Outline

- Regional Security Issues
- WMD and Capabilities in Region
- On-going challenges
Regional Security Issues

- **Longstanding Tensions**
  - Mistrust of Japan after WWII
  - Conflict on the Korean Peninsula
  - Taiwan Straits dilemma

- **Territorial Disputes**
  - PRC - Japan: Diaoyu/ Senkaku Islands
  - Japan-Korea: Takeshima/ Dokdo Islands
  - PRC-Taiwan/etc: Spratly Islands
Regional Security Issues

- **China’s Air Defense Identification Zone**
  - Beijing’s announced zone overlapping Japan’s
  - US and Japan will not abide by zone requirements
Regional Security Issues

- Changing power relations
  - Chinese military modernization
    - Concerns about Beijing’s “peaceful rise”
  - US-Japan-South Korea relations

- Role of US Alliances
  - US-Japan / US-ROK
    - Dealing with tensions between Japan and South Korea
  - Taiwan Relations Act / arms sales
    - Repercussions on US-China relations
WMD & Capabilities: DPRK

- **Nuclear weapons program**
  - Program began in the 1950s
    - Early PRC/Soviet help but much indigenous
  - Kicking out of IAEA inspectors in 2002 started current crisis
    - Followed by DPRK withdrawal from NPT 2003
  - Stalemate in negotiations
    - On-again-off-again talks
    - No substantial talks since early 2012
WMD & Capabilities: DPRK

- Nuclear tests in 2006, 2009, and 2013
- Revelations about HEU program
WMD & Capabilities: DPRK

- **CW program**
  - Estimated to have 2,500 tons of CW
  - Mustard, phosgene, blood agent, sarin, tabun, and V-agents

- **BW program**
  - Possesses a range of pathogens that can be weaponized and various delivery methods
WMD & Capabilities: DPRK

- **Missile Program**
  - Began production in the 1960s
  - Received assistance from USSR and China
  - Scuds and Nodong major export
WMD & Capabilities: DPRK

- **Taepodong 1**

- **Taepodong 2**
  - July 2006: Failed exercise
  - April 2009: 3rd phase failed but appears to work as two-phase
  - System still unreliable

- **Unha-3**
  - Tests in 2012 and 2013
WMD & Capabilities: DPRK

- WMD & missiles related trade
  - Past missile trade with Iran, Pakistan, Egypt, Libya, Syria and Yemen
    - Important source of DPRK income
    - Suspected assistance to Syrian nuclear program
  - Focus of UN sanctions
    - Has had some impact on DPRK overall economy
    - Slowed missile business significantly
  - Target of the Proliferation Security Initiative (PSI) and related activities
WMD & Capabilities: China

- **NPT Nuclear Weapon State**
  - Ratified NPT 1992; signed CTBT 1996
  - Unofficial moratorium on fissile material production

- **Small but credible nuclear force**
  - Approximately 200 warheads
  - Forces include land and sub-based missiles as well as aircraft

- **Extensive ballistic missile program**
  - Modernizing missile systems for survivability
Table 1. Chinese nuclear forces, 2013.

<table>
<thead>
<tr>
<th>Type</th>
<th>NATO Designation</th>
<th>Number of launchers</th>
<th>Year deployed</th>
<th>Range (kilometers)</th>
<th>Warhead x yield (kilotons)</th>
<th>Number of warheads</th>
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<tbody>
<tr>
<td>Land-based ballistic missiles</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>DF-3A</td>
<td>CSS-2</td>
<td>~8</td>
<td>1971</td>
<td>3,000</td>
<td>1 x 3,300</td>
<td>~8</td>
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<tr>
<td>DF-4</td>
<td>CSS-3</td>
<td>~12</td>
<td>1980</td>
<td>5,500+</td>
<td>1 x 3,300</td>
<td>~12</td>
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<td>DF-5A</td>
<td>CSS-4</td>
<td>~20</td>
<td>1981</td>
<td>13,000+</td>
<td>1 x 4,000–5,000</td>
<td>~20</td>
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<td>DF-15</td>
<td>CSS-6</td>
<td>~100*</td>
<td>1990</td>
<td>600</td>
<td>1 x ?</td>
<td>?</td>
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<tr>
<td>DF-21</td>
<td>CSS-5 Mods 1, 2</td>
<td>~80*</td>
<td>1991</td>
<td>2,150</td>
<td>1 x 200–300</td>
<td>~80</td>
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<td>DF-31</td>
<td>CSS-10 Mod 1</td>
<td>~8</td>
<td>2006</td>
<td>7,000+</td>
<td>1 x 200–300?</td>
<td>~8</td>
</tr>
<tr>
<td>DF-31A</td>
<td>CSS-10 Mod 2</td>
<td>~20</td>
<td>2007</td>
<td>11,000+</td>
<td>1 x 200–300?</td>
<td>~20</td>
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<td>Subtotal:</td>
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<td>~148*</td>
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<tr>
<td>Submarine-launched ballistic missiles$^4$</td>
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<tr>
<td>JL-1</td>
<td>CSS-NX-3</td>
<td>(12)</td>
<td>1986</td>
<td>1,000+</td>
<td>1 x 200–300</td>
<td>n.a.</td>
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<tr>
<td>Subtotal:</td>
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<td>(48)</td>
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<td>Aircraft$^6$</td>
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<tr>
<td>H-6</td>
<td>B-6</td>
<td>~20</td>
<td>1965</td>
<td>3,100+</td>
<td>1 x bomb</td>
<td>~20</td>
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<tr>
<td>Cruise missiles$^1$</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>DH-10</td>
<td>CJ-10</td>
<td>~250</td>
<td>2006?</td>
<td>1,500?</td>
<td>1 x ?</td>
<td>?</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>~190*</td>
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</tbody>
</table>

$^a$ The CIA concluded in 1993 that China “almost certainly” had developed a warhead for the DF-15.

$^b$ This table only counts nuclear versions DF-21 (CSS-5 Mod 1) and DF-21A (CSS-5 Mod 2), each of which has fewer than 50 launchers deployed. The conventional DF-21C and DF-21D are not counted.

$^c$ The missile and warhead inventory may be larger than the number of launchers, some of which can be reused to fire additional missiles.

$^d$ Neither the JL-1 nor the JL-2 SBLM is fully operational, although warheads probably are available. The JL-2 is under development.

$^e$ China is thought to have a small stockpile of nuclear bombs with yields between 10 kilotons and 3 megatons. Figures are for only those aircraft that are estimated to have a secondary nuclear mission. Aircraft range is equivalent to combat radius, which for some H-6 bombers can be extended with air refueling.

$^f$ US Air Force intelligence lists the ground-launched DH-10 land-attack cruise missile as “conventional or nuclear.” US Air Force Global Strike Command also lists the air-launched CJ-20 ALCM as nuclear-capable, but it is unclear whether that is a coordinated intelligence assessment.

$^g$ An estimated 60 additional warheads include those produced for SBLMs and others awaiting dismantlement, for a total inventory of approximately 250 warheads.

China’s Nuclear Strategy

Statement from 1996:

*Our development of a limited nuclear capability is not aimed at threatening other people, but is solely for self-defense ..... Since the very first day when China came into possession of nuclear weapons, China has solemnly declared that at no time and under no circumstances will it be the first to use nuclear weapons.*

- No-First-Use (NFU) policy since first test in 1964
- Maintaining small force for effective deterrence
- Commits not to use against non-nuclear weapon states
WMD & Capabilities: China

- **Ratified Chemical Weapons Convention**
  - Declared previous CW program; dismantled under CWC.
  - CW abandoned by the Japanese still under destruction

- **Ratified Biological Weapons Convention**
  - Not supportive of verification annex

Graphic from *China Daily*
WMD & Capabilities: China

- **Proliferation activities before mid-1990s**
  - Reforms in 1980s left defense industry looking for customers
  - Reflected China’s relative ambivalence towards nonproliferation before the early 1990s
  - Sold numerous countries nuclear and missile systems and technologies
  - Nuclear blueprints to Pakistan particularly helpful
WMD & Capabilities: China

- **Late 1990s: Attitude Change due to combination of factors**
  - International pressure (particularly U.S.)
  - Taking role of responsible player internationally
  - Recognition of the threat of WMD proliferation to China’s own security interests

- **Resulting change in policy**
  - Increased attention to international regimes
  - 2002: Published comprehensive set of export controls

- **Joined Nuclear Suppliers Group in 2004**
  - General acceptance of all export control regimes
WMD & Capabilities: China

- **Continuing Issues**
  - Recognition of positive movement but concern about exports still fresh
  - Missile related trade with Iran still seen as troubling
  - Nuclear cooperation with Pakistan not seen as in spirit of Nuclear Supplier’s Group
  - Call to be tougher on DPRK

*Photos of Chinese origin TEL used by DPRK for hauling "missiles"*
WMD & Capabilities: Taiwan

- **Nuclear capabilities**
  - NW programs – 1970s and 1980s
    - Both programs stopped under US pressure
  - Developed nuclear energy program
    - Safeguarded in special arrangement with US & IAEA
WMD & Capabilities: Taiwan

- Political situation complicated
  - Not a sovereign state or member of UN
  - Not able to join treaties or supplier regimes
  - China has 1500+ SRBM aimed at Taiwan
  - US support still seen as important; bolstered by Taiwan Relations Act
  - Current leadership in Taipei increasing interaction with mainland but still concerned about military imbalance
WMD & Capabilities: Japan

- **Nuclear capabilities**
  - Strong anti-nuclear weapons sentiment
  - Party to NPT and CTBT
  - Extensive nuclear energy infrastructure
    - But Fukushima accident has led to closure of all nuclear facilities
  - Controversial reprocessing program
    - Plutonium stockpiles seen as giving latent NW capabilities
WMD & Capabilities: Japan

- Chemical and Bio capabilities
  - Had CBW program in WWII
  - Ratified CWC and BWC
    - Currently working with China to get rid of abandoned CW on Chinese soil
  - Has extensive chemical industry and growing bio-tech
    - Potential source for illicit networks
WMD & Capabilities: Japan

- Missile potential
  - Expanding missile defense cooperation with U.S.

- Space launch vehicle program
Concerns about exports of Japanese companies continues

- Numerous cases in the last decade show issues with controlling materials
- Japan has worked further strengthen export controls
WMD & Capabilities: ROK

- **Previous NW Program**
  - Stopped in mid-1980s under US pressure
  - Signed 1992 Denuclearization Declaration with North Korea; never fully implemented

- **Member NPT, CTBT**

- **Extensive nuclear energy industry**
  - Concerns about efforts at pyroprocessing
    - Slowing negotiations of US-ROK civilian nuclear agreement
  - Plans to be major nuclear exporter
  - Recent safety issues calling program into question
WMD & Capabilities: ROK

- **CBW capabilities**
  - Ratified CWC and BWC
  - Declared CW program in 1997 (but not publicly)
    - Arsenal destroyed on time under OPCW destruction regime
  - Extensive chem and bio industries
    - Potential source of dual-use materials
WMD & Capabilities: ROK

- Ballistic missile capabilities
  - In 1970s, reversed engineered US Hercules Nike
    - US gained agreement from ROK to limit BM development to 500 km
    - In 2012 extended that range to 800 km
  - Currently developing space launch vehicles
Design Characteristics of South Korea’s Ballistic, Cruise Missile and Space Launch Vehicles

<table>
<thead>
<tr>
<th>Name</th>
<th>Other Name</th>
<th>Length (m)</th>
<th>Diameter (m)</th>
<th>Range (km)</th>
<th>Warhead</th>
<th>Propellant</th>
<th>Type</th>
<th>Status</th>
<th>Notes</th>
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<tr>
<td>KSLV-1</td>
<td>NARO (나로호)</td>
<td>33</td>
<td>2.9</td>
<td>Unknown</td>
<td>Single-100kg</td>
<td>Liquid(1st), Solid(2nd)</td>
<td>SLV</td>
<td>Deployed</td>
<td>[1]</td>
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<tr>
<td>KSLV-2</td>
<td>한국형발사체</td>
<td>47.5</td>
<td>3.3 (1st), 2.9 (2nd), 2.6 (3rd)</td>
<td>Unknown</td>
<td>Single-1,500kg</td>
<td>Liquid-All stages</td>
<td>SLV</td>
<td>Under development</td>
<td>[2]</td>
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<td>NHK-1</td>
<td>K-1, Baekgom, 백곰</td>
<td>12.53</td>
<td>0.8</td>
<td>180</td>
<td>Single-500kg</td>
<td>Solid</td>
<td>SRBM</td>
<td>Not Deployed</td>
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<td>NHK-2</td>
<td>K-2, Hyonmu 1, 현무 1</td>
<td>12.53</td>
<td>0.8</td>
<td>250</td>
<td>Single-500kg</td>
<td>Solid</td>
<td>SRBM</td>
<td>Reserved</td>
<td>[4]</td>
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<td>NHK-2 PIP A</td>
<td>Hyonmu 2 A, 현무 2A</td>
<td>6</td>
<td>0.8</td>
<td>300</td>
<td>Single-500kg</td>
<td>Solid</td>
<td>SRBM</td>
<td>Deployed</td>
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<td>NHK-2 PIP B</td>
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<td>6</td>
<td>0.8</td>
<td>500</td>
<td>Single (300kg)</td>
<td>Solid</td>
<td>SRBM</td>
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<td>SSM-700K</td>
<td>Haeseong</td>
<td>4</td>
<td>0.34</td>
<td>150</td>
<td>Single (230kg)</td>
<td>Turbojet</td>
<td>ASCM</td>
<td>Deployed</td>
<td>[7]</td>
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<tr>
<td>Hyonmu-3A</td>
<td></td>
<td>6.5</td>
<td>0.53</td>
<td>500</td>
<td>Single (500kg)</td>
<td>Turbojet</td>
<td>Cruise</td>
<td>Deployed</td>
<td>[8]</td>
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<td>Hyonmu-3B</td>
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<td>6.5</td>
<td>0.53</td>
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<td>Single (500kg)</td>
<td>Turbofan</td>
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<td>Hyonmu-3C</td>
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<td>1,500</td>
<td>Single (350kg)</td>
<td>Turbofan</td>
<td>Cruise</td>
<td>Testing</td>
<td>[10]</td>
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</table>
On-going Challenges

- **Lack of trust major issue**
  - Current tensions between major players are particularly worrisome
  - More strategic dialogue needed

- **Increasing military spending causing tension**
  - Small disputes could turn into larger ones easily
On-going Challenges

- **On-going problems on the Korean peninsula**
  - Unsure of goals of Kim Jung-un
    - Leadership transition still in progress
  - Tension between North and South increasing
    - Current ROK president daughter of former president assassinated by North Korean agent
    - War of words between both sides has been heated in last year
On-going Challenges

- Proliferation of materials/technologies from region
  - Sources of dual-use commodities
  - Past problems with trafficking not gone away
  - Increased strengthening of controls needed, especially in China
Questions/ comments ....