higher-than-normal operational tempo as part of efforts to counter terrorism, piracy, and smuggling operations. The country increasingly is looking to China for friendship and weapon acquisitions. Three of the four F-22P frigates have now been built by China and transferred to Pakistan. Delivery of a fourth unit is planned for 2013. The Pakistani-Chinese frigate deal has proven both successful and popular and is likely to be a sign of things to come between the two nations. There also have been rumors that China could help Pakistan build up a naval base at the port of Gwadar on the Indian Ocean.

One of Pakistan’s most important naval requirements remains the acquisition of new submarines. The navy considers the German Type 214 its optimum submarine choice, but these may not be affordable, and the Pakistani government reportedly is in talks with China as it searches for less expensive alternatives. Pakistan’s antisubmarine fleet took a major hit in May 2011 when two of its four P-3 Orion maritime-patrol aircraft were destroyed in a terrorist attack on a naval station in Karachi. The transfer of seven additional P-3s from the United States was announced in 2010.

The Philippines is re-examining regional challenges and offshore maritime requirements in the wake of aggressive Chinese behavior in the contested Spratly Islands. In 2011 there were several reports of Chinese naval ships opening fire on Philippine fishing vessels operating around the Spratleys, often within the Philippines’ 200-mile Exclusive Economic Zone. These incidents have demonstrated naval vulnerabilities and pushed the country toward closer defensive military ties with the United States. The average age of Philippine naval ships is 35 years old, and new acquisitions have been sorely neglected for more than a decade. In May 2011 the island nation acquired the former U.S. Coast Guard high-endurance cutter Hamilton (WHEC-715) and renamed her the Gregorio del Pilar. Two additional Hamilton-class sister ships also are expected for service beginning in 2012.
capable of being backtracked when it requested additional research into alternative Chinese-, Russian-, or South Korean–built submarine designs.

**Vietnam** is in the midst of a major naval rejuvenation effort for its long-neglected forces. In the wake of worries over China, the country has begun opening its doors to a growing number of countries, including the United States. In August 2011 the USNS Richard E. Byrd (T-AKE-4) became the first U.S. Navy ship in nearly 40 years to visit the port of Cam Ranh Bay. Russia and India both have been strengthening ties with Vietnam, and a defense-cooperation agreement was signed with the Netherlands in 2011. In total, Vietnam recently has signed varying types of defense and cooperation agreements with more than ten countries. The government also has approved large increases to the defense budget and plans to boost coastal-defense capabilities through the acquisition of additional SSC-5 anti-ship missiles from Russia.

A new 71-meter troop transport was launched in October 2011 and is the largest ship yet designed and built in Vietnam. From Russia the country received two newly built Gepard-class frigates in spring 2011. It is likely that the frigates will carry a helicopter and antiship missiles in addition to naval guns. Vietnam also has ordered six improved Kilo-class submarines with delivery planned to begin around 2015. Six new maritime-patrol aircraft recently were purchased from Canada in an effort to enhance Vietnam’s naval capability and to protect its interests in the tense South China Sea region.

**Europe**

**Bulgaria** decommissioned its final Romeo-class submarine, the Slava, in November 2011 and with it retired its navy’s celebrated submarine service. Retirement of its last submarine was largely an administrative matter, however, since the Slava has been considered inactive since around 2000.

**Denmark** is working to expand its reach in the Arctic and is in the process of establishing a new Arctic military-command center. The first of Denmark’s 6,000-ton *Iver Huitfeldt*-class patrol frigates underwent sea trials during 2011 and the second ship, the *Peter Willimoes*, was fitted with her active phased-array radar system in April 2011. In addition to their regular warship armament, ships of the class can carry a number of modular mission payloads, similar in concept to the U.S. Navy’s littoral combat ship. Three of the *Iver Huitfeldt*-class frigates are planned for service by 2014.

**France**’s navy played a key role in NATO’s 2011 operations in Libya. French warships fired 3,000 rounds of 100-mm and 76-mm munitions providing naval gunfire support, and the aircraft carrier *Charles de Gaulle* was vital during early stages of the operation.

Sea trials for the first Aquitaine-class frigate began during the spring of 2011, and the ship will enter service in 2012. Eleven total units are planned for French service, with nine to be built as general-purpose warships and two tailored for air defense. The third French 21,500-ton Mistral-class amphibious assault ship is expected to enter service in 2012; a fourth unit also is planned. The controversial sale of Mistral-class ships to Russia will no doubt prove a boon to the French naval-export market, which has suffered some setbacks in recent years. The privately funded Gowind-class offshore-patrol vessel L’Adroit was launched by shipbuilder DCNS and has been handed over to the French navy, which will operate the corporately owned vessel on a test basis for three years.

The Suffren, the first of six planned nuclear-powered attack submarines being built under the Barracuda program, is due to enter service in 2017, followed by the second unit two years later. In 2011 the French Navy welcomed new NH90 helicopters into service, with 27 on order to be delivered through 2020.

**Greece**’s financial difficulties have hit its defense budget as hard as they have hit the economy. During 2011 the navy decommissioned its oldest Type 209 submarine Glavkos and three Votsis-class fast-attack craft, though on a positive note new Super Vita–class guided-missile patrol craft continue to enter service, and the navy finally accepted its first Type 214 submarine in...
2010, with five additional units planned by 2018.

Germany’s new K 130–class corvettes were forced to undergo corrective action following the identification of reduction-gear difficulties on board all five units. Four Type 212 submarines currently are in service with the German fleet, and two additional units are being built for delivery in 2013. Construction also has begun on the first of Germany’s F 125 frigates, with delivery of the first ship planned for March 2016. A second unit is scheduled for February 2017, with two additional units due for service in 2018. These 7,000-ton warships are intended to replace the eight Bremer-class frigates that entered service between 1982 and 1990. A key innovation of the F 125 program will be the frigates’ high operational tempo and reduced crew size, as well as the implementation of a double-crew system similar to that employed by the U.S. Navy’s submarine service.

Italy’s first new frigate built under the FREMM (European multi-mission frigate) program began sea trials late in 2011. The Carlo Bergamini will enter service in 2013. Up to ten such frigates are planned, with the second and third unit of the class expected to enter service by 2015. The Italian fleet hopes to acquire three new 20,000-ton amphibious assault ships in the years ahead, and its first NH90 NATO Frigate Helicopter (NFH) entered service this past year. Forty-six NH90s are planned for the future as well. Ten additional utility versions of the NH90, known as the tactical transport helicopter, are also on order. The Italian aircraft carrier Giuseppe Garibaldi served as NATO flagship during combat operations off the North African coast in 2011, while operating a mix of helicopters and Harrier aircraft to help enforce the Libyan no-fly zone.

In April 2011 Latvia commissioned the Skrunda, the first of five SWATH (small waterplane area, twin-hull) vessels being built in Germany by the shipbuilder Abeking & Rasmussen. Four sister ships are being delivered under a 2008 contract. The ships are intended for surveillance and patrol of Latvia’s Exclusive Economic Zone and territorial waters.

Lithuania received two former British Hunt-class mine countermeasures ships this past year. HMS Cottesmore and Durlerton were retired from British service and have been renamed the Skalvis and Kursis, respectively.

In 2011 the Netherlands announced a series of sweeping defense cuts. Reductions to the navy included early retirement of the underway-replenishment ship Zuiderkruis, which left service late last year, and the planned 2014 decommissioning of the replenishment ship Amsterdam. The new 28,000-ton Joint Support

The French aircraft carrier Charles de Gaulle proved vital during the early stages of NATO’s 2011 Libyan operations.
Ship is planned for service entry in 2014. The number of Alkmaar-class mine hunters was reduced to six when four of the class were retired in 2011. The number of Holland-class offshore-patrol vessels remains set at four, even though earlier discussions had proposed cutting the class by two units. The first two Holland-class ships are constructed in the Netherlands and two additional units are being built in Romania. All are due to enter service by 2014. The Dutch Ministry of Defense also announced plans to upgrade its four for sub-par equipment if better weapons might be found abroad. This appears to be a shot across the bow for the Russian defense industry, which is likely to see increased government investment during the next decade in hopes of rebuilding its once-solid industrial base.

During recent years Russian submarine activity reportedly has been at its highest levels since the 1980s, and testing of the Bulava submarine-launched ballistic missile started up again in 2011. Most recently, the weapons have been launched from the new Borey-class nuclear-powered ballistic-missile submarine Yuri Dolgoruky, for which seven sisters are planned. Between 2005 and July 2011, 15 tests of the Bulava have taken place, but only seven have been considered successful. Russia also transferred an Akula-class nuclear-powered attack submarine to India late in 2011 as part of a ten-year lease deal. Work continues on the Russian navy’s newest SSN design, known as the Yasen class. Two of these units are planned for service by 2014. Interestingly, Russia has restarted production of its improved Kilo-class submarines (Project 636) after an almost 20-year hiatus. Six new-build Project 636 submarines have been ordered, in addition to those already in service. Some sources speculate that the reactivation of an older production

De Zeven Provinciën–class guided-missile frigates enabling them to detect and track ballistic missiles at extended ranges. The frigate upgrades are scheduled for completion on board all four sisters by late 2017.

In 2011 Russia finalized plans to acquire at least two 20,000-ton Mistral-class amphibious assault ships from France, with a future option to build two more units domestically. This marks the first major sale to Russia of military hardware by a NATO member. Several new frigate designs also are in the works with new Steregushchiy, Gepard, Admiral Grigorovich, and Project 22350 combatants planned for service by 2016. Russia has been coming to grips with the fact that it may be losing its technological prowess in certain defense technologies, and leaders have advised the military not to settle launched from the new Borey-class nuclear-powered ballistic-missile submarine Yuri Dolgoruky, for which seven sisters are planned. Between 2005 and July 2011, 15 tests of the Bulava have taken place, but only seven have been considered successful. Russia also transferred an Akula-class nuclear-powered attack submarine to India late in 2011 as part of a ten-year lease deal. Work continues on the Russian navy’s newest SSN design, known as the Yasen class. Two of these units are planned for service by 2014. Interestingly, Russia has restarted production of its improved Kilo-class submarines (Project 636) after an almost 20-year hiatus. Six new-build Project 636 submarines have been ordered, in addition to those already in service. Some sources speculate that the reactivation of an older production

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fighter and attack aircraft to the air force, including navy Su-27s and Backfire bombers. However, some assets assigned to the Black Sea Fleet, including Su-24 Fencers, are expected to remain under naval control along with all navy helicopters and carrier-based aircraft. Russia apparently has been having great difficulty training a new crop of aircraft-carrier pilots and reportedly has been forced to rely on former naval aviators—turned—contract pilots to fill the gap. A new training facility for Russian carrier pilots is expected to become fully operational in Yeysk around 2015.

Spain’s navy has received its first two offshore-patrol vessels built under the BAM (maritime-action ship) program; two more units are under construction, and at least five more are planned. The fifth and final Alvaro de Bazan—class guided-missile frigate is due for delivery in 2012, and preliminary work on a next-generation frigate design already has begun. In 2011 Spain and the United States unveiled an agreement to forward-deploy four U.S. Navy ballistic-missile-defense ships to Rota, Spain, by 2015. At least four new S-80 submarines are planned for service beginning around 2013, and the shipyard is considering exporting the submarine as a longer-range alternative to the German Type 214 or French Scorpène-class capability; these modifications are due to be completed during 2012–13. Sweden also hopes to purchase one or two dual-use civil-military support ships that can help meet fleet logistical requirements during the decades ahead. An order for the country’s newest class of submarines is expected in 2012, with delivery of the first boat expected by 2020. Known as the A-26 program, the new submarines will be designed for intelligence-collection operations.

Turkey is making significant progress building its own defense-industrial base, and the navy has a large number of new warships planned during the next decade. The first new 2,000-ton MILGEM (“National Ship”) corvette, the Heybeliada, was commissioned in September 2011. The MILGEM program is creating the first modern warship class to be produced and designed domestically in Turkey and is providing an important boost to the shipbuilding industry. Up to ten additional units eventually may be built. The first of eight new tank-landing craft began sea trials early in 2011, and all units of the class are due for service by 2013. Sixteen Tuzla-class patrol boats and four 88-meter coast guard search-and-rescue cutters also are being constructed. The navy is examining the acquisition of a large amphibious assault ship to be built locally that would make possible the transport of a battalion-sized force for military or humanitarian-relief operations. Six new German-designed Type 214 submarines also are on order to replace the older Type 209s currently in service.

The United Kingdom is working to mitigate the sizable gap in naval capabilities expected over the next decade as a result of ongoing budget cuts. The drawdown required tough choices, and many important capabilities and programs had to be cut, including carrier-based fixed-wing aviation and the Nimrod long-range maritime-patrol aircraft. These cuts allowed for continued funding of other higher-priority efforts such as seven Astute-class submarines, the second of which is entering service in 2012, and the new Type 26 frigate program, intended to replace the Type 23 warships during the 2020s. A decision on the Vanguard-class SSBN-replacement program is still being debated, with a final decision not expected before 2014.

Royal Navy forces played a key role during NATO’s Libyan operations. The forces involved included units from the Trafalgar class, Type 42 air-defense destroyers, Sandown-class mine-countermeasures ships, frigates, and the amphibious assault ship, the Juan Carlos I, into the fleet after she entered service in late 2010.

Sweden’s maritime forces continue making the transition from a coastal-defense entity to a more expeditionary-capable service. Though protection of the Swedish homeland will remain the navy’s highest priority, it has been working for several years to develop a more adaptable force able to deploy around the world and coordinate with allies during military contingencies. The Visby-class guided-missile patrol craft are being modified for allied interoperability with enhanced radios and an underway-replenishment capability; these modifications are due to be completed during 2012–13. Sweden also hopes to purchase one or two dual-use civil-military support ships that can help meet fleet logistical requirements during the decades ahead. An order for the country’s newest class of submarines is expected in 2012, with delivery of the first boat expected by 2020. Known as the A-26 program, the new submarines will be designed for intelligence-collection operations.

The United Kingdom’s third Type 45 air-defense destroyer, HMS Diamond, entered service in 2011.
ous assault ship HMS Ocean. Indeed, the heavy burden carried by Britain’s navy during the current Libyan operations did little to quell the controversy over the impending cutbacks.

Work on the Type 45 air-defense destroyers has been progressing well, and the third of six units, HMS Diamond, entered service in mid-2011 while the fifth unit of the class, HMS Duncan, began sea trials later in the year. The namesake of the class, HMS Daring, embarked on her maiden deployment in January 2012.

Retirement of the Harrier capability has left the Royal Navy with a roughly ten-year fixed-wing fighter gap until new F-35C Joint Strike Fighters begin entering service around 2020. Two Queen Elizabeth-class carriers are being built, but only one is likely to remain in service due to cost-cutting measures. HMS Queen Elizabeth, the first ship of the class, will be fitted only for helicopter operations, and the second ship, HMS Prince of Wales, will be outfitted for fixed-wing aviation and is expected to carry the EMALS electromagnetic catapult system and an airwing of 12 to 36 F-35Cs. In the meantime, HMS Illustrious, the sole remaining Invincible-class carrier, has completed refit and will be rotating duties with the amphibious assault ship HMS Ocean for the immediate future. The Ocean successfully hosted British Army Apache attack helicopters during the Libyan operations, which proved to be a highly effective pairing. A major naval-helicopter recapitalization effort is also under way with new Lynx and Merlin aircraft replacing older rotary-wing variants in the coming years.

Middle East/Africa

Algeria recently received two Kilo-class submarines from Russia and also is planning to update its surface fleet with new frigate-sized warships— the German MEKO-200 design looks to be the current front-runner.

The chaos and revolution in Egypt this past year caused concern in the United States, which supplies a large percent of Egypt’s defense resources through foreign military funding. Financial support remains unchanged, at least for the time being, and work is continuing on an order to build four Ambassador IV-class guided-missile patrol craft at Halter Marine in Gulfport, Mississippi. The first of the class is due to enter service in 2012.

Ghana’s navy received an overhauled fast-attack craft transferred from South Korea in January 2011. A member of the Chamsuri (Sea Dolphin) class, the vessel has been renamed the Stephen Otu and renumbered P-33. New patrol boats from Germany and China also are strengthening Ghana’s fleet.

Iran is feeling the pinch of economic sanctions stemming from refusals to halt its nuclear-development program. In response, the world has been subjected to increasingly frequent Iranian threats to close the Strait of Hormuz. Though it remains in Iran’s interests to threaten closure of the strait (it draws attention and can raise the price of oil), it is not in its interest to actually try closing the strait, which almost certainly would devastate the Iranian economy and lead to armed intervention by the United States and its allies. Late in November 2011 Iran announced the entry into service of three additional 120-ton Ghadir-class submarines. This brings to 14 the number of Ghadir-class boats now estimated in service. Modernization and upgrade efforts on one of Iran’s three Kilo-class submarines is due to be completed in 2012, and some reports have indicated that the upgraded submarine may have been fitted with the capability to launch 3M-54E Klub antiship missiles. Last year Iran also attempted to demonstrate the expanded reach of its navy when it sent two ships through the Suez Canal for the first time in a generation.

Military leadership also bragged that the Iranian navy could send warships to sail off the East Coast of the United States if so desired, though this remains an unlikely proposition.

Iraq has been receiving a large quantity of military equipment in the hopes that it will be able to properly defend itself in the absence of foreign troops. Iraq’s navy and marine corps currently consist of 3,500 personnel with around 65 patrol vessels of varying size. New patrol boats and other craft continue to enter service, and up to 15 new Swiftships-built patrol craft are planned for service by 2013.

Israel also is in the market for new patrol ships as the country looks to expand its maritime capability to protect its offshore gas fields. The U.S. littoral combat ship has proven too expensive for Israel’s budget, and its navy reportedly is leaning toward acquisition of German MEKO-200 corvettes, although additional Sa’ar V+ vessels may also be an alternative. Two new air-independent-propulsion (AIP) variants of the Dolphin-class submarine are under construction in Germany with delivery expected by 2013, and a sixth unit is under consideration. The AIP system eventually may be backfitted into the first three units of the class.

Libya remains in a state of barely managed chaos following the civil war that led to NATO intervention and the overthrow and death of longtime despot Moammar Gadhafi. Little is known of the current disposition of Libya’s fleet, though at least a few of its warships were destroyed in the fighting and at least one Koni-class frigate, manned by Gadhafi loyalists, reportedly was damaged by NATO airstrikes, while the second unit was said to have been captured by rebels prior to the fall of the regime.

The first of Morocco’s new 105-meter SIGMA-class corvettes was commissioned in September 2011. The class is constructed by Damen Schelde Naval Shipbuilding in Vlissingen, Netherlands. Morocco also has ordered two 98-meter variants of the class, which are due for delivery in 2012.

Mozambique began receiving the first of ten Spanish-built 12-meter launches in 2011 and will also receive a retired Spanish Conejera-class patrol boat under a transfer deal announced last October. The country recently signed a maritime-coordination agreement with South Africa that will make security patrols and intelligence-sharing more effective.

Nigeria continues to struggle with militant violence in the Niger Delta region as the navy rebuilds and refurbishes its fleet. A ten-year effort to strengthen maritime capabilities was launched in 2009, and steady progress has been made toward the goals laid
out in the plan. The military budget reportedly has benefited from financial support through oil companies operating in the region. Significant aid also has come from the United States, including transfer of patrol boats and the 3,000-ton high-endurance cutter Chase (former WHEC-718), retired from the U.S. Coast Guard in 2011 and renamed the Thunder in Nigerian service. New Shaldag-class fast-attack craft also have recently joined the fleet. In spite of these improvements, piracy and petroleum-smuggling remain problems off Nigeria, the Gulf of Guinea, and much of the west coast of Africa.

Oman is set to receive three 99-meter Project Khareef corvettes being built by BAE systems in Portsmouth, United Kingdom; the first unit was delivered in 2011. Four new, smaller patrol ships also are planned for Omani naval service under Project Al Ofouq.

Piracy off the coast of Somalia remains high despite the presence of an international armada sailing to patrol the region’s waters. In recent years pirates have begun operating farther out into the Indian Ocean. The allied counterpiracy coalition’s activities have seen some successes. 2011 was witness to a number of important multinational naval operations, including several high-profile hostage-rescue missions that serve to highlight the international community’s dedication to enforcing freedom of the seas and bringing the guilty to justice.

South Africa has shown an increasingly greater willingness to get involved and send its fleet to assist with local African contingencies. In 2011 the 12,000-ton fleet-replenishment ship Drakensberg was on standby during heightened tension in the Ivory Coast, and the frigates Mendi and Amatola operated off the coast of Mozambique to help deter the spread of piracy. The South African government has been working to help strengthen maritime-security agreements with neighbors in the region. South Africa’s navy hopes to acquire new maritime-patrol aircraft in the near term, and a number of new acquisition efforts are under way to purchase offshore and inshore patrol boats, landing craft, and logistics-support ships.

Saudi Arabia is in the market for a new class of up to ten frigates, and reportedly the Franco-Italian FREMM (European multi-mission frigate) and the U.S. Littoral Combat Ship are both being considered, among several other choices. The country remains very concerned about Iranian aggression and nuclear ambitions, and has a requirement for as many as 30 new fast-attack craft to help patrol the local waters of the Persian Gulf and Red Sea.

In May 2011 Senegal received a 14-year-old utility landing craft (LCU) transferred from France. The LCU, named the Sabre, displaces 726 tons fully loaded and is able to transport 340 tons on board its cargo deck. Senegal also is due to receive a recently retired Conejera-class patrol boat from Spain.

The Seychelles is turning into a hub for counterpiracy operations off the east coast of Africa and has signed a number of agreements with foreign countries to accept captured pirates for trial. The Seychelles recently took delivery of five patrol boats from the United Arab Emirates and has received offers of maritime-patrol aircraft from both China and India. The island nation also serves as a base for U.S. drone aircraft that assist with counterpiracy and counterterrorism activities in the region.

The United Arab Emirates has plans to acquire six new Baynunah-class corvettes, the first of which was built in France with the remaining five to be built locally by Abu Dhabi Shipbuilding. The fleet is expected to continue growing in the near future with additional patrol boats, and potentially even submarines, on the drawing board.

Americas

In 2011 Argentina announced plans to start a modern nuclear-submarine program. The surprise announcement, considered largely politically driven, calls for the long-unfinished TR-1700-class submarine Santa-Fe to be modernized and
converted from conventional diesel-electric propulsion to nuclear power. Other submarines could follow. The government would like the first reactor installed in a submarine by 2015, although a more realistic timetable is probably seven to ten years. The fledgling Argentinean nuclear-submarine effort is unlikely to see completion, given the financial difficulties faced by the nation. A more feasible acquisition program includes plans to buy up to four new offshore-patrol vessels during the next decade. Sabre-rattling in the direction of the Falkland Islands/Malvinas also can be expected to increase with the 30th anniversary of the 1982 Falklands War now at hand. Brazil is in the early stages of a substantial naval buildup. Current plans call for the acquisition of as many as 46 new patrol ships, five 6,000-ton frigates, and a large naval-replenishment and logistics ship. Brazil also has decided to purchase three offshore-patrol boats originally built for Trinidad and Tobago, but rejected by that country because of manufacturing delays. As part of the deal, Brazil has agreed to construct five or more of the vessels domestically under license from the British shipbuilder. Brazil also is investing heavily in its future submarine capability with four Scorpène-class submarines on order for delivery beginning around 2017, and three domestically built nuclear-powered attack submarines planned for service entry post-2025.

The aircraft carrier Sao Paulo continues to undergo modernization, and initial development is now beginning on the acquisition of a future aircraft carrier to serve as her replacement. Six SH-60B naval helicopters have been ordered, with deliveries expected to begin in 2012. In summer 2011 the Brazilian Air Force also accepted its first upgraded P-3 Orion maritime-patrol aircraft back into service following refurbishment by the EADS Corporation.

Canada’s Halifax-class frigate-modernization program is well under way, with refit work on the first warship due to be completed in 2012. The upgrade effort is planned to wrap up on the final warship in 2017. A new 15-ship surface-combatant program is in the works that aims to replace both the three Iroquois-class destroyers and the 12 Halifax-class frigates on a one-for-one basis in the post 2020 timeframe. Six to eight Arctic patrol ships are planned for service, with the first ship expected in 2015. Additionally, two to three joint-support ships are planned for delivery beginning in 2017. There remains a requirement for more than 100 small patrol vessels, and the Canadian Coast Guard also has plans for a new polar ice-breaking ship and new fisheries science-and-research vessels.

The Canadian submarine fleet of four Victoria-class boats is working slowly toward full operational capability, though HMS Corner Brook suffered a setback when she grounded during a June 2011 naval exercise. The submarine reportedly sustained damage to her bow and some minor leaks in a forward ballast tank. She was scheduled to enter extended maintenance the following month, so the operational impact of the incident does not appear to be significant. Canadian naval and defense forces played an important role in NATO’s Libyan operations in 2011, with ships and CP-140 maritime-patrol aircraft helping to enforce the no-fly zone.

Chile is still dealing with the after-effects of its devastating 2010 earthquake. Relief efforts during the quake highlighted the requirement for an amphibious ship able to assist with humanitarian operations, and the navy has agreed to acquire the amphibious transport dock Foudre from France, with delivery expected in 2012. Acquisition of the Foudre also will help fill the gap left by the 2011 retirement of the tank-landing ship Valdivia. The navy is looking to acquire a new Arctic research ship by 2015 and is working to modernize its Sa’ar IV guided-missile patrol craft with upgrades on the class currently under way. New C-295 maritime-patrol aircraft are beginning to enter Chilean service, with three delivered in September 2011. Additional C-295s may be ordered to replace aging P-3 Orions.

Colombia is expanding its marine corps and plans to create three new marine brigades. Colombian marines and riverine forces play a crucial role in the country’s counter-drug fight, and funding for the navy and marine corps is expected to remain high for the next few years. In May 2011 Colombia received its first new 40-meter coastal-patrol vessel, the 11 de Noviembre. The German-built, 245-ton, CPV 40-class vessel is being joined by a former South Korean Pohang-class ship that will be formally donated to Colombia later in 2012. Up to six new 80-meter offshore-patrol ships are planned for service, with the first of the class just recently delivered. A long-term national frigate
program is also under way to acquire advanced frigate-sized warships post-2025. Current plans call for upgrades to Colombia’s small fleet of midget submarines in the near future.

Ecuador’s two submarines are undergoing upgrades in Chile, with work on both units due to be finished by 2013. The navy has expressed interest in acquiring two new offshore-patrol vessels, but funding remains tight, so the deal remains uncertain.

Mexico’s military has been heavily involved in the country’s war against drug cartels, and the navy and marine corps have both proven vital to the effort. Two Oaxaca-class patrol ships joined the fleet in 2010, and two additional units are likely to be acquired in the future. The first CN-235 maritime-patrol aircraft have begun entering service, with four planned for delivery by the end of 2012.

Peru plans to modernize and upgrade some of its older capital ships, including frigates and submarines, but funding remains a constant obstacle. New Griffon hovercraft are entering service along with new naval gunboats to support riverine operations. Older riverine craft are expected to be upgraded with new electronics and propulsion systems for service into the future.

2011 saw United States maritime forces deployed and operating at high-efficiency around the world and taking part in a full range of operations: the take-down of Osama bin Laden, support for the NATO no-fly zone over Libya, patrols in the Persian Gulf under threats from Iran, and protection of U.S. interests around the globe.

The U.S. military’s new Asia-Pacific-focused strategy spelled out what many defense watchers already knew—that in order to face tomorrow’s threats, military forces would be shifting their focus away from past battlegrounds and increasingly toward the Asia-Pacific region to reinforce stability and ease allied concerns stoked by Iran, North Korea, and China.

Two new Gerald R. Ford-class aircraft carriers are under construction, with the first due to enter service in 2015 and the second unit, to be named the John F. Kennedy, planned for service by around 2018. The class will have significantly higher sortie-generation rates and host many other improvements over older Nimitz-class CVNs: a reduced crew size, improved nuclear-propulsion plants, updated electronics and communications, and the introduction of the Electro-magnetic Aircraft Launch System catapult, commonly known as EMALS. The midlife refueling and overhauls of the Nimitz-class carriers continue with the USS Theodore Roosevelt (CVN-71) currently undergoing a three- to four-year refit and due to return to service in 2013. The USS Abraham Lincoln (CVN-72) is scheduled to begin her refueling and overhaul later in 2012.

Eight Virginia-class submarines are currently in service with the ninth unit of the class, to be named the USS Mississippi (SSN-782), due to join the fleet in April 2012. A tenth unit will follow in 2013 with 30 boats eventually planned. Production of the Block III Virginia-class submarines is slated to start with the 11th boat of the class, the North Dakota, which is planned for service in 2014. Forty-two Los Angeles-class submarines remain in service of the 62 originally built. The USS Memphis (SSN-691) was retired in April 2011.

Ballistic-missile defense (BMD) is taking on ever-greater importance for the surface fleet, and 5 cruisers and 19 destroyers have now been fitted for the mission. Sixteen of these assets are assigned to the Pacific Fleet and eight to the Atlantic. By 2014 the Navy plans to have 32 BMD-capable combatants in service. The next-generation SM-3 Block IIA missile, developed in cooperation with Japan and intended to engage longer-range ballistic missiles, is planned for service beginning in 2018. In 2011 the U.S. Navy announced an agreement to station four BMD combatants at Rota, Spain, by 2015.

Non-BMD-related upgrades and modernizations also are well under way to boost capabilities of the Aegis-equipped cruiser-destroyer fleet. Work is still in the design phase for the newest Arleigh Burke Flight III destroyers, though sticker shock has begun to take effect as prices grow commensurate with new missions and requirements.
In November 2011 the keel of the U.S. Navy’s first Zumwalt-class destroyer was laid down. The Zumwalt (DDG-1000), which has been under construction since February 2009, is expected to join the Fleet around 2014. Sister ship the Michael Monsoor (DDG-1001) began construction in 2010, and the third of the class has not yet been named. Questions remain on how best to fill the frigate-sized combatant gap being left by the slow retirement of the Oliver Hazard Perry class. Fifty-one Perrys were built for U.S. service, of which only 26 remain, with two more scheduled to retire in 2012. Though littoral combat ships are due to replace the frigates for some of their missions, they lack firepower and are being replaced with self-defense escorts when operating in higher-threat environments. In 2011 both littoral combatants, the USS Freedom (LCS-1) and Independence (LCS-2), continued sea trials, with the Navy uncovering some problems on both units and working to correct them. LCS-3 and LCS-4, to be named the Fort Worth and Coronado respectively, are due to enter service in 2012.

With the absence of a full-size U.S. Navy aircraft carrier during the 2011 NATO operations in Libya, it seemed that military leaders weren’t so much asking, “Where are the carriers?” but instead were asking, “Where are the Harriers?” They were, of course, playing an active role in the operations while flying off the amphibious-assault ship USS Kearsarge (LHD-3), the largest U.S. combatant assigned to the operation. The future 45,000-ton amphibious-assault ship America (LHA-6) is due for delivery in 2013, and unlike the earlier Wasp class, the America will be optimized for aviation operations and will not be fitted with a well-deck for landing craft. A well-deck, however, will be fitted beginning with the third unit of the class, LHA-8. No new San Antonio–class dock landing ships entered service in 2010 or 2011, though the sixth unit, to be named the San Diego, is expected in service in 2012.

The F-35 Lightning II Joint Strike Fighter continues to undergo testing with initial operational capability of the carrier-launched F-35C variant expected in 2016. Two-hundred sixty F-35Cs are to be acquired for the Navy and 80 more for the Marine Corps. The Marine Corps also plans to acquire 340 F-35B short-takeoff/vertical-landing variants to replace its current fleet of F/A-18 Hornets and AV-8B Harriers. Tests also continue on the E-2D Advanced Hawkeye next-generation AWACS aircraft, which is due to continue

The amphibious-assault ship USS Kearsarge was the largest U.S. combatant assigned to support NATO’s 2011 operations in Libya.

2014. Sister ship Polar Sea (WAGB-11) is no longer active and is due to retire following a number of mechanical difficulties. Several types of new fast-response cutters and aircraft are continuing to enter service as the Coast Guard brings its fleet up to date and looks ahead to what will no doubt be a very busy future.

In early 2011 Venezuela received its third of four 1,400-ton coastal-patrol vessels from Spain, with delivery of the fourth and final unit expected in 2012. Four 2,000-ton offshore-patrol vessels also are being built. The first unit was delivered in 2011, with all expected by the end of 2012. Additional inshore- and offshore-patrol ships also are under consideration. Dutch-designed multipurpose transport ships are being built in Cuba for delivery to Venezuela under a 2009 order. The first of these new transports was launched dur-