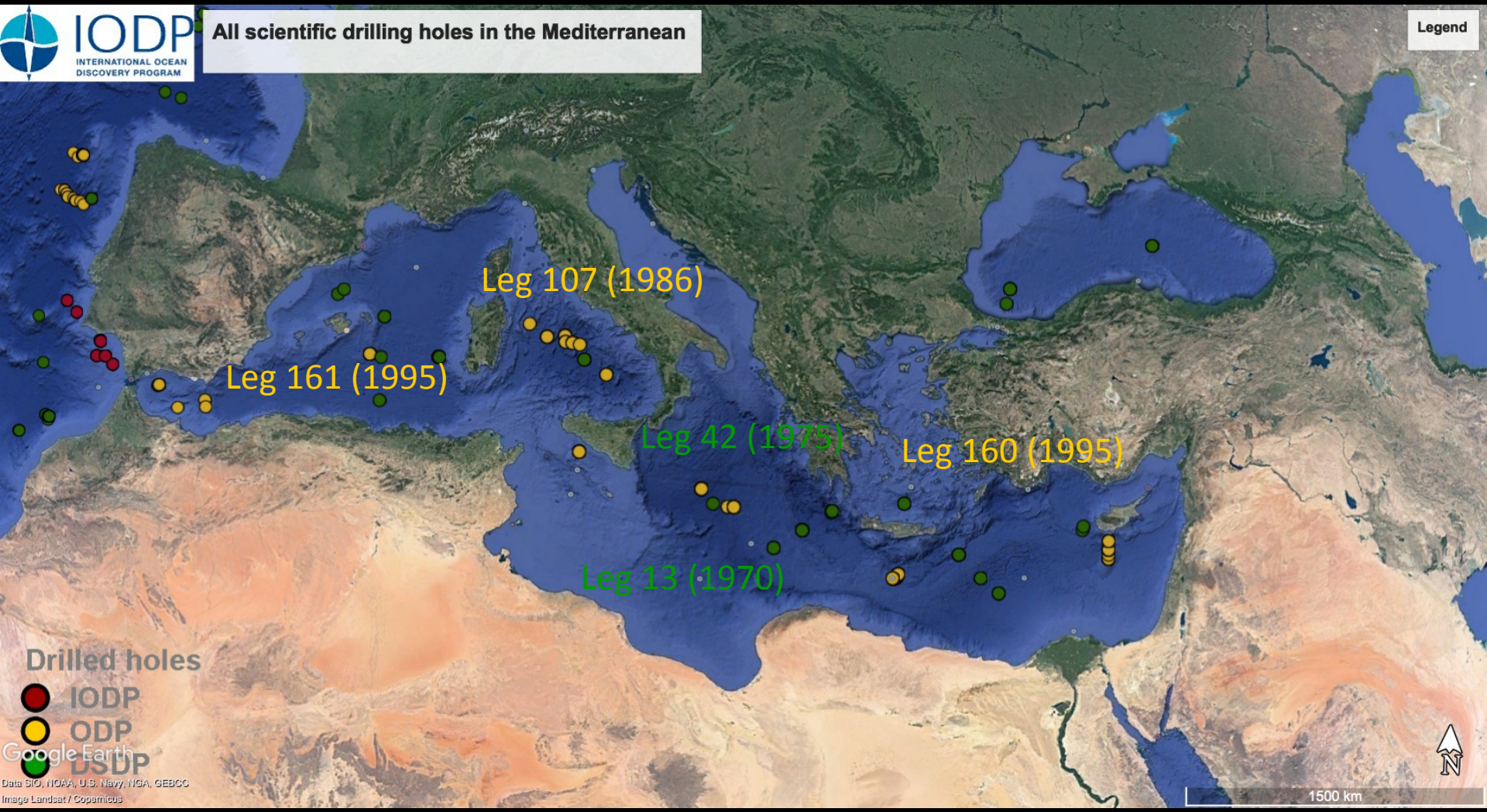
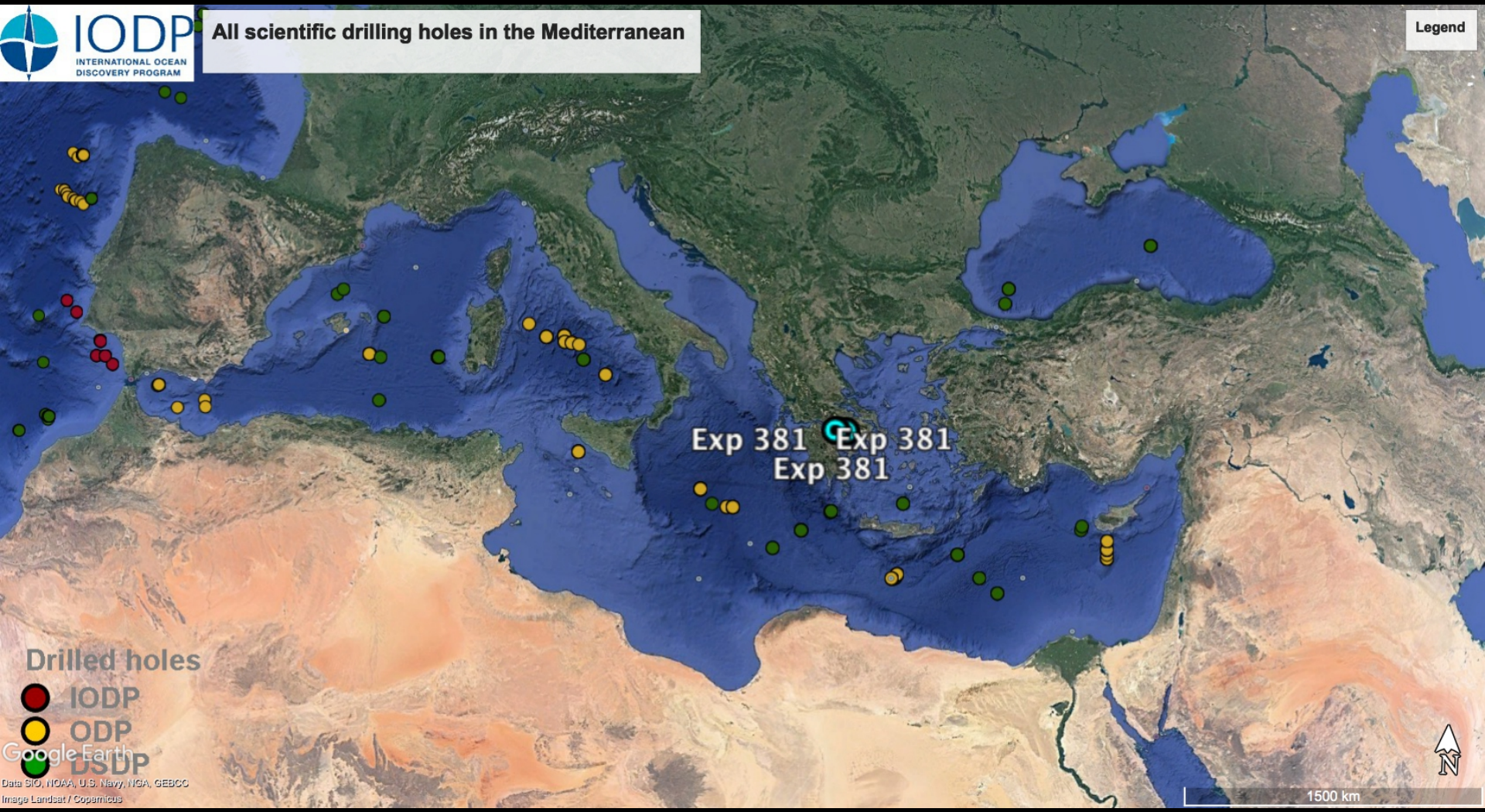
IODP
INTERNATIONAL OCEAN DISCOVERY PROGRAM

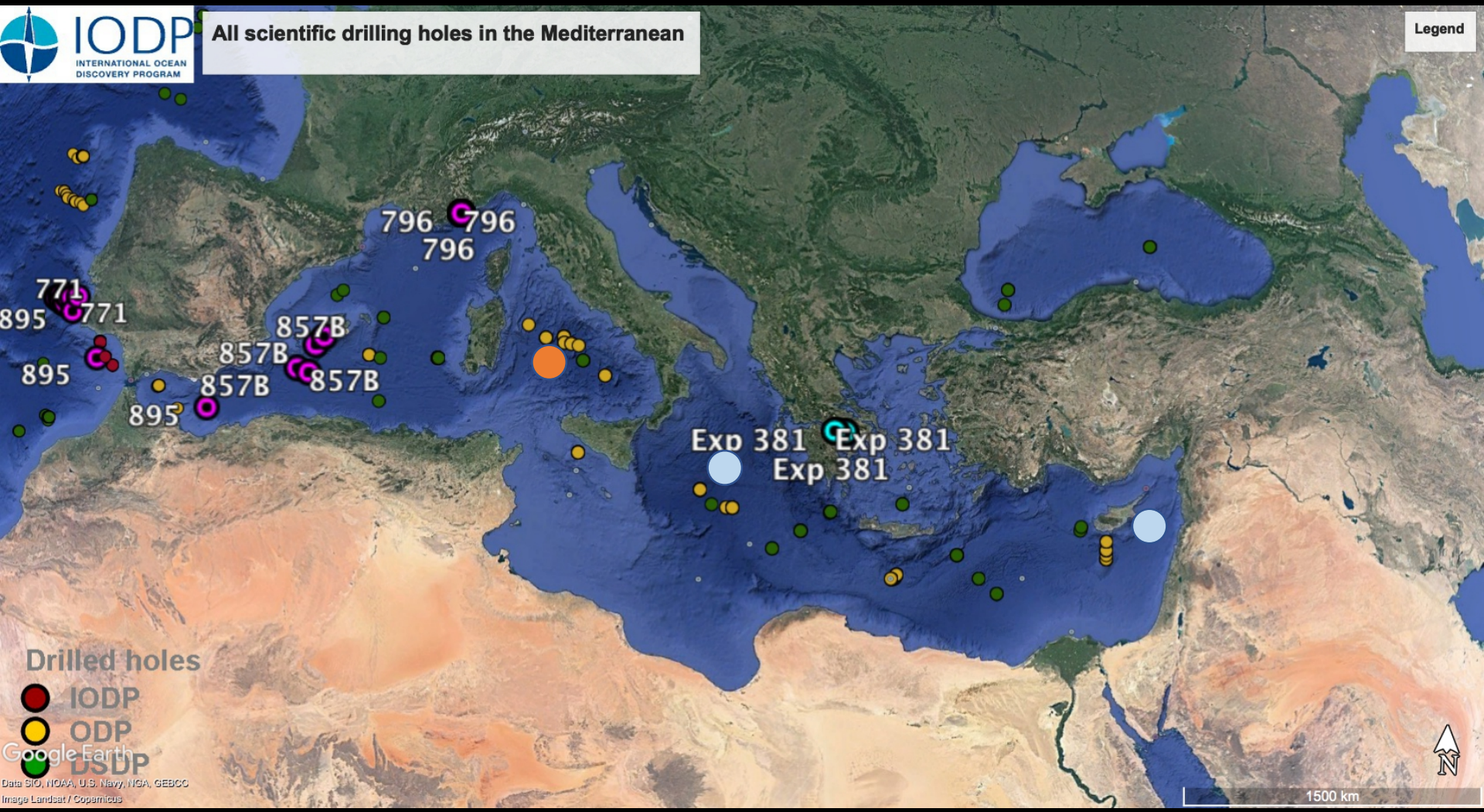
Drilled holes
- IODP
- ODP
- DSDP

OGS



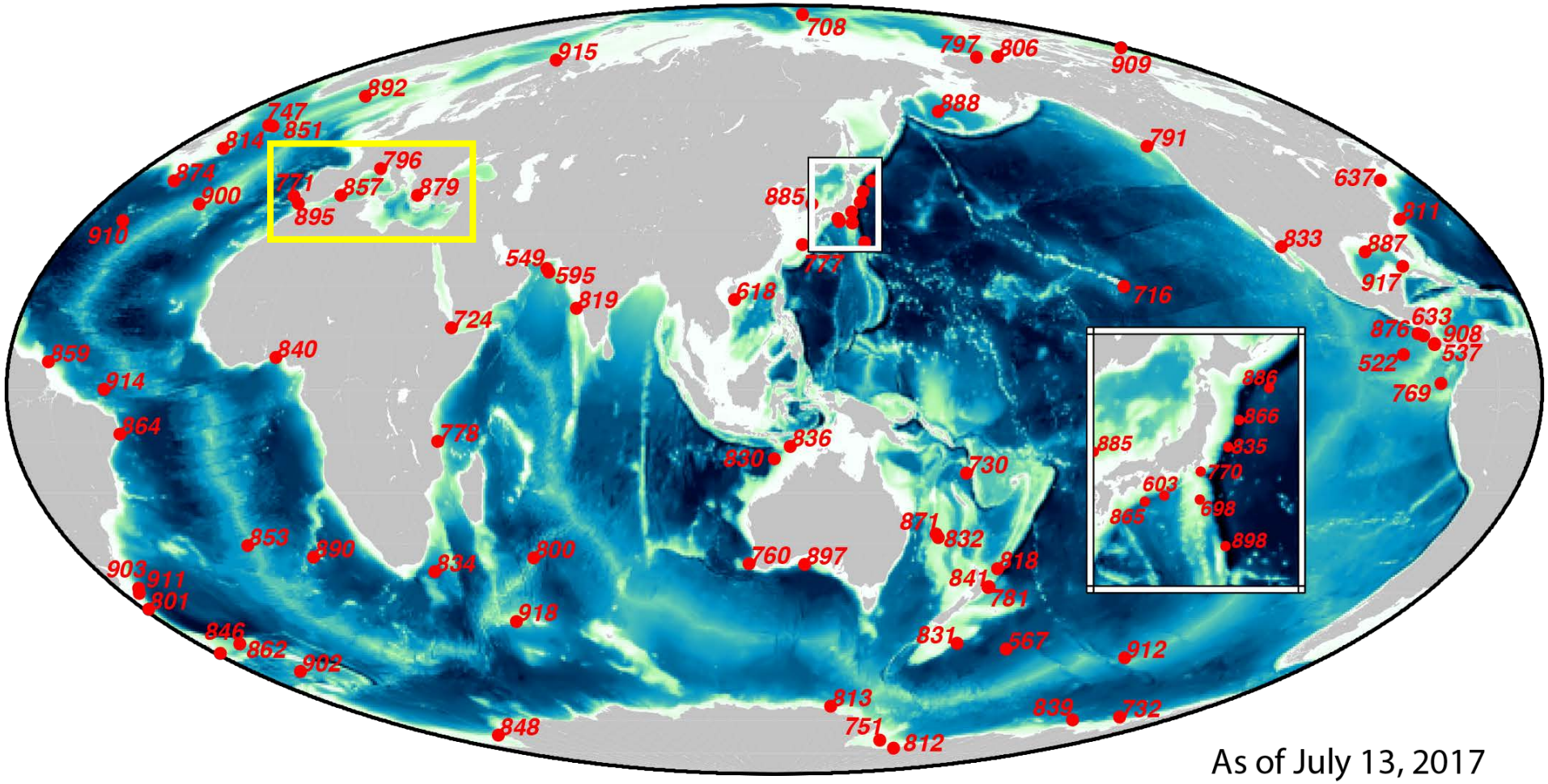
Un “GAP” di 23 anni


IODP
INTERNATIONAL OCEAN DISCOVERY PROGRAM
All scientific drilling holes in the Mediterranean
Legend
Exp 381
Exp 381
Exp 381
Drilled holes
IODP
ODP
DSDP
Google Earth
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
N
1500 km


IODP
INTERNATIONAL OCEAN DISCOVERY PROGRAM
All scientific drilling holes in the Mediterranean
Legend
796
796
796
771
771
895
895
857B
857B
857B
857B
895
Exp 381
Exp 381
Exp 381
Drilled holes
IODP
ODP
DSDP
Google Earth
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
1500 km
N

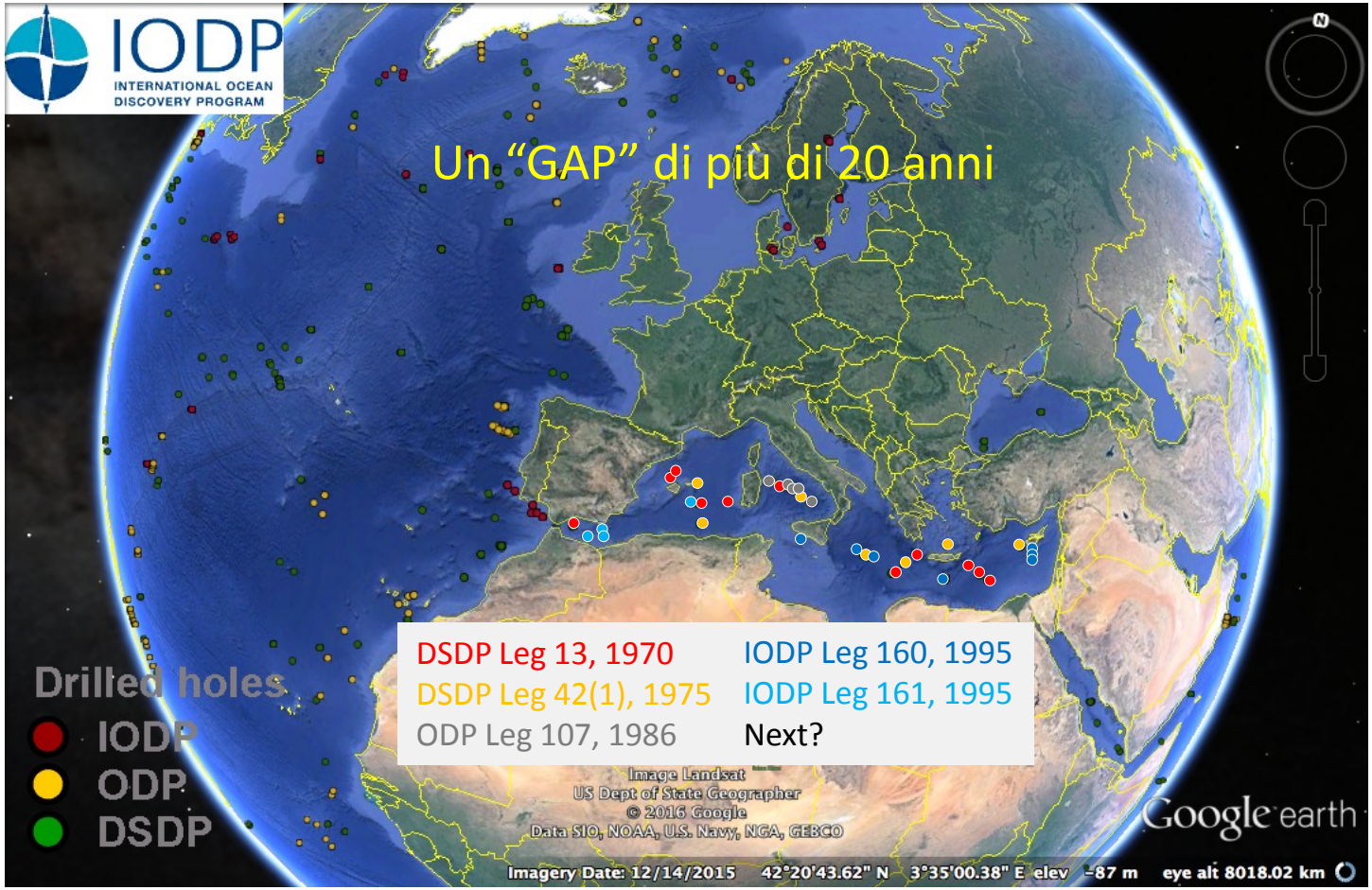
I COMPETITORI DEL MEDITERRANEO

Drill sites in Active Proposals

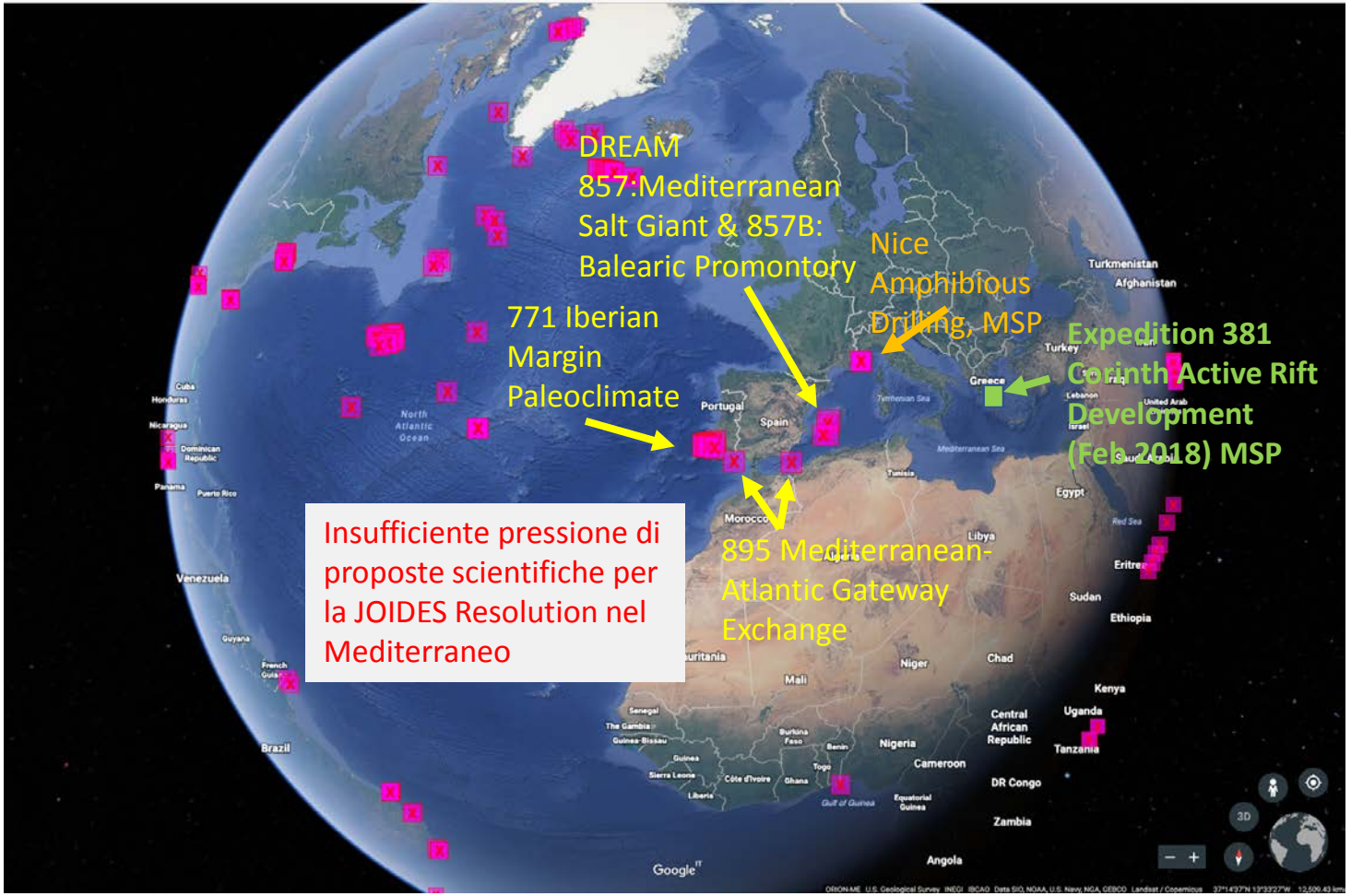


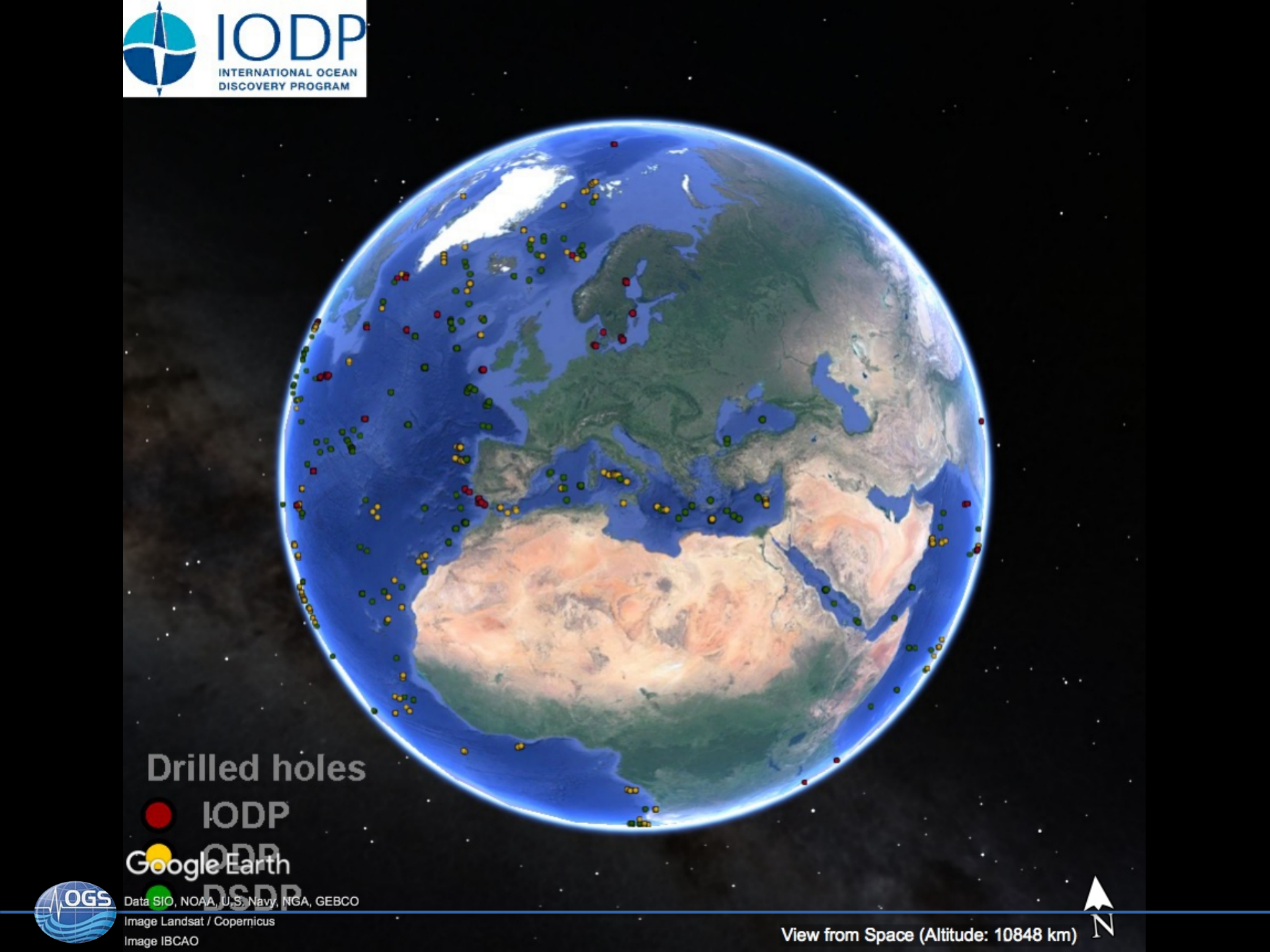
As of July 13, 2017

Scientific Drilling in the Mediterranean Sea

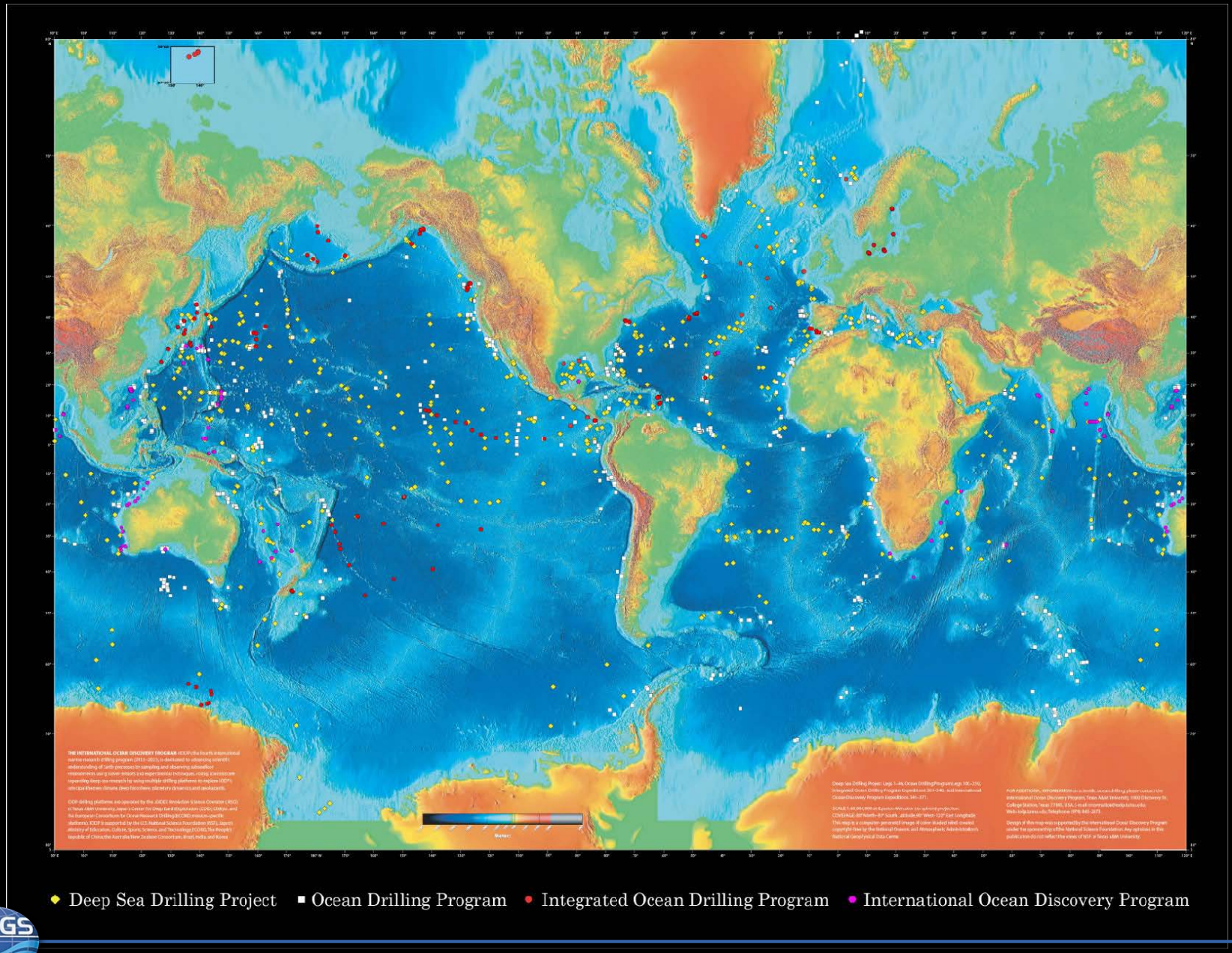


PROPOSED DRILLSITES, APRIL 2017




IODP
INTERNATIONAL OCEAN DISCOVERY PROGRAM
Drilled holes
IODP
ODP
DSDP
Google Earth
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat / Copernicus
Image IBCAO
OGS
View from Space (Altitude: 10848 km)
N

IODP, ODP, and DSDP Site Map



Program and years	expeditions	meters of core recovered
Integrated Ocean Drilling Program (2003-2013)	13	66,306
International Ocean Discovery Program (2013-)	35	36,191
Ocean Drilling Program (1985-2003)	111	222,704
Deep Sea Drilling Project (1968-1983)	96	97,056
Total (1968 – 2017 = 49 years)	**228**	**422,257**

(Source https://www.iodp.org/expeditions/expedition-statistics updated July 2017)

Scientific Accomplishments Achieved Only Through Scientific Ocean Drilling

Solid Earth Cycles

- Verification of the seafloor spreading hypothesis and plate tectonic theory
- Development of an accurate geological time scale for the past 150 million years
- Confirmation that the structure of oceanic lithosphere is related to spreading rate
- Exploration of the emplacement history of submarine large igneous provinces
- Contributed to a new paradigm for continental breakup due to studies of rifted margins
- Confirmation that subduction erosion as well as accretion occurs in subduction zone forearcs

R. A. Duce, A. Goldstein et al., 2011. Scientific Ocean Drilling: Challenges and Accomplishments. The National Academy of Sciences

Scientific Accomplishments Achieved Only Through Scientific Ocean Drilling

Fluids, Flow, and Life in the Subseafloor

- In situ investigation of fluid flow processes, permeability, and porosity in ocean sediments and basement rocks
- Characterization of the sediment- and rock-hosted subseafloor microbial biosphere
- Study of subseafloor water-rock interactions and the formation of seafloor massive sulfide deposits in active hydrothermal systems
- Examination of the distribution and dynamics of gas hydrates in ocean sediments

Scientific Accomplishments Achieved Only Through Scientific Ocean Drilling

Earth's Climate History

- Reconstruction of global climate history for the past 65 million years, based on ocean sediments
- Development and refinement of the Astronomical Geomagnetic Polarity Timescale
- Documentation of the pervasive nature of orbital forcing on global climate variability
- Recognition of past geological analogues (for example, the Paleocene-Eocene Thermal Maximum) for Earth's response to increases in atmospheric carbon dioxide
- Discovery of the history of polar ice sheet initiation, growth and variability, and their influence on fluctuations in global sea level