

WEAPONS OF MASS DESTRUCTION: A PERSISTING SECURITY CHALLENGE TO THE BLACK SEA REGION

The ongoing Ukrainian crisis has prompted deep security concerns with regard to the future of relations between Russia and the Euro-Atlantic community on the one hand, and the security balance in the Black Sea region on the other hand. One of the possible outcomes of the crisis would be that raising tensions between Moscow and NATO could spark the deployment of systems with capabilities for precise strikes as well as tactical nuclear weapons (TNW). Moreover, the area remains a supplier and a transit zone for the black market of weapons of mass destruction (WMD) components, and a source of the threat of nuclear terrorism. The risk of proliferation coming from the Middle East has furthermore strengthened the need for the NATO Ballistic Missile Defense (BMD) program under development in Romania. This paper argues that, although it is unlikely to see the deployment of new strategic weapons in the Black Sea region, an increasing number of TNWs could be dispatched in the area due to the deterioration of relations between Russia and the West. After considering WMDs as a persistent security challenge for the Black Sea region, the article however suggests that positive developments occurring in the Middle East related to the dismantlement of Syria's chemical weapons could reverberate up to the Black Sea area.

Key Words: Black Sea; Crimea; Ukrainian crisis; Weapons of Mass Destruction; Tactical Nuclear Weapons; Proliferation; Middle East.

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The ongoing Ukrainian crisis has prompted deep security concerns with regard to the future of the relations between Russia and the Euro-Atlantic community on the one hand, and the security balance in the Black Sea region on the other hand. The Ukrainian crisis can be described as the last dramatic episode of a geopolitical battle between Russia and the Euro-Atlantic community to promote and defend their respective interests in a zone, the Black Sea region, still characterized by a persistent strategic vacuum and a zero sum game. The critical level of Russia-West tensions raised by the crisis – most probably the highest since 1991 – is likely to reshape the Black Sea security balance, as

the area is particularly porous to strategic rivalries and power ambitions. Since the beginning of the crisis, NATO has increased its military activity to reassure Eastern and Central European allies, while Russia has been pursuing a wide-ranging plan to beef up its military capabilities after the March 2014 annexation of Crimea. One of the possible outcomes would be that raising tensions between Moscow and NATO could spark the deployment of systems with capabilities for precise strikes as well as tactical nuclear weapons (TNW). Moreover, the area remains a supplier and a transit zone for the black market of weapons of mass destruction (WMD) components, and a source of

threat of nuclear terrorism. The risk of proliferation coming from the Middle East, mainly from Iran, has furthermore strengthened the need for the NATO Ballistic Missile Defense (BMD) program under development in Romania. Russia, which perceives this initiative as a direct threat to its own dissuasion forces, could consider the possibility to deploy land-based and air-launched TNWs in Crimea while having, by the same token, the ability to dispatch sea-based TNWs on its new classic submarines. The Black Sea region is therefore concerned by WMDs at two levels: the traffic of WMDs and WMD components – often linked to nuclear terrorism – on the one hand; as well as the presence of TNWs in Russia and Turkey, on the other hand. Weapons capable of mass destruction are defined by the United Nations (UN) as “*atomic explosive weapons, radioactive material weapons, lethal chemical and biological weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above*”.¹ WMDs can be succinctly defined as chemical, biological, radiological, and nuclear weapons (CBRN) capable of causing mass destruction or mass casualties.² Regarding the terms ‘Black Sea’ and ‘Black Sea region’, the construction of the definition of the Black Sea region is a work in progress given the multiple regional dynamics. It remains unclear today as to whether the Black Sea is, from a geopolitical perspective, a bridge or a buffer zone between Europe, Transcaucasia, Asia Minor and Eastern Mediterranean. One could also consider the area as the crossroad of the competing influences of the Euro-Atlantic community, Russia, and Turkey. From a geographical perspective, the Black Sea region could nevertheless be narrowly defined as the territory of the six littoral states.³ However, the European Union (EU) defines the region as encompassing the six littoral states plus Azerbaijan, Armenia, Greece, and Moldova.⁴ Nevertheless, the countries of the Black Sea region have not been able to build a regional identity since the collapse of the USSR, and their geographic proximity does not compensate for their weak political and economic interdependence. Black Sea states do not feel they belong to a regional community shaped by common domestic policies and shared foreign policy objectives. On the contrary, foreign actors, such as the EU, NATO, and the United States (US), have exacerbated local centrifugal forces in their search for a sustainable foothold in the region after the collapse of the Soviet Union, thereby undermining any local attempt to build a comprehensive regional identity.

This paper argues that, although it is unlikely to see the deployment of new strategic weapons in the Black Sea region, an increasing number of TNWs could be dispatched in the area due to the deterioration of relations between Russia and the West. After considering WMDs as a persistent security challenge for the Black Sea region, the article however suggests that positive developments occurring in the Middle East related to the dismantlement of Syria’s chemical weapons could reverberate up to the Black Sea area.

Weapons of Mass Destruction: a Persistent Security Challenge in the Black Sea region

The problematique of the TNWs is particularly acute in the Black Sea since the region does not possess a security architecture of note while its security context appears to be highly volatile.

Weapons of Mass Destruction in the Black Sea Security Context

Since the collapse of the Soviet security system, the region’s stakeholders have not been able to construct a regional architecture to tackle regional security challenges. The lack of an inclusive cooperative security vision results directly from several obstacles the Black Sea region has not been able to overcome since 1991: the lack of strong regional institutions; the absence of a regional identity; overlapping strategic rivalries of local (Russia, Turkey) and extra regional actors (NATO, the US, the EU); historical animosities, border disputes, and ethnic conflicts; the Western reluctance to consider the region as a part of Europe and the Euro-Atlantic community.⁵ The only regional organization that encompasses all the neighboring countries is the Organization of the Black Sea Economic Cooperation (BSEC) created in June 1992, which is however designed to deal with economic matters. Although the Black Sea region is plagued by a set of critical security issues, spanning from hard security (protracted conflicts) to soft security issues (environmental questions), no security architecture has emerged since the collapse of the Soviet umbrella. As a result, the resolution of the main protracted conflicts has been assigned to an external security forum, the OSCE, which deals with the Nagorno-Karabakh protracted conflict through the Minsk Group, and is also in charge of the negotiations regarding the formulation a negotiated settlement in Transnistria. It is also one of the facilitators of the Geneva talks to address the consequences of the 2008

Russo-Georgian war. The very noticeable exception would be maritime security. In this realm, Turkey has taken the lead with the BLACKSEAFOR naval taskforce⁶ and operation Black Sea Harmony.⁷ However, these structures contribute more to confidence building between Russia and Turkey while favoring the status quo over the Russian-Turkish security conundrum in the Black Sea.

Although there is no regional security architecture, Black Sea states have had to tackle a set of new challenges since 1991: energy security, political transition, the protracted conflicts, as well as the emergence of new security threats (NST). NSTs refer to proliferation, organized crime and various forms of illegal trafficking. NSTs undermine the stability and integration of the Black Sea and Caspian states while creating opportunities for larger conflicts.⁸ Among the NSTs, the smuggling of conventional weapons and WMDs have emerged as a particular concern since the huge stockpile of Soviet armaments and ammunitions left in Romania, Bulgaria, and Ukraine, became a noticeable source of proliferation after 1991. In spite of existing common security concerns (nuclear non-proliferation, struggle against terrorism), not much has been achieved by the stakeholders to address these new threats which are, however, particularly relevant to the Black Sea region. The ten Black Sea countries are all parties to the main disarmaments treaties: the Biological Weapons Convention (1972, entered into force in 1975); the Chemical Weapons Convention (1993, entered into force in 1997); the Comprehensive Nuclear Test Ban Treaty (1996); and the Treaty on Non-Proliferation of Nuclear Weapons (1968, entered into force in 1970).⁹

The past and current presence of WMDs in the Black Sea region remains however tied to the Cold War era. When the USSR collapsed, Armenia did not host any WMDs on its soil, while the Soviet military industrial complex was not manufacturing any WMDs or components of WMDs in Armenia. Yet, the country used to operate an anti-plague facility during the Soviet era. Today, Armenia has one nuclear power plant, Metsamor, which generates almost 40% of the country's electricity, and the nuclear fuel is supplied by Russia under a 2003 bilateral agreement.¹⁰ When it became independent in 1991, Azerbaijan did not have any WMDs on its territory, nor did it possess any vehicles for their delivery. Although the risk of proliferation of WMDs or WMDs delivery systems coming from Azerbaijan remains quite low, the

country still hosts a fair quantity of Soviet radioactive waste kept at the Izotop Industrial Complex and in other locations.¹¹ During the Soviet period, Georgia operated anti-plague facilities with dual-use biological weapon production capabilities. Today, the country has a decommissioned nuclear power plant, and possesses on its soil military facilities contaminated with radioactive waste.¹² At the time of accession to the Chemical Weapons Convention in 1997, Russia declared 40,000 tons of chemical weapons in its possession; by May 2014, Moscow reportedly had destroyed 80% of its stockpile of chemical weapons.¹³ Moscow operates two nuclear reactors in the Black Sea region at the Rostov nuclear power plant. The Rostov 3 nuclear reactor began operating and was grid-connected in December 2014. It is slated to begin full commercial operation sometime during 2015, whereas Rostov 4 plant is scheduled to be built by 2017.¹⁴ Although the full extent of the Soviet biological weapons program remains unknown, it is likely that some facilities are still suitable for the production of biological arms.¹⁵ Turkey is not known to have ever possessed chemical and biological weapons. Today, it is endeavoring to build its first nuclear power plant with the Russian energy company Rosatom in Akkuyu, near the southern city of Mersin, slated to operate four reactors. The construction is due to start in either late 2015 or 2016, and the project will require \$25 billion in investments.¹⁶ However, Ankara is pushing ahead with plans to build another nuclear power plant with a consortium composed of Japan's Mitsubishi and Itochu, and France's Areva and GDF Suez, on the Black Sea coast, near Sinop. In April 2015, the Turkish parliament approved the intergovernmental agreement with Japan to build four reactors, with construction scheduled to begin in 2017 for an estimated cost of \$25 billion.¹⁷ In 1991, Ukraine inherited the third largest nuclear arsenal in the world. Yet, Kiev decided to give up all its strategic and tactical nuclear weapons as well as all the delivery vehicles in its possession. Moreover, Ukraine transferred to Russia all the chemical weapons it had possessed, and is not known to have ever hosted any biological weapons. In March 2012, Kiev completed the return of 234 kg of highly enriched uranium (HEU) to Russia that had been supplied to Kiev by Moscow. Today, 15 nuclear power plants provide Ukraine with almost half of the electricity it needs.¹⁸ Romania operates two nuclear power plants generating nearly 20% of its electricity, and is committed to build two additional plants despite financial difficulties. Information is

very scarce about the Romanian chemical weapons program, but according to the declassified version of the Defense Intelligence Agency's 1995 "Chemical Warfare Assessment Romania", Bucharest was reportedly pursuing a chemical programs during the 1990s, having developed research, production, and storage facilities mainly for sarin gas.¹⁹ After the HEU have been removed to Russia from a research facility near Sofia in 2003, Bulgaria is believed to still host a stockpile of chemical weapons it inherited from the USSR. However, the extent of this stockpile remains unknown, and according to the declassified version of a 1995 Defense Intelligence Agency report, "Chemical Agent Threat Current and Projected," Bulgaria has no domestic production capability.²⁰

Table 1 – WMDs in the Black Sea

	Biological	Chemical	Nuclear
Azerbaijan	No	No	No
Armenia	No	No	No
Georgia	No	No	No
Turkey	No	No	Yes, NATO TNWs
Greece	No	No	No
Bulgaria	No	Suspected of hosting a stockpile of ex-Soviet chemical weapons	No
Romania	No	Suspected of having kept secret a sarin gas program	No
Moldova	No	No	No
Ukraine	No	No	No
Russia	Suspected of being engaged in dual-use research activities	Yes. Destruction of the stockpile is ongoing (nearly 85% by late January 2015), and slated to be completed by the end of 2015.	Yes Strategic and tactical nuclear weapons

Sources: Nuclear Threat Initiative; Global Security; UNODA, Tass News Agency.

The already existing security gap between Russia and the West in the region has been further deepened by the Ukrainian crisis, which has fuelled mutual mistrust. This crisis of confidence lays the ground for a growing militarization of the region and greater Western activity in the Black Sea area that is likely to stir Moscow's alienation from the Euro-Atlantic institutions, and could potentially lead to the deployment of TNWs in Crimea.

The Ukrainian Crisis: the Return of Russian Tactical Nuclear Weapons in Crimea

TNWs could be defined as weapons of mass destruction, also designed as non-strategic nuclear weapons or theatre nuclear weapons, and refer to nuclear weapons which are intended to be used on the military battlefield, and are not covered by the New START regime.²¹ As defined by the Department of Defense Dictionary of Military Terms, the tactical use of nuclear weapons is "the use of nuclear weapons by land, sea or air forces against opposing forces, supporting installations or facilities, in support of operations that contribute to the accomplishment of a military mission of limited scope, or in support of the military commander's scheme of maneuver, usually limited to the area of military operations".²² The great diversity of weapons and delivery vehicles and systems furthermore complicates any attempt to craft a commonly accepted definition of TNWs for arms control purposes.

During the Cold War, the Black Sea region witnessed the deployment of TNWs on air and sea platforms, as well as on land based systems. Whereas the USSR was believed to possess anywhere from 15,000 to 25,000 nonstrategic nuclear weapons stored in 500 to 600 facilities in the late-1980s and early-1990s, the United States had decreased the number of TNWs from more than 7,000 in the mid-1970s to fewer than 1,000 by the mid-1990s.²³ Obviously, only part of these nonstrategic nuclear weapons were based in the Black Sea region. Crimea used to have a nuclear status since the peninsula hosted, during most of the Cold War and until 1996, nonstrategic nuclear weapons in a facility near the city of Sudak.²⁴ Today, depending on the sources taken into account, Russia may have between 1,000 and 2,000 operational TNWs (see Table 2 for details) stored in around 50 bases across the country. On the other hand, NATO also deployed US nonstrategic nuclear weapons in the Black Sea region, in Turkey and Greece. Ankara hosted as early as the 1960s US theatre nuclear weapons: in 1961, the US deployed 15 nuclear tipped medium range Jupiter ballistic missiles at Cigil airbase, near Izmir.²⁵ However, since 1991, both the US and NATO decreased the importance of TNWs in their strategic doctrines, and while the Clinton Administration denuclearized the surface fleet, the George W. Bush Administration withdrew US nonstrategic weapons from Greece altogether by dispatching them to the United Kingdom and Ramstein US airbase in Germany.²⁶ Today, while

the exact number of US TNWs deployed in Europe remains unknown, Washington is believed to have around 200 B-61 free-fall gravity bombs dispatched to six bases located in the Netherlands, Germany, Belgium, Italy, and Turkey.²⁷ Among these 200 bombs, Turkey is reportedly hosting 60 to 70 TNWs at the US air force base of Incirlik.

Table 2 – Russian and US/NATO TNWs

	Russia	US/NATO
Overall number of TNWs	1,000-2,000+	1,100
Sea-launched	330 to 700	320
Ground Forces	170 to 210	0
Land-based Missiles and Air Defense	166 to 430	0
Air-launched	334 to 730	500+
Deployed in the Black Sea Area	?	60 to 70
Sea-launched	?	0
Land-based	?	0
Air-launched	?	60 to 70

Sources: Michaela Dodge, “US Nuclear Weapons in Europe: Critical for Transatlantic Security”, *Backgrounder*, The Heritage Foundation, n° 2875, February 18, 2014, p. 22; Nuclear Threat Initiative.

The Ukrainian crisis could open the path to a growing number of deployed Russian TNWs in the Black Sea region. Soon after the annexation of Crimea, Russian military and military-political analysts raised the possibility of reinvigorating the nuclear status that the Crimean peninsula had in Soviet times.²⁸ Russia’s right to deploy nukes anywhere on its territory, including in Crimea, was later emphasized by some Russian officials on June 2015.²⁹ Russian political and military elites point to three main factors which weigh on their strategic calculus and impact policy making: the steady US progress in the development of a global missile defense system; the dramatic increased capabilities of non-nuclear weapons systems that can perform strategic missions; and the growing Chinese capability to increase its nuclear arsenal, should it want to.³⁰ The Black Sea region matches the two first factors. In its 2010 Military Doctrine, Moscow describes NATO as well as “the deployment of troop contingents of foreign states (groups of states) on the territories of states contiguous with the Russian Federation

and its allies, and also in adjacent waters” as an essential danger.³¹ Subsequently, the construction of the US Ballistic Missile Defense program (BMD) in Romania as well as the deployment of US Aegis class destroyers in the Black Sea in the framework of the European Phased Adaptive Approach are considered by Moscow as essential dangers to its national security. Given the critical superiority of NATO and US conventional forces over the Russian army, the deployment of Russian TNWs in Crimea would come as a reply to the Alliance’s increasing activity in Russia’s vicinity. As for the use of nonstrategic nuclear weapons, the doctrine does not state that Russia would use nuclear weapons for a pre-emptive attack, but it does reserve the right to use them in response.³² Any attempt to militarily retake Crimea, which is considered by Moscow as part of the territory of the Russian Federation, would trigger a response in line with Russia’s National Security Doctrine, as stated by Russian Foreign Minister Sergei Lavrov in July 2014.³³ The same month, Russia carried out military drills in the Black Sea involving Tu-95MS strategic bombers, as well as other air, land, and naval forces, which practiced strikes against sea targets.³⁴ In January 2015, the 12th General Directorate of the Military General Staff, which is reportedly the military organ in charge of the maintenance, the transportation and the disposal of nuclear warheads for tactical and ballistic missiles, started to operate in Crimea.³⁵ For NATO, the deployment of new nonstrategic nuclear weapons in the Black Sea region does not seem to be on the agenda. Although Central and Eastern Europe member states have favored a continued deployment of TNWs as a signal to Russia after Crimea’s annexation, it is very unlikely that NATO moves nuclear weapons into a Central or Eastern European country. Beyond the considerable political obstacles that would hamper such a move, moving NATO TNWs into Poland or Romania would violate an agreed-on principle within the Alliance at the time of their admission so as not to provoke Moscow, which was adamantly opposed to NATO’s extension eastward. Moreover, according to the terms of agreement of the 1997 NATO-Russia Founding Act negotiated prior to the admittance of Poland, Hungary, and the Czech Republic to the Alliance, NATO declared it had “no intention, no plan and no reason to deploy nuclear weapons on the territory of new members, nor any need to change any aspect of NATO’s nuclear posture or nuclear policy”.³⁶ Jens Stoltenberg, NATO’s Secretary General, reiterated the Alliance’s compliance with international

treaties, reminding in early October 2014 that NATO “found a way to increase the military presence in our eastern allies without being in violation with any international agreements”. This not only means that there would not be TNWs dispatched eastward, but that the decision was made to hold the rotation of the Alliance’s additional forces in Poland and Baltic countries without deploying permanent bases in their territories.³⁷ Yet, during the Antalya NATO foreign ministers meeting of May 2015, Polish and Baltic military chiefs called for a permanent NATO army brigade deployment on their soil. The Alliance’s Secretary General stated at the time that NATO plans to expand its presence through more air policing, a greater naval presence and more exercises, and the establishment of new command units in the Baltic states, Poland, Bulgaria and Romania.³⁸

Lastly, Russia’s deployment of TNWs could also be meant to offset the critical gap which exists between the US and the Russian military with regard to precision guided munitions (PGM). A PGM is defined as “a weapon that uses a seeker to detect electromagnetic energy reflected from a target or a reference point and, through processing, provides guidance commands to a control system that guides the weapon to the target”.³⁹ The idea that conventional munitions could serve as a substitute for nuclear weapons in a wide range of circumstances had been agreed by both Washington and Moscow for decades. In 1984, the chief of the Soviet General Staff wrote, in an article published in the journal *Red Star*, that against many targets non-nuclear means of destruction would “make it possible to sharply increase (by at least an order of magnitude) the destructive potential of conventional weapons, bringing them closer...to weapons of mass destruction in terms of effectiveness”.⁴⁰ Today, the US military is virtually the sole user of large-scale precision strike efforts, especially over long ranges requiring the integration of PGMs with near-real-time sensor and targeting networks. The critical advance Washington enjoys in the realm of long-distance reconnaissance-strike complexes (RUKs in Russian, for разведывательно-ударные комплексы) has prompted deep concerns among the Russian military. The ability demonstrated by US forces in Afghanistan during the past decade to carry out precision strikes from UAVs armed with PGMs has furthermore deepened the already existing gap between Russian and US capabilities, while critically strengthening US air superiority. As a response, Russia has been

beefing up its anti-access/area-denial (A2/AD) capabilities in the Black Sea since the end of the 2000s. The ongoing modernization of the Black Sea Fleet and the annexation of Crimea are likely to play a major role to deter a potential Euro-Atlantic power projection in the wider Black Sea region.⁴¹ Through the deployment of land-based missile systems, like the anti-ship Bastion-P coastal battery and the induction of new *Kilo* type classic submarines with their Kalibr cruise missiles, the Russian A2/AD capabilities are set to increase. The Kalibr cruise missile is directly derived from the Klub-K cruise missile which can be used for long-range precision strike capability. With an operational range of 2,500 kilometers, slightly less if tipped with a non-conventional warhead, the Kalibr cruise missile challenges the American Tomahawk which is occasionally deployed on sea platforms in the Black Sea. In September 2014, the commander in chief of the Black Sea Fleet stated that new Russian classic submarines will be based at Novorossiysk, and will carry cruise missiles with an operational range of 1,500 kilometers, suggesting that the wider Black Sea area could fall under the operational range of Russian missiles.⁴² Thus, if PGMs on their own have the ability to inflict serious damage bringing them closer to WMDs in term of effectiveness, PGMs tipped with tactical nuclear warhead have an even higher destruction potential.

The Black Sea Black Market: the Risk of a Growing Asymmetric Threat

The black market appears to be another worrying source of proliferation particularly relevant to the Black Sea region. The collapse of the USSR did not mark the end of the nuclear threat; instead, it led to its transformation from the single symmetric threat of a nuclear strike reflected in the tensions between the Soviet Union and the West, to an asymmetric and a multisource potential threat. The emergence of illicit nuclear trafficking coincided with the collapse of the Soviet Union and in the 1990s, it was commonly associated with state and non-state actors seeking to acquire fissile materials that could be used to manufacture a nuclear weapon.⁴³ During the 1990s, the main nuclear risk came from weak Newly Independent States (NIS) with nuclear capabilities (Ukraine, Belarus, and Kazakhstan) and from states at odds with the Western community while having nuclear ambitions (Iraq, Libya, and North Korea). Since 9/11, the threat has not so much come from terrorist groups seeking to acquire plutonium, low-enriched uranium (LEU)

or HEU in order to make a crude nuclear bomb. The potential terrorist use of other radioactive sources containing fissile caesium-137, strontium-90, and cobalt-60 as well as other isotopes, has gradually arisen as a serious concern to international security. After 9/11, the CBRN threat gradually broadened to include terrorist groups which flourished in the so-called “grey zones” where they found safe havens and corrupted local supporters to carry out their activities. Grey zones tend to emerge where a de facto security vacuum exists, as has been particularly the case in the Black Sea region since 1991. In the early 2000s, preventing and fighting CBRN terrorism became one of the aims of the international American-led war on terror, and therefore, the Black Sea region came to the attention of the international security agenda.⁴⁴

Due to its strategic position as at the crossroads between Central Asia, Europe, and the Middle East, and due to a big number of land and maritime routes, the Black Sea area appears to be a particularly vulnerable corridor to smuggling as well as to arms, drug, and human trafficking. As of December 2013, five of the seven most recent trafficking incidents involving HEU outside authorized control had taken place in the Black Sea region.⁴⁵ According to the International Atomic Energy Agency (IAEA), such material has been seized on four separate occasions (2003, 2006, 2010, and 2011) in Moldova and Georgia.⁴⁶ The former Soviet Union, and most precisely Russia (nearly 100 trafficking incidents recorded between 1991 and 2012 involving nuclear material) and the former Soviet Republics of Central Asia (92 trafficking incidents recorded in Central Asia between 1991 and 2012), has been identified as the primary source of proliferation.⁴⁷ The overall amount of plutonium and uranium waste stored across the post-Soviet space has been assessed to be 640 million cubic meters of contaminated materials, part of which still remains abandoned.⁴⁸ The highly profitable business of HEU smuggling (\$10,000 per gram) has attracted organized crime syndicates that were involved in drug, arms, and human trafficking.⁴⁹ Coming from Russia or Central Asia across the Caspian Sea, illicit radioactive materials are brought to Georgian ports through Azerbaijan and Armenia. From Georgian ports, they are bound either for Turkey or for Ukraine, or they can be directed to Iran through Armenia. The Georgian autonomous republic of Adjara is particularly used as a transit area by the smugglers since they can use both maritime routes and the port of Batumi, or they can also reach Turkey via land

routes. Turkey appears to be a suitable destination for sellers of radioactive materials due to the presence of buyers from Iran, the Middle East, and North Africa. Uranium was for the first time seized in Turkey in 1993, and since then, incidents occurring in, and near, Turkey suggest that the country remains an interim destination for radioactive materials smuggled from the former USSR.⁵⁰ Another route runs from Georgia to the Ukrainian port of Odessa and through Ukraine to Moldova, which appears to be a trans-shipment place for illicit nuclear materials.

Taking into consideration the context of deep mistrust that characterizes the region, sensitive information related to nuclear trafficking is not shared between the region’s stakeholders who tend to more readily share such information with the IAEA.⁵¹ Non-state actors (IAEA) and non-Black Sea actors (the US) have implemented a series of programs in order to strengthen the ability of Black Sea states to effectively control their borders. Border control has indeed arisen during the 2000s as one of the main challenges for Black Sea states in order to prevent the international trafficking of WMD components. In July 2006, Presidents George W. Bush and Vladimir Putin presented the Global Initiative to Combat Nuclear Terrorism, which stressed the possible acquisition of nuclear materials by terrorist groups in and around the Black Sea region.⁵² Later, in February 2010, President Barack Obama stated to newly elected Ukrainian President Viktor Yanukovitch the US commitment to promote non-proliferation. Washington noticeably contributed to remove all the HEU in Ukraine’s possession to Russia, an operation completed by March 2012.⁵³ The US, through the action of the Department of State, the Department of Defense, and the Department of Energy, and the IAEA, through its Nuclear Safety and Security Program, and the EU, with its Border Assistance Mission (EUBAM, in Moldova and Ukraine) have focused their efforts on improving border controls and combatting proliferation in Moldova, Ukraine, and the Caucasus (Azerbaijan, Armenia, and Georgia). In Ukraine, Washington supplied equipment to the Ukrainian border service in the framework of the Nunn-Lugar WMD Proliferation Prevention Program. Efforts have mainly focused on major ports on the Black Sea coast, the Ukrainian-Russian border, and the border with Moldova and Transnistria.⁵⁴ In Moldova, the US engagement has been more limited, but the IAEA initiative has proved to match, at some point, the threat, in light of the latest seizures of illicit

radioactive materials.⁵⁵ In the Caucasus, Georgia has attracted the main efforts to prevent nuclear smuggling. Being plagued by protracted conflicts, by corruption and unsecured borders, Georgia has been one of the main recipients of US technical and financial assistance since the beginning of the 2000s.⁵⁶

Yet, the Ukrainian crisis has furthermore weakened Ukraine's ability to monitor its borders, while contributing to the emergence of grey zones in its Eastern part. Moreover, the still possible reverberation of the conflict to other Black Sea areas, in particular the Caucasus and Transnistria, could fuel the already existing trafficking. As demonstrated, nuclear smuggling is made possible under poor security conditions, the inability of states to secure their borders, by corruption and the existence of weak states with protracted conflicts on their soil. By weakening Ukraine's statehood, the Ukrainian crisis is likely to pave the way for the nuclear smuggling which exists along the Central Asia-Caucasus-Ukraine-Moldova route. The weakness of Ukrainian institutions as well as the potential spillover of the conflict to Transnistria would further facilitate the access of smugglers to Moldova which is known as a trans-shipment country. In this context, it is important to work with Russian authorities in order to prevent an increasing illicit trafficking of nuclear material through Ukraine and Moldova. Regardless of tense relations over the Black Sea region, the fight against nuclear terrorism was an area of cooperation between the US and Russia during the Bush-Putin era: this ability to overcome difficult relations and to work on overlapping security matters needs to be sustained.

Proliferation in the Middle East: Risk and Opportunity?

Since the end of the Cold War, the Middle East has emerged as a new source of proliferation of WMDs. Hence, the security context in the Middle East has increasingly affected the stability of the Black Sea region.

Turkey's US Weapons of Mass Destruction

According to various sources, there are reportedly 160 to 200 US B-61 gravity bombs deployed in six bases located in Belgium, Germany, Italy, the Netherlands, and Turkey.⁵⁷ Although Washington has never acknowledged the exact number of TNWs deployed in Europe, it is generally assessed that Turkey hosts today some 60 to 70 US TNWs at the

Incirlik air base, near Adana, in the southeastern part of the country.⁵⁸ The Turkish government signed the Treaty on Non-Proliferation of Nuclear Weapons (NPT) in 1979, and is furthermore a party to all major international nuclear non-proliferation treaties and regimes, including its Additional Protocol which it signed in 2006. Ankara has been a contributor to NATO's internal nuclear debate, but in a way that does not really appear consistent with its posture on nuclear issues in general. Indeed, given that Turkey is a host country for American TNWs, and that Ankara supports initiatives aimed at improving nuclear security and transparency, its stance is to accept the removal of US TNWs from its territory, provided it is consulted by Washington beforehand, and that there is a consensus within the Alliance with regard to this decision.⁵⁹ However, Turkey has been reluctant to increase transparency with regard to US TNWs deployed on its territory.⁶⁰

Ankara has hosted US nuclear weapons since 1961, when intermediate-range Jupiter missiles were deployed following decisions taken at the Alliance's 1957 Paris summit. The Jupiter missiles were withdrawn in 1963 due to the Cuban missile crisis, and since then, no nuclear missiles have been deployed in Turkey. However, according to NATO's solidarity and burden sharing principles, Ankara has hosted bombs that would be delivered by US F-16s or Turkish F-100, F-104, and F-4 'Phantom' aircrafts dispatched at air bases in Eskisehir, Malatya (Erhac), Ankara (Akinci/Murted), and Balikesir.⁶¹ All these weapons, whether on US or Turkish aircraft, have been under the custody of the US air force. Due to the collapse of the Soviet Union, the US reduced by 85% between 1991 and 1993 the number of operationally deployed TNWs.⁶² As a result, US TNWs deployed in Turkey were reduced, and munitions support squadrons operated by the US air force were gradually withdrawn (TNWs deployed on Akinci and Balikesir air bases were withdrawn in 1996 for instance).⁶³ Despite the fact that Turkey continues to host US TNWs, the question remains as to whether the Turkish air force still has the ability to implement nuclear strike missions. If in the past Turkish crews trained for nuclear missions and were certified to carry out nuclear strikes, since 1994, Turkish F-104 have been removed from service, and although some F-4s are still in service after their modernization during the 1990s, Ankara has only engaged F-16s in NATO's nuclear strike exercises "Steadfast Noon". Turkish crews have furthermore trained in loading, unloading,

and employing B61 TNWs, while Turkish aircrafts in these exercises served as a non-nuclear air defense escort rather than a nuclear strike force.⁶⁴

The question then is as to what is the actual interest for Turkey to host US TNWs on its territory? The answer could be threefold. First, it could be argued that US TNWs provide Ankara with a sort of ‘enhanced status’ within the Alliance. This special position could be further reinforced if Washington decides to reduce, not to say remove, TNWs from other European countries, as has been suggested for Germany, Belgium, and the Netherlands.⁶⁵ On the other hand, this status might be downgraded in the case of the return of US nukes on British soil, a possibility raised by the British Foreign Secretary Philip Hammond in June 2015.⁶⁶ Secondly, TNWs are a guarantee of Washington’s security commitment to Turkey. Ankara’s doubts about the Alliance’s commitment to collective security enshrined in Article 5 stems from the initial European reservations regarding Turkey’s NATO membership because of diverging security threats and interests. Later, the US arms embargo imposed on Turkey after the 1974 conflict in Cyprus further fuelled Ankara’s suspicions.⁶⁷ Lastly, US TNWs have constituted a credible deterrent against possible aggression coming from Iran, Iraq, and Syria, Turkey’s main strategic competitors in the Middle East, and therefore they have directly contributed to Ankara’s security umbrella. Today, especially since the removal of Syria’s chemical weapons, as Iran remains the only potential non-conventional threat in the region for Turkey, US TNWs continue to be a strong deterrent not only vis-à-vis Iran, but more widely, against possible proliferation in the Middle East in response to Teheran’s nuclear program. By the same token, they also prevent Ankara from launching a military nuclear program to respond to the potential nuclearization of Iran.⁶⁸ Turkey initiated studies in 1965 to build a nuclear power plant, but these prospects were never translated into concrete outcomes. Today, there is a research plant built in 1962 on the outskirts of Istanbul, at Küçük Cekmece, which provides isotopes and other services for medical purposes. In addition, there are two small experimental nuclear facilities located near Ankara.⁶⁹ However, Turkey’s prospects to build its first nuclear power plants with Russian help, for the first facility, and with France and Japan for the second one in Sinop, have prompted some concerns. A third plant is slated to be built with China’s SNPTC and the American company Westinghouse.

The area of Igneada, in Kırklareli province, on the Black Sea coast, located 12 km from the Bulgarian border, has been identified as a possible site by the Turkish Atomic Energy Authority (TAEK); as well as Akcakoca, between Igneada and Sinop, as another potential location.⁷⁰ According to some experts, the fact that Ankara did not specify in the contracts the terms for the delivery of uranium and the removal of radioactive waste could suggest it seeks to keep a free hand to potentially gather materials necessary to develop a nuclear program.⁷¹ However, in April 2015, the head of Russia’s Rosatom, Sergey Kirienko, stated that Russia would not only supply the Akkuyu power plant with nuclear fuel, but it would also take back and re-processed nuclear waste on Russian soil.⁷²

A discussion as to whether Ankara might want to remove US TNWs has been ongoing for years. Beyond the potential threat represented by the Iranian nuclear program, some analysts suggest that Turkey intends to keep the TNWs on its soil. First, Turkey has planned to replace its F-16s during the 2030s with F-35s, part of which are expected to be dual-capable, suggesting that Ankara intends to maintain its role in the Alliance’s deterrence mission.⁷³ Secondly, given the absence of both Iraqi and Syrian threats, US TNWs still constitute a strong deterrent to a potential nuclearized Iran. Maintaining nukes on its territory could also be, by extension, a response for Turkey to the possible deployment of Russian TNWs in the Black Sea area. Yet, some experts have argued that the benefits to host these weapons would be exceeded by the benefits of their removal. US TNWs stored in Turkey, while still representing a potential hazard, are an argument raised by Teheran to justify its own nuclear program, and a roadblock to the successful creation of a nuclear weapons free zone in the greater Middle East.⁷⁴ Pending the implementation of the nuclear deal between Iran and the P5+1, and given the unpredictable scope of the deal on the Middle Eastern security stage, Ankara is likely to retain US TNWs on its soil.

The creation of an area free from nuclear weapons, not to say an area free from WMDs, in the Middle East would critically affect the security balance of the Black Sea region. It would fundamentally question the relevance of the BMD, and lead Turkey to reconsider the need to host US TNWs on its soil. While defending Iran’s right to peaceful nuclear enrichment, Ankara has been opposed to US and EU unilateral sanctions, and has promoted the idea of a nuclear weapons free

zone in the Middle East.⁷⁵ The countries concerned by the perspective of a nuclear weapons free zone are, according to the resolution adopted by the UN General Assembly on 10 October 1990, the countries of the Arab League, Iran, and Israel.⁷⁶ While Egypt and Syria both signed the NPT in 1968 and ratified it in 1981 and 1969 respectively, Israel is not part of any disarmament and non-proliferation treaties. On the other hand, Egypt is not a signatory of either the Biological and Toxin Weapons Convention (BTWC) or the Chemical Weapons Convention (CWC).⁷⁷ While the idea to create a zone free from nuclear weapons in the Middle East emerged in the late 1960s, the 2010 NPT Review Conference gave a critical new impetus to the project. This plan has been more recently revived in light of the dismantlement of Syria's chemical weapons in 2013; however, the 2015 NPT Review Conference held in May 2015 did not witness any substantial progress.⁷⁸

Although Turkey would not be part of a potential area free from nuclear weapons in the Middle East, it would be directly affected by such a development; as would, by extension, the security balance of the Black Sea region as well. As previously mentioned, Turkey has always opposed a nuclear Iran since it would trigger a wave of nuclearization in the Middle East, and critically impact the regional balance of power. However, for Ankara, Iran is not the only obstacle to the disarmament in the region: Turkish officials have raised the question of Israeli nukes, as then Foreign and Deputy Prime Minister Abdullah Gül did in 2006 during his party's annual meeting.⁷⁹ Tel Aviv has been maintaining a long-standing opacity with regard to its nuclear arsenal, which is part of its deterrence doctrine vis-à-vis the Arab states and Iran. Different sources estimate that Israel is believed to possess today somewhere between 80 to 200 nuclear warheads.⁸⁰ Should Israel officially acknowledge the existence of its atomic bombs, this could result in Egypt reinitiating its nuclear efforts, and spark a 'domino effect' in the region with Saudi Arabia and, perhaps, Turkey undertaking plans to acquire nuclear weapons as well.

The NATO Ballistic Missile Defense Program

The possibility of the nuclearization of the Middle East, and more precisely, of Teheran acquiring the nuclear weapons, has provided justification for the BMD. Since 2002, the US Missile Defense Agency (MDA) has spent nearly \$98 billion to develop, test,

and field an anti-ballistic missile shield (ABM), and intends to spend \$3 billion more by 2018 to implement the full scope of the program.⁸¹ Part of this ABM program is unfolding today in the Black Sea region, and has been renamed as the Ballistic Missile Defense program (BMD) since 2009 by the US administration. The BMD has been one of the thorniest issues between the US and Russia over the last decade, with the Alliance's extension to the former Soviet republics. Whereas Washington argues it is aimed at protecting Western allies against potential ballistic threats emanating from the Middle East, primarily from Iran, Moscow considers the BMD as a direct threat to its own deterrence forces. The project initially designed by the Bush administration was slated to include long-range interceptors based in Poland and in the Czech Republic. However, the Obama administration downsized the project and announced in 2009 that it would focus on shorter-range missiles. Yet, as Russian Minister of Foreign Affairs Sergei Lavrov stated in late 2013, improving relations between Iran and the US following the November 2013 agreement, would question the *raison d'être* of the BMD.⁸² However, as stated by the Russian representation to NATO, "the agreements on the Iranian nuclear program reached in Geneva (2013) and Lausanne (2015) didn't affect the plans to establish the NATO BMD system in Europe".⁸³ Whereas the test of the Romanian Aegis shore radar, located at the Deveselu air base, took place in May 2015, the first team of US operators arrived at the facility in early June, bringing the site closer to operational status.⁸⁴

The BMD demonstrates how potential threats, exogenous to the area, can reverberate in the Black Sea region and, by extension, raise tensions and possibly trigger proliferation in the Black Sea region. Indeed, Russia could respond to the BMD through the deployment of conventional land-based missiles in newly annexed Crimea (Iskander missiles for instance), as it reportedly did in Kaliningrad.⁸⁵ Moscow could also consider the possibility to deploy TNWs on air and sea platforms. Two Black Sea countries are involved in the two distinct phases of the European Phased Adaptive Approach (EPAA), the new regional approach announced by the Obama administration in 2009: Turkey and Romania. The first phase of the deployment of the EPAA was completed when the US started to operate in an AN/TPY-2 radar in December 2011 in Turkey's Kurecik air force base, in the eastern part of the country. The facility, manned by 150 US

personnel, stems from an agreement concluded in September 2011 between Ankara and Washington.⁸⁶ Romania has been involved in the second phase of the EPAA where Washington has started to overhaul the Deveselu air base since fall 2013 so that it could host 24 standard missile-3 interceptors of the block IB variant (or SM-3 IB interceptors). The site is slated to become operational by the end of 2015. Moreover, Washington intends to deploy 200 personnel to run the base, with the cost of the deployment of the interceptor missiles assessed at \$400 million with an additional \$20 million each year for maintenance. Finally, the US Navy plans to dispatch Aegis destroyers homeported in Rota (Spain), carrying SM-3 interceptor missiles, in the Mediterranean and the Black Sea, as a part of the European BMD architecture.⁸⁷ The third phase consists of building by 2018 a second site for interceptors in Poland.

The BMD, by stirring Russia's resentment, fosters the proliferation of conventional weapons and the deployment of short-range missiles as well as cruise missiles which can be tipped with tactical nuclear warheads. Meanwhile, the strategic relevance of the European BMD and its efficiency still has to be demonstrated. Not only Iran does not possess long-range ballistic missiles to this day, but it has enough strategic foes in its direct environment, namely the Arab oil-monarchies of the Gulf and Israel, to potentially deal with, before hypothetically striking Western Europe. Moreover, the efficiency of the BMD remains to be proved as pointed out by the Government Accountability Office (GAO) in a report published in April 2014. While warning against potential additional costs and delays after technical issues and test failures occurred in 2013, the GAO urged the Pentagon's Missile Defense Agency (MDA) to freeze the full-scale production of the SM-3 Block 1B interceptors pending the conclusions of the failure review.⁸⁸ Although three successful intercept tests were carried out in 2013, one salvo trial failed in September. However, the trial was declared successful since another interceptor destroyed the missile target. A review has been conducted by the Pentagon to identify the causes of the failure, and the Failure Review Board established by the Missile Defense Agency determined the root cause of the failures, and called for the redesign of the nozzle of the third-stage rocket motor.⁸⁹ While, in light of the Ukrainian crisis, the deployment of the system could have taken on a sense of greater urgency for some of the stakeholders, the MDA schedule for acquiring

new interceptors overlaps technology development with production.⁹⁰ In another report also published in April 2014, the GAO has questioned the ability of BMD elements to work together to track ballistic missiles.⁹¹ Indeed, in addition to the Turkish radar, a twin facility was opened in Qatar in 2013. According to the audit, the absence of comprehensive planning reportedly resulted in unclear guidance about how different US geographic combatant commands should share data on ballistic threats, as well as on interoperability issues with allies.⁹² Ongoing tensions with the Euro-Atlantic community as well as the development of the BMD could also pave the way for Russia to terminate the Intermediate range Nuclear Forces Treaty (INF), a landmark agreement signed by Washington and Moscow in 1987. This treaty has never been popular in the Russian strategic community, and in October 2007, Vladimir Putin warned that Russia was considering the possibility to withdraw from it.⁹³ This statement was then primarily aimed at attracting American attention regarding China's growing capacities to increase its nuclear arsenal, and therefore the need to include Beijing in the agreement's provisions. Since then, the gap between Russia and China in terms of conventional capabilities has deepened while the Chinese ability to manufacture nuclear weapons has grown, thereby leading Moscow to find an increasing strategic interest in terminating the INF agreement. According to some US sources, Russia might have already violated the INF treaty by repeatedly testing a ground-launched cruise missile.⁹⁴ In the context of growing tensions over the Black Sea region with Washington, Moscow could unilaterally terminate the INF treaty, which is already a source of fierce disagreement between the two countries.⁹⁵ Although such a development would be unlikely to result in the deployment of strategic weapons in the Black Sea region, it would nevertheless represent a major setback for the disarmament efforts and the non-proliferation regime.

Conclusion

The Ukrainian crisis has further fuelled the already existing the mistrust between Russia and the Euro-Atlantic community in the Black Sea region. This mistrust appears as a systemic source of WMD proliferation and could possibly result in the deployment of Russian TNWs in Crimea; new narratives to justify the BMD; and a downgraded cooperation in the fight against WMDs and WMD components trafficking across the Black Sea region. The Ukrainian crisis is, in this regard,

likely to give an impetus to the smuggling of WMD components since it has sparked new “grey zones” and affected border controls in Eastern Ukraine. Any reverberation of the crisis to other “frozen conflicts”, especially in Transnistria, would be a critical setback for the cooperation against international WMDs and WMD components trafficking. On the other hand, the Middle East has been both a worrying source of proliferation and a recipient for WMD components coming from the post-Soviet space across the Black Sea region. Although Iran appears today as the main potential nuclear threat, the nuclear equation in the Middle East also requires to take into consideration Israel’s role. In that regard, the creation of a nuclear weapons free zone in the area would obviously substantially contribute to disarmament in the Black Sea region: Turkey would consider the removal of US TNWs and the BMD would critically lose its relevance. However, the most worrying perspective would be that growing tensions between Washington and Moscow in the Black Sea region could provide the Kremlin with the necessary impetus to terminate the INF treaty.

The US and Russia should work together to promote the project of a nuclear weapons free zone in the Middle East, a project which is also advocated by Turkey and Iran. The removal of the Syrian chemical arsenal in 2013 has demonstrated that such cooperation is feasible, while both actors possess the appropriate leverages and incentives on their respective partners in the region to reach this objective. In the Black Sea region, the EU, the US, and Russia should pursue and strengthen their cooperation against the illegal trafficking of WMDs and WMD components. This area seems to be the least common denominator which transcends their competition for influence in the region.

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About the Author

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About the CIES

The Center for International and European Studies (CIES) at Kadir Has University was established in 2004 as the Center for European Union Studies to study Turkey's European Union accession process. Since September 2010, CIES has been undergoing a major transformation by widening its focus in order to pursue applied, policy-oriented research and to promote debate on the most pressing geostrategic issues of the region.

Its areas of research and interaction include EU institutions and policies (such as enlargement, neighbourhood policies and CFSP/CSDP), cross-cutting horizontal issues such as regional cooperation, global governance, and security, inter alia with a geographical focus on the Black Sea Region (including the Caucasus), the Mediterranean, Southeastern Europe, Turkish-Greek relations, and transatlantic relations.

About the Black Sea Trust for Regional Cooperation

The Black Sea Trust for Regional Cooperation (BST), a project of the German Marshall Fund of the United States promotes regional cooperation and good governance in the Wider Black Sea region; accountable, transparent, and open governments; strong, effective civic sectors; and independent and professional media. To respond to the rapid shifts in the region, BST staff regularly consult with regional experts and aim to sharpen the program's grantmaking strategy in order to more effectively achieve the Trust's goals. Taking into account the complexity and diversity of the region, BST priorities are revised regularly and adjusted to respond to the region's changing needs. Adjustments are made in consultation with the BST Advisory Board, the German Marshall Fund's network of offices and internal expertise, and in coordination with other donors active in the region.

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The *Neighbourhood Policy Paper* series is meant to provide the policy, research and professional communities with expert input on many of the important issues and challenges facing, in particular, the Eastern neighborhood of the European Union today as they are written by relevant experts. The analysis provided along with the relevant policy recommendations strives to be independent and not representative of any one particular perspective or policy. Most of these papers are also translated into Russian so that they are accessible to the Russian speaking world in an attempt to enlarge the scope of the dialogue and input on neighborhood-related issues. The key priority is to maintain the focus of the policy debate on the Black Sea Region and the wider region including its interaction with the Mediterranean South.

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