



# **HYDROGRAPHY UNDER THE GCS – 2015**

**by**

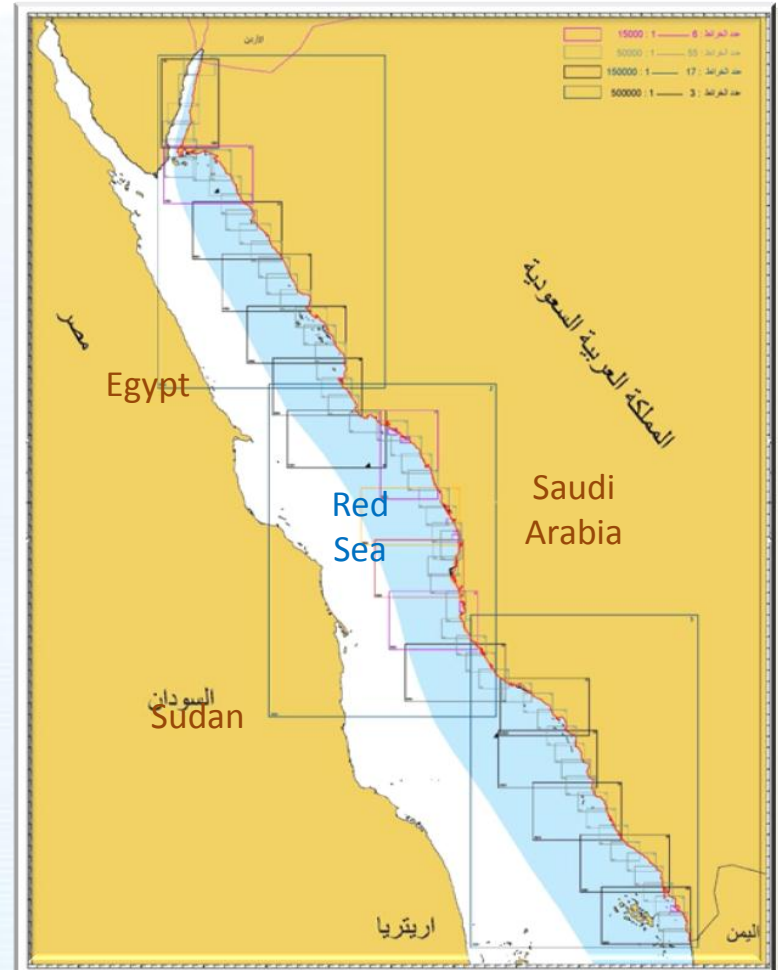
**The General Commission For Survey**

**For RSAHC-6**

**09-11 February 2015**

# GCS STRATEGY FOR CHARTING

- Well considered charting scheme for Red Sea and Arabian Gulf (84+23 ENC/PNCs) on viable scales for stakeholders use
- Estimation of quantum of work, with clear plans program
- Capacity building (assets and human resource development)
- 3D Hydrographic Surveys with LiDAR/MBES & 100% coverage of seabed and regular updating under IMO/IHO regulations
- Related 'Marine Sciences' development (including MS Data Buoys)





# GCS STRATEGY FOR CHARTING

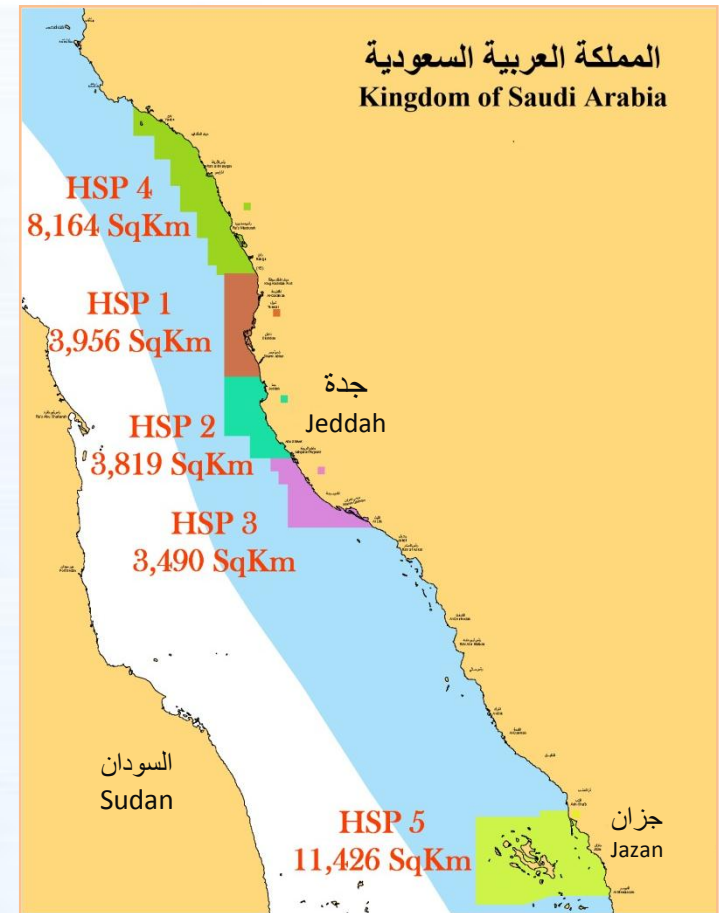
- Training in Hydrography & Marine Cartography (Saudis)
- Value added products and services for stakeholders
- Astonishing results (corals/wrecks/bathy/geology)
- Better vertical datum information and tidal levels
- Professionalism in Hydrography and Marine Sciences
- “Think Big, Achieve High” philosophy with latest technology





# ACHIEVEMENTS BY GCS

- 5 HSPs in Red Sea completed (30,855 km<sup>2</sup>), HSP 7 in Arabian Gulf under sanction (4,000 km<sup>2</sup>) with EDC end 2015, HSP 6 in Arabian Gulf and HSP 8 in Red Sea under tendering (more then 25,800 km<sup>2</sup>) for completion by March 2016 (out of total 19,3370 km<sup>2</sup> of Saudi Marine Areas)
- 9 ENC/PNCs (HSPs 1 & 2) produced, additional 12 more ENC/PNCs (HSPs 2 to 4) by 2015 + 39 (HSP 5-7) in 2016
- GCS branch at Jeddah with Hydrographic Training Center functional with HSL 1 (two Cat B courses trained + one course planned in 2015)
- Branch at Jazan to coordinate HSPs 5 & 8 + routine resurveys

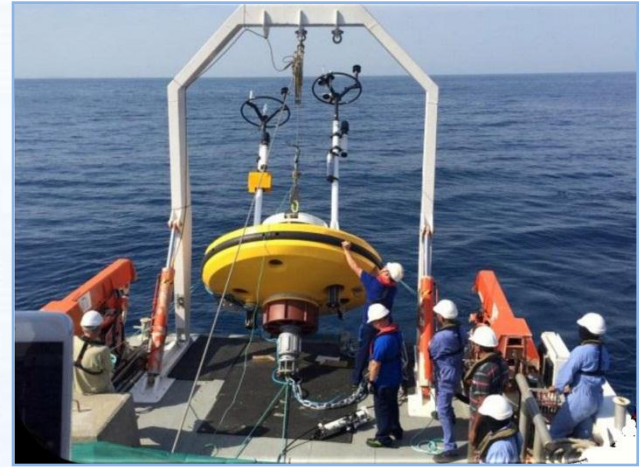


HSP – Hydrographic Survey Project.

HSL – Hydrographic Survey Launch

# ACHIEVEMENTS BY GCS

- Real-time operational data from National Tide Gauge Network 1 (NTGN1) (12 stations )
- Two Marine Sciences Data Buoys 1 (MSDB1) with real-time operational data flow
- Required human resources development in Hydrography/Marine Cartography done as required
- Coastal Zone Management (CZM) charts for special applications (1:25,000) – 27 ready (HSP 1 & 4), 13 in progress (HSP 2 & 3) and 38 from HSP 5 planned for 2015
- N to M under Global Maritime Distress & Safety Service as per IMO/IHO regulations planned by March 2015 – under dialogue with Saudi Port Authority
- QC/QA for all projects under outsourcing by third party experts





## UNDER PROGRESS IN 2015

- Arabian Gulf – Islands & Shoreline Account Project with Atlas – EDC Dec 2015
- Hydrographic Data Management/MSDI (estimated 100TB) commenced and to be completed by 2016
- Establishment of National Hydrographic Office with functional departments & stress on Saudization
- Own deep water survey vessel from May 2015 for progressive deep-water hydrographic surveys
- Distribution arrangements for ENC/PNC/CZMCs
- Liaison with stakeholders for sharing of data
- Hydrographic data dissemination policy/methodology





## **PLANNED FOR 2015-2016** - (Subject to Funding)

- HSPs 8 and 9 in Red Sea (more than 22,000 Km<sup>2</sup>)
- National Tide Gauge Network 2 (additional 12 stations)
- Marine Sciences Data Buoys 3 & 4 + equipment
- Hydro Survey Launches 2 to 5 with equipment
- Islands And Shoreline Delineation with Atlas in Red Sea FOR HSPs 1 to 5
- QC/QA projects for all sanctioned projects
- N to M and Nautical Publications sections
- Online Marine Sciences forecasting services via Geoportal



# MARINE CARTOGRAPHY

- 14 Cat B trained Marine Cartographers under IIC expats supervision +10 more under training
- All required hardware / software in place (Caris, Fledermaus)
- QC/QA mechanism by expats. Own team being trained progressively
- Charts production status – next slide
- CZM charts – for non-navigational users on 1:25,000 scale



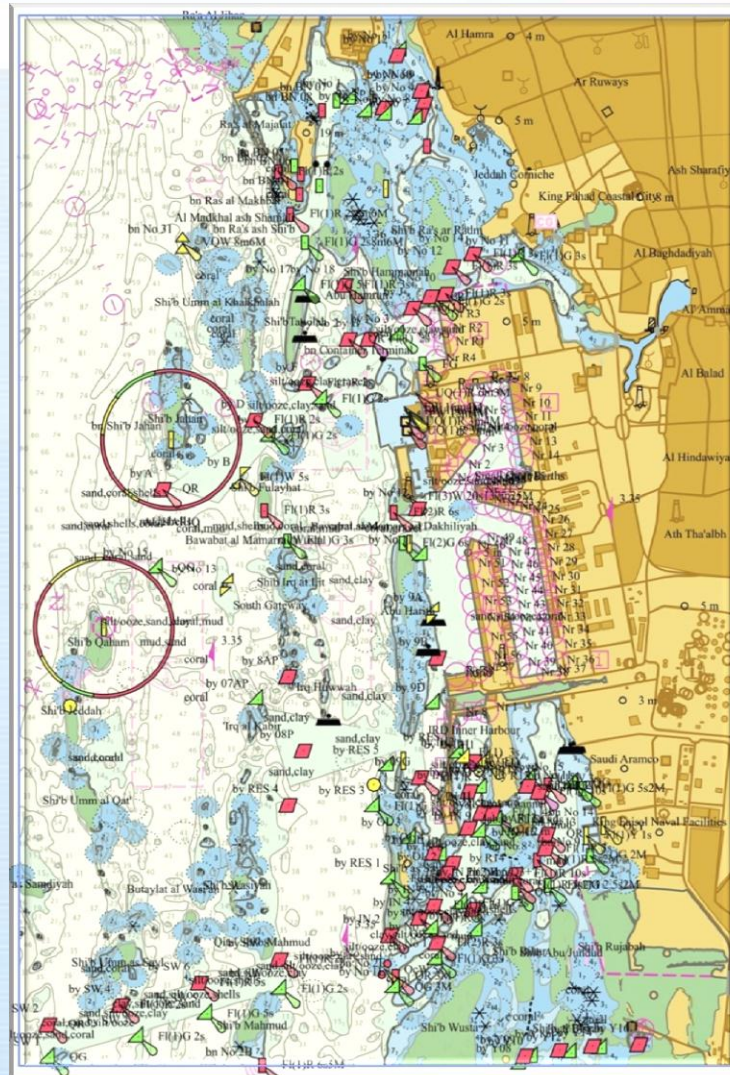


# CHARTS PRODUCTION STATUS – 2015

Survey Project	ENC	PNC	CZM
HSP1	5	5	7
HSP2	4	4	6
HSP3	3	3	7
HSP4	9	9	14
HSP5	6	6	38
<b>Total</b>	<b>27</b>	<b>27</b>	<b>72</b>



## ENC – JEDDAH PORT







# WHERE WE STAND TODAY

- Red Sea coast coverage 44% and Arabian Gulf 0% plan to complete fresh surveys by 2018 by outsourcing and own capacity vessels
- 40% charts coverage through 100% fresh surveys by 2015.  
Complete coverage for Saudi Marine Areas by 2019
- Moving to be a regional leader, including training for littoral states and GCS countries
- Positive responses from stake holders for credible marine data/GEO information and value added products and services
- Full management commitment for Hydrographic plans and programs
- Increased confidence in management of Hydrographic Programs

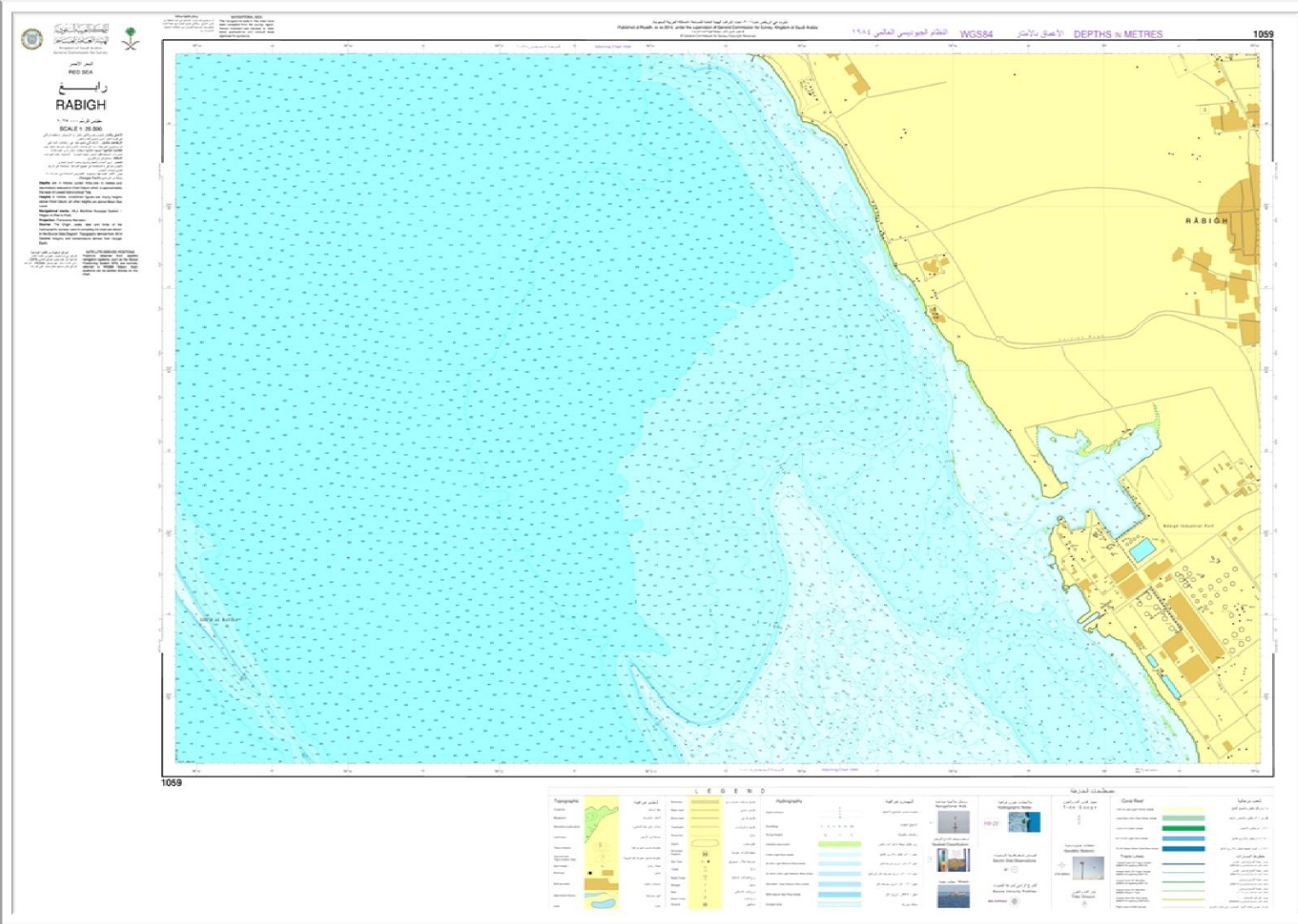


مواقع محطات رصد المد والجزر بعدد (١٢) محطة  
عدد (٧) محطات على البحر الأحمر وخليج العقبة وعدد (٥) محطات على الخليج العربي





# COASTAL ZONE MANAGEMENT CHART



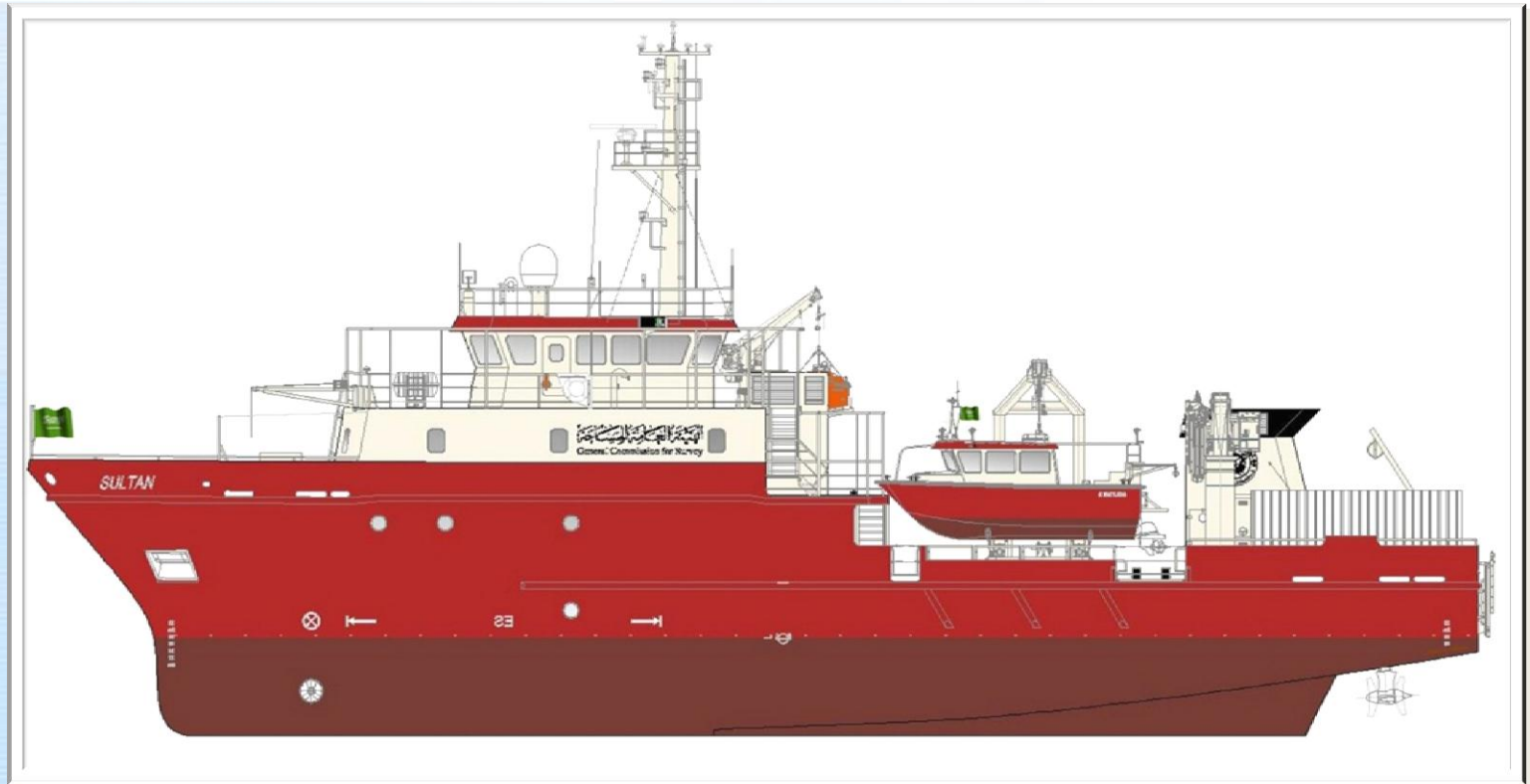




# HYDROGRAPHIC TRAINING AT HTC JEDDAH

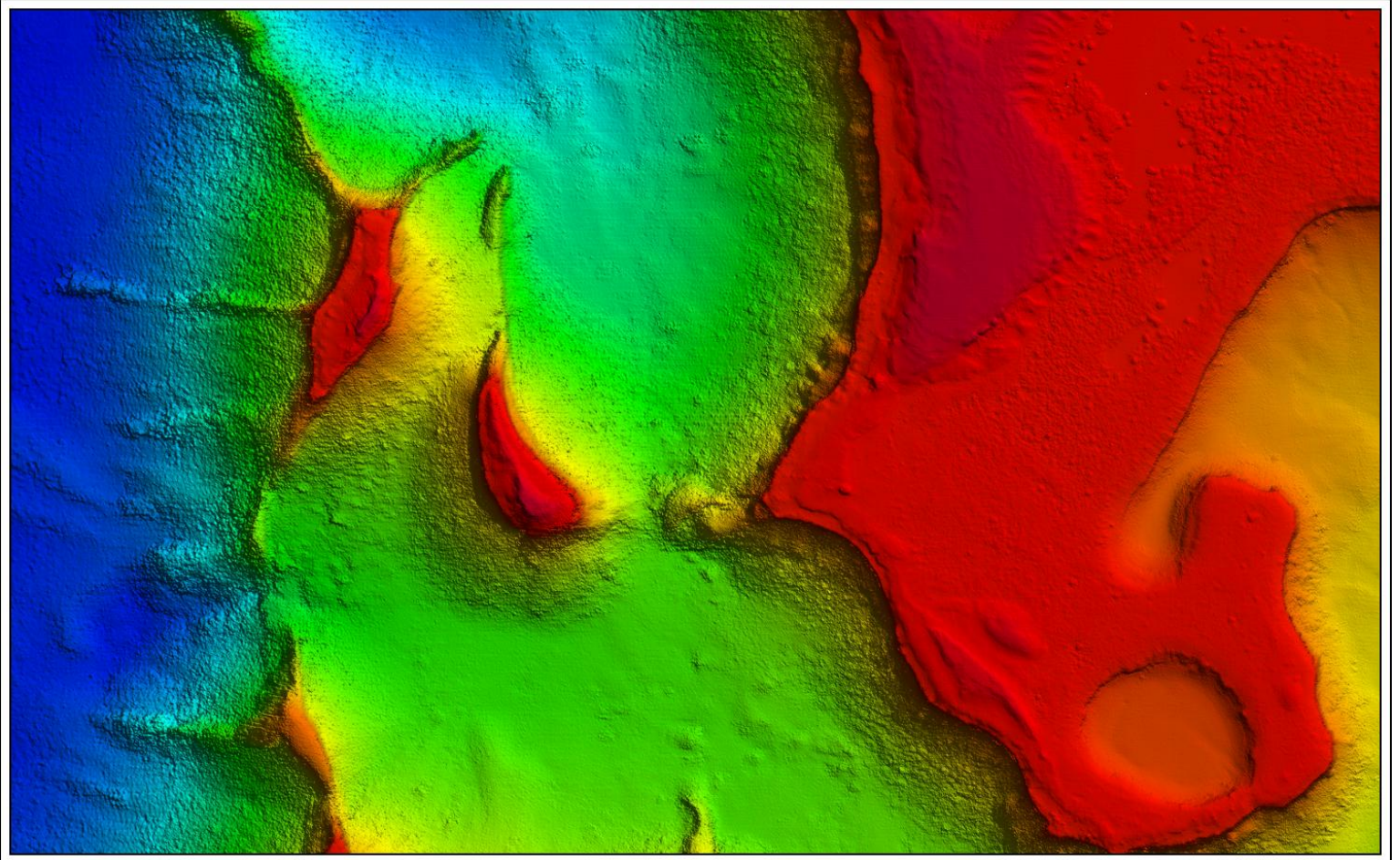


# GCS – DEEP WATER SURVEY VESSEL





# TWIN SEAMOUNTS



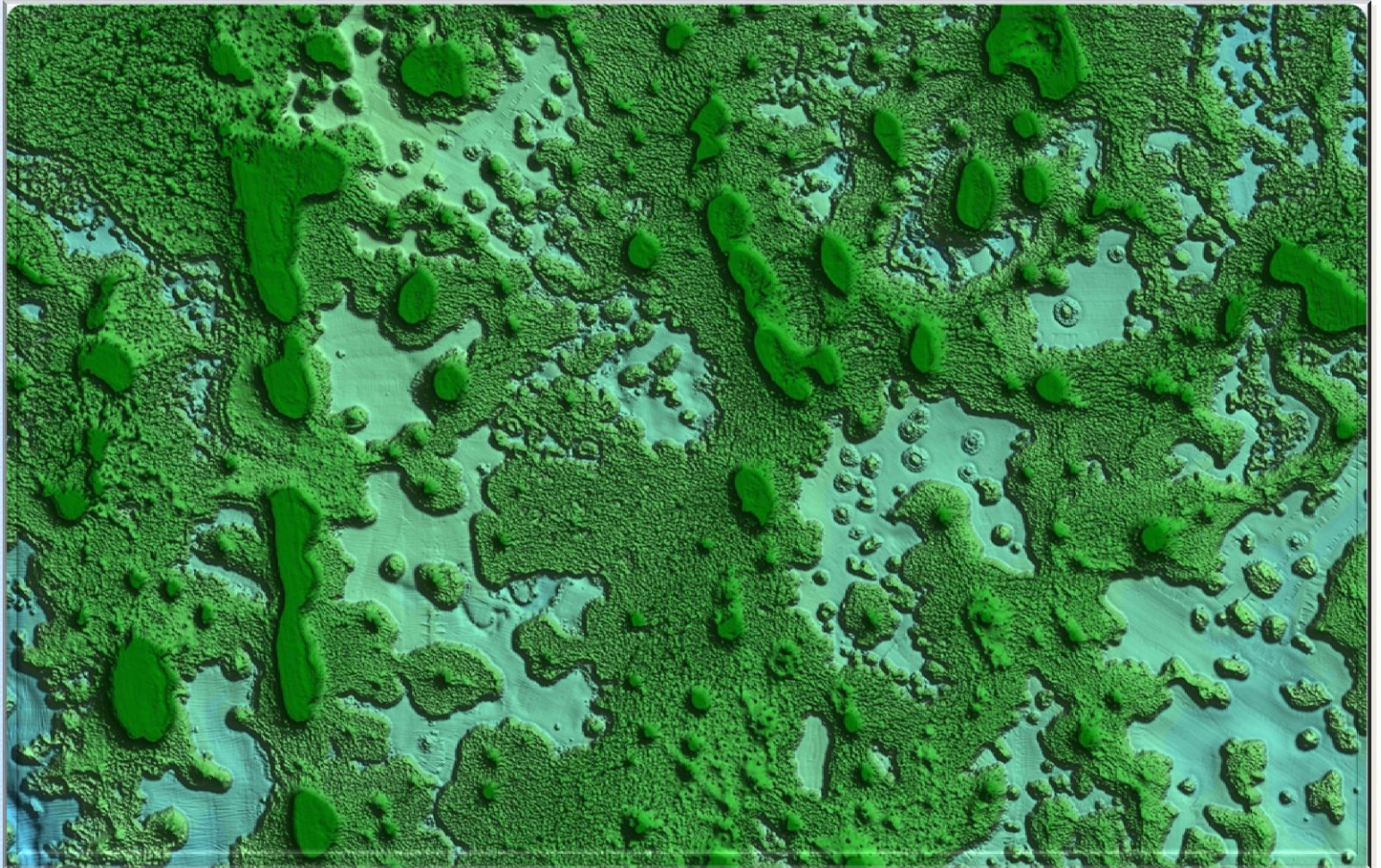


# DRYING REEF





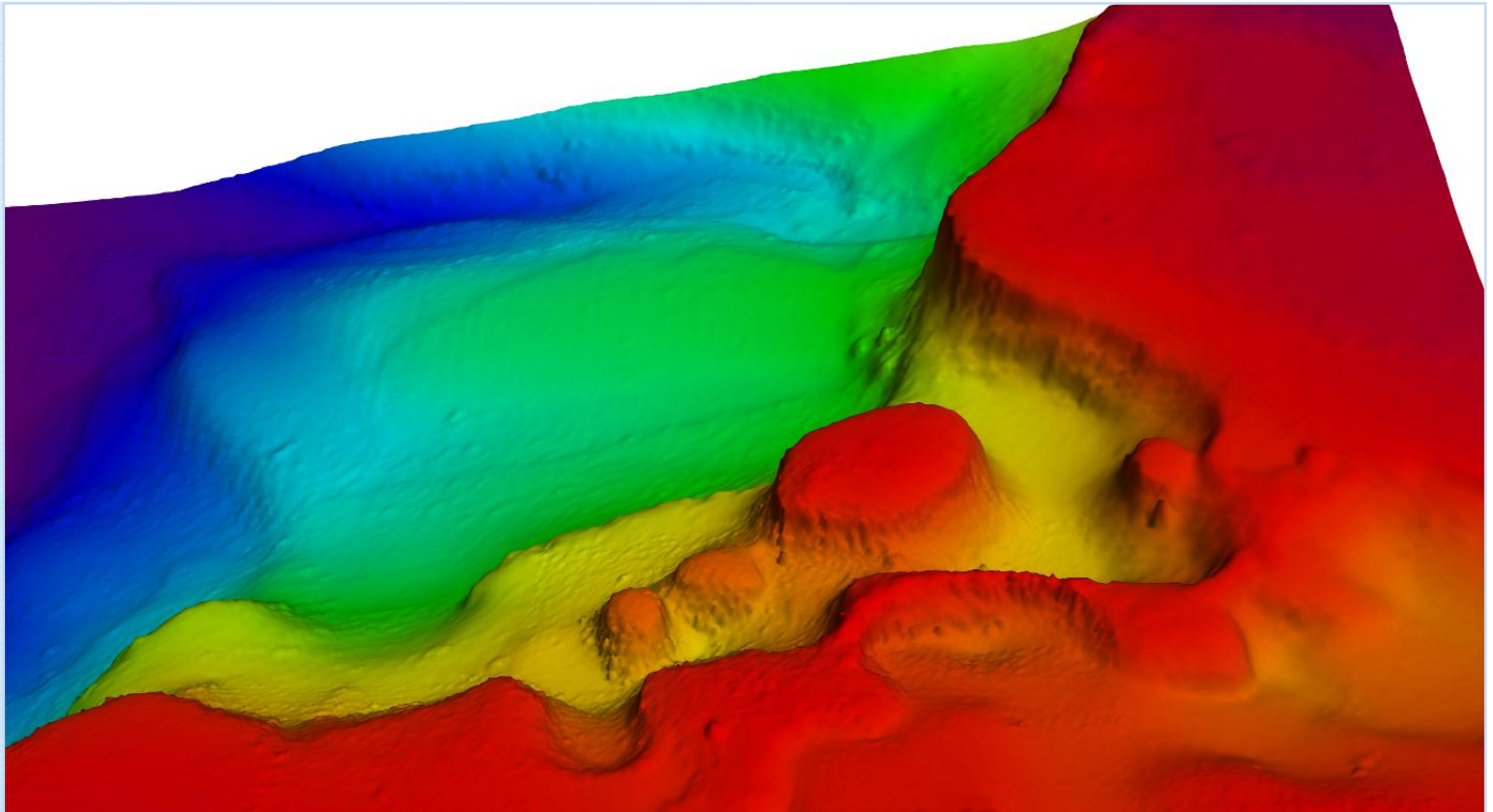
# CORAL







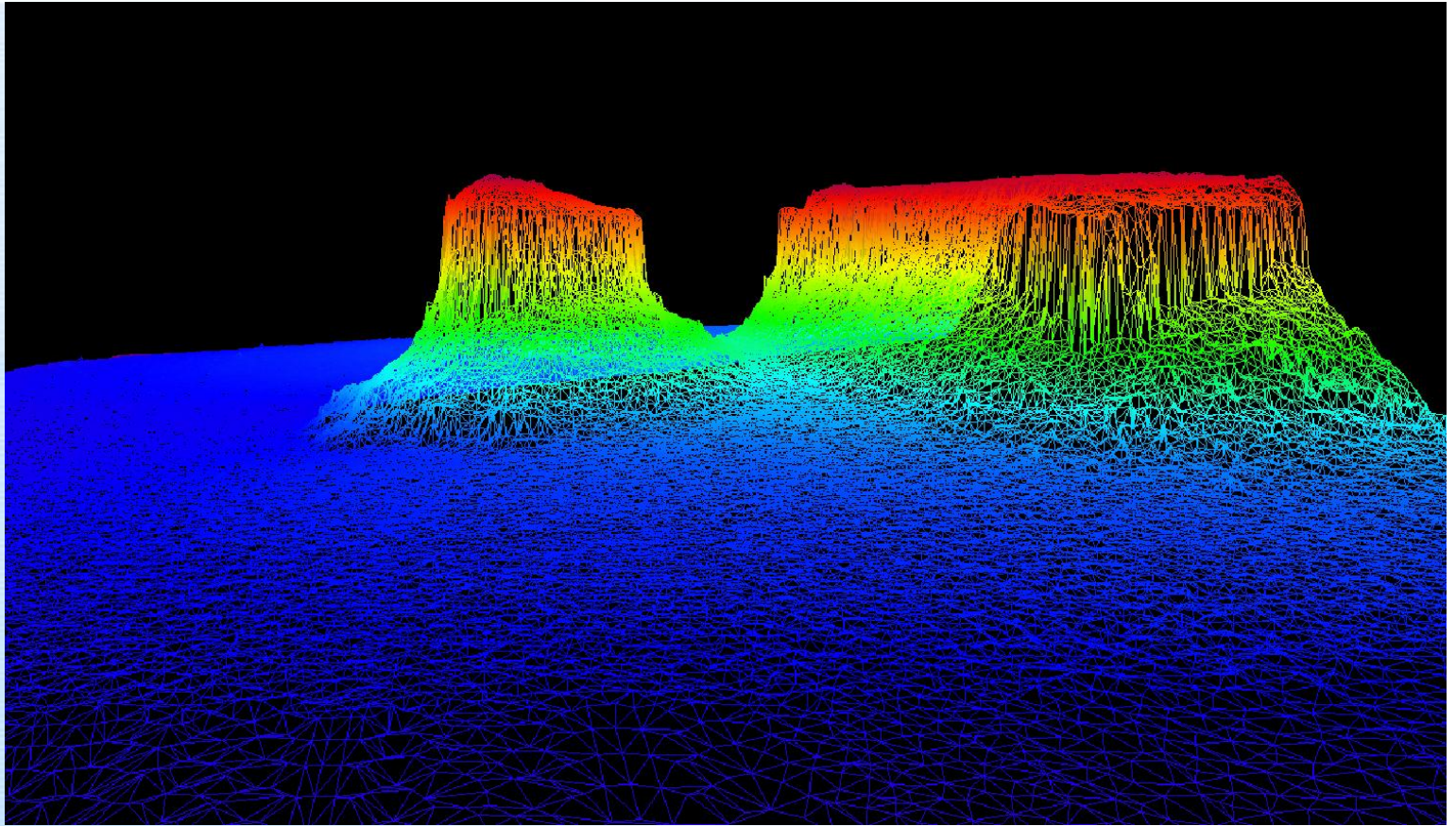
# COMPLEX GEOLOGY IN RED SEA





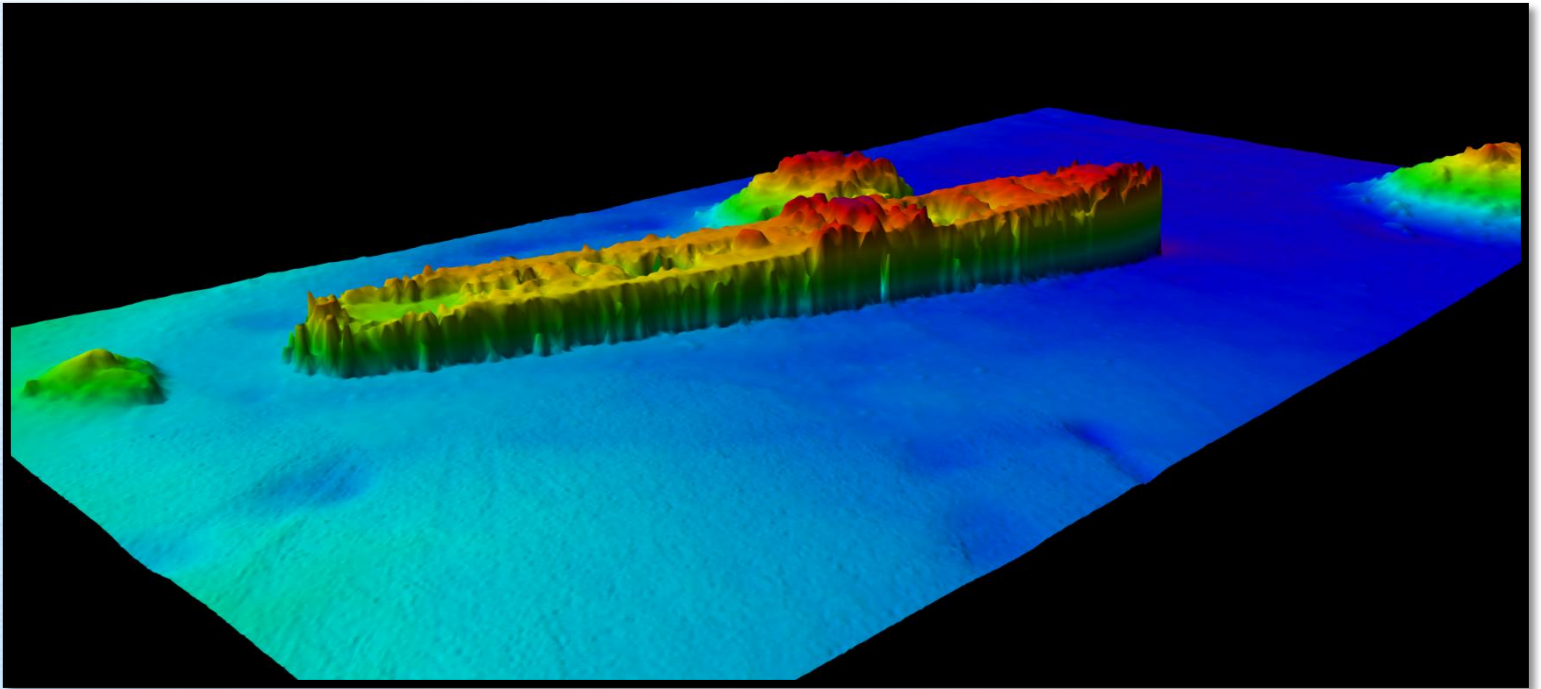


# **RIISING SEAMOUNTS –RED SEA**





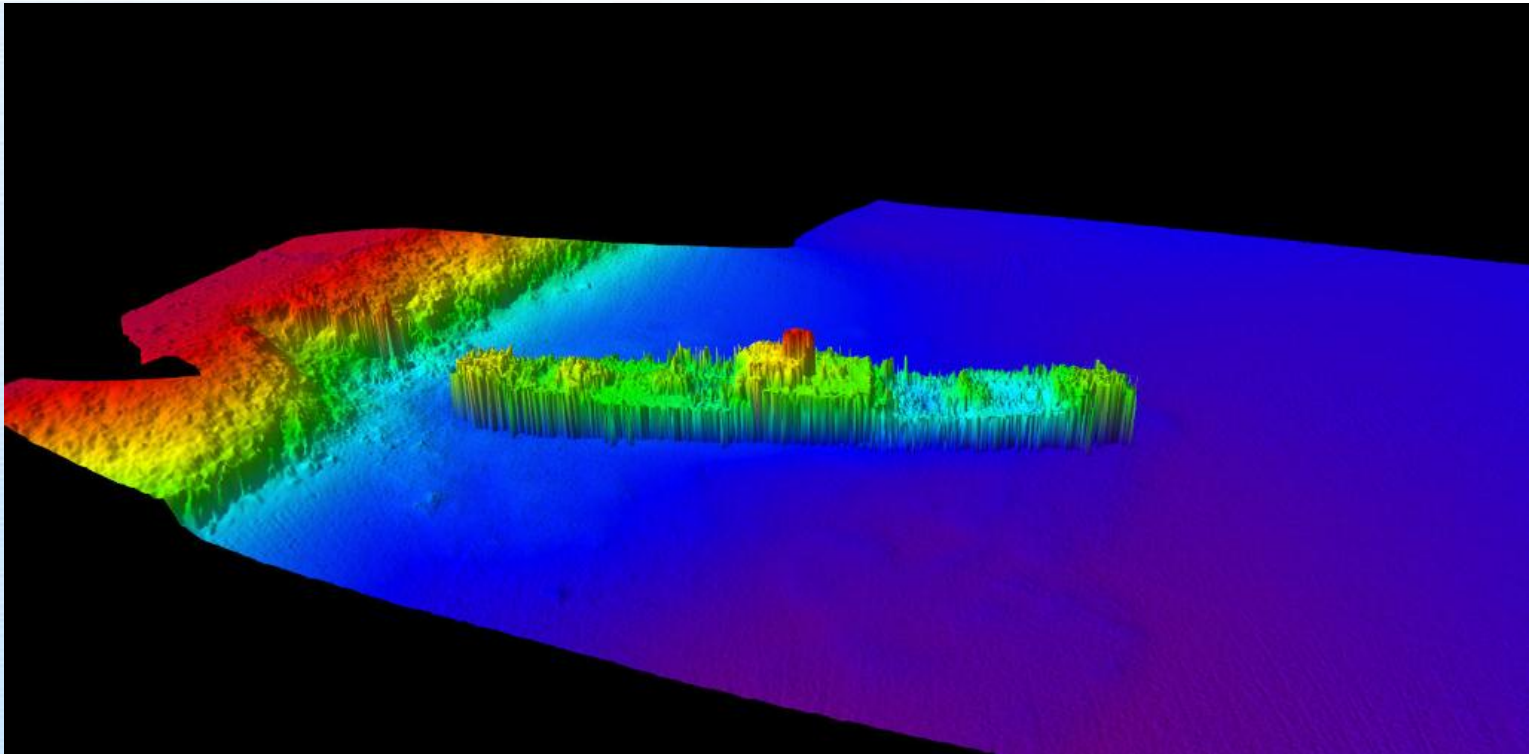
# SHIPWRECK







# SHIPWRECK SOUTH OF JEDDAH PORT







EMULATE DOLPHINS  
AIM HIGH, CHINUP

شكراً

THANK YOU