I.R.IRAN NATIONAL REPORT for 22th session of Coordination committee of CASPCOM

Aktau, the Republic of Kazakhstan, 7-8

November 2017

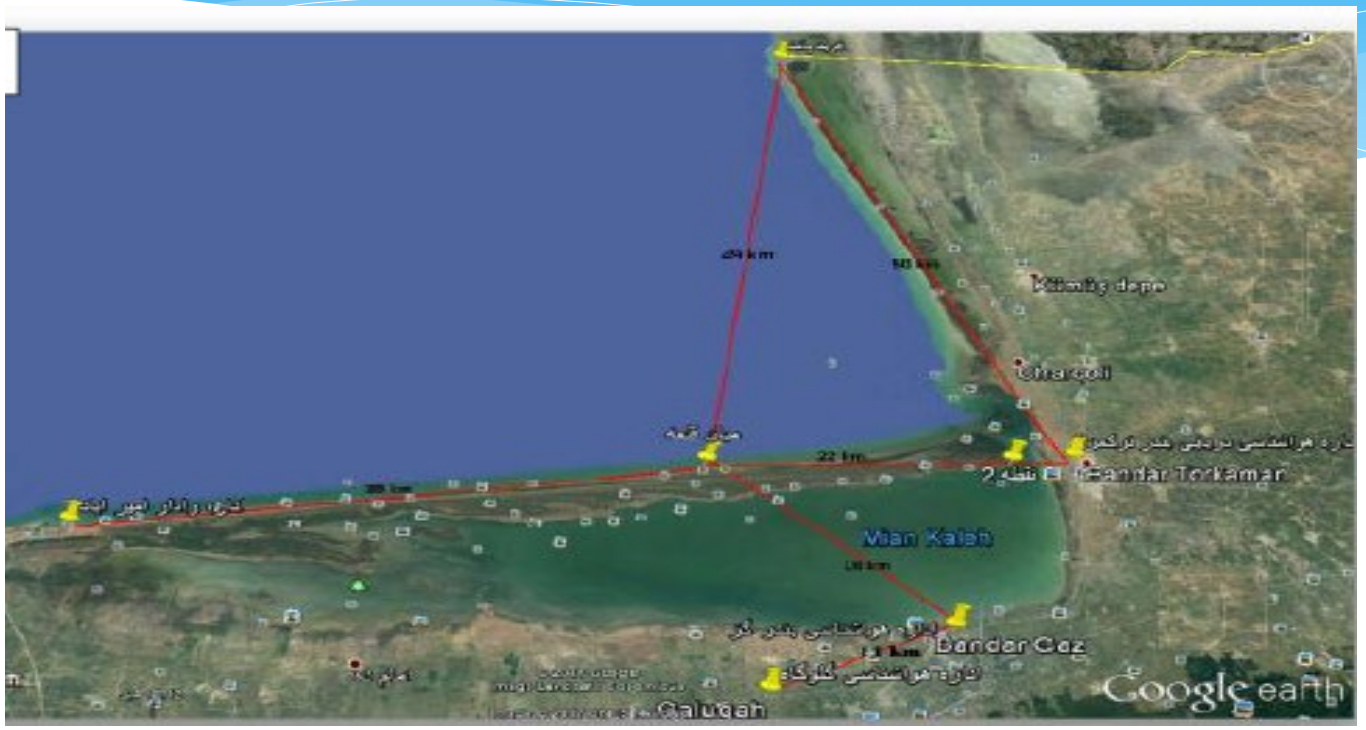
Introduction

In this report, In addition to activities in the field of development of observation network, database, forecasting and research, , special attention was paid to the climatic analysis of the Caspian Sea. Since the preparation of the operational program of the Coordinating Committee CASPCOM is one of the
important issues considered at the current meeting,
One of the last session decisions was the special attention to the reduction of water level in the Gorgan Gulf.
Among the issues that have been considered at most committee meetings, is cooperation in the implementation of the Tehran Convention.

2. Development of measurement network in southern coasts of Caspian Sea

2-1- Marine Meteorological Monitoring Network in Golestan

Following the CASPCOM previous meeting approved in Baku regarding the effects water level reduction in Gorgan Gulf and the shortage of Marine Meteorological Monitoring Station in Golestan province, :



Suggested points for Marine Meteorological Monitoring in Gorgan and the Golestan Coastal

The first proposed point of the fishery Platform is Farid Pak near the border of Iran and Turkmenistan with geographical location 37 ° 20'15.41 "N and 53 ° 54'29.82" E

Farid Pak fishery Platform

* The second position for install marine station is the eastern side of the island of Ashurade with geographical location of 36 ° 54'07.92 "N and 54 ° 01'07.64" E..

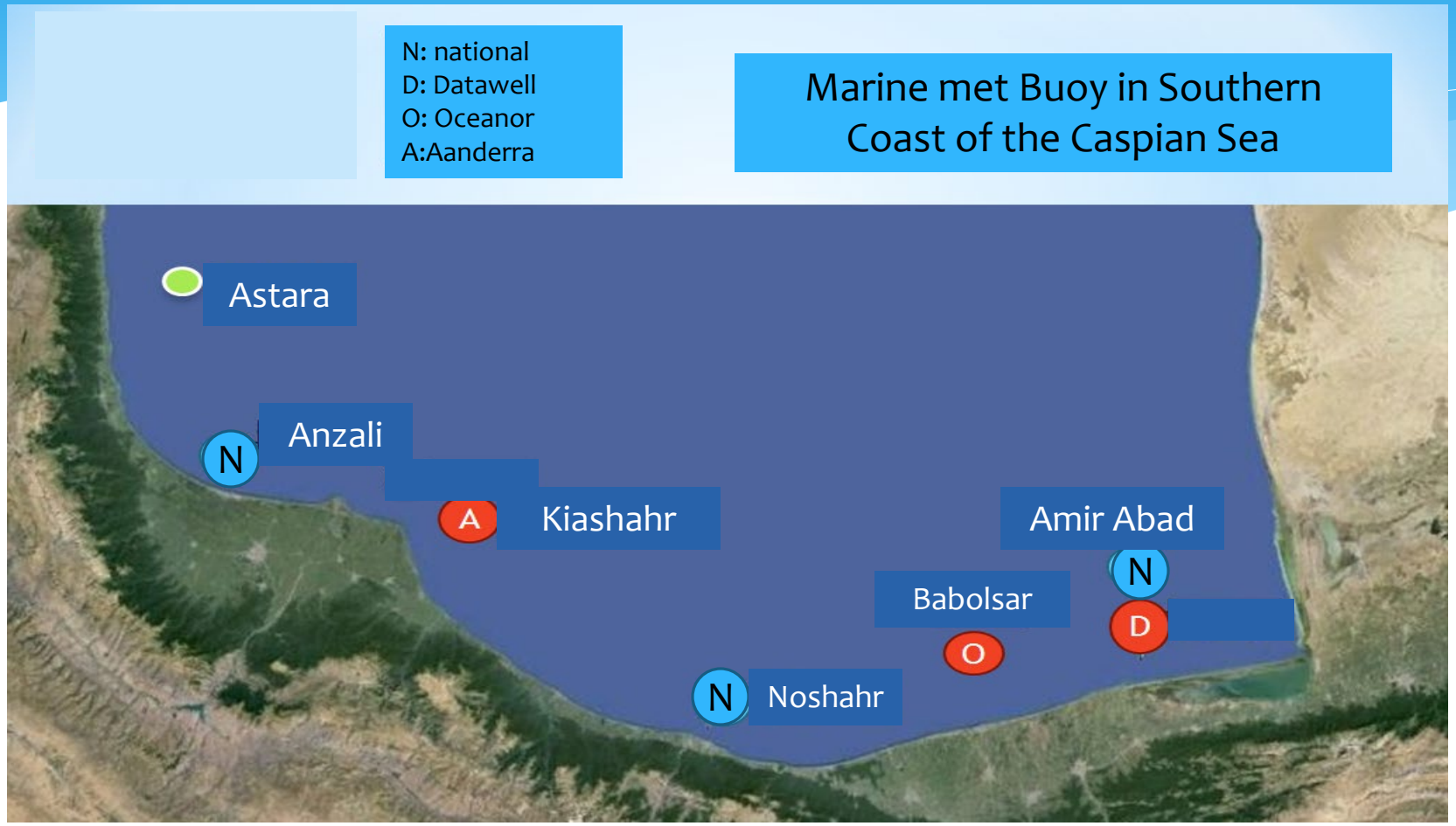
Eastern side of the Ashurade

* The third proposed point is a fishery platform in the northern coast of Ashurade and the geographical location of 36 ° 54'08.99 "N and 53 ° 48'37.93" E.

Miyan Ghale Fishery Plattform

2-2- Marine Meteorological Buoys

. To be at present, four points in the southern of the Caspian Sea, including Anzali, Kyashshar, Noshahr and Amir Abad, are located Meteorological Marine buoys, and will be located two buoys at two points in Astara and Babolsar,.



Marin Meteorological Buoys Network

3 - Meteorological Radar

Two meteorological radars are used to monitor the southern Coastal of the Caspian Sea in the Kiashahr and Amir Abad, which whole coast of the area covered by these two radars. The Amir Abad radar is a C-type, with an effective range of 250 kilometers, and each half an hour delivers a variety of images from its surroundings.

Amir Abad Meteorological Radar

Kiyashahr Meteorological Radar

2-4-Research Vessel

Preparing of a vessel were put in program by Guilan met office since 2007 which after passing logical processes and complete registration, at 2008 started working.

Research vessel of Guilan met office

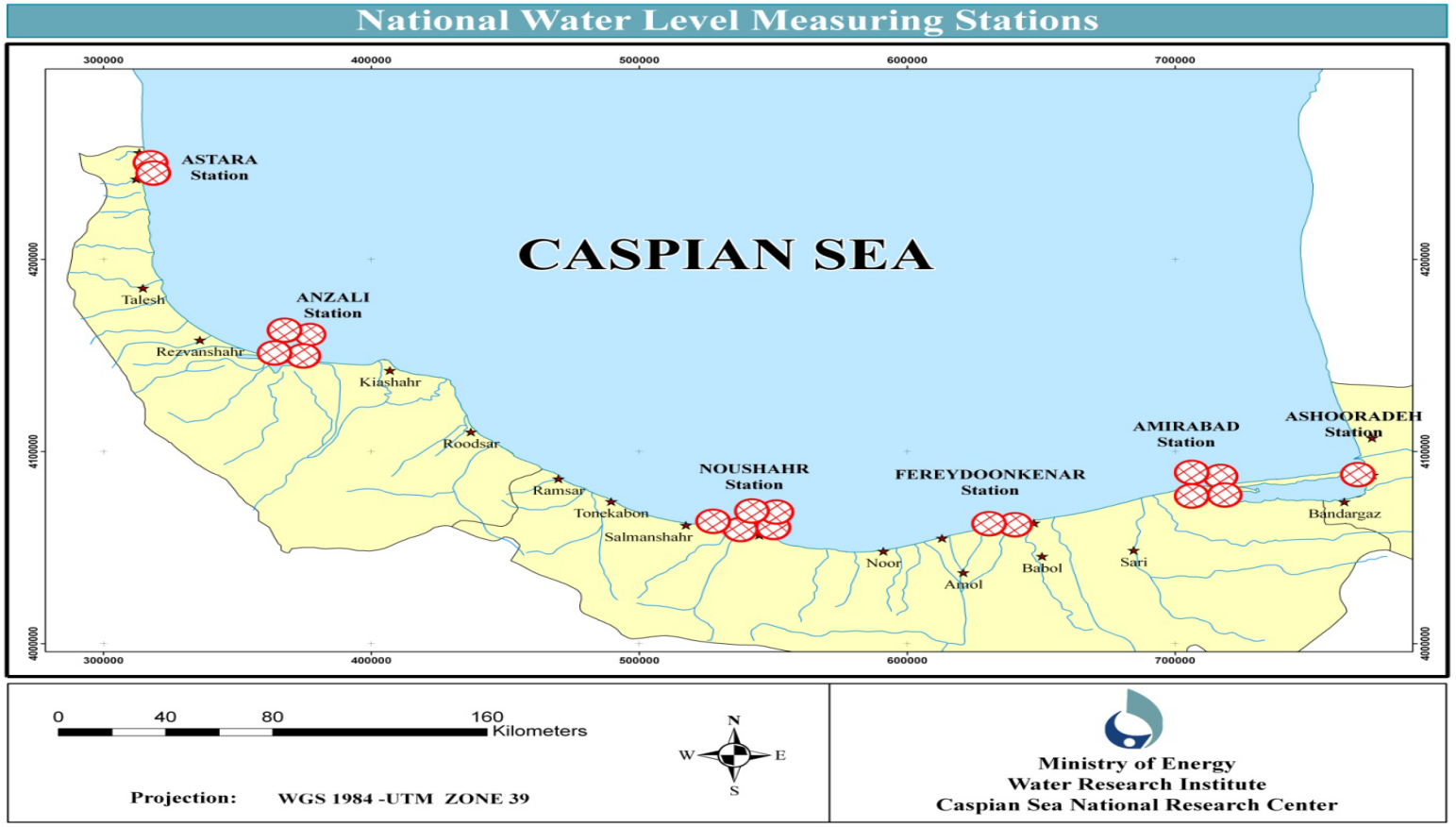
2-5- Caspian Sea Level monitoring network

In order to measure daily, monthly, seasonal and annual fluctuations of the Caspian Sea, on the southern coastal, a tide gauge monitoring network is used. These stations are located in Astara, Anzali, Ramsar, Noshahr, Fereydoun-e-Asadi, Amir-Abad and Asuradeh

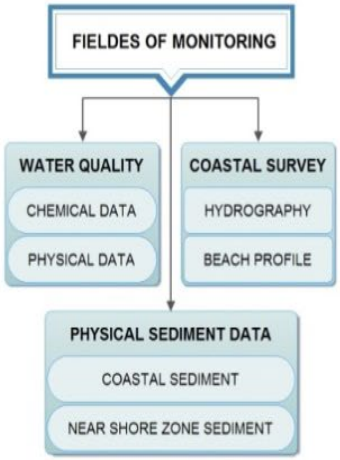
4-2- Report of Caspian Sea Level fluctuations 2015-2016

- Network measurement of marine parameters

Tide gauge Stations

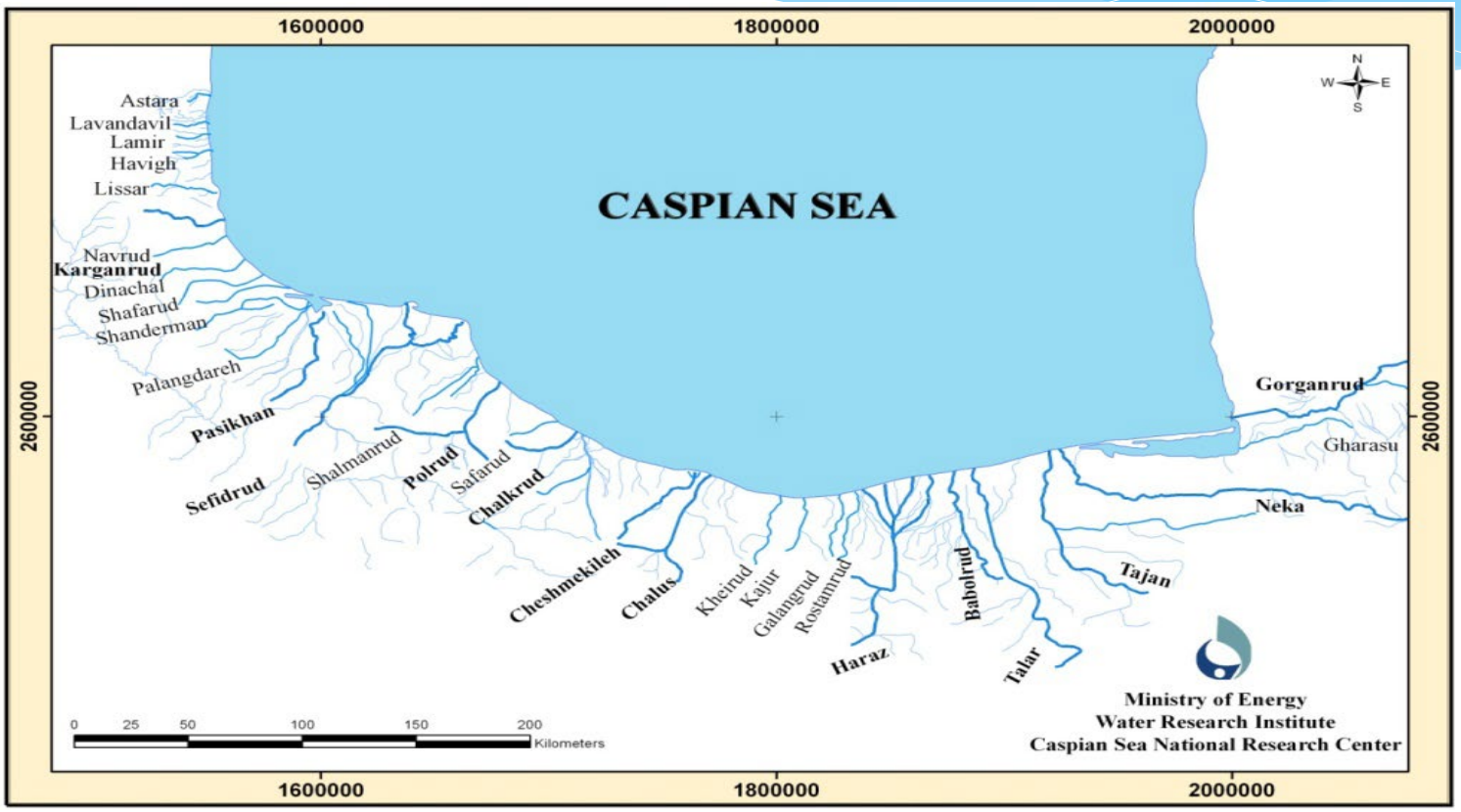


* Stationary measurement stations

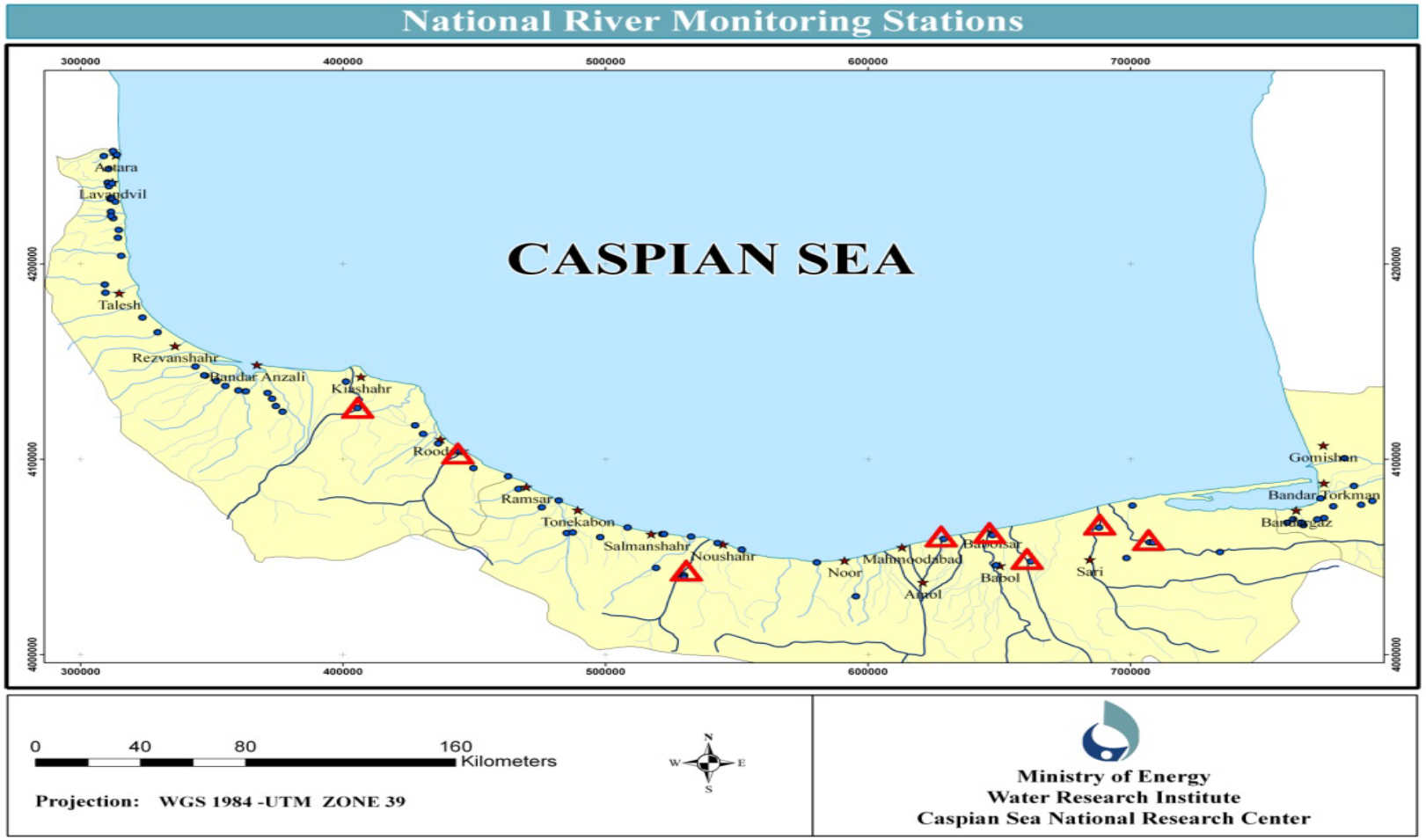


- **River stations**

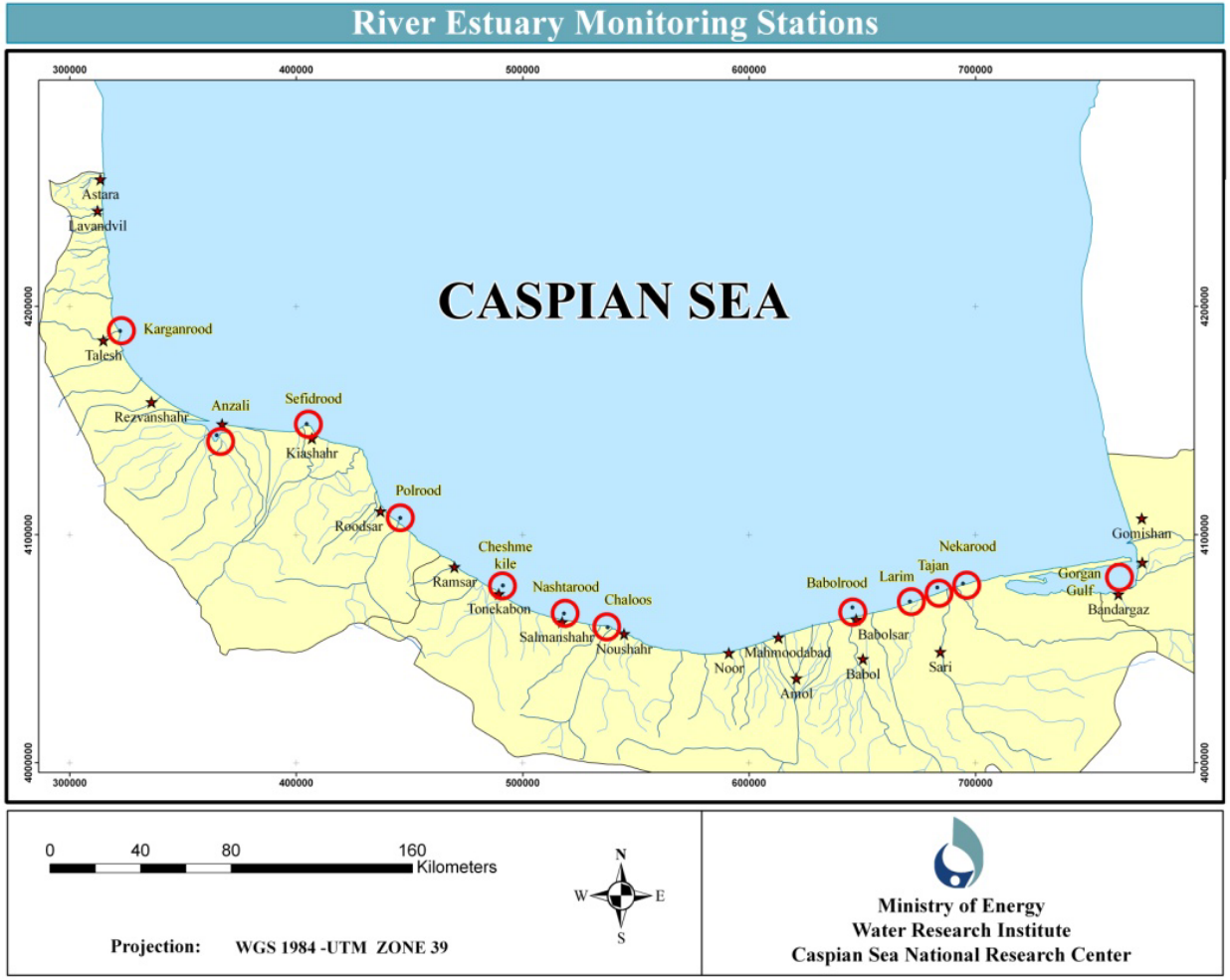
Important rivers of the South Coast



- **The network of hydrometric stations**



* **Quality monitoring**
stations in meadows of rivers



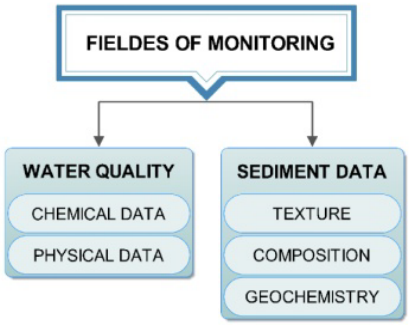


Fig. 9- Tide gauge Stations of Caspian Sea southern

3. Marine Meteorological Data Bank

3.1- Synoptic stations data base

(http://www.irimo.ir)

Fig.10- I.R.of.Iran Meteorological Organization Website

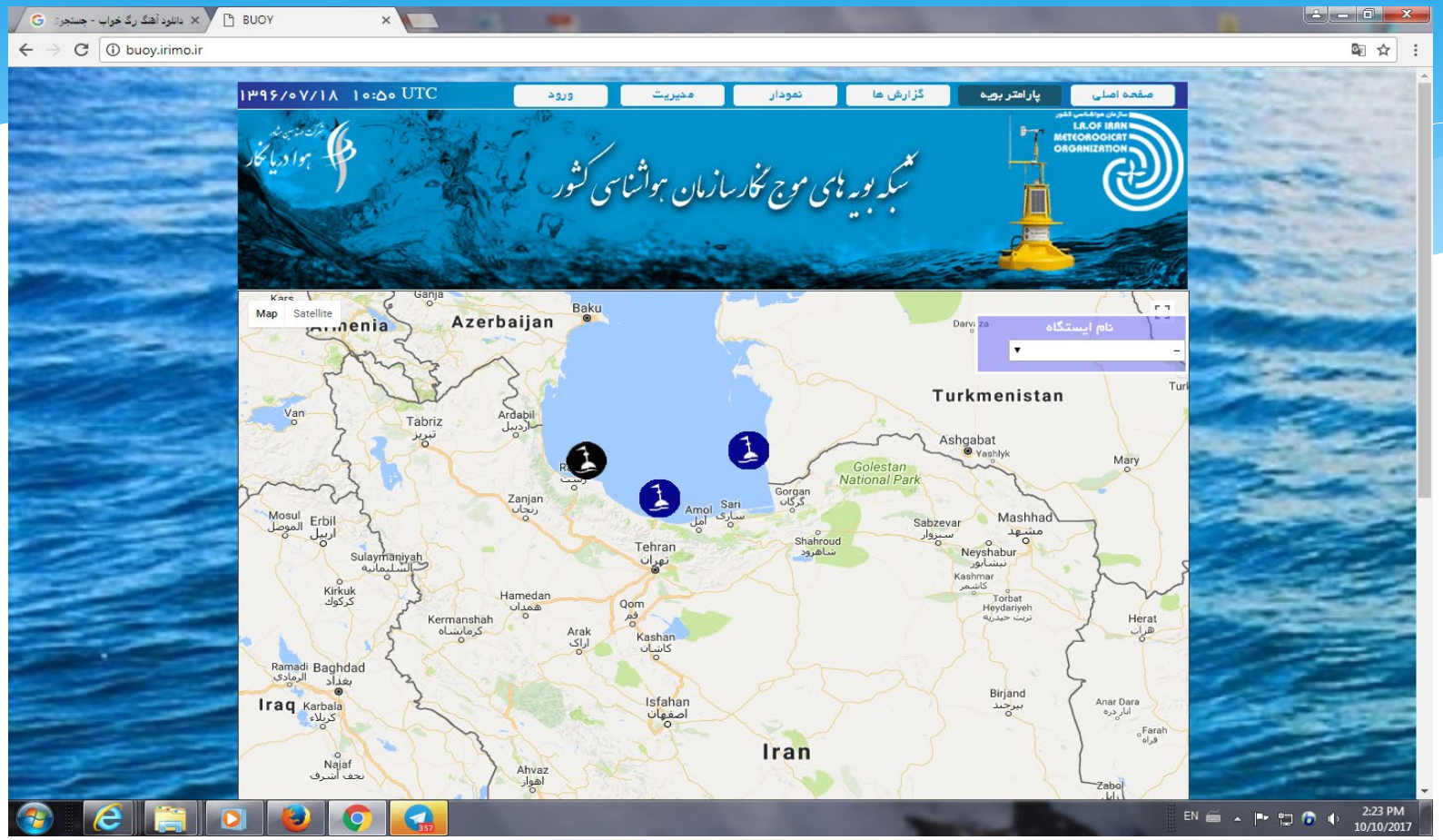
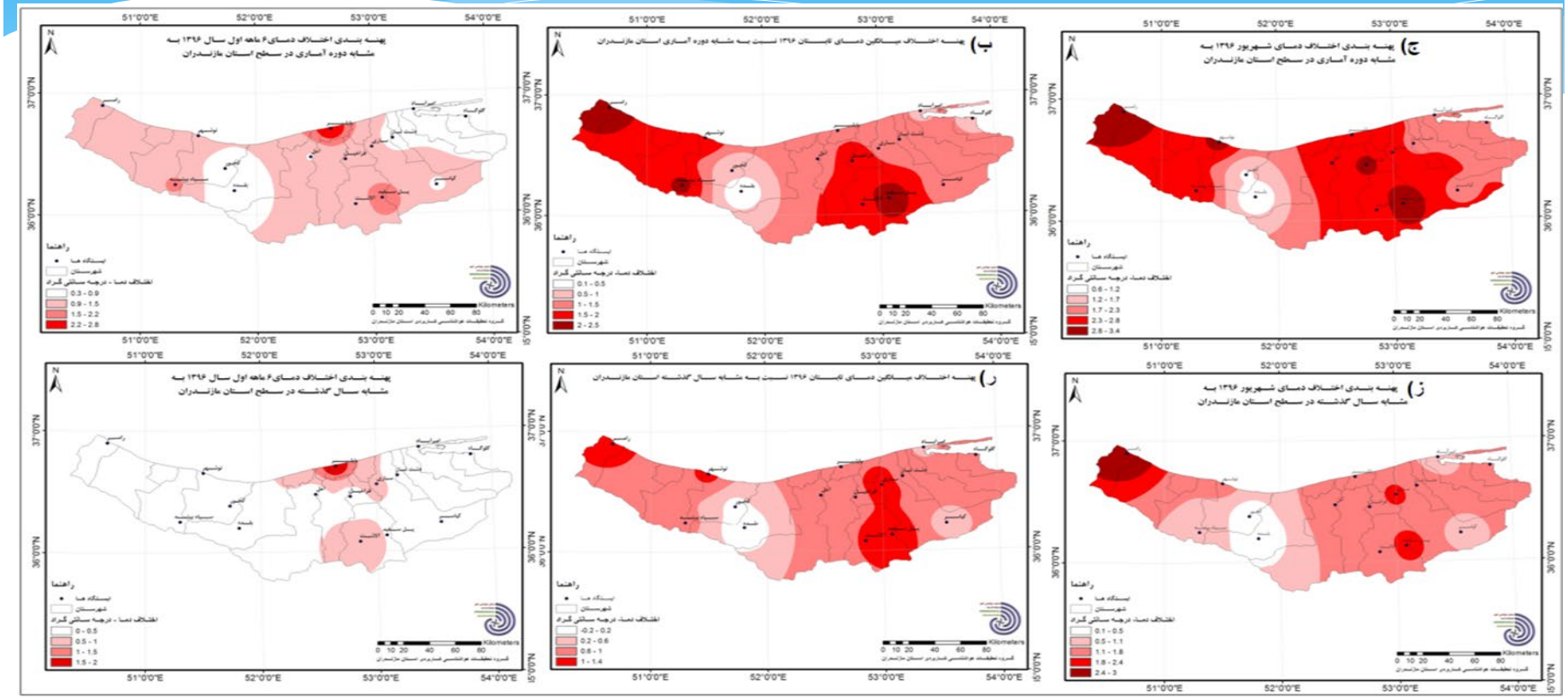


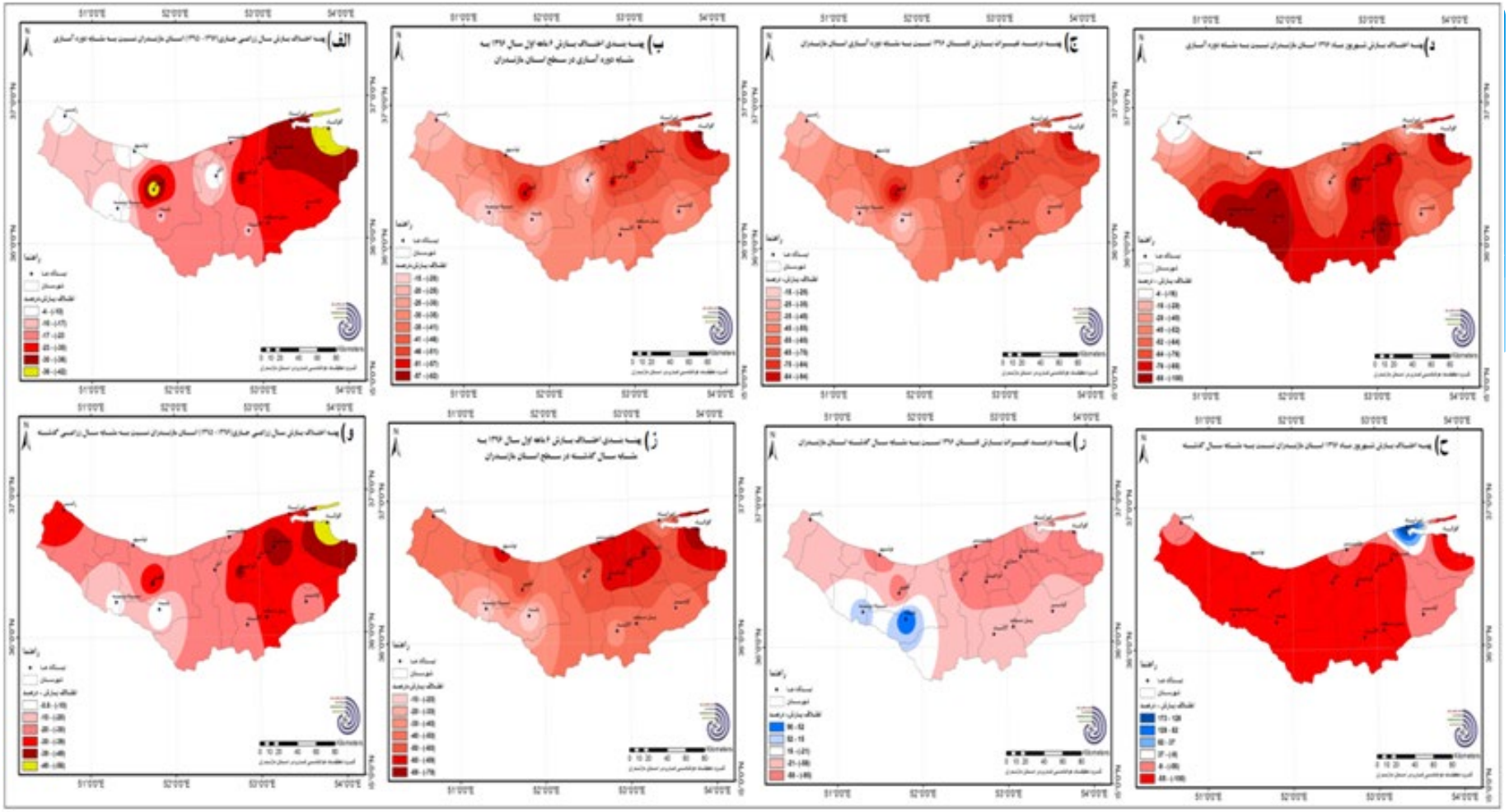
Fig.11- Meteorological Organization Buoys Website

Section 4- Study and research

4-1- Analysis of Mazandaran province weather in agricultural year 2016-2017

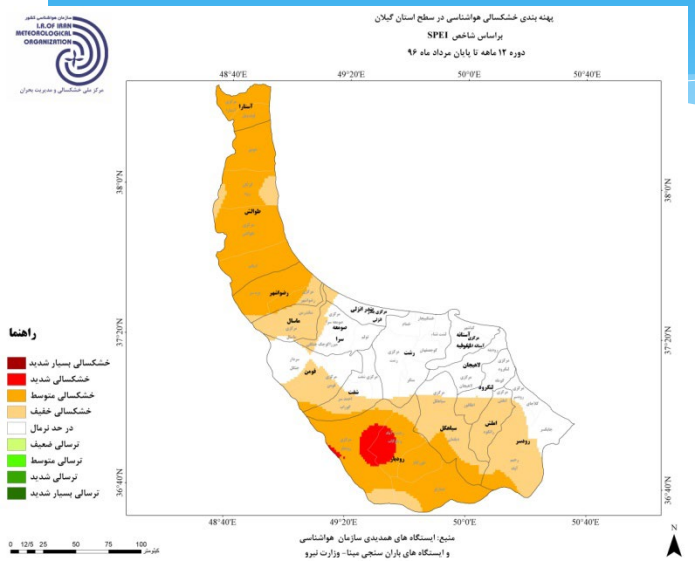


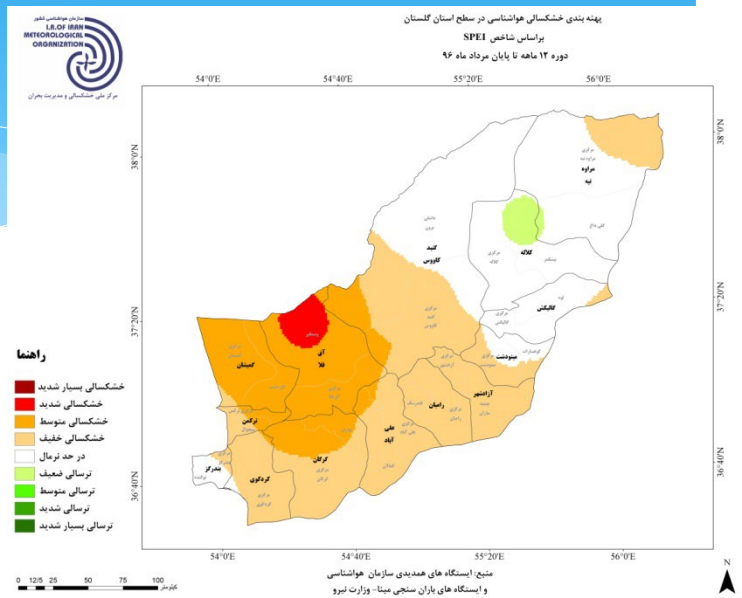
temperature differences between first 6 month of current year and statistical period similar and last year last summer to statistical period similar and last year current year September to similar period in last year and statistical period.

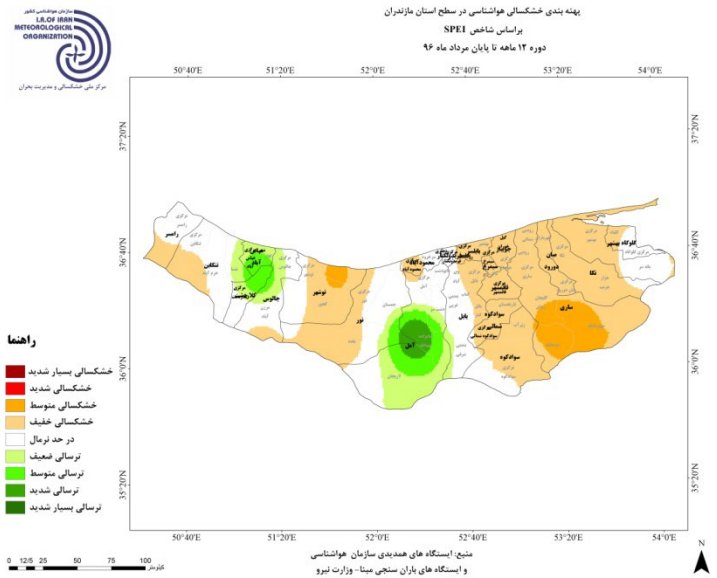


Comparison of precipitation in agricultural year 2016-17 relative to similar period of statistical period and last year summer of 2017 to similar period of statistical period and last yearand September 2017 to similar period of last year and statistical period.

Aridity in southern Coast of Caspian Sea







Fluctuations in average air temperature

STATION	statistical priod 2016-2017	past year(2015-2016)	long term	Temperature fluctuations compared to last year	Fluctuations in temperatu over a long-term
HASHEM ABAD	30.3	28.7	28.5	1.7	1.8
GONBAD KAVOOS	31.5	30.3	29.9	1.2	1.6
KALALEH	30.1	29.4	29.4	0.7	0.7
MARAVEH TAPEH	30.9	30	29.4	0.9	1.5
ALI ABAD	29.9	28.6	28.5	1.3	1.5
ANDAR TORKAMA	29.7	28.7	28.7	1	1
GORGAN	30.5	29	29.1	1.5	1.4
BANDAR GAZ	30	28.7	28.4	1.3	16
INCHE BRON	32.1	31.1	31.2	1	0.8
MINODASHT	30.8	29.4	30.7	1.4	0.1
MEAN	30.6	29.4	29.4	1.2	1.2

Mean temperature of the province in summer of current year was 30.6 degrees centigrade which relative to past year and statistical period has 1.2 degrees centigrade rise

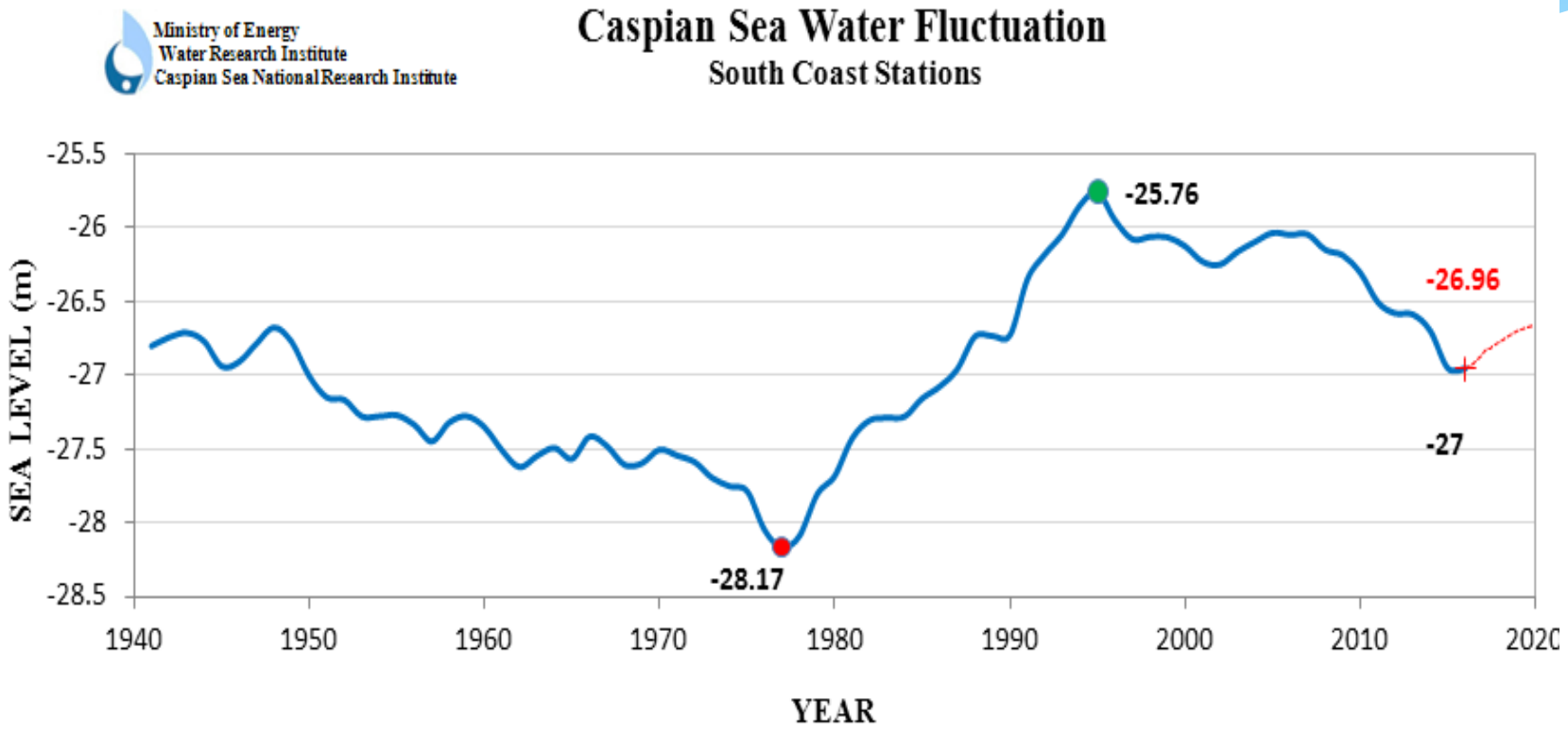
Fluctuations in Prcipitation

STATION	statistical priod 2016-2017	past year(2015-2016)	long term	Prcipitation fluctuations compared to last year	Fluctuations in prcipitation over a long-term
HASHEM ABAD	321.8	587.9	488.8	-266	-167
GONBAD KAVOOS	371.7	507.7	440.8	-136	-69
KALALEH	602.1	679.7	546.6	-78	56
MARAVEH TAPEH	276.7	448.2	346.8	-172	-70
ALI ABAD	473.9	750.7	632.3	-277	-158
ANDAR TORKAMA	268.1	566.1	433.4	-298	-165
GORGAN	300.1	614	447.4	-314	-147
BANDAR GAZ	357.3	659	538.9	-402	-282
INCHE BRON	181.8	302.3	277.5	-121	-96
MINODASHT	688.3	940.6	635.1	-252	53
MEAN	374.2	605.6	478.8	-231	-105

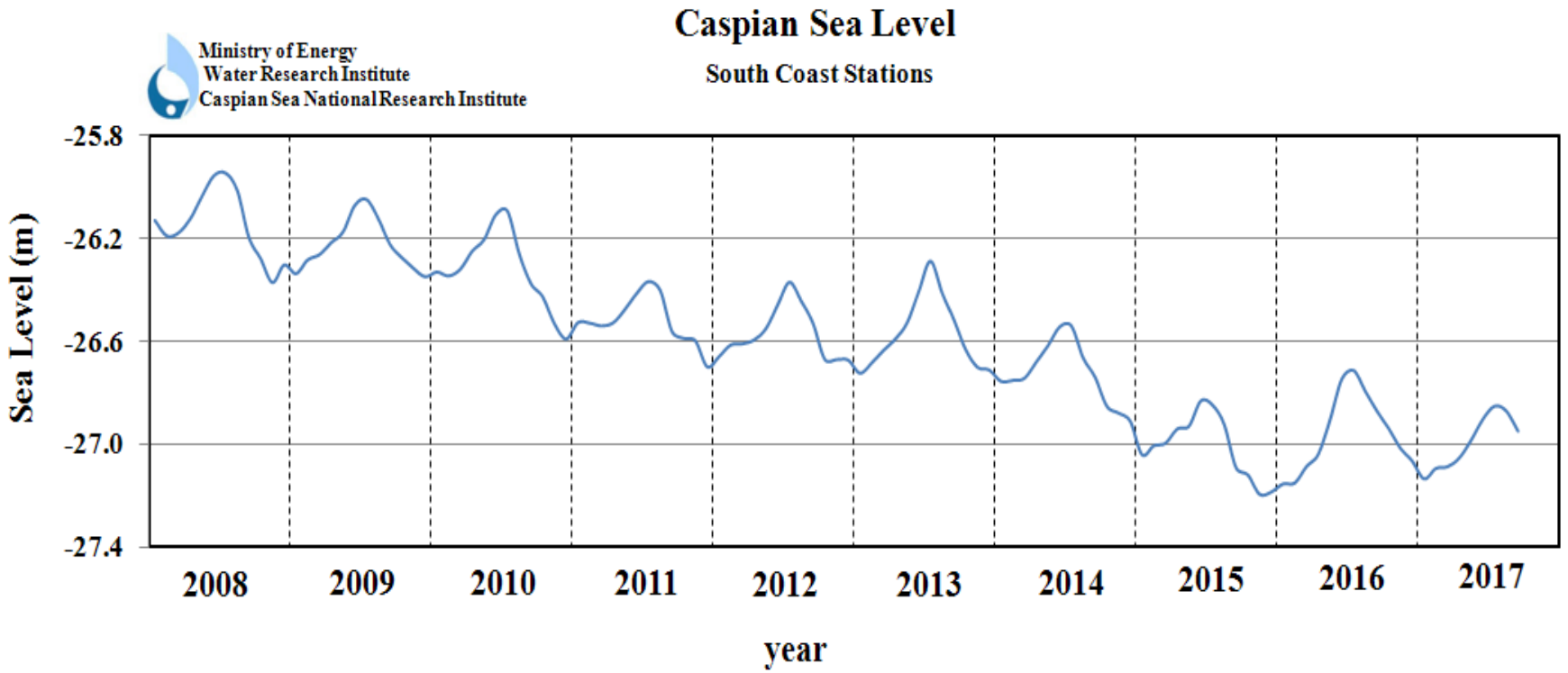
Fluctuations of precipitation (mm) in synoptic weather stations from 2017/09/1 to 2017/09/31 .

Relative to similar period of statistical and past agricultural year.

- **Water Level changes in the last 70**



- **Water level changes from 2008 to 2016**



Year	Sea level (m)	Sea level change rate Increase (+) Decrease (-) (cm/y)	Mean sea level change (per month)	Maximum sea level decrease & increase (month)
2008	-26.14	-13	6	September
2009	-26.22	-8	5	June & September
2010	-26.32	-10	5	August
2011	-26.52	-20	6	September
2012	-26.57	-5	6	October
2013	-26.57	0	6	June to October
2014	-26.72	-15	5	August
2015	-27.01	-29	6	September
2016	-26.96	+5	7	May & June

-

Status of Caspian Sea water level during 2008 to 2016 based on the Tide gauge Stations data of the South Caspian Sea

4.3- Monitoring and Modeling Studies of Northern Coasts of Iran

Port & Maritime Organization (PMO)

Project objectives

- Preparation of basic information required for coastal and port engineering
- Recognition of coastal and port problems in the study area and investigation of relevant solutions
- Review and improvement of the findings from previous studies
- Study on the Caspian Sea water level changes

Study outline

- Gathering, reviewing and interpreting available information and studies
- Continuous and simultaneous measurements of coastal and marine parameters for one year
- Numerical simulation of dominant phenomena
- Analysis of field data and numerical modeling results
- Planning a long term monitoring program based on the study results
- Improving the existing data bank using collected data and the study results

Meteorological and Tide gauge station of Nowshahr port

4-4- Environmental activities

Regional session of Tehran convention met in Bandar Anzali at 27-31 (April 2017) hosting by deputy of marine environment of department of environment.

4.5- Action Plan

No	Tittle	Aim	duration
1	Development and promotion of required stations for fixed observation networks	50 Fixed Stations	1 year
2	Development of marine buoys network	20 Buoy	3 years
3	Development and promotion of required stations for mobile network monitoring	15 Voluntary ships	2 years
4	Development and promotion Marine Meteorological Forecast for the Caspian Sea (Bulletin and Map)	1 report	1 year
5	Development and promotion the common data bank Marine Meteorological	1 data bank	2 years

5. Marine prediction

5.1- Marine Applied Meteorology Development (AMD) and aims of its institution:

Noting to important role of seas in social, economic and cultural life and mission of all governmental institutions and people in knowing country seas and properly use of their resources and saving their vital environment, role of them appears important and sensitive.

First necessity for correct prediction of wave, sea level and its fluctuations, pollutants concentration and issue, sea water currents, fields of temperature, saltiness, density, their vertical profiles, fish's population locations, and many such things need update and correct data from air-sea. This important issue will obtain when we can collect and transmit them having marine observation systems.

Duty of observing, collecting, transmitting, using of data and information producing, prediction and warning issue … are on meteorological organization. Thus for better service to marine users, Iranian meteorological organization supplied a project named marine AMD and try to ever more useful productions receive to users.

Stages of Marine AMD

* 1. Identification
* 2. Need assessment
* 3. preparing data and information
* 4. Broadcasting systems
* 5. Capacity building
* 6. feedback
* 7. Documentation






Thanks for your attention