



# ROYAL JORDANIAN GEOGRAPHIC CENTRE



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## **Introduction:**

Royal Jordanian Geographic Centre which was established in 1975 is considered one of the national leading establishments that works according to a clear future visions through the dissemination of the outstanding performance, quality and transparency concepts, as well as developing systems and services to achieve a high resolution and reliable surveying, mapping and geographical information services for the purposes of comprehensive development to be available by qualified employees with transparency and simple procedures.

RJGC provides all institutions in public and private sectors with all kinds of maps, charts, aerial and space images, geographical information and survey points coordinates of high resolution, in addition to qualifying and training technicians, universities and colleges students on surveying sciences by the most updated surveying and mapping software, particularly those related with geographical information system and geospatial data under the challenges of the modern era represented in the rapid change, intense competition, enormous development in information and communications technology, which make RJGC keep pace closely with these developments in accordance with the directions of His Majesty King Abdullah II Ibn Al Hussein in which he assured the necessity of utmost benefit of these techniques.

RJGC lately make many achievements for both civil and military sectors. Also RJGC is a strategic partner in the march of comprehensive development on the national level seeks hardly to provide the military forces with maps, aerial and space images, updated geographical information, establishing geographical cells in various formations and units of military forces, training and qualifying technicians, receiving military delegations from other countries, organizing scientific conferences and workshops in the fields of geographical information systems applications in defense, survey and geographical names.

## Establishment

Based on the country's need for a national institution, which will be responsible for conducting all kinds of surveying (terrestrial, air and space) for the purposes of the preparation of all types of maps in using local and international standards to meet the needs of the Kingdom, and to provide services in these areas at the local and regional levels, came the foundation of the Royal Jordanian Geographic Center (RJGC) in the second half of 1975, as the first scientific institution specialized of its kind in the region.



In order that the Royal Jordanian Geographic Centre could be able to implement the entrusted tasks and duties, it was necessary to provide technical competencies specialized qualified and trained personals, through the help of advanced countries in this area, then a university community college was established to contribute effectively in providing RJGC, public and private sectors in Jordan and the Arab Gulf countries with their needs of specialized qualified and trained technicians in surveying, photogrammetry & cartography, remote sensing and geographic information systems.

Royal Jordanian Geographic Centre always trying to modernize and update its technical abilities (hardware, software, equipments) and develop its technical skills to be able to meet the needs and requirements of the development taking place in our country, and to be a Centre of excellence at regional and international levels in the fields of surveying sciences, both in terms of production, training, conducting researches and related studies, particularly the applied ones, through the qualifying the employees and acquiring the latest technology in geospatial sciences to keep RJGC always in high level of readiness, efficiency and professionalism.

## The Vision, The Mission and the Values



### **Vision:**

A leading Centre of Excellence locally and regionally in surveying and space sciences.

### **Mission:**

Keep up with worldwide developments in the field of geospatial sciences to provide up-to-date and accurate services, maps and geospatial data to be the base for development and defense operations, training and rehabilitation locally and regionally, and to disseminate knowledge to the service recipients.

### **Values:**

- Loyalty.
- Integrity & Transparency.
- Team work.
- Professionalism.
- Excellence & Creativity.

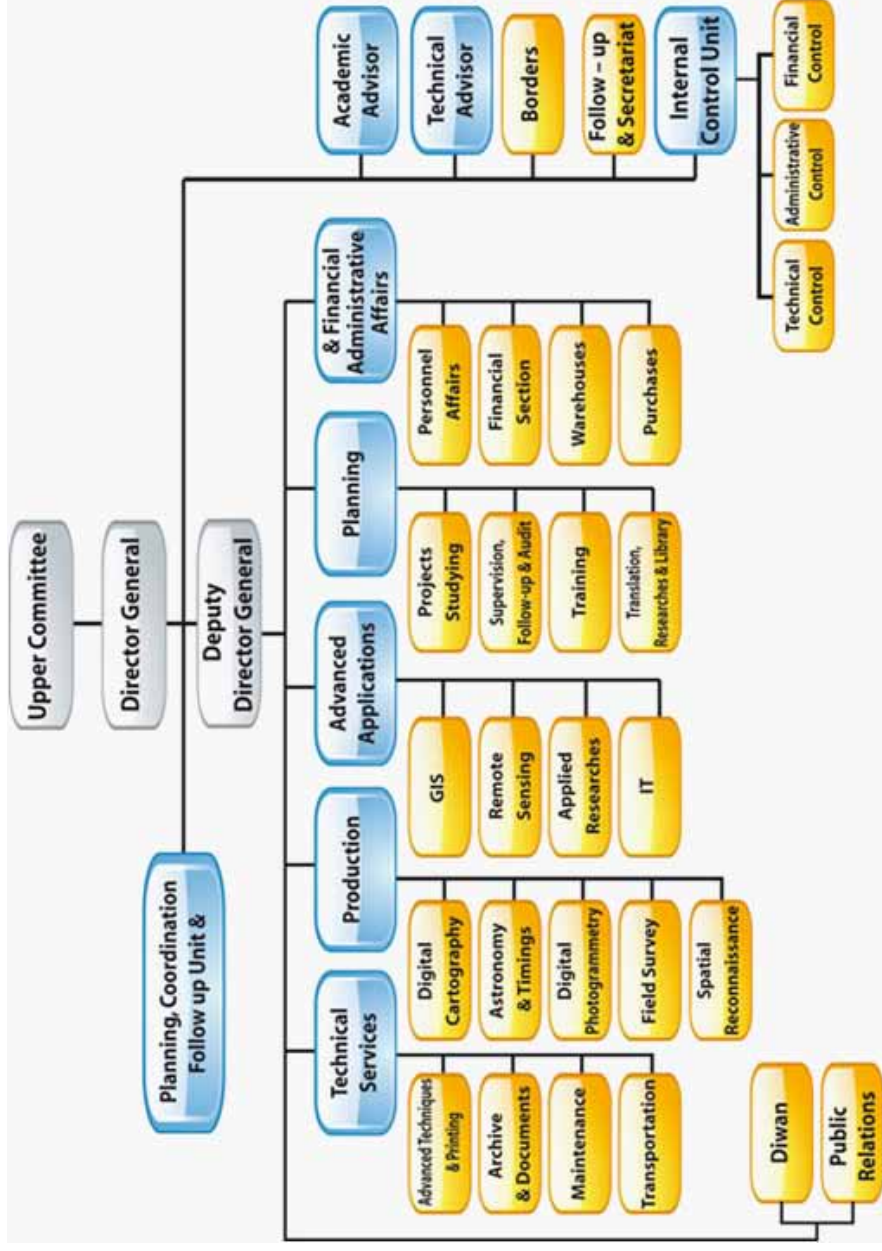
## Duties of RJGC

Royal Jordanian Geographic Centre operates according to Law No. (18) of the year 1986, in which duties of RJGC were specified as follows:

1. Establishing and maintaining geodetic networks up to 3rd order, which cover all Jordan.
2. Providing the necessary information to the Department of Land and Survey to assist it in the preparation of cadastral maps (detailed maps of properties and real estate).
3. Producing topographic maps of various scales for defense and development requirements.
4. Making specialized maps for all Ministries, Governmental Departments and Institutions.
5. Perpetuating and reviewing the various maps.
6. Providing Ministries, Departments and Institutions with surveying information needed to carry out their own projects.
7. Conducting Aerial Photography in scales required for all Ministries, Departments and Governmental Institutions.
8. Providing advice to ministries and institutions regarding the training of technicians, supplying and utilization of machinery, equipments related to surveying and producing maps.
9. Developing survey sciences for the purposes of producing maps.
10. Establishing maps library for all the geographical information needed by official Agencies.
11. Training of sufficient numbers of technicians to meet the needs of the RJGC, Ministries, Departments, private and public sectors.
12. Keeping up with advanced developments in the field of maps industry such as Remote Sensing and GIS, as well as establishing integrated Geographical Information system on national level for the purposes of defense and development.
13. Maintaining the information security and safety.



# Organizational Structure



## Training Courses

- |    |   |
|----|---|
| 1  | Remote Sensing – Basic                              |
| 2  | Remote Sensing - Advanced                           |
| 3  | Geographic Information Systems (GIS) – Basic        |
| 4  | Geographic Information Systems (GIS) – Advanced     |
| 5  | Survey - Basic                                      |
| 6  | Survey - Advanced                                   |
| 7  | Total Station                                       |
| 8  | Survey in Positioning Buildings, Roads and Services |
| 9  | Infrastructure and Sewage Survey                    |
| 10 | Global Positioning System (GPS)                     |
| 11 | Map Reading and Areal Images Interpretation         |
| 12 | Determining Qebalah Direction                       |
| 13 | Graphic Design                                      |
| 14 | Photography & Printing                              |
| 15 | Photogrammetry                                      |
| 16 | Cartography   |
| 17 | Cadastral Survey                                    |
| 18 | Quantity Surveying                                  |
| 19 | Geographic Names                                    |
| 20 | GIS (Arc Scan)                                      |
| 21 | GIS (3D Analyst)                                    |
| 22 | GIS (Spatial Analyst)                               |



## Centers Hosted By RJGC

1. Regional Center for Space Science and Technology Education for Western Asia / United Nations.



2. RJGC College for Surveying Sciences.



3. The Arab Division of Experts on Geographical Names.



4. Regional Office for Space and Astronomy Development / Arab States.



# Regional Center for Space Science and Technology Education for Western Asia/United Nations



## Overview:

The United Nations General Assembly, in its resolution 4572/ of 11 December 1990 and in its resolution 5027/ of 6 December 1995 endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the United Nations should lead, with the active support of its specialized agencies and other international organizations, an international effort to establish regional centers for space science and technology and be affiliated to the United Nations.



In 1998, many Arab countries interested in hosting the Regional Center for Space Science and Technology Education in Arabic Language, submitted official applications to the United Nations. Later on the UN organized an evaluation mission for those countries.



In 2000, the UN General Assembly's Report of the Scientific and Technical Subcommittee stated that: 'The Subcommittee noted with satisfaction that, following the review of a report on an evaluation mission and of offers and commitments made by interested countries, Jordan had been identified as the country that would host the Regional Centre for Space Science and Technology Education in Western Asia. The OOSA had announced the establishment and location of the Centre in Jordan'.

In 2011, the Director General of the RJGC, upon an authorization from His Excellency Prime Minister, and during his attendance of the 54 Meeting Session of the United Nation Committee on the Peaceful Uses of Outer Space (UNCOPUOS) has announced officially the acceptance of the Government of Jordan to host the Regional Center for Space Science and Technology Education for Western Asia.

Under the Royal Patronage, the Regional Center for Space Science and Technology Education for Western Asia/United Nations was opened on Tuesday, 29 May 2012, in which it became one of the five regional centers all over the world and agreements were signed with the countries in the region to join to be members of RCSSTE.

## Objectives of establishing Regional Centers for Space Science and Technology Education

The objective of these centers is to be leading centers in providing the best education, research and applied programs, as well as providing the best opportunities and experiences in the field of space science and technology for participants in its programs which basically depends on four fields:

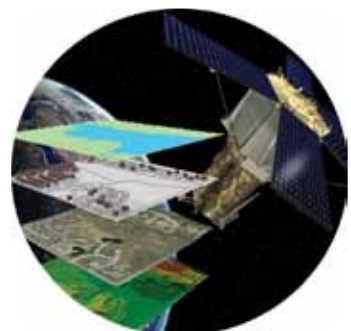
1. Remote Sensing and GIS.
2. Spatial Meteorology
3. Spatial Communications.
4. Space Science and Astronomy.

### Academic Programs:

- RCSSTE grants Master Degree in GIS in cooperation with Mua'tah University in response to the requirements of the labor market, and the increasing demand on specialists in the fields of designing, developing and managing geographical information system in a way that serves the local society and the neighboring countries.
- The Master Program in GIS started on 8 October 2013.
- RCSSTE with grant the Master Degree in the basic majors in cooperation with (UNOOSA).

### Training Courses:

Many courses were held in which trainees from various countries in the region participated to enhance their abilities and training skills.



## The Arab Division of Experts on Geographical Names



**Permanent Headquarter:** The Hashemite Kingdom of Jordan – Amman

### Overview:

The Arab Division of Experts on Geographical Names composed of Arab Experts in Geographical Names assigned by their countries to collect, check, unify and process names of places and landmarks in all Arab countries, and it is part of (UNGEGN) affiliated to the Economic and Social Counsel (ECOSOC) which established the World Group of Experts on Geographical Names 1965, which organized 10 conferences and 28 courses till now.



## Royal Jordanian Geographic Centre's College for Surveying Sciences



The RJGC's College for Surveying Sciences (public college) was established to meet the needs of local and Arab market of surveying sciences fields. This college is considered the first of its kind in the Arab world in teaching surveying sciences. It is a certified university college accredited by the Higher Education Accreditation Commission in which all capabilities are available such as: high experience teachers, modern surveying instruments, software, specialized labs and well-equipped classrooms. This College grants the Diploma Degree in the following majors:

- Diploma in Surveying.
- Diploma in Geographical Information Systems (GIS) and Remote Sensing (RS).

# The International Astronomical Union (IAU)



The International Astronomical Union (IAU) was founded in 1919. Its mission is to promote and safeguard the science of astronomy in all its aspects through international cooperation. Its individual members — structured in Divisions, Commissions, and Working groups — are professional astronomers from all over the world, at the Ph.D. level and beyond, and active in professional research and education in astronomy. The IAU has 12402 Individual Members in 98 countries worldwide. Of those 74 are National Members. In addition, the IAU collaborates with various scientific organizations all over the world.

## List of our Products

No	Map Name	Scale	Pub Date
1.	Tourist Map of Jordan (A)	1/ 750.000	2012
2.	Tourist Map of Jordan (E)	1/ 750.000	2012
3.	Amman Tourist Map (N.E) (A)	1/ 25.000	2014
4.	Amman Tourist Map (E)	1/ 25.000	2012
5.	Madaba Tourist Map (A-E)	1/ 5000	2006
6.	Al Karak Tourist Map (A-E)	1/ 4000	2004
7.	Petra Tourist Map (A-E)	1/ 5000	2012
8.	Jarash Tourist Map (N.E) (A-E)	1/ 10.000	2014
9.	Ajlun Tourist Map (A-E)	1/ 4000	2002
10.	Al Aqaba Tourist Map (A-E)	1/ 10.000	2011
11.	Tafila Tourist Map (A-E)	1/ 10.000	2003
12.	Zarqa Tourist Map (A-E)	1/ 10.000	2003
13.	Ma'an Tourist Map (A-E)	1/ 7500	2005
14.	Irbid Tourist Map (A-E)	1/ 10.000	2004
15.	Al Salt Tourist Map (A-E)	1/ 7500	2005
16.	Administrative Divisions of Jordan (N.E) (A)	1/ 650.000	2014
17.	Political Map of the World (A)	1/ 35.000.000	2016
18.	Political Map of the World (E)	1/ 23.680.000	2001
19.	Nattural Map of the World (A)	1/ 40.000.000	2017
20.	Arab World Map / Political (A)	1/ 10.000.000	2013
21.	Amman Archaeological Map (E)	1/ 250.000	1978
22.	Karak Archaeological Map (E)	1/ 250.000	1979
23.	Jordan & Palestine Map (2 Parts ) (N.E) (A)	1/ 600.000	2014
24.	Bilad Ash Sham Map (2 Parts Political / Natural)(A)	1/ 800.000	2010
25.	Bilad Ash Sham Map (2 Parts Political / Natural) (N.E) (A)	1/ 800.000	2014
26.	Arab World Map (2 Parts Political) (N.E) (A)	1/ 6.650.000	2014
27.	Arab World Map (2 Parts Natural ) (N.E) (A)	1/ 6.650.000	2016
28.	World Map (2 Parts Political) (A)	1/ 31.000.000	2000
29.	World Map (2 Parts Political) (N.E) (A)	1/ 31.000.000	2014
30.	World Map (2 Parts Natural)(A)	1/ 30.000.000	2001
31.	South America Map (2 Parts Political)(A)	1/ 8.000.000	1996
32.	North America Map (2 Parts Natural)(A)	1/ 10.000.000	2002

No	Map Name	Scale	Pub Date
33.	Europe Map (2 Parts Natural )(A)	1/ 6.000.000	1994
34.	Africa Map (2 Parts Natural)(A)	1/ 8.000.000	1994
35.	Europe / Political Map (Clothed)(A)	1/ 6.000.000	1994
36.	Europe / Natural Map (Clothed)(A)	1/ 6.000.000	1994
37.	Africa / Political Map (Clothed)(A)	1/ 8.000.000	1994
38.	Africa / Natural Map (Clothed)(A)	1/ 8.000.000	1994
39.	South America Map / Political (Clothed)(A)	1/ 8.000.000	1996
40.	South America Map / Natural (Clothed)(A)	1/ 8.000.000	1996
41.	North Jordan Map (A)	1/ 250.000	2005
42.	South Jordan Map (A)	1/ 250.000	2005
43.	Governorate of Amman (D) (N.W) (A)	1/ 150.000	2015
44.	Governorate of Balqa (D) (A)	1/ 75.000	2010
45.	Governorate of Irbid (D) (A)	1/ 75.000	2010
46.	Governorate of Mafraq (D) (N.W) (A)	1/ 75.000	2015
47.	Governorate of Zarqa (D) (N.W) (A)	1/ 75.000	2015
48.	Governorate of Karak (D) (A)	1/ 100.000	2003
49.	Governorate of Tafila (D) (A)	1/ 100.000	2006
50.	Governorate of Ma'an (D) (A)	1/ 350.000	2003
51.	Governorate of Madaba (D) (A)	1/ 50.000	2009
52.	Governorate of Aqaba (D) (A)	1/ 200.000	2007
53.	Governorate of Jarash (D) (A)	1/ 50.000	2002
54.	Governorate of Ajlun (D) (A)	1/ 50.000	2002
55.	Atlas of Jordan & the world (A)	- -----	2011
56.	Atlas of Jordan & the world (N.E)(A)	- -----	2013
57.	Atlas of Jordan & the world (E)	- -----	2007
58.	Atlas of Jordan & the world (N.W) (E)	- -----	2014
59.	Space Atlas of Jordan (A,E)	- -----	2000
60.	Window on the World (A)	- -----	2004

## Notes :

1. These maps can be purchased directly from the public services office Royal Jordanian Geographic Center or from other distributing agencies in Jordan.
2. Shipping and handling costs are not included .
3. Abbreviation :-

**A** : Arabic

**E** : English

**D** : District

**Arch.:** Archaeological

**N.E** : New Edition

## Aerial Photographs



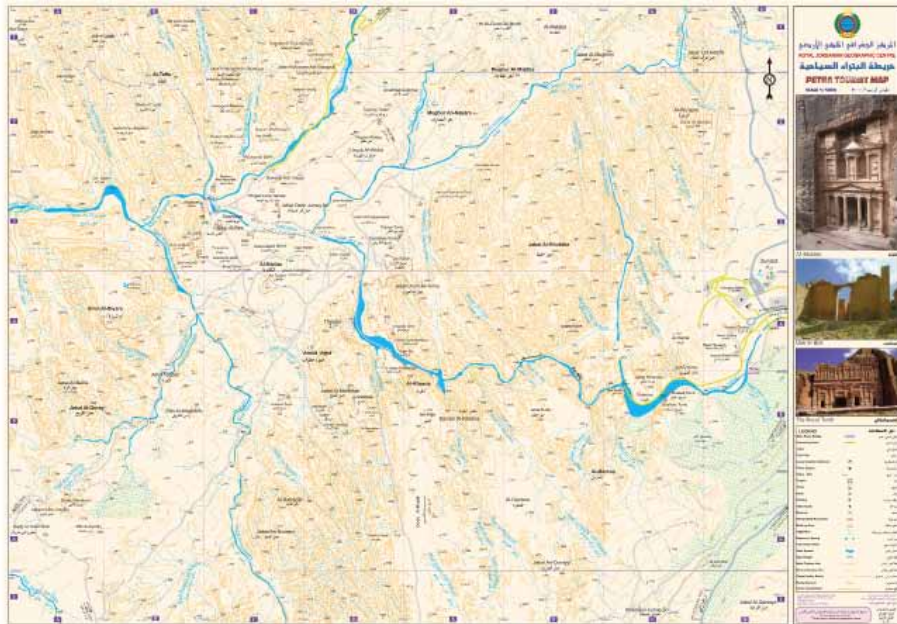
## Satellite Images



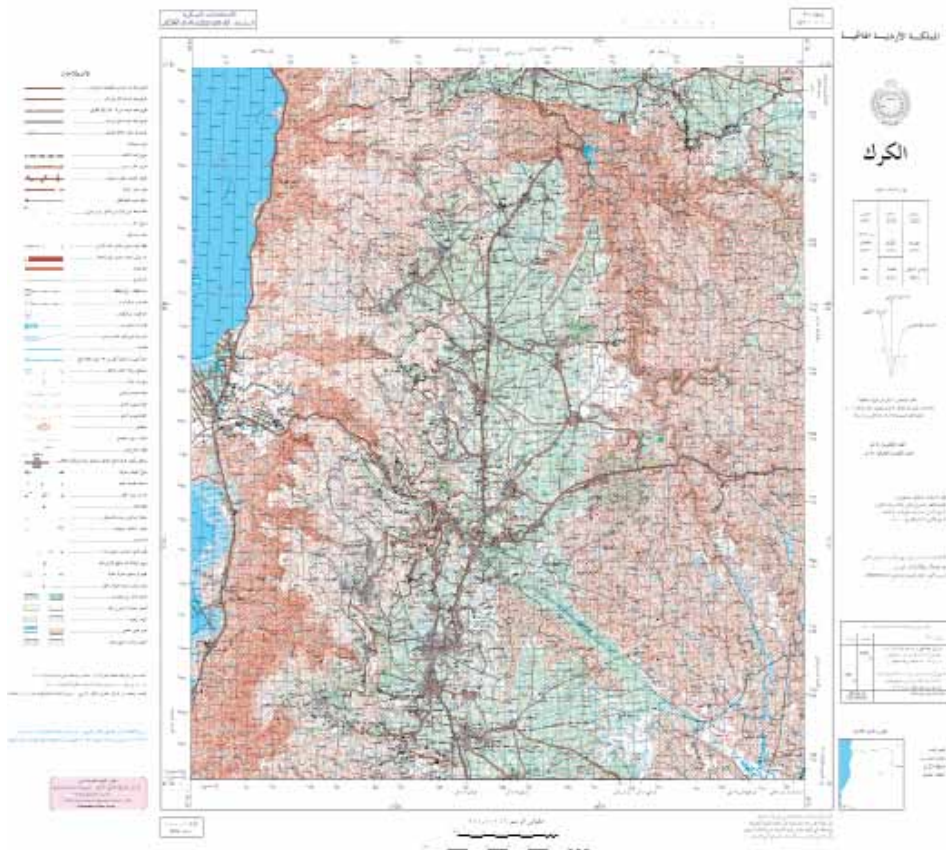
## Tourist Maps



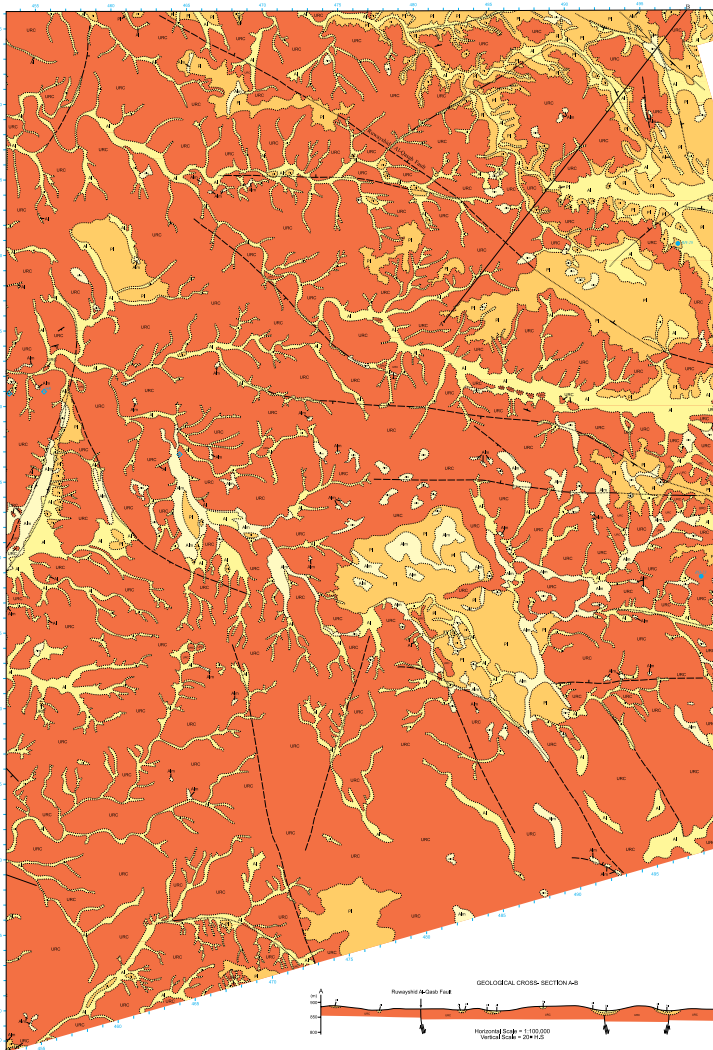
## Tourist Maps



## Topographic Maps



## Geological Maps



### BRIEF DESCRIPTION OF THE GEOLOGY

## STRATIFIED ROCKS

**Upper Bitter Chert Limestone Formation (Eocene) of the Bitter Creek** has a broad distribution in the study area. The formation is up to 61 m thick and consists of chert alternating with chert and pisolite in the lower part, whereas the upper part consists of chert, limestone, chalky limestone, chalk, marly limestone, limestone and chert concentrations. The formation contains the following faunas: foraminifers, gastropods, fish fragments and bivalves. The lithofacies and biota indicates that this formation was deposited in a deep marine environment and represents the last marine sedimentary phase before the late Eocene regression of the Tethys Ocean in this region.

Superficial deposits (Quaternary) in the study area can be differentiated into Pleistocene Gravels, Alluvial and Wadi Sediments, and Mudflats. Pleistocene Gravels, up to 5 m thick, consist of argillaceous to sub-angular limestone and chert (Haramda). **Alluvial and Wadi Sediments** are confined to wadi courses and consist of pebbles and boulders of chert, limestone, and coarse-grained sand. Fine silt and clay were deposited during flooding to form **Mudflats** in different parts of the study area.

## STRUCTURAL GEOLOGY

The Tertiary rocks are regionally and gently tilted toward NNE. Faults are the most important structural element present in the area. Three major fault trends were defined: The first is NW-SE trend, examples include Banashahd Al Qasab Fault and sub-parallel mesoscopic faults that cross the study area from northwest to southeast. This fault trend indicates tectonic stress regime. The second is E-W trend that represented by local faults in the central

eastern part of the area. The third is NE-SW trend that represented by small mesozoic faults in different parts of the study area.

## GEOMORPHOLOGY

The study area is characterized by the presence of two geomorphological features: 1) Dunes Plains, are covered by flat chert pavement, and characterized by low relief in the entire study area with a distinctive dendritic drainage pattern. 2) Mudflats are present in low topographic areas, where water accumulated and deposited clay and silt.

## ECONOMIC GEOLOGY

Economic resources in the study area include limestone, chalk, porcellanous and Pliocene gravels. Limestone, which quarried from the upper part of Uiten Rijm Formation, can be used as building stone and aggregates for construction. Chalk and porcellanous can be used for ceramics and paints. Pliocene Gravels have a wide distribution in the study area and form a potential source for aggregates. Two gas exploration wells were drilled in the study area: RH-25 (3337 m) and RH-28 (2740 m). The gas exploration wells are located within the Kida Gas Field.

## HYDROGEOLOGY

Three water wells were drilled in the area to supply the local Bedouins by water. Lyren Rijan Chert Limestone Formation and the Upper Cretaceous sediments are the principal aquifers in the area. Water is being harvested in local ponds in the study area, during winter seasons, for the basic needs of Bedouins. All wells in the study area are draining towards the Hamud catchment area.

عرب، الإقليم الثاني عراقي-عربي، وحروب، وتواجد، هذه الصداق في وسط شرق منطقة الدراسة الإقليم الثالث شمال عراقي - جنوب عراقي، وتواجد في صدام، لواء، ومناطق صغيرة، ومناطق في مناطق

[illegible]

**المؤرخة الاقتصادية**

تشكل الموارد الاقتصادية في منطقة الدراسة على أبعاد البقاء والتعليم والصحة والبيئة والسياسة. يمكن استغلال النظم الجغرافية الموروثة في الحرة العلوي من تكيفهم مع بيئتهم الطبيعية. يمكن استغلال النظم الجغرافية الموروثة في الحرة العلوي من تكيفهم مع بيئتهم الطبيعية. يمكن استغلال النظم الجغرافية الموروثة في الحرة العلوي من تكيفهم مع بيئتهم الطبيعية.

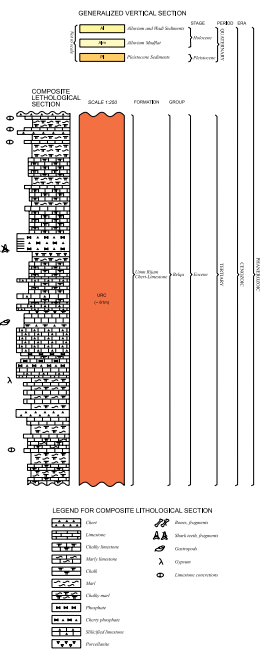
تاریخ: ۱۳۹۰/۰۵/۰۵

المدرسة جوجوليا

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المجموعة التركية

  
 المملكة الأردنية الهاشمية  
 THE HASHEMITE KINGDOM OF JORDAN  
 سلطة المصادر الطبيعية  
 NATURAL RESOURCES AUTHORITY  
 GEOLOGY DIRECTORATE  
 خريطة لتعقد وجبل أم الرغال  
 GEOLOGICAL MAP OF  
 TAL'AT Q'AIYD  
 AND  
 JABAL UMM AL W'AL  
 MAP SHEETS NO. 375A-IV and 375-III  
 Scale 1:100,000  
  
 GEOLOGICAL MAP SHEETS NO. 375A-IV and 375-III  
 Scale 1:100,000  
 0 2 4 6 8 10 km



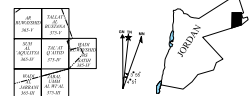
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**SYMBOLS**

- Geological boundary, faulted
- - - Geological boundary, faulted, inferred
- · - Geological boundary, superficially disjunct
- · - Fault inferred, not shown downstream side
- · - Fault inferred, beneath superficial deposits
- · - Lineament, visible on aerial photograph
- ⊙ Dip and circle
- ⊙ Dip (shown in degrees) and circle
- ⊙ Water well
- ⊙ Gas well

TOPOGRAPHICAL SYMBOLS SHOWN ON MAP

Concave (N/A interval)



Crossed data and cross-sections provided through GAD every thing during 2002-2003 by the Natural Resources Authority.

The topographic base was produced in 1983 from aerial photography. Re-survey by the Royal Jordanian Geographic Centre from field observations since 1983.

Potential Geomorphology Printed in 2006 by the Royal Jordanian Geographic Centre

The scale used indicate the Distance Transverse Mercator UTM (31N16).

Ticks on the surface indicate the Potentiatic Unit

Ticks and numbers shown in this scale neither indicate the Universal Transverse Mercator Grid (U.T.M.)

الملاحظات العامة: تم توفير بيانات مقطعية وبيانات متقاطعة من خلال GAD كل شيء خلال عامي 2002-2003 من قبل سلطة الموارد الطبيعية.

تم إنتاج الأساس الطبوغرافي في عام 1983 من التصوير الجوي.

تم إعادة المسح من قبل المركز الجغرافي الأردني من الملاحظات الميدانية منذ عام 1983.

الجيومورفولوجيا المحتملة طبعت في عام 2006 من قبل المركز الجغرافي الأردني

تدل الخطوط على المسافة المستعرضة لمرآة UTM (31N16)

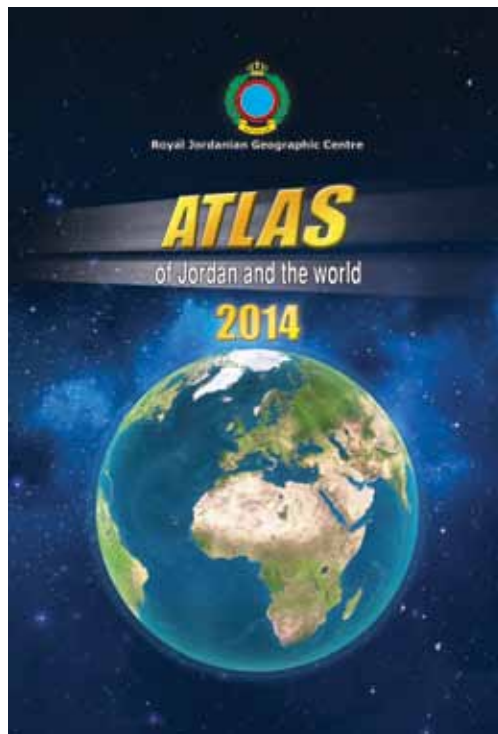
تدل الخطوط والأرقام على الوحدة البوتنسيائية

تدل الخطوط والأرقام على هذا المقياس، ولا تدل على الشبكة العالمية للمستعرضة لمرآة (U.T.M.)

## Educational Maps



## Atlas of Jordan and the World



## Atlas Space of Jordan



## Activities Album





# SPECIAL ACHIEVEMENT IN GIS

## Royal Jordanian Geographic Centre Jordan



Jack Dangermond  
President, Esri

Esri User Conference | July 2013 | San Diego, California





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