



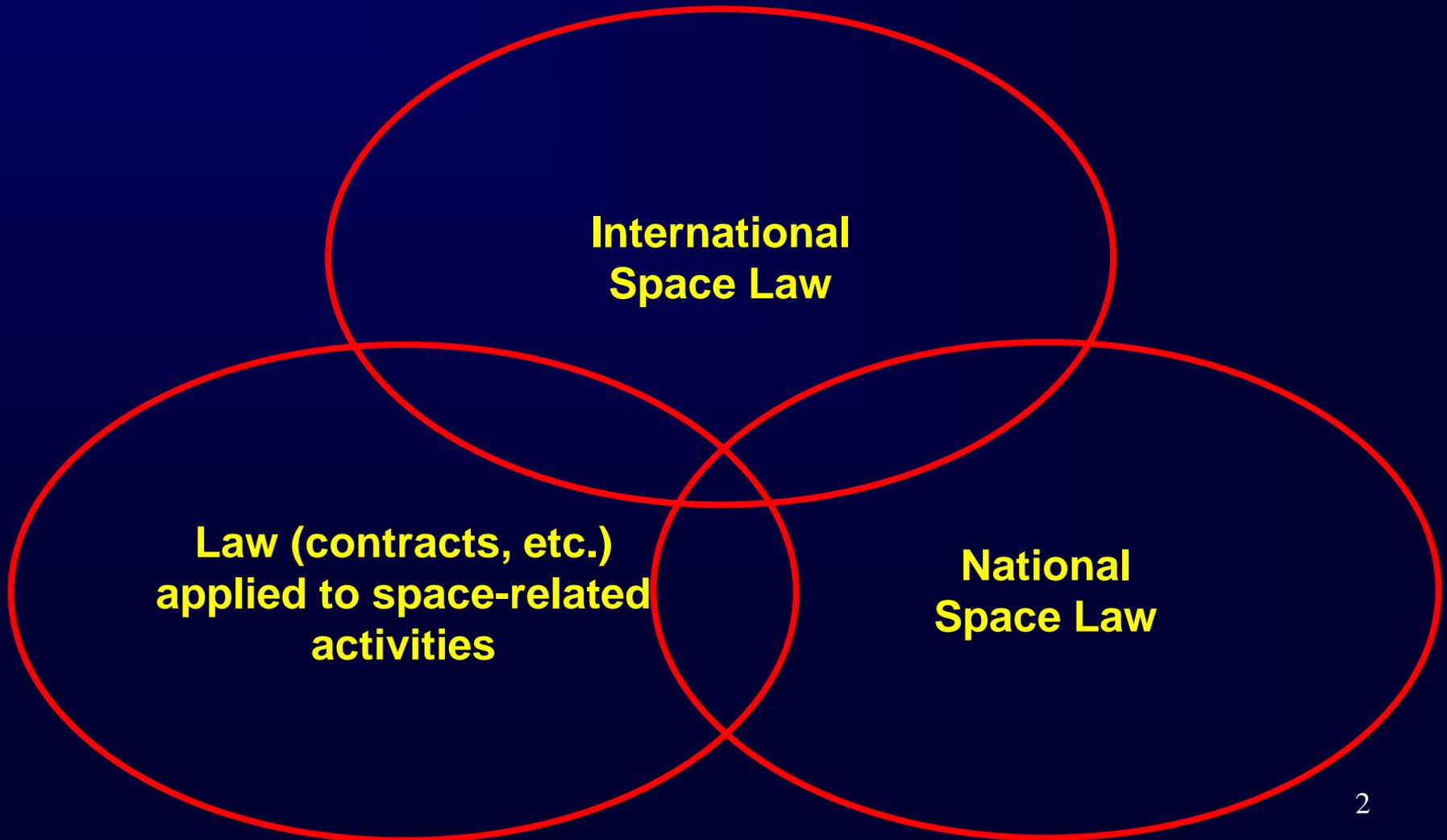
Sombrero Galaxy • M104

SPACE LAW



Hubble
Heritage

WHAT IS SPACE LAW?



THE CONTEXT





OVERVIEW

- ◆ MAJOR SPACE TREATIES
- ◆ NATIONAL SPACE LAW
- ◆ SELECTED ISSUES



MAJOR SPACE TREATIES

- ◆ OUTER SPACE TREATY – 1967 (104)
- ◆ RESCUE AND RETURN OF ASTRONAUTS – 1968 (94)
- ◆ LIABILITY CONVENTION – 1972 (92)
- ◆ REGISTRATION CONV. – 1975 (62)
- ◆ MOON TREATY – 1979 (16)



OUTER SPACE TREATY (1967)

- ◆ MAGNA CARTA OF SPACE LAW
- ◆ SPACE IS:
 - ➔ FREE FOR USE AND EXPLORATION
 - ➔ NOT SUBJECT TO APPROPRIATION
 - ➔ TO BE USED FOR THE **COMMON BENEFIT OF ALL COUNTRIES**



OUTER SPACE TREATY

- ASSISTANCE TO ASTRONAUTS IN DISTRESS
- STATE RESPONSIBILITY AND LIABILITY FOR OUTER SPACE ACTIVITIES
- JURISDICTION, CONTROL AND OWNERSHIP OF REGISTERED SPACE OBJECTS
- PEACEFUL USE

OUTER SPACE TREATY

→ AVOID HARMFUL CONTAMINATION OF
SPACE & CELESTIAL BODIES

◆ Duty to consult

RESCUE AND RETURN OF ASTRONAUTS AND SPACE OBJECTS (1968)

- ◆ PRIMARY PURPOSE: SAFETY OF ASTRONAUTS
- ◆ ASTRONAUTS - TAKE ALL STEPS POSSIBLE TO RESCUE & RETURN
- ◆ SPACE OBJECTS - TAKE STEPS "PRACTICABLE" TO RECOVER





LIABILITY CONVENTION (1973)

- ◆ OBJECTIVE: FULL AND EQUITABLE COMPENSATION FOR DAMAGE CAUSED BY “SPACE OBJECTS”
- ◆ CLAIMS MADE THROUGH DIPLOMATIC CHANNELS

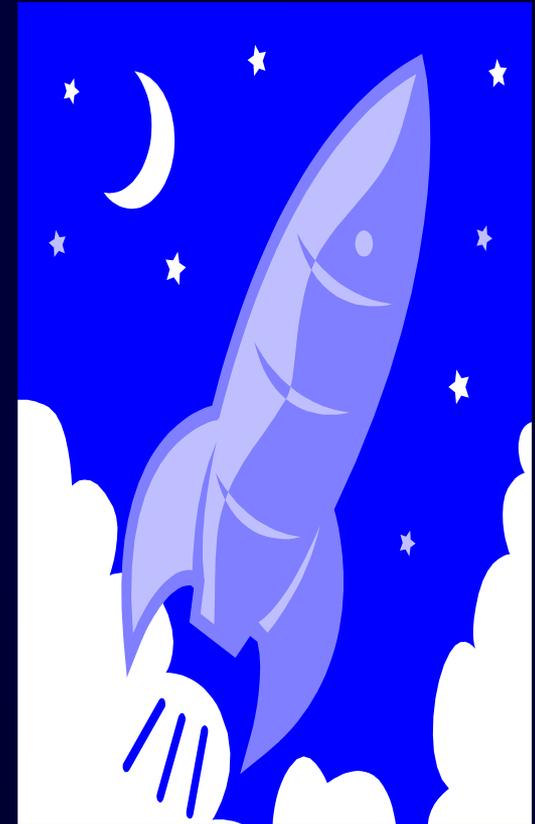


LIABILITY CONVENTION

- ◆ **ABSOLUTE LIABILITY OF LAUNCHING STATE FOR DAMAGE ON SURFACE OF EARTH/AIRCRAFT IN FLIGHT**
- ◆ **“FAULT” LIABILITY IN OUTER SPACE**

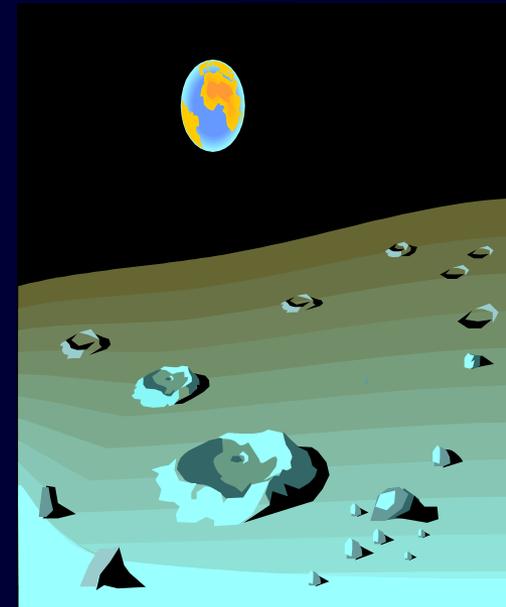
REGISTRATION CONVENTION (1976)

- ◆ “LAUNCHING STATE”
- ◆ U.N. REGISTRY
- ◆ REGISTER AS SOON AS PRACTICABLE AFTER LAUNCH
- ◆ PROVIDE GENERAL INFORMATION



MOON TREATY (1979)

- ◆ 16 PARTIES: AUSTRALIA, AUSTRIA, CHILE, MEXICO, MOROCCO, NEPAL ...
- ◆ APPLIES TO *ALL* CELESTIAL BODIES (EXCEPT EARTH)
- ◆ NATURAL RESOURCES ARE THE “**COMMON HERITAGE OF MANKIND**” (CHM) – INT’L REGIME



OTHER INTERNATIONAL AGREEMENTS

- ◆ ITU CONVENTION, CONSTITUTIONS & RADIO REGULATIONS
- ◆ INT'L SPACE STATION AGREEMENTS
- ◆ ESA

NATIONAL/DOMESTIC LAW



- ◆ GOVERNS THE ACTIONS OF INDIVIDUALS & COMPANIES IN THE UNITED STATES



U.S. SPACE LAW

- ◆ THE NASA ACT (1958)
- ◆ COMMERCIAL SPACE LAUNCH ACT (1984), as amended
- ◆ LAND REMOTE SENSING COMMERCIALIZATION ACT (1984)
- ◆ INVENTIONS IN SPACE ACT (1990)

U.S. SPACE LAW

- ◆ LAND REMOTE SENSING POLICY ACT (1992)
- ◆ 2015 COMMERCIAL SPACE LAUNCH COMPETITIVENESS ACT
- ◆ Title 51

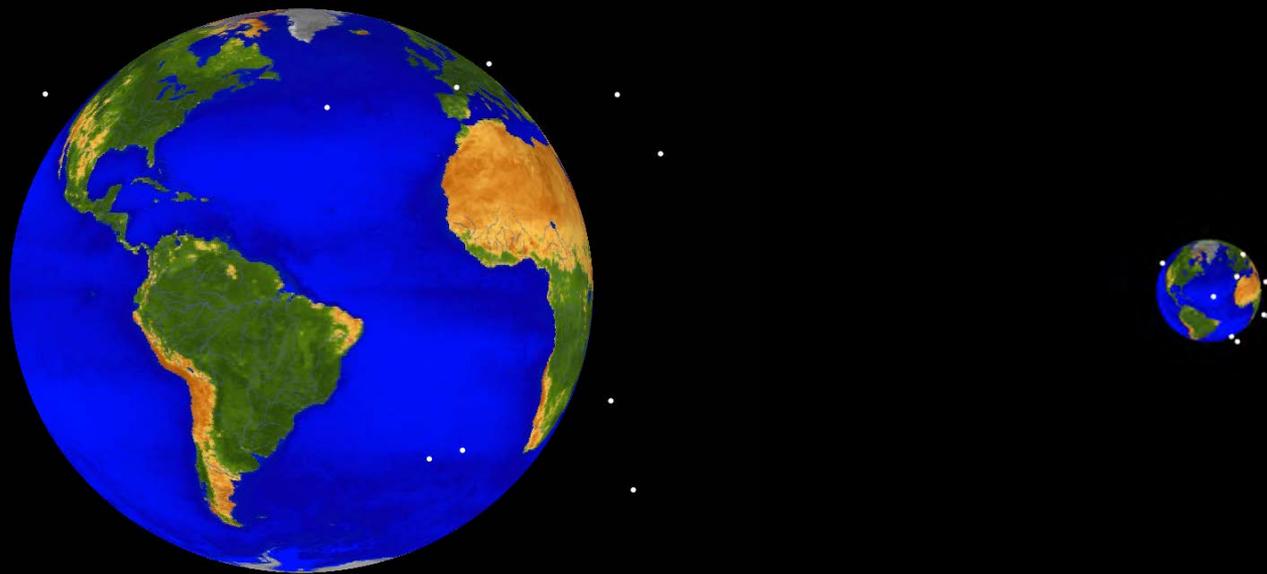
HOT ISSUES OF SPACE LAW

- ◆ *SPACE DEBRIS*
- ◆ *SPACE MINING*
- ◆ *ITAR REFORM*
- ◆ *LAUNCH SERVICES: HOSTED PAYLOADS, RIDESHARES*
- ◆ *SUBORBITAL SPACE TOURISM*
- ◆ *USE OF SPACE ACT AUTHORITY*

SPACE DEBRIS

GROWTH OF THE EARTH SATELLITE POPULATION

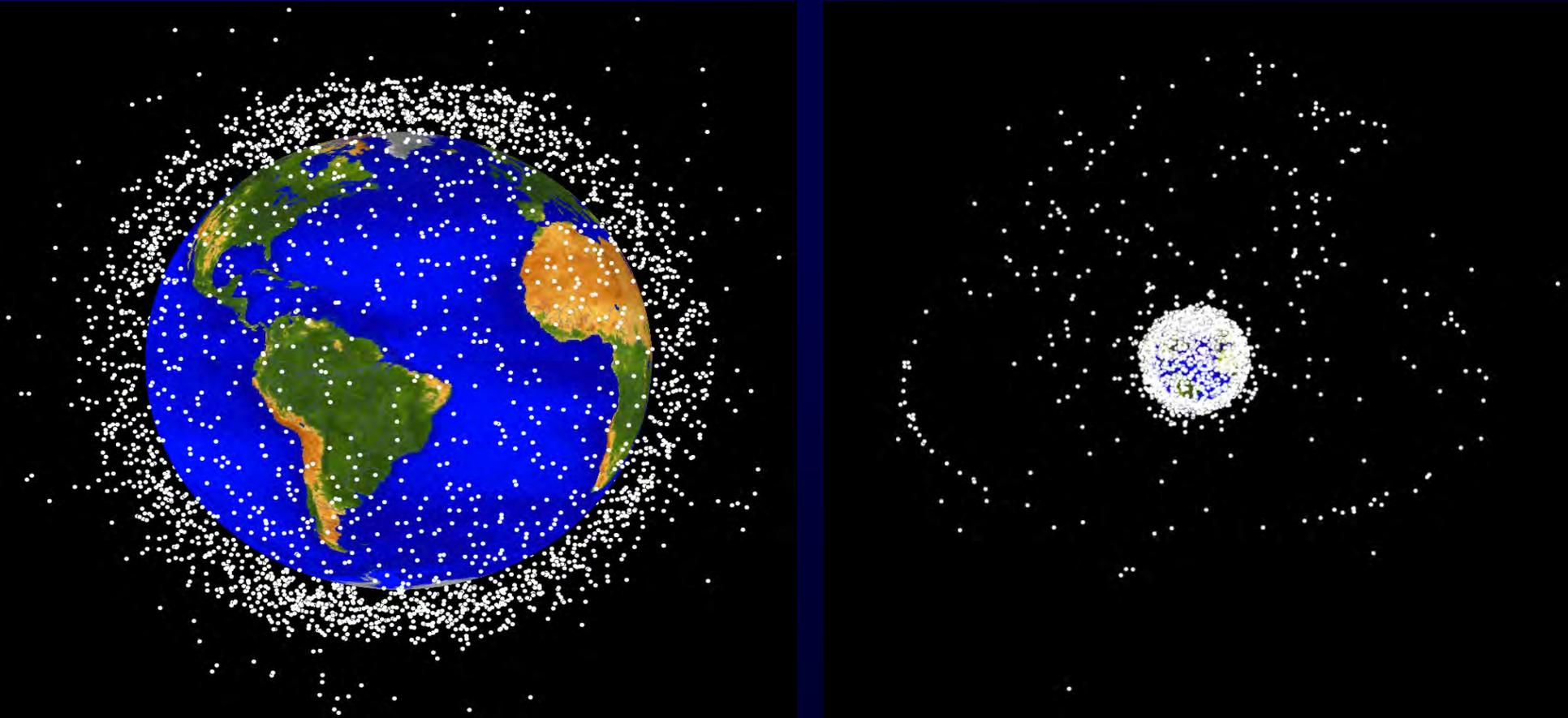
1960



Cataloged objects >10 cm diameter

GROWTH OF THE EARTH SATELLITE POPULATION

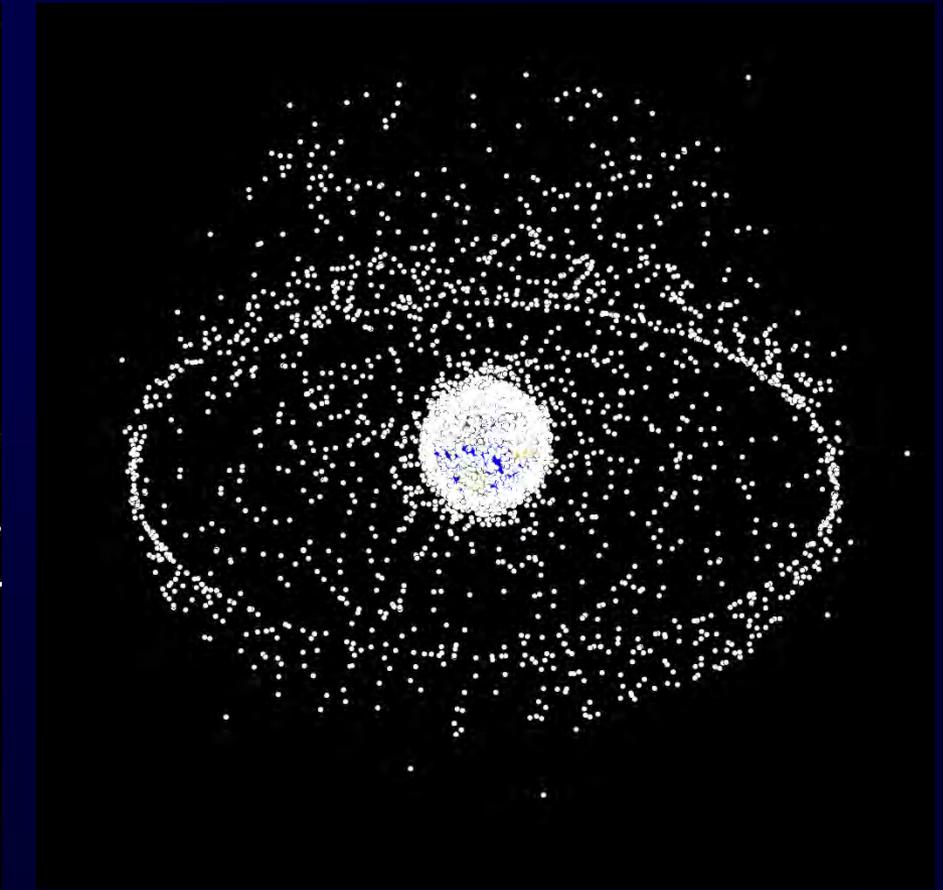
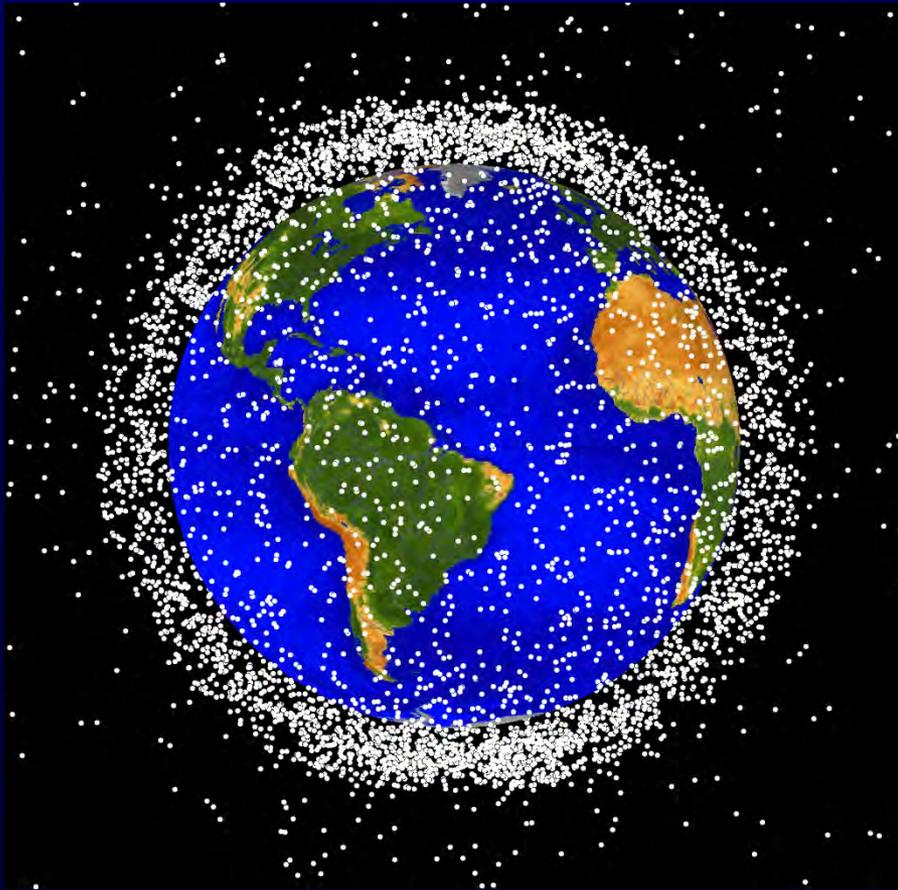
1980



Cataloged objects >10 cm diameter

GROWTH OF THE EARTH SATELLITE POPULATION

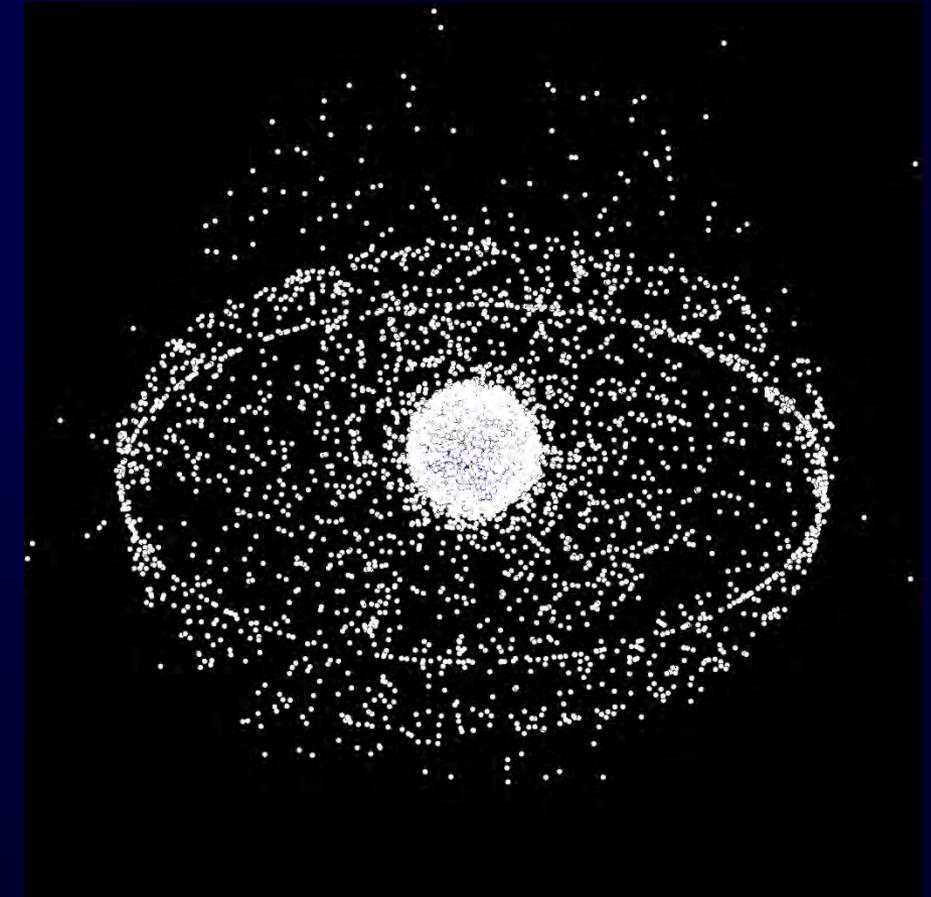
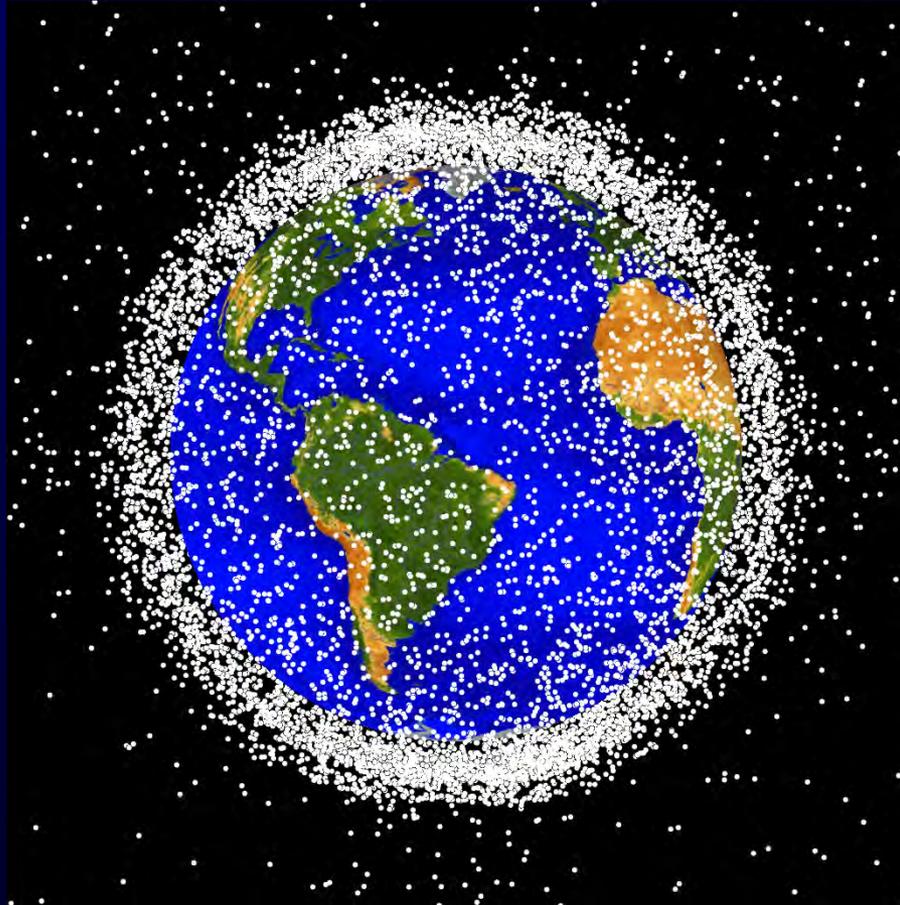
2000



Cataloged objects >10 cm diameter

GROWTH OF THE EARTH SATELLITE POPULATION

2010



Cataloged objects >10 cm diameter

SPACE DEBRIS

- ◆ IN GEO > 500 DEFUNCT SATELLITES,
> 200 SPENT ROCKET BODIES,
THOUSANDS OF SMALLER PIECES OF
DEBRIS
- ◆ >20,000 CATALOGUED SPACE OBJECTS
- ◆ <1,000 ARE OPERATIONAL

ANTI-SATELLITE TEST

- ◆ 2007 INTENTIONAL DESTRUCTION BY CHINA OF ITS OWN DEFUNCT SPACECRAFT

➔ OVER 3,000 PIECES OF DEBRIS

ON ORBIT COLLISION

- ◆ 2009 DEFUNCT RUSSIAN SATELLITE AND IRIDIUM-33 COLLIDED AT 790 KM
- ◆ FIRST EVER COLLISION BETWEEN TWO INTACT SPACECRAFT
- ◆ ALMOST 2,000 PIECES OF DEBRIS
- ◆ IRIDIUM-33 WAS OPERATIONAL, NOT INSURED



SPACE DEBRIS

- ◆ HAS POTENTIAL TO DAMAGE OR DESTROY HIGH-VALUE, OPERATIONAL SATELLITES
- ◆ POTENTIAL TO DEPRIVE USERS OF CERTAIN ORBITS
- ◆ IMPACT ON INSURANCE RATES



SPACE DEBRIS AND INTERNATIONAL NORMS

- ◆ 1980-1990s TECHNICAL BEST PRACTICES ARE DEVELOPED BY STATES
- ◆ 1999 IADC GUIDELINES ADOPTED
- ◆ 2007 UN COPUOS GUIDELINES ADOPTED
- ◆ CURRENT STATUS: “NON-BINDING” INTERNATIONAL STANDARDS

SPACE MINING

- ◆ Asteroid Anteros has minerals valued at over \$5.5T
- ◆ Companies: Planetary Resources; Deep Space Industries
- ◆ Return to earth or use in space
- ◆ ROI 20 – 50 years

LEGAL ISSUES

- ◆ US Commercial Space Launch Competitiveness Act
- ◆ Article 2 – Outer Space Treaty
- ◆ 1979 Moon Agreement

US COMMERCIAL SPACE LAUNCH COMPETITIVENESS ACT

- ◆ Title 4 – President shall “facilitate commercial exploration for and commercial recovery of space resources by US citizens”
- ◆ *“A US citizen engaged in commercial recovery of an asteroid or space resource ... is entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell, in accordance with applicable law, including the international obligations of the US”*

OUTER SPACE TREATY

- ◆ Article 2: “Outer space including the moon and other celestial bodies, is not subject to national appropriation but claim of sovereignty, by means of use or occupation, or by any other means”

MOON AGREEMENT

- ◆ Article 11: “States parties to this Agreement hereby undertake to establish an international regime to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible”
- ◆ Moon = other celestial bodies

SPACE MINING

- ◆ IISL findings
- ◆ Luxembourg \$200M fund to attract investment in asteroid mining ventures

SPACE MINING

- ◆ Space exploration changing from government to private sector, but international regime focuses on activities of states
- ◆ Analogy to International Seabed Authority

FILLING THE GAPS

- ◆ International Agreement
- ◆ Agreement between Coalition of Space-Capable States
- ◆ The Commercial Exploitation of Mineral Resources in Outer Space (1988)

HOW TO GET INVOLVED IN SPACE LAW

- ◆ ABA SCI/TECH COMMITTEE
- ◆ INTERNATIONAL INSTITUTE OF SPACE LAW (“IISL”)
- ◆ SPACE LAW MOOT COURT COMPETITION