

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ  
ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ  
«САХАЛИНСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ»

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**SAKHALIN REGIONAL STUDIES  
ДЛЯ СТУДЕНТОВ НАПРАВЛЕНИЯ ПОДГОТОВКИ  
43.03.02 «ТУРИЗМ»**

*Учебно-методическое пособие*

Южно-Сахалинск  
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Учебно-методическое пособие содержит англоязычные тек-  
сты о Сахалинской области, а также комплекс заданий, направ-  
ленных на пополнение словарного запаса студентов в сфере  
краеведения, повышение уровня самостоятельной подготовки,  
формирование способности к самообразованию.

Цель пособия – повышение уровня владения иностранным  
языком для решения коммуникативных задач в области професси-  
ональной деятельности, при общении с зарубежными партнерами.

Адресовано студентам направления подготовки 43.03.02 «Ту-  
ризм» очной формы обучения, а также всем желающим совер-  
шенствовать знания в области краеведения.

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## ВВЕДЕНИЕ

Настоящее учебно-методическое пособие предназначено для аудиторной и внеаудиторной самостоятельной работы студентов третьих-четвертых курсов направления подготовки 43.03.02 «Туризм» и для тех, кто интересуется вопросами регионоведения. Содержательная направленность материалов отражает образовательные и воспитательные цели: ознакомление студентов с географическими особенностями Сахалинской области относительно материковой части, с влиянием рельефа на формирование климата, богатством водных ресурсов, историей освоения, разнообразием растительного и животного мира, коренным населением Сахалинской области, а также разработкой нефтегазовых проектов и современными достопримечательностями Сахалина. Данное учебно-методическое пособие направлено на развитие навыков ознакомительного и изучающего чтения по краеведческой тематике и говорения на английском языке. Пособие предназначено для использования в качестве рабочей тетради.

Учебно-методическое пособие состоит из десяти разделов:

1. Geographical position.
2. Climate.
3. Relief.
4. Surface & subsurface water resources.
5. Flora.
6. Fauna.
7. The discovery of Sakhalin Island.
8. The indigenous people of Sakhalin.
9. Sakhalin oil & gas projects.
10. Places of tourist interest.

В каждый раздел входят основной текст, вопросы и упражнения, которые помогают студентам сосредоточиться на определенной краеведческой теме. Лексические, тренировочные и коммуникативные упражнения служат для развития навыка говорения на английском языке, побуждают студентов проявлять инициативу в высказывании своего мнения по обсуждаемым темам, учат аргументированно отстаивать его. Учебно-методическое пособие также способствует накоплению тематического словарного запаса по данным краеведческим темам.

В учебно-методическое пособие включены раздел под рубрикой «Supplementary reading», предоставляющий дополнительную информацию по изучаемой теме, и задания, которые направлены на развитие языковых навыков. Кроме того, в учебно-методическом пособии представлен раздел «Glossary», в котором собран словарь по всем десяти разделам пособия, облегчающий студентам поиск незнакомых слов в текстах.

Данное учебно-методическое пособие позволит сэкономить время учащимся, которым не придется искать необходимую информацию по Сахалинской области в Интернете или в библиотеках, и преподавателям, которым предлагается использовать ряд заданий для контроля самостоятельной работы студентов.

Пособие составлено в соответствии с программой дисциплины “Sakhalin Regional Studies” и способствует формированию компетенций, предусмотренных ФГОС ВО.

## UNIT 1. GEOGRAPHICAL POSITION<sup>1</sup>

The Sakhalin region is the unique territory of the Russian Federation. First of all, it is one of the most remote territories of Russia. Only Kamchatka and Chukotka is farther from the center than Sakhalin. One more interesting detail is that all parts of the region are on the islands, of which Sakhalin is the largest. It is 948 km. long from the northern extremity Cape Yelizaveta to the southern one Cape Krilion with the width from 27 to 160 km. and the total area of 76,400 sq. km. Sakhalin is also the biggest Russia's island. The region also includes the islands of Moneron and Tyuleniy and the 56 Kuril islands.

The Kuril archipelago consists of two ranges: the Greater Kurils (1,200 km.) and the Lesser Kurils (105 km.) and its total area are 15,600 sq. km. The Greater Kurils include 30 main islands (the largest is Iturup) and about 20 smaller islands and rocks. The Lesser Kurils consists of 6 islands where Shikotan is the biggest.

The Sakhalin Region is washed by the waters of the Sea of Okhotsk, the Sea of Japan and the Pacific Ocean. Sakhalin Island is separated from the mainland by the Tatar Strait, the Nevelskoy Strait and Sakhalin Bay and from the island of Hokkaido (Japan) by the La Perouse Strait. The distance between Cape Krilion and Hokkaido is 40 km. The Kurils are parted from the Kamchatka Peninsula by the Perviy Kurilskiy Strait and from Hokkaido by the Straits of Kunashirskiy, Sovetskiy and Izmeny.

The shores of Sakhalin are gently indented and suitable for building ports. The Kuril coastline is mainly rocky and steep. But some islands have narrow sandy beaches. There are also a few well-sheltered anchorages in several bays.

### **Comprehension questions:**

1. Why is the Sakhalin region unique?
2. How many islands does it include?

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<sup>1</sup> Ким, Вон Дя. *Пособие по английскому языку для студентов экономических специальностей "The geography of Sakhalin region" / Ким Вон Дя. – Южно-Сахалинск : СахГУ, 2009. – С. 4.*

3. What is the length of the largest island?
4. How wide is Sakhalin?
5. What is Krilion?
6. What parts do the Kurils consist of?
7. Do the Kuril Islands or Sakhalin Island have more sea ports?  
Why?

**Word list:**

##	English language	Your language
1.	Remote (adj)	
2.	Extremity(n)	
3.	Cape(n)	
4.	Width(n)	
5.	total area(n)	
6.	Archipelago(n)	
7.	Range(n)	
8.	Rock(n)	
9.	Strait(n)	
10.	Peninsula(n)	
11.	Shore(n)	
12.	Gently(adv)	
13.	Indented(adj)	
14.	Suitable(adj)	
15.	Coastline(n)	
16.	Steep(adj)	
17.	sandy beach(n)	
18.	well-sheltered(adj)	
19.	Anchorage(n)	

### 1.1. Find the words to the given descriptions:

1.		very special, unusual, not the same as anything or anyone else,
2.		right for a particular purpose, person or situation
3.		a part of something that is the farthest from the main part
4.		a long piece of land that is mostly surrounded by water, but is joined at a one end to a larger area of land
5.		a large area of land the continues further out into the sea than the land it is part of
6.		size of surface
7.		far from side to side
8.		complete
9.		a narrow area of water that joins two larger areas of water
10.		an area of the coast where the land curves inwards

### 1.2. Complete the sentences with the most appropriate words:

1. \_\_\_\_\_ are the natural boundary between the Sea of Okhotsk and the Pacific Ocean.
2. The Kuril Islands \_\_\_\_\_ from Kamchatka to Hokkaido.
3. The total \_\_\_\_\_ of the Kuril Islands is about 16,000 sq.km.
4. The northern part of Sakhalin \_\_\_\_\_ by the Sea of Okhotsk.
5. The La Perouse Strait \_\_\_\_\_ Southern Sakhalin and Northern Hokkaido.
6. The Sakhalin Region \_\_\_\_\_ of a great number of islands and rocks.
7. Cape Krilion is the southern \_\_\_\_\_ of Sakhalin Island.
8. The Kuril Islands include two \_\_\_\_\_.
9. Sakhalin, Kamchatka and Chukotka are the most \_\_\_\_\_ areas of Russia.



10. The Tatar Strait \_\_\_\_\_ Sakhalin from the mainland.

### **1.3. Retell the text “Geographical position”.**

#### **1.4. Render the text (use the active vocabulary of the lesson).**

Чукотский полуостров – это автономный округ России, расположенный на крайнем северо-востоке. Он раскинулся на площади более 720 тыс. км<sup>2</sup>. В целом Чукотка начинается от низовьев Колымы, тянется до Берингова пролива и выходит к Северному Ледовитому океану.

Округ занимает двадцать четвертую часть от всей территории России. На юге граница края проходит по реке Анадырь и рекам бассейна Охотского моря, граничит с Камчатской областью. На западе соседствует с Магаданской областью и Якутией. В восточной части округа по морю пролегает государственная граница. В состав Чукотского полуострова входят острова Ратманова, Врангеля, Геральда и др.

Чукотка – это большой, отдаленный и холодный регион России. Вся территория края находится за полярным кругом, поэтому зима здесь длится почти десять месяцев.

Этот край красив и отличается от большей части России не только своим богатым животным и растительным миром, но и уникальными, самобытными достопримечательностями. На сегодняшний день территория Чукотского полуострова имеет плохо развитую инфраструктуру, редкие авиарейсы задерживаются из-за сильных ветров и постоянных снегопадов. Столицей региона является город Анадырь. Сюда прилетают самолеты из всех уголков нашей огромной страны.

#### **1.5. Translate the sentences into English.**

1. Сахалинская область – единственный субъект Российской Федерации, расположенный на островах, омываемых водами холодного Охотского и теплого Японского морей, а также Тихого океана.

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2. Территория области общей площадью 87,1 тысячи квадратных километров включает остров Сахалин с прилегающими островами Уш, Монерон и Тюлений, а также Курильский архипелаг в составе Большой и Малой Курильской гряды.

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3. По проливам Лаперуза, Кунаширскому, Измены и Советскому проходит государственная граница Российской Федерации с Японией.

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4. Сахалин – один из крупнейших островов России, протянулся с юга на север на 948 километров.

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5. От материка Сахалин отделен Татарским проливом, ширина которого в самом узком месте, между мысами Погиби и Лазарева, чуть более 7 километров.

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6. Берега Сахалина слабо изрезаны, крупные заливы имеются только в южной и средней частях острова.

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7. Курильский архипелаг простерся на 1200 километров с севера на юг между Камчаткой и Хоккайдо.

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8. Глубокие проливы Буссоль и Крузенштерна разделяют Курильские острова на две группы, образующие Большую Курильскую гряду.

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9. Курилы – архипелаг маленьких и больших островов вулканического происхождения.

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10. Остров Монерон расположен в Японском море, а именно в Татарском проливе. Находится он в 43 километрах от юго-западного побережья **Сахалина** и имеет площадь 30 квадратных километров. Береговая линия острова протяженностью 24 км.

**1.6. Put the words in each group in order according to their size (the smallest first, the largest last). In each list there is one word that does not belong with the others.**

1. city            continent    tributary    county    lane

- |    |          |         |           |         |        |
|----|----------|---------|-----------|---------|--------|
| 2. | road     | peak    | footpath  | track   | lane   |
| 3. | mountain | hillock | shore     | hill    | range  |
| 4. | forest   | tree    | copse     | beach   | wood   |
| 5. | pond     | lake    | ocean     | sea     | cape   |
| 6. | gorge    | plain   | waterfall | hollow  | valley |
| 7. | gulf     | ridge   | inlet     | bay     | cove   |
| 8. | cliff    | brook   | river     | estuary | stream |

**1.7. Put the words and expressions in the box into their correct category in the table below and on the next page. Some can be included in more than one category.**

Beach cape capital cliff coast coastline congestion conurbation cosmopolitan densely-populated depopulation desert fertile glacier highlands industrialized irrigation mountainous mouth overcrowding  
 shore source summit tide tributary under-developed peak peninsula plateau pollution (coral) reef ridge shore source summit tide tributary under-developed urban sprawl vegetation waterfall wave

Geographical features associated with water and the sea:  	Geographical features associated with land, hills and mountains:  
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Words and expressions associated with agriculture and rural land:  	Words and expressions associated with towns and cities:  
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**1.8. Now look at this report of a journey and fill in the gaps with one of the words or expressions from Ex. 1.7. In some cases, more than one answer may be possible. You may need to change some of the word forms.**

We began our journey in the country's 1. \_\_\_\_\_, Trinfuegos, a 2. \_\_\_\_\_ conurbation of almost ten million. It is not a pretty place: heavily 3. \_\_\_\_\_, with huge factories belching out black fumes, and miles of 4. \_\_\_\_\_ as housing estates and shopping centers spread out from the 5. \_\_\_\_\_ center for miles. It was a relief to leave.

As soon as we got into the countryside, things improved considerably. The climate is hot and dry and it is difficult to grow anything, but thanks to 6. \_\_\_\_\_, which helps bring water in from the Rio Cauto (the huge river with its 7. \_\_\_\_\_ high up in the snow-covered 8. \_\_\_\_\_ of the Sierra Maestra 9. \_\_\_\_\_), the land is fertile enough to grow the sugar cane on which much of the economy is based. We saw few people, however, as many have moved to the towns and cities to look for more profitable work. It is largely due to this rural 10. \_\_\_\_\_ that agriculture in the area is suffering.

Further south, and we entered the Holguin 11. \_\_\_\_\_, with mountains rising high above us on both sides. The land here drops sharply to the sea and the slow-moving waters of the Rio Cauto give way to 12. \_\_\_\_\_ which tumble over cliffs, and small, fast-moving 13. \_\_\_\_\_ which are not even wide enough to take a boat. At this point, the road we were travelling along became a 14. \_\_\_\_\_, which was only just wide enough for our jeep, and then an unpaved 15. \_\_\_\_\_ which almost shook it to pieces.

And then suddenly we turned a corner and the Pacific 16. \_\_\_\_\_ was in front of us. Our destination was the town of Santiago de Gibara, built on a 17. \_\_\_\_\_ sticking out into the blue waters. The countryside here undulates gently, with low 18. \_\_\_\_\_ covered in rich tropical jungle. The open 19. \_\_\_\_\_ surrounding the 20. \_\_\_\_\_ of the Rio Cauto as it reaches the ocean is rich and 21. \_\_\_\_\_, ideal for growing the tobacco plants which need a lot of warm, damp soil.

That night I lay in my cheap hotel, listening to the 22. \_\_\_\_\_ gently lapping the sandy 23. \_\_\_\_\_, and when I eventually fell asleep, I dreamed of the people who had first inhabited this 24. \_\_\_\_\_ almost two thousand years before.

## UNIT 2. CLIMATE<sup>2</sup>

The Sakhalin Region is affected by the temperate zone monsoon, its length from the north to the south, compound mountainous surface and island's position. Average annual temperature is –2–3 degrees Celsius in the north of Sakhalin and +4 degrees Celsius in the south and on the Kurils. The climate of Northern Sakhalin and Southern Sakhalin is different as well as in the Kurils. Western coastline and Southern Sakhalin are warmer than the northern and the eastern parts of the Island. The island's relief influences the wind direction. During cold seasons northern and north-western winds (winter monsoon) predominate. They bring cold air from the mainland to the region and cause severe stormy winters. Sometimes marine temperature air intrudes from the Pacific. Winter lasts from November till March with the average temperature of –22–24 degrees Celsius in the north of Sakhalin and +4 degrees Celsius in the south and on the Kuril Islands. Minimum can reach –50 degrees Celsius in the north and –40 degrees Celsius in the South.

As far as warm period comes, winds from south-east begin to prevail (summer monsoon). Summer winds are often southern or south-eastern with the lower than winter speed. They bring humid cool air with often rains and mists. The warmest month is August. Its average temperature is +12 C on the Kurils and +16 C on Sakhalin. Maximum can be + 35 C.

During the year the Sakhalin region undergoes about a hundred of cyclones. In summer-autumn typhoons or tropical cyclones are followed by heavy rains and stormy winds with the speed of more than 40–60 m. /sec.

Maximal precipitation amount is in August-September and minimal is in February. Snow covers the surface from October till April and in March reaches the height of 3–4 meters.

### **Comprehension questions:**

1. What forms the region climate?

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<sup>2</sup> *Guide to the Sakhalin museum. – Южно-Сахалинск, 2010.*

2. What's the winter temperature?
3. What's the summer temperature?
4. Are summers rainy? Why?
5. Why can we say that the region's climate is characterized by cyclones and typhoons?
6. What do you know about the wind direction?
7. What can you say about the precipitation level?

**Word list:**

##	English language	Your Language
1.	Effect (v)	
2.	Temperate zone (n)	
3.	Monsoon (n)	
4.	Predominate (v)	
5.	Cause (v)	
6.	Intrude (v)	
7.	Prevail (v)	
8.	Humid (adj)	
9.	Mist (v)	
10.	Undergo (v)	
11.	Cyclone (n)	
12.	Typhoon (n)	
13.	Hail (n)	
14.	Avalanche (n)	
15.	Avalanching (n)	
16.	Shower (n)	
17.	Fluctuate, vary (v)	
18.	Wash out (v)	
19.	Precipitation (n)	

**2.1. Find the meaning of the following synonyms. Use them in the translation below.**

1.	Оказывать влияние, давление, воздействовать	
2.	Влиять, действовать, воздействовать	
3.	Господствовать, преобладать, превалировать	
4.	Вторгаться, захватывать, оккупировать	
5.	Вторгаться, входить без приглашения/разрешения	
6.	Вторгаться, нарушать чужое право владения, посягать, злоупотреблять	
7.	Вторгаться (особенно постепенно, тайком или прибегая к какой-либо хитрости)	
8.	Послужить причиной/поводом для чего-либо, мотивировать что-либо	
9.	Сырой, влажный, мокрый	
10.	(Легкий) туман, дымка, мгла, завеса	
11.	Туман, дымка, мгла, завеса	
12.	Легкий туман, дымка, туман в голове, нечеткость мыслей	

1. Он сильно на нее влияет.

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2. Жадность превалирует над щедростью.

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3. Не нарушайте его уединение.

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4. Они нарушат закон, если разведут костер здесь.

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5. Тайфуны явились причиной повреждения дорог и множества домов.

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6. Лето будет теплым и дождливым.

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7. Сегодня густой туман.

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## 2.2. Give the English equivalents for the following:

1. Муссон умеренного климата \_\_\_\_\_

2. Сложный гористый рельеф \_\_\_\_\_

3. Среднегодовая температура \_\_\_\_\_

4. Быть причиной суровых метелистых зим \_\_\_\_\_

5. Морской \_\_\_\_\_

6. Влажный прохладный воздух \_\_\_\_\_

7. Наибольшее количество осадков \_\_\_\_\_

## 2.3. Translate the sentences:

1. Климат Сахалинской области зависит от многих факторов.

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2. Обычно осенние осадки – это ливни. \_\_\_\_\_

3. Ливни длятся недолго, поэтому в сентябре больше ясных дней, чем в июне. \_\_\_\_\_

4. 20–40 % всех осадков выпадает в виде снега и града. \_\_\_\_\_

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5. Сахалинские горы – источники лавин. \_\_\_\_\_

6. Скорость лавины достигает 300 км/час. \_\_\_\_\_

7. Влажность воздуха колеблется от 70 % в зимний период до 90 % и более в августе. \_\_\_\_\_

8. Сложный гористый рельеф, а также месторасположение острова влияет на его климат. \_\_\_\_\_

9. Снег лежит на Сахалине с октября по апрель. \_\_\_\_\_

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#### **2.4. Render in English:**

Погода на Сахалине резко меняется за сезон. Климат Сахалина отличается континентальностью, низкими температурами (летом тепло, а зимой холодно), постоянными туманами и большой облачностью. Но в разных частях острова погода неодинаковая, ведь территория Сахалина составляет 76 400 км<sup>2</sup>. Холоднее в Тымовском, Поронайском и Охинском районах. В зимнее время года температура здесь опускается до отметки от  $-40$  до  $-50$  °С. Но такая суровая зима компенсируется жарой в летнее время, когда температура воздуха достигает  $+35$  °С.

На севере острова Сахалина средняя температура в январе может достигать отметки  $-24$  °С, а на юге  $-18$  °С. В августе термометр не особо радует жителей в северной части острова – от  $+12$  до  $+17$  °С. На южной территории погода немного теплее – от  $+16$  до  $+18$  °С.

На острове зима суровая, часто сопровождается сильными бурями и снегопадами. Холода здесь долго не заканчиваются, поэтому циклоны идут друг за другом. В эти периоды могут происходить ураганные ветра, которые достигают скорости до 40 м/сек. В среднем температура на севере в январе держится в диапазоне от  $-21$  до  $-23$  °С, а на юго-западе до  $-8$  °С.

Весной на Сахалине теплеет не сразу. Еще долгое время сохраняются затяжной холод и ветра. Остров покрывают новые «порции» снегопада и дополнительная стихия – туманы.

Лето здесь прохладное, в этот период еще идут проливные дожди. Объясняется это тем, что части льда дрейфуют в Охотском море вдоль восточного берега на юг. Температура воздуха на острове в среднем колеблется от  $+13$  °С (на севере) до  $+19$  °С (на юге). Самая приятная и теплая погода на острове Сахалин осенью. Солнечная пора радует не только местное население, но и приезжих гостей. Удивить в это время могут только небольшие заморозки и ветра (перерастающие в сильный шторм), которые иногда случаются рядом с рекой Тымь.

В основном погода Сахалина зависит от географического

расположения (46 и 54° с. ш.), где часто проходит антициклон, который вызывает настоящую зиму с суровыми морозами. Особенно ярко это выражено в центральной части острова. Южные циклоны способны привести сильные бураны, увеличивающие норму осадков зимой.

Влажный и теплый климат в летнее время обусловлен тем, что остров находится между Тихим океаном и континентом Евразия. Рядом располагаются горы, с помощью которых можно определить скорость и направление ветра. Весна на Сахалине длится дольше, чем хотелось бы, а осенью здесь райская и теплая погода.

## **2.5. Translate into Russian:**

### **Warning on the impending typhoon is announced on Sakhalin**

Another powerful cyclone with hurricane winds and snowstorms approaches Sakhalin, the island will be under its influence on Wednesday afternoon, the press service of the Ministry of Emergency Situations of the Sakhalin region reported. As reported with reference to the Sakhalin hydro meteorological service, heavy snow, strong snowstorms, a visibility of less than 24 m, strong wind are forecasted on the territory of Okhinsky, Nogliki, Aleksandrovsk-Sakhalinsky, Poronaisky, Tymovskiy, Uglegorskiy, Smolnykhovskiy, Makarov, Tomarinsky, before the hurricane on the coast. Also a strong wind with a blizzard is expected in Anivsky, Korsakovsky, Nevelsky, Kholmnsky districts and Yuzhno-Sakhalinsk.

An emergency warning and recommendations for response were sent to the district administration. The forces and means for eliminating the consequences of natural hazards are ready to respond, the report said. Also, the department warns of avalanche danger in the mountains of the south and central part of Sakhalin, calls on the population not to go to the mountains, not to leave populated areas, not to conduct tourist activities these days.

The previous cyclone 9 January brought hurricane winds and snow to the island. Then in Yuzhno-Sakhalinsk for two days almost monthly rainfall fell, in the city the emergency regime was introduced. The worst damage was caused to the Uglegorsk district, where a hurricane wind destroyed 42 roofs – 36 multi-apartment houses, three health facilities, as well as a bathhouse, boiler room and administrative building.

### UNIT 3. RELIEF<sup>3</sup>

The surface of the islands is diverse. If we look at the map of Sakhalin, we will see that our Island resembles a big fish with its head in the north and with its forked tail in the south. It is covered with low and middle mountains, lowlands, valleys and swamps. The low Vostochny and Zapadny Ranges occupy the Shmidt Peninsula in the northern Sakhalin. The maximum height is 623 m. (Vtoroy Brat (Second Brother), the Tri Brata (The Three Brothers) Mass). The Zapadno-Sakhaliskie Mountains stretch for 650 km. from north to Cape Krilion, the southern extremity of the island and the Vostochno-Sakhalinskije Mountains run about 350 km. from the Terpenia Peninsula to the south and include the Susunaisky and Tonino -Anivsky Ranges.

Sakhalin's highest peaks Lopatin (1,609 m.) and Nevelskoy (1,397 m.) are the part of the Vostochno-Sakhalinskije Mountains. Chekov Peak (1,045m.) is situated in the suburb of Yuzhno-Sakhalinsk. The territory between the mountain ranges is covered with the lowlands, the largest of which are the Susu naiskaya, Tym-Poronaiskaya and Muraviovskaya. The Severo-Sakhalinskaya valley is located in the north of Sakhalin. Sakhalin lowlands are often waterlogged or swampy.

The Sakhalin region is in the zone of seismic danger. The Kuril Islands are a huge mountain system, the most part of which is under water. The maximum height of the archipelago from the bottom of the Kurilo-Kamchtsky Trench is more than 12,000 m. About 10,000 m. are kept under the waves of the Pacific. The Islands are of volcanic origin. Some of the islands look like volcanoes or parts of the volcanoes. The others are real volcanoes. There are about 160 volcanoes on the Kurils, 39 are active. The highest of them are Alaid (2.339 m.), Atlasov Island, Tyatya (1,819 m.) Kunashir Island, Chikurachki (1,816 m.) and Fussa (1,772 m.) Paramushir Island. Iturup has 7 active volcanoes. The Lesser Kuril Islands are 20–40 m. above sea level. There are no active volcanoes on Shumshu and Shicotan Islands, which have hilly relief as a result of destruction of ancient volcanoes. Some of

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<sup>3</sup> *Rivers of Sakhalin Island. Реки Сахалина / «Сахалин Энерджи Инвестмент Компани Лтд.» – Владивосток : изд-во «Апельсин», 2012. – С. 13.*

the Kuril Islands are under sea level, and if there are active volcanoes among them, they can cause tsunamis, a disastrous natural phenomenon. Giant waves that can have the speed of 500 km/h, attack the coast destroying and sweeping everything away.

**Comprehension questions:**

1. What is the relief of the Shmidt peninsula?
2. How long are the Zapadno-Sakhalinskiye Mountains?
3. Where are they situated?
4. What is the length of the Vostochno-Sakhalinskiye Mountains?
5. What is the highest summit of Sakhalin?
6. What is the highest summit of the Sakhalin region?
7. Are there any lowlands and valleys in the Sakhalin region?
8. What proves that the Kuril Islands are of volcanic origin?
9. Which islands don't have active volcanoes?
9. Why do the Lesser Kurils have low altitude profile?

**Word list:**

##	English language	Your language
1.	Resemble (v)	
2.	Forked tail (n)	
3.	Surface (n)	
4.	Diverse (adj)	
5.	Lowland (n)	
6.	Valley(n)	
7.	Swamp(n)	
8.	Swampy (adj)	
9.	Height (n)	
10.	Stretch(v)	
11.	Peak(n)	
12.	Waterlogged(adj)	

##	English language	Your language
13.	Range(n)	
14.	Seismic (adj)	
15.	Danger (n)	
16.	Huge(adj)	
17.	Origin(n)	
18.	Trench(n)	
19.	Active volcano (n)	
20.	Extinct(v)	
21.	Hilly (adj)	
22.	Destruction (n)	
23.	Ancient (adj)	
24.	Above sea level	
25.	Summit(n)	
26.	Altitude(n)	
27.	Profile(n)	
28.	Tsunami(n)	
29.	Disastrous(adj)	
30.	Attack(v)	
31.	Destroy(v)	
32.	Sweep away(v)	

**3.1. Find the word to the given description.**

1.		An area of land covered by water where trees and plants grow
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2.		The distance that something is from the ground or from the floor, or from a fixed level such as the sea
3.		The top layer or outside part of something; the top layer of water or land
4.		Relating to earthquakes; causing a very great change in a situation
5.		Very different from each other
6.		The top of a mountain
7.		Extremely large in size
8.		A long narrow track in the ground under the sea
9.		To continue for a particular distance or for a particular period of time
10.		A situation in which harm, death, damage or destruction is possible
11.		The height of a place or thing above the surface of the sea
12.		The place, the country, race, social situation or a moment where something begins to exist
13.		Damage that is so severe that something stops existing or can never return to a normal state
14.		Very old; relating to people, who lived a long time ago, and to their culture and way of life
15.		A extinct animal, plant or language no longer exist; an extinct volcano no longer erupts

### 3.2. Complete the sentences with the most appropriate words.

1. The \_\_\_\_\_ of the water was flat and calm.

2. Shumshu and Shikotan have a hilly relief as a result of \_\_\_\_\_ of ancient volcanoes.

3. This mountain is of the same \_\_\_\_\_ as Chekov Peak.

4. People living in the seismic zones are always in \_\_\_\_\_.

5. What do you know about the \_\_\_\_\_ of life on Earth?

6. Everest is 8,848 m. \_\_\_\_\_.

7. There are a lot of \_\_\_\_\_ volcanoes in the region, but Alaid is active.

8. Some Kuril Islands have a \_\_\_\_\_ landscape, about 20–40 m. above sea level.

9. The Kurils stretch from Kumchatka \_\_\_\_\_ to a Hokkaido Island.

10. Lopatin is the highest \_\_\_\_\_ of Sakhalin.

### 3.3. Translate the article into Russian.

#### **Ebeko volcano near North-Kurilsk threw another column of ash at 2 km**

Strong ash emissions of Ebeko, according to scientists, can be dangerous for the population of North Kurilsk. There is a threat of poisoning with volcanic gases, the descent of mudflows. The lava eruption of Ebeko is considered unlikely. The Ebeko volcano, almost 1, 16 km high, is located in the northern part of the Vernadsky Range, at 6 km from North Kurilsk. At the top of the main volcanic cone, elongated in the meridional direction, there are three contiguous craters with a diameter from 250 to 350 m each and a depth of up to 100 m. From the depths of Ebeko, sulfates come to the surface, hot springs form hot springs. On one of the slopes is an abandoned sulfur plant, which was built by the Japanese to smelt sulfur extracted from the fumarole fields of the volcano. The extensive fumarole field "White Key" is located on the north-eastern side, at the level of 1018 m. Activity of the volcano resumed in October 2016 year, before that it erupted in 2012 year. In general, according to observations of scientists, Ebeko erupts once in 25 years, but each such eruption can last more than a year.

#### **Find the equivalents to the word combinations.**

1. Столб пепла \_\_\_\_\_

2. Выбросы пепла \_\_\_\_\_



3. Угроза отравления \_\_\_\_\_
4. Грязевые потоки \_\_\_\_\_
5. Извержение лавы \_\_\_\_\_
6. Жерло вулкана \_\_\_\_\_
7. Кратеры, граничащие друг с другом \_\_\_\_\_
8. Заброшенный завод по производству серы \_\_\_\_\_
9. Фумарольное поле \_\_\_\_\_
10. Извергаться \_\_\_\_\_

**3.4. Read the information about powerful natural catastrophes happened on the territory of Sakhalin Region, retell the text.**

**Sakhalin earthquake**

On May 27, 1995, an earthquake measuring 7.5 on the Richter scale struck an area around the town of Neftegorsk on Sakhalin Island. More than 1,841 people were killed. Five months before Russian scientist predicted there was an 80 percent chance that a serious earthquake could occur on Sakhalin or the Kuril Islands in the coming year.

A third of Neftegorsk's resident was killed. Most people were asleep when the earthquake hit. Most of the dead were crushed by slabs of concrete in collapsed apartment buildings built on sandy soil without proper supports. Survivors included men that left their apartment for a smoke and a woman who sought refuge under her overturned bathtub.

The rescue effort at Sakhalin was hampered by a lack of heavy equipment and lack medical help. No effort was made to rebuild Neftegorsk. The rubble was bulldozed over and survivors were moved. There were 15 ruptures along a 60 mile stretch of oil pipeline but no major leakages.

**Volcanoes in the Kuril Islands**

There is significant volcanic activity on the Kamchatka Peninsula and the Kuril Islands. Kamchatka alone is home to some 29 historically active volcanoes, with dozens more in the Kuril Islands. Klyuchevskoi (elev. 4,835 m), which erupted in 2007 and 2010, is Kamchatka's most active volcano. Avachinsky and Koryaksky volcanoes, which pose a threat to the city of Petropavlovsk-Kamchatskiy, have been deemed Decade Volcanoes by the International Association of Volcanology and Chemistry of the Earth's interior, worthy of study due to their explosive history

and close proximity to human populations. Other notable historically active volcanoes include Bezymianny, Chikurachki, Ebeko, Gorely, Grozny, Karymsky, Ketoi, Kronotsky, Ksudach, Medvezhia, Mutnovsky, Sarychev Peak, Shiveluch, Tiatia, Tolbachik, and Zheltoivsky.

Describing the eruption of the Tolbachik volcano in 1895 a Russian volcanologist said, "It was awful, but very beautiful—huge clouds of ash, laced by lightning. Bombs were raining down, lumps of liquid lava. We ran around collecting them for study. That was a nice time—a lot of fun."

In 1981 a volcanic eruption on the Kuril Islands dropped thousands of tons of nutrient-rich ash into Kurilskoye Lake, a 50,000 year old caldera in southern Kamchatka. The year before scientist added algae to the lake to increase the survival rate of salmon hatchlings that feed on it. The algae ended up feeding on the ash nourishing numbers of hatchlings way beyond what anybody anticipated. By 1990 six million salmon returned to a lake that only had room for about 1.5 million. "It was a stinking mess," said one scientist. Thrashing salmon literally fought each other for space, ruining eggs in the process. By 1993, fortunately, things had returned to normal.

Super volcanoes erupted the Kuril Islands and Kamchatka in the last 2 million years.

### **3.5. Translate the sentences into English.**

1. В восточной части острова Сахалин расположены Восточно-Сахалинские горы. Их протяженность около 280 километров, а максимальная высота 1609 метров.

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2. Особенной можно назвать гору Спамберга, которая находится на юге Западно-Сахалинских гор. Ее высота 1055 метров, и на ее склонах расположена группа неглубоких и небольших пресных озер, абсолютно необычных по своему происхождению.

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3. Пик Чехова, возвышающийся на 1043 метра над уровнем моря, расположен недалеко от Южно-Сахалинска. Это одна из двух высочайших вершин Санайского хребта, вторая – стоящая поблизости гора Пушкина.

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4. Хребет Жданко – еще одна достопримечательность Сахалина. Горная цепь имеет 13 км протяженности при сравнительно небольшой ширине в 1,5–2 км. Наивысшая точка хребта находится на высоте 682 м над уровнем моря.

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5. Хребет Иван Грозный – это горы и вулканы в центральной части курильского острова Итуруп в Сахалинской области. Горная цепь протянулась на 45 км от Ветрового перевала до залива Касатка, занимая практически четвертую часть острова.

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6. В восточной части хребта Ивана Грозного находится один из самых посещаемых туристами природный памятник Сахалинской области – вулкан Баранского (1126 м) с расположенными у его подножия fumarолами и горячими озерами-источниками, дающими жизнь удивительной речке с горячим водопадом.

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7. Алаид – самый высокий из Курильских вулканов, пик которого возносится над землей на 2339 м. Он располагается на

острове Атласова, стоящем особняком на севере гряды, и извергается каждые 30–40 лет.

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8. Тятя – самый высокий вулкан о. Кунашир, является его неофициальным символом. Он находится на северо-восточных необжитых территориях, которые обезлюдели после извержения вулкана в 1973 году.

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9. Вулкан Эбеко (1156 м) по частоте извержений находится в ряду самых активных вулканов не только курильского острова Парамушир, но и всей гряды. Вулкан расположен в северной части хребта Вернадского, в 7 км от Северо-Курильска.

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10. Приобретший мировую известность Вулкан Кудрявый (986 м) расположен в северо-восточной части курильского острова Итуруп, в самом центре красивейшего хребта Медвежий. Вулкан имеет несколько кратеров.

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## UNIT 4. SURFACE AND SUBSURFACE WATER RESOURCES<sup>4</sup>

The Sakhalin Region is rich in fresh water resources. Heavy precipitations, low graduation and hill surface set conditions for a dense river net.

There are more than 65,000 short and long rivers in the Sakhalin region. Most of them are shallow with the length of less than 100 km. But several rivers are longer than 100 km. (the Langeri – 101 km., the Uglegorka – 102 km., the Val – 112 km., the Nysh – 116 km., the Evai – 117 km., the Naiba – 119 km., the Rukutama – 120 km., The Lutoga – 130 km., the Langri- 130 km., The Viakhtu – 131 km., the Tym – 330 km., the Poronai – 350 km.) The width of the Tym, the Poronai and the Lutoga can reach 80-120 m. and the maximum depth is 6–7 m. during spring floods.

The Kuril Islands have about 4,000 short but fast rivers. Sometimes they form beautiful waterfalls which have the height of 70-141 m. One of the biggest Russian waterfalls is Ilya Muromets (141m.) in the largest Kuril island of Iturup.

The Sakhalin and Kuril rivers are subdivided into the rivers of mountain, hill, plain and compound origin. Each land kilometer has its own river or brook (the average river network density is 1.3 km. of river length per sq.km.of land.)

The lake fund contains more than 16,000 Sakhalin lakes (more than 1000 sq.km.) and about 1000 Kuril lakes (100 sq. km.) of lagoon, delta, flood land and volcanic origin with the total area of 1118 sq.km. The largest Sakhalin lakes are the Nevskoe (178 sq. km.) and the Tunaicha (174 sq.km.) The largest Kuril lake is Koltsevoe on Onekotan. The Kuril lakes are famous for their extraordinary beauty. You can find a boiling lake in Kunashir (the Ponto) where the water bubbles and fluid and vapor jets erupt with loud noise. There are fresh and salty lakes in the region, in the areas of oil fields asphalt lakes can be met.

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<sup>4</sup> Ким, Вон Дя. *Пособие по английскому языку для студентов экономических специальностей «The geography of the Sakhalin region» / Ким Вон Дя. – Южно-Сахалинск : СахГУ, 2009. – С. 27.*

Rivers and lakes are not only the sources of fresh water and fish. Sakhalin people like to spend sunny weekends at the riverbanks and seashores swimming, sunbathing and barbecuing.

The Sakhalin region is rich in fresh and mineral surface waters. Some mineral springs are of medical importance, several of them are even hot. Sinegorsk, Dagi, Lopatino, Mendeleev and other spas are well-known in Sakhalin and in the mainland.

**Comprehension questions:**

1. Why does the Sakhalin Region have a dense river net?
2. How many rivers are there on Sakhalin?
3. What are the largest Sakhalin rivers?
4. How many rivers longer than 100 km. are there on the Kurils?
5. Could the Tym flood Yuzno-Sakhalinsk and Korsakov if it flew between them?
6. Sakhalin is rich in water streams, isn't it? Prove the fact.
7. What kinds of lakes can be found in the region?
8. What use do subsurface waters bring?

**Word list:**

##	English language	Your language
1.	Heavy (adj.)	
2.	Precipitations (n.)	
3.	Graduation(n)	
4.	To set conditions for (v.)	
5.	Dense (adj.)	
6.	River net(n.)	
7.	To be rich in smth. (v.)	
8.	Shallow (ad.)	
9.	Length(n.)	
10.	Flood (n.)	
11.	Waterfall (n.)	
12.	Subdivide (v.)	
13.	Mountain (n.)	

##	English language	Your language
14.	Hill (n.)	
15.	Plain (n.)	
16.	Compound (adj.)	
17.	Origin(n.)	
18.	Land (n.)	
19.	Brook (n.)	
20.	Average (adj.)	
21.	Network (n.)	
22.	Density (n.)	
23.	Fund(n.)	
24.	Fluid(n.)	
25.	Jet (n.)	
26.	Fluid jet (n.)	
27.	Vapor(n.)	
28.	Source (n.)	
29.	Subsurface (adj.)	
30.	Mineral spring (n.)	
31.	Spa (n.)	

**4.1. Match the words from the left column with their explanations in the right column.**

1.	To be rich in smth.	A	Physics degree of consistency measured by the quantity of mass per unit volume
2.	heavy	B	With only a short distance from the top or surface to the bottom; not very deep
3.	spring	C	Naturally raised area of land, not very high

4.	spa	D	Large flat surface usually covered with fields or swamps
5.	dense	E	Large abrupt natural elevation of the ground
6.	River net	F	Rain or snow falling to the ground
7.	Shallow	G	Closely compacted, crowded together, thick
8.	Origin	H	Individual, peculiar; of private property
9.	Compound	I	The distance from the end of something to the other
10.	Average	J	The water that over flows
11.	Land	K	Abundant, considerable
12.	Brook	L	System of natural streams of water
13.	Network	M	A place where water flows over the edge of a cliff, rock, or other steep place onto another level below
14.	Fluid	N	combined
15.	Vapor	O	Place of origination
16.	Source	P	Contain a large quantity of smth.
17.	Density	Q	Usual, ordinary
18.	Plain	R	Moisture or other substance diffused or suspended in air
19.	Hill	S	Complex system or chain of special devices, transportation or people connected with each other
20.	Mountain	T	Place where water, oil wells up from the earth



21.	Flood	U	Small water stream
22.	Waterfall	V	Gas or liquid
23.	Length	W	Resort with mineral springs
24.	Precipitations	X	Solid part of the earth's surface
25.	Own	Y	source

**4.2. Give English equivalents for the following:**

- Обильные осадки \_\_\_\_\_
- Низкий уровень испарения жидкости \_\_\_\_\_
- Быть богатым чем-либо \_\_\_\_\_
- Холмистый рельеф \_\_\_\_\_
- Длиною в \_\_\_\_\_
- Плотная речная сеть \_\_\_\_\_
- Источники пресной воды \_\_\_\_\_
- Подразделяются на \_\_\_\_\_
- На квадратный километр суши \_\_\_\_\_
- Общей площадью в \_\_\_\_\_
- Быть знаменитым чем-либо \_\_\_\_\_
- Струи пара вырываются с громким шумом \_\_\_\_\_
- Берег реки \_\_\_\_\_
- Берег озера \_\_\_\_\_
- Нефтяные месторождения \_\_\_\_\_

**4.3. Complete the sentences with the most appropriate words.**

- Large and small water streams form a very dense \_\_\_\_\_ in this area.
- Sometimes old women can be a quite useful \_\_\_\_\_ of information.
- Oranges and apples are \_\_\_\_\_ in vitamins.
- \_\_\_\_\_ rainstorms are often in August and September.
- After several typhoons and rainstorms the \_\_\_\_\_ struck the entire south.
- Don't make a \_\_\_\_\_ out of a molehill.
- When a water stream flows over a steep place, it can form beautiful \_\_\_\_\_.

8. My Dad is of \_\_\_\_\_ height. He's neither tall nor short.
9. The Baikal is the deepest \_\_\_\_\_ in the world.
10. A \_\_\_\_\_ of ink shot onto his white shirt.

#### 4.4. Use the prepositions where necessary.

1. Our history is rich \_\_\_\_\_ unusual events and outstanding people.
2. Hardworking, purposefulness and lots of abilities set conditions \_\_\_\_\_ success.
3. The width of the river can reach \_\_\_\_\_ 100 km.
4. All rivers and brooks are subdivided \_\_\_\_\_ the streams \_\_\_\_\_ plain, mountain and compound origin.
5. The lake fund includes more than 16 000 lakes \_\_\_\_\_ the total area \_\_\_\_\_ 1118 sq.km.
6. The Kurils are famous \_\_\_\_\_ their beauty and mineral springs.
7. Local people suffer \_\_\_\_\_ heavy floods twice \_\_\_\_\_ year.
8. The population density \_\_\_\_\_ this region is 128 people \_\_\_\_\_ sq.km.

#### 4.5. Render the article using the active vocabulary.

Водное **питание** сахалинских рек происходит преимущественно за счет **атмосферных осадков**: весной большая часть воды поступает от тающего снега, летом и осенью реки питают дожди и **ливни**, и только зимой им остается неизменный источник пресной воды – **грунтовые воды**.

**Половодье** на Сахалине – длительное, значительное увеличение воды приходится на апрель–июнь, оно может длиться от 40 до 75 дней. Низкий уровень воды случается дважды в году.

После периода низкой воды, который длится с июля по август, приходит пора осенних паводков. **Паводки** отличаются от половодья кратковременностью и нерегулярностью, однако для Сахалина паводки в сентябре–ноябре, вызванные **тайфунами** и **циклонами**, – самое заурядное явление. Максимальные объемы стока воды во время паводков часто превышают таковые во время половодий, и, если циклоны следуют один за другим, на отдельных реках случается наводнение. Мелкие реки, площадь которых меньше 50 кв. км, иногда промерзают до дна в очень холодные зимы и пересыхают в **засушливые периоды**.

Наполненность сахалинских рек водой довольно сильно меня-

ется от сезона к сезону. На реках Северо-Сахалинской **низменности** и Южного Сахалина эти показатели различаются слабо – всего в несколько десятков раз. В то же время на реках, впадающих в залив **Терпения**, и на левых **притоках** реки Поронай величина зимнего стока может быть в сотни раз меньше, чем в периоды половодья. Важным фактором для поддержания водности рек является сохранность лесов на водосборной площади. Леса оказывают прямое влияние на величину **испарения**, поверхностного и внутригрунтового стока, в целом на водный баланс, а также на **гидрологический** режим рек.

1. Питание (водное) – supply.
2. Таять – to melt.
3. Грунтовая вода – ground water.
4. Половодье – flood.
5. Паводок – high water.
6. Засуха – drought.
7. Приток – inflow.
8. Водосборная площадь – drainage area.
9. Гидрологический – hydrological.

#### 4.6. Translate into Russian.

##### River riches

The rivers of Sakhalin Island are known for their great variety, natural richness and unparalleled beauty. Playing a vital role in the daily life of the local population, they provide water and sustenance, influence the local economy, and provide an aesthetically pleasing environment. To spend a few hours by the river, fishing and enjoying its unique beauty, is a favorite pastime of all locals.

For the national economy, the river is foremost a source of fresh water. As for water resources, hydrology measures basic indicators that track the balance of the water cycle and table, as well as seasonal water level fluctuations and river changes due to natural and anthropogenic factors.

Hydrography, the oldest area of study in hydrological science, examines individual bodies of water, including features of seas and oceans. Prince Gleb is considered the first Russian hydrograph, and a preserved marble inscription in the Old Russian language testifies to his work. The inscription states that Prince Gleb, in the year 1068 and while measuring his realm on the Taman Peninsula, calculated

that the ice along the coast between Tmutorokan and Korchev (now Kerch) extended 14,000 yards, about 30 km. The stone bearing the record of this event in hydrographical history has been confirmed as genuine by the State Hermitage Museum (St. Petersburg) where it is stored.

Modern hydrographs continue the work of the prince as they carefully measure and describe the country's hydrological resources.

In terms of hydrography, Sakhalin Islands can be divided into four different areas that differ in the natural features, water supply, and hydrological characteristics of their rivers. These are the Northern, Tymovsk, Poronaysk, and Southern hydrographic areas.

#### **4.7. Translate the sentences into Russian.**

1. Сахалинская область богата внутренними водами: реками, озерами, источниками, что, с одной стороны, объясняется положительным балансом влаги, а с другой – своеобразием рельефа.

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2. Реки области по протяженности в основном небольшие и по характеру водотоков относятся к типу горных.

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3. Крупные реки Сахалина, такие, как Тымь, Поронай, Сусуя, Лютога, русла которых расположены на низменностях, имеют типично равнинный характер.

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4. Подъем уровня на большинстве рек области наблюдается дважды: весной – от таяния снегов и осенью – в результате выпадения муссонных дождей.

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5. На территории Сахалинской области имеется довольно большое количество озер самого разнообразного происхождения.

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6. Наиболее крупные озера относятся к типу озер-лагун, распространенных по побережьям морей: Тунайча, Буссе, Невское и др.

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7. Характерной особенностью Сахалинской области является густота речной сети.

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8. Регион относится к категории малых и самых малых рек, почти все из них имеют рыбохозяйственное значение.

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9. На севере Сахалина преобладают озера неглубокие с низкими заболоченными берегами.

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10. Сахалин богат подземными источниками. Иногда подземные источники образует небольшие озера, дающее начало ручью или речке. Некоторые из таких озер зимой не замерзают.

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## UNIT 5. FLORA<sup>5</sup>

The Sakhalin Region nature is severe but it is unique and unforgettable. The flora is rich and diverse. The region has 1500 species of different plants.

Spruces, pines, firs and larches are widespread. Coniferous forests occupy about 80 % of the regions area. Some trees can reach the height of 26–28 meters. It is possible to find 300-year old spruces, but firs rarely live up to 200 years old.

The islands are rich in bushes, flowers, grasses and mosses. Mosses cover trees, bushes and ground and sometimes form a continuous carpet.

There are also some broad-leaved trees: yew, ash, elm, maple, oak, bird cherry tree, birch, poplar, willow, alder, mountain ash, etc.

Sakhalin and the Kurils are phenomenal islands. They are home for coniferous and broad-leaved trees, lianas (actinidia, schizandra, vines) and giant herbaceous plants (fern, butterbur, bamboo, sedge, sacaline). Sacaline reaches 4 meter height. Butterbur leaf diameter often exceeds 1,5 meters. Scshizandra, aralia and Siberian ginseng are values medicinal plants that can successfully substitute ginseng. The island of Kunashir is the only place in Russia where magnolia can be found in natural conditions. Raspberries, currants, bilberries, blueberries, honeysuckle, strawberries, mountain cranberries, salmonberries, cranberries are in abundance on the islands, as well as mushrooms and mountain pine cones. People and bears like to eat berries with delight.

In summer mountain and valleys wear bright colors. The hill slopes are covered with blue irises, orange lilies, light green and yellowy lilies and white bird cherry trees.

### **Comprehension questions:**

1. What coniferous trees can be found in the Sakhalin Region?

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<sup>5</sup> *Flora of Sakhalin. Растительный мир Сахалина / «Сахалин Энерджи Инвестмент Компани Лтд.» – Владивосток : изд-во «Апельсин», 2014. – С. 33.*

2. What broad-leaved trees grow in the region?
3. How high are the coniferous trees?
4. What Sakhalin plants make us feel that we are in a subtropical forest?
5. What plants are gigantic?
6. What subtropical plants grow in wild nature only in the Sakhalin region?
7. Why does the nature have different colors in summer?

**Word list:**

##	English language	Your language
1.	Species (n)	
2.	Spruce (n)	
3.	Pine (n)	
4.	Fir (n)	
5.	Larch (n)	
6.	Widespread (adj.)	
7.	Moss (n)	
8.	Continuous carpet (adj + n.)	
9.	Broad leaved tree (adj + n.)	
10.	Coniferous tree (adj + n.)	
11.	Yew (n)	
12.	Ash (n)	
13.	elm (n)	
14.	Maple (n)	
15.	Oak	
16.	Bird cherry tree (adj + n.)	
17.	Birch (n)	
18.	Poplar (n)	
19.	Willow (n)	
20.	Alder (n)	
21.	Mountain ash (adj + n.)	



##	English language	Your language
22.	Actinidia (n)	
23.	Scshizandra (n)	
24.	Vine (n)	
25.	Fern (n)	
26.	Butterbur (n)	
27.	Bamboo (n)	
28.	Sedge (n)	
29.	sacaline (n)	
30.	aralia (n)	
31.	Ginseng (n)	
32.	Siberian ginseng (adj + n.)	
33.	Raspberries (n)	
34.	Currants (n)	
35.	Bilberries (n)	
36.	Blueberries (n)	
37.	Honeysuckle (n)	
38.	strawberries (n)	
39.	Mountain cranberries (adj + n.)	
40.	Salmonberries (n)	
41.	Cranberries (n)	
42.	To eat with delight (v)	
43.	slope (n)	
44.	iris (n)	

**5.1. Find the correct word that suits the following descriptions.**

1. Coniferous trees that shed the needles every year.
2. Trees that appear in every house in Christmas season.
3. A group of animals or plants within a genus, having a very slightly difference from the others and capable of interbreeding.

4. This tree is connected with the birthplace of hockey.
5. This tree is a symbol of Russia.
6. Berries that have a lemony flavor.
7. Measurement from base to top or head to feet.
8. Heart shaped berry with tiny seeds on its surface.
9. Eat this berry dried or jammed if you catch a cold.
10. Medicinal plant that doesn't grow in the Sakhalin Region but it can be successfully substituted by some local plants.

**5.2. What are these plants? Change the order of the letters to get the right word.**

1. cesrup –
2. neip –
3. irf –
4. charl –
5. ircbh –
6. paropl –
7. omboba –
8. nengigs –
9. nevi –
10. lem –

**5.3. Render the article using the active vocabulary.**

По мнению ученых, флора Сахалина обеднена как по сравнению с прилежащими районами материка, так и по сравнению с расположенным южнее островом Хоккайдо. Тем не менее географическое положение острова, сочетание горного и равнинного рельефа, густая речная сеть, специфические климатические условия и его геологическое прошлое обеспечили своеобразие островной растительности. Особенностью растительного мира Сахалина является «дружба» севера и юга, когда представители бореальной и субтропической флоры произрастают рядом, например, лианы лимонника или актинидии обвивают ствол ели аянской, а бамбуковые заросли составляют подлесок в лиственничнике. На острове есть немало видов, которые не встречаются ни в одном регионе материковой части России. Отличительной чертой местной флоры является также феномен крупнотравья, который особенно ярко проявляется в южной половине острова.

## 5.4. Translate into Russian.

### Dark-coniferous taiga

Residents of our region find taiga synonymous with the Far Eastern natural landscapes, although taiga is a very common type of vegetation in temperate latitudes in the Northern hemisphere. Taiga is generally the most prominent zone demarcation for vegetation distribution in our geological epoch. Of course, taiga may exhibit different features at different locations. Here, the coniferous taiga with mighty ancient trees covered with bearded lichens is a rare surviving miracle. Indeed, this shady evergreen forest seems to represent the pristine state of northern nature that existed for thousands of years until the arrival of humans.

However, our ancestors who used to hunt the mammoths witnessed other landscapes everywhere. As a vegetation community, taiga emerged relatively recently, when the cold snap of the era of the youth of mankind and of woolly rhinoceros was followed by the warming and the climate grew similar to what it is nowadays. It is obvious that the ancestors of conifers settled here millions of years ago, but taiga biomes – i.e. stable communities of plants, animals and associated soil organisms – are just ten thousand years old.

Forests occupy two thirds of Sakhalin Island, but over the last 100 years of industrial development virgin continuous taiga has been divided by man-made land features and land use. Dark coniferous forests of the Jezo spruce and Sakhalin fir have been affected particularly badly. On the one hand, they were actively felled due to the large demand for valuable timber, and on the other hand their growth speed is slower than that of light coniferous species. As a result, the proportion of larch and pine trees in artificial plantations was significantly higher. When planting the taiga areas destroyed by fires, the dark needle conifers were disadvantaged again.

The law of burned forest restoration is advantageous to light-demanding wood and shrubs that spread their seeds by wind, such as the birch, aspen, willow, and alder. Under the canopy of fast-growing deciduous trees, the undergrowth of conifers gradually develops and restores its position. In the case of recurring fires, the larch has the greatest chance of survival among all species as it is more fire-resistant. Thus, under anthropogenic influence, fir and spruce forests have lost some of their range and the original appearance of the Sakhalin taiga has changed for hundreds of years, if not for good.

The north of Sakhalin Island can still boast surviving dark coniferous forests that resemble more the decorations for Russian folk tales or fantasy films. Tymovsk, Smirnykh and Poronaysk districts exhibit predominance of the dark coniferous forests with the Jezo spruce; while the Sakhalin fir dominates in the Makarov, Dolinsk, Aniva and Korsakov districts.

**5.5. Read the text and find the English equivalents for the following phrases.**

The larch forests in the south-east of Sakhalin Island are mostly of man-made origin. These plantations appeared on sites of dark coniferous forests sacrificed during the Japanese rule to the needs of construction and paper and pulp industries.

Meanwhile, in the south and south-west, expansive tracts of spruce and fir forests perished during infestations of Siberian silk moth and Japanese bark beetle in the beginning of 1920s. On the site of this unprecedented disaster, the Japanese resorted to felling and then planting new forests where the larch dominated. In 1926, the Japanese erected a surprising and rather paradoxical pedestal in memory of this disaster. The inscription stated that the monument was to commemorate the workers who died during the struggle against the forest pests, and to warn the future generations, though it is strange that the silk moth larvae sculpture crowned the monument.

People have long noticed special qualities of the larch and its wood. Everyone knows that houses in Amsterdam and Venice are built on piles of larch, as other construction materials cannot withstand the ravages of water, and especially sea water. Meanwhile, a few centuries in water or moist soil are not the limit for the larch. The piles of Trajan Bridge, built on the Danube River and are subsequently destroyed, stood in water for almost 18 centuries. Although they became petrified, they are still well preserved. Scythian artefacts crafted from larch wood, found in the famous Pazyryk mounds in the Altai, remain unchanged for more than 25 centuries. They are now on display at the Hermitage, along with other Scythian objects made of larch, such as vault and well beams, grain mortars, tables, chairs, bowls, women's jewelry and even chariots with wheels made from the roots of this amazing tree.

Widespread use of larch is due to the special composition of its

resin, thanks to which its wood develops increased durability over time. The gum in the larch wood gives it high water-resistance and protects it against damage by insects and wood borers. The tradition holds that the house built of larch has a special larch scent and helps its inhabitants preserve a youthful appearance. Indeed, larch wood does not require any chemical treatment; it contains no allergens and during its lifetime produces phytoncides, i.e. volatile substances that ensure natural purification of air from harmful microbes.

Russia, unlike Japan, has no official faunal or floral symbol, but it somehow happened that the larch, for all its merits, is now considered as the leading candidate for the wood symbol of Russia. One must add that the larch has done a lot of work to claim the honor of being the contender for the metaphorical symbol of Russian.

As early as in the 17th century, the Yakut and the Bratsky forts used the larch for constructing fortifications and walls. The larch was also of good service for manufacture of ships, piers, bridges, dams, mine roof supports, and later cross-sleepers and telegraph poles.

1. Хвойный лес \_\_\_\_\_
2. Искусственного происхождения \_\_\_\_\_
3. Нужды строительной и целлюлозно-бумажной промышленности \_\_\_\_\_
4. Сибирский шелкопряд \_\_\_\_\_
5. Японский короед \_\_\_\_\_
6. Насекомое-древоточец \_\_\_\_\_
7. Рубка/посадка леса \_\_\_\_\_
8. Увековечивать подвиг рабочих \_\_\_\_\_
9. Вредители леса \_\_\_\_\_
10. Гусеница шелкопряда \_\_\_\_\_
11. Выдерживать разрушительное действие воды \_\_\_\_\_
12. Сваи моста \_\_\_\_\_
13. Курган \_\_\_\_\_
14. Ступа для зерна \_\_\_\_\_
15. Боевая колесница \_\_\_\_\_
16. Особый состав смолы \_\_\_\_\_
17. Прочность \_\_\_\_\_
18. Камедь \_\_\_\_\_
19. Влагостойкость \_\_\_\_\_
20. Особенный хвойный дух \_\_\_\_\_
21. Естественная очистка воздуха \_\_\_\_\_

22. Фаунистический и флористический символ \_\_\_\_\_
23. Заслужить честь \_\_\_\_\_
24. Острог \_\_\_\_\_
25. Изготовление укреплений \_\_\_\_\_
26. Плотина \_\_\_\_\_
27. Причал \_\_\_\_\_
28. Рудничные крепи \_\_\_\_\_
29. Шпалы \_\_\_\_\_
30. Телеграфные столбы \_\_\_\_\_

### 5.6. Translate the sentences into English.

1. Темнохвойная тайга – это очень распространенный вид растительности умеренных широт во всем Северном полушарии.

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2. На юге острова, в Корсаковском районе, на отдельных участках темнохвойного леса можно встретить редкий вид (ель Глена), занесенный в Красную книгу Сахалинской области.

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3. Начиная с долины р. Тымь и далее к югу на хорошо дренированных почвах под пологом лиственницы доминируют папоротники.

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4. Огромные массивы елово-пихтовых лесов на юге и юго-западе погибли во время инвазий сибирского шелкопряда и японского короеда.

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5. Заболоченность сахалинских низменностей колеблется от 7 % в Северо-Сахалинской до 30 % в Тымь-Поронайской.

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6. Луга на Сахалине разбросаны узкими лентами вдоль побережий, на склонах гор и в долинах рек и занимают небольшие участки, свободные от лесной растительности.

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7. Осенью подножия склонов выглядят нарядно от окрашенных в яркий красно-бурый цвет листьев черники, клоповки и брусники.

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8. На Сахалине луга и поймы рек изобилуют дикоросами, которые широко используются населением для приготовления закусок к рису.

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9. На Сахалине есть ягода, которая никого не может оставить равнодушным. Это одна из «визитных карточек» Сахалина – красника, крупная, величиной с клюкву, круглая ягода красного цвета с сильным, ни на что не похожим запахом.

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10. Лимонник больше всего ценится за выраженный тонизирующий эффект, по которому уступает лишь женьшеню, но, кроме того, он обладает широким спектром других лечебных воздействий.

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## UNIT 6. FAUNA

The animal world of the region resembles the animal world of the adjacent mainland. More than 80 mammal species (of about 300 registered in Russia) inhabit the territory of the region. Fur-bearing animals (sable, otter, squirrel, fox, ermine, musk-rat, mink, and blue fox) are of commercial importance. There also mountain hares, brown bears, reindeer, and musk deer. Musk is used in medicine, as well as perfumery where it makes aroma stable.

300 species of birds nest in the region. Guillemots, seagulls, shags form real colonies which are called bird rookeries. Nearly all the Kuril Islands have bird rookeries. But the biggest in Sakhalin region is on Tyuleniy Island. Partridges, hazel hens, wood grouses, geese, ducks are hunted during allowed periods. Summer mornings are inflated with the voices of singing larks, tits, bullfinches, nightingales, cuckoos.

The sea world is unusually interesting. The sea waters are rich in fish, pinniped and whales. Commercial fish forms 90 % of the annual catch and includes humpback salmon, Siberian salmon, cherry salmon, herring, flounder, cod, halibut, mackerel, pollack, Pacific saury, etc. Moreover, crab, squid, scallop, shrimp, octopus, smelt, salmon trout, taimen, redeye, navaga also have great importance. Pinniped mammals (fur seal, sea lion, or eared seal, sea otter) and 15 kinds of whales live in Sakhalin waters. There are twenty-five sea lion rookeries and only three seal rookeries in the region on the islands of Tyuleniy, Sredny and Lovushki. Male fur seals weigh 300 kg., and female ones weigh only 60 kg. The largest species of pinniped are sea lions whose male can reach a ton. In Sakhalin waters a blue whale lives, the largest sea mammal in the world. It can grow up to 33 meters at length and 120 tons by weight.

### Comprehension questions:

1. How many mammal species inhabit the islands?
2. Do sea lions inhabit the islands?
3. What fur bearing animals live in the region?
4. What importance do the Sakhalin animals bring to people?
5. What birds nest near the seashore?
6. When do people have the right to hunt the birds?
7. What salmon species are caught in Sakhalin waters?

8. What pinniped mammal is the heaviest?
9. What mammal in the heaviest?
10. Can seals be met more often than sea lions? Why?

**Word list:**

##	English language	Your language
1.	Mammal (n)	
2.	Adjacent(adj)	
3.	Sable(n)	
4.	Otter(n)	
5.	Squirrel(n)	
6.	Fox(n)	
7.	Ermine(n)	
8.	Stoat(n)	
9.	Musk-rat	
10.	Mink(n)	
11.	Arctic fox, polar fox(n)	
12.	Blue fox(n)	
13.	Mountain hare(n)	
14.	Reindeer(n)	
15.	Musk deer(n)	
16.	Musk(n)	
17.	Guillemot(n)	
18.	Seagull(n)	
19.	Shag(n)	
20.	Rookery	
21.	Partridge(n)	
22.	Hazel hen(n)	
23.	Wood grouse(n)	
24.	Goose(n)	

##	English language	Your language
25.	Duck(n)	
26.	Sky lark(n)	
27.	Titmouse, tomtit, tit(n)	
28.	Bullfinch(n)	
29.	Nightingale(n)	
30.	Cuckoo(n)	
31.	Inflate (v)	
32.	Pinniped (adj)	
33.	Cetacean, whales (n)	
34.	Humpback salmon, pink salmon (n)	
35.	Siberian salmon, chum salmon(n)	
36.	Cherry (Masu) salmon(n)	
37.	Herring(n)	
38.	Flatfish, flounder, plaice, sole (n)	
39.	Pacific Cod (n)	
40.	Halibut, turbot (n )	
41.	Mackerel, scomber(n)	
42.	Pollack(n)	
43.	Saury(n)	
44.	Crab(n)	
45.	Squid(n)	
46.	Scallop(n)	
47.	Shrimp(n)	
48.	Octopus(n)	
49.	Salmon trout(n)	

##	English language	Your language
50.	Taimen(n)	
51.	Redeye(n)	
52.	Saffron cod(n)	
53.	(fur) seal(n)	
54.	Eared seal, sea lion(n)	
55.	Sea otter(n)	
56.	dolphin(n)	
57.	White whale	
58.	Killer whale(n)	
59.	cachalot(n)	
60.	Leatherback turtle(n)	

**6.1. Translate the text; find the English equivalents for the following phrases.**

**Furry lords of rivers**

There over 40 species of mammals on Sakhalin Island, five of which were introduced to the island to replenish the hunting base. Along rivers one can find American mink, muskrats and otters. Fishermen widely believe otters to be competition, but detailed studies have demonstrated that in areas where otters settle, fishermen's catch rapidly increases. The otter cleanses its habitat of sick, weakened fish, as well as rough fish, thus protecting the eggs of commercial species from predation.

However, bears are the true masters of human-free wilderness. In summer and fall, bears break trails along the riverbanks where they catch and collect their primary source of protein – salmon – which provides fat accumulation for winter hibernation. Although bears are omnivorous, vegetation is their predominant source of food. In spring, bears dig up plant roots on the floodplains, and in early summer they forage in tall grasses, particularly lush along rivers. In addition to calla, cow parsnip, and Angelica ursina the bear diet is supplemented by highly nutritious nettles and the fruits of

mountain ash, stone pine, cranberries, crowberries, cloudberry, the common bilberry, and bog bilberry.

In search of protein sources, bears actively scour tidal strands and pillage anthills and beehives. During salmon spawning season, bears move closer to rivers and switch to fishing. Morning and evening are their favorite fishing hours, and they generally prefer smaller streams. At the beginning of the spawning period, bears will gulp down entire fish, but later in the season they prefer daintier morsels, such as milt and roe. One often finds headless salmon carcasses along riverbanks, left by bears unable to consume their entire catch and instead eating only the tastier cartilages.

In late autumn, when a bear accumulates enough fat, it retreats to its den. Dens are located in dry areas up to 200m above the waterline, in cavities protected by wind-fallen trees and roots, in shelters dug into the ground, or in caves or rock crevices. Depending on the severity of the winter, bears remain in their dens until March or April. Males are the first to leave their dens, while a female with cubs stays in the protective shelter longer. During hibernation, bears lose up to 80 kilograms of fat.

Indigenous people of Sakhalin Island have always treated bears with respect. Indeed, the bear was a totem ancestor for many Far Eastern native tribes, representing an intermediary figure between humans and nature. These natives believed that bears possess human eyes, feet, and fingers, and just like people are able to bathe themselves, walk on two legs, love and care for their children, rejoice and grieve, and are especially partial to honey and vodka.

The bear was a patron of male warriors and, as a totem for a number of Slavic tribes; it adorned the coat of arms of noble families. It is still found on the coat of arms of many Russian towns, including Yuzhno-Sakhalinsk. Although the word “bear” is found in the name of two European capitals – Berlin and Bern – and its cult has been widespread throughout Europe since the days of Neanderthals, for all modern nations the bear is a symbol of Russian power.

1. Пополнение охотничьей базы \_\_\_\_\_
2. Американская норка \_\_\_\_\_
3. Ондатра \_\_\_\_\_
4. Выдра \_\_\_\_\_
5. Прокладывать тропы \_\_\_\_\_
6. Накопление жира \_\_\_\_\_
7. Зимняя спячка \_\_\_\_\_

8. Всеядный \_\_\_\_\_
9. Пойма рек \_\_\_\_\_
10. Прочесывать приливную полосу \_\_\_\_\_
11. Муравейник \_\_\_\_\_
12. Гнезда шмелей \_\_\_\_\_
13. Поглощать рыбу целиком \_\_\_\_\_
14. Хрящи \_\_\_\_\_
15. Залегать в берлогу \_\_\_\_\_
16. Расщелина скалы \_\_\_\_\_
17. Коренные народности Сахалина \_\_\_\_\_
18. Посредник \_\_\_\_\_
19. Радоваться/горевать \_\_\_\_\_
20. Герб дворянского рода \_\_\_\_\_
21. Символ российского могущества \_\_\_\_\_

## 6.2. Match the following words with their definitions

1.	squirrel	a	Any of several plant-eating animals of the family Leporidae, especially of the genus <i>Lepus</i> , similar to a rabbit, but larger and with longer ears
2.	otter	b	A large omnivorous mammal, related to the dog and raccoon, having shaggy hair, a very small tail, and flat feet; a member of family Ursidae, particularly of sub-family Ursinae
3.	fox	c	A small carnivorous mammal of the Old World that resembles a weasel, <i>Martes zibellina</i> , from cold regions in Eurasia and the North Pacific islands, valued for its dark brown fur (Wikipedia)
4.	hare	d	The largest member of the deer family ( <i>Alces alces</i> ),

			of which the male has very large, palmate antlers
5.	sable	e	A weasel, <i>Mustela erminea</i> , found in northern latitudes; its dark brown fur turns white in winter (apart from the black tip of the tail)
6.	mink	f	A solitary, fierce mammal of the Mustelidae family, <i>Gulo gulo</i>
7.	bear	g	Any of various semi-aquatic, carnivorous mammals in the Mustelinae subfamily, similar to weasels, with dark fur, native to Europe and America, of which two species in different genera are extant
8.	wolverine	h	Any aquatic or marine carnivorous mammal, member of the family Mustelidae, which also includes weasels, polecats, badgers, and others
9.	ermine	i	A small carnivore ( <i>Vulpes vulpes</i> ), related to dogs and wolves, with red or silver fur and a bushy tail
10.	moose	j	Any of the rodents of the family Sciuridae distinguished by their large bushy tail

**6.3. Write the correct name of marine animals.**





#### 6.4. Translate the sentences into English.

1. Сима первой из нерестовых мигрантов появляется в дальневосточных реках. Среди других представителей рода она отличается древностью происхождения.

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2. На Сахалине обитает более 40 видов млекопитающих, на реках встречаются американская норка, ондатра и выдра.

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3. Весной в поисках белковых продуктов медведи активно прочесывают приливную полосу, разоряют муравейники и гнезда шмелей.

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4. В реках Сахалина встречаются моллюски, в том числе представители семейства пресноводных жемчужниц, которые занесены в Красную книгу Сахалинской области.

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5. Сима, кижуч, нерка, горбуша, кета и чавыча заходят на нерест в реки в разные периоды с мая по октябрь.

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6. Коренными обитателями сахалинских лесов являются заяц-беляк, белка, бурундук, лисица, бурый медведь, горноста́й, ласка, росомаха, северный олень.

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7. Кабарга встречается по всему Сахалину в небольших количествах, охота на нее запрещена.

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8. На острове расположено одно из крупнейших в мире лежбищ морских котиков. Водятся сивучи, каланы, несколько видов нерпы.

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9. На острове Янкича (Большая Курильская гряда) живет около 100 особей голубого песца.

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10. К побережью острова Сахалин нередко заплывают кашалоты, касатки, белухи, вблизи острова можно увидеть горбчатых и голубых китов.

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## UNIT 7. THE DISCOVERY OF SAKHALIN ISLAND<sup>6</sup>

The southern part of the Sakhalin Island was populated by people already at first thousand years B.C. The name of the people was the Ainu. The Ainu widely used natural resources. Their main occupation was hunting, fishery and gathering. The Ainu has economic and cultural contacts with neighbouring territories of China and Japan. Mainly furs were exported from the island. Tobacco, spirits, smoking pipes, beads, needles were imported to Sakhalin from China. Parts of them in turn were exported from the island to Japan.

The Dutch navigator Maerten Gerritsen Vries was the first European who visited the southern part of Sakhalin. His ship made a trip along the eastern coast in Aniva Bay, in 1643. The Dutch seaman landed and contacted the Ainus. The Dutch not only explored and mapped south-east Sakhalin and the south Kurils, but they proclaimed Urup to be Dutch possessions; without any future significance.

Russian pioneers played a great role in exploring Sakhalin and the Kuril Islands. V.D. Poyarkov's expedition discovered the north-west coast of Sakhalin in 1645 and V. V. Atlasov discovered the existence of the Kuril Islands in 1697. By the 18th century, the process of exploring and the gradual inclusion of the Kuril Islands as part of the Russian state had begun.

In 1787 the French navigator G. F. La Perouse made his expedition to Sakhalin too. His expedition led to the belief that Sakhalin was a peninsula. I.F. Kruzenstern, a Russian navigator, also contributed greatly to the peninsula theory. In summer of 1805, he tried to sail between Sakhalin and the mainland was not navigable. The Sakhalin problem was solved in 1849 by G.I. Nevelskoy, who found a navigable strait between Sakhalin and the mainland. Nevelskoy not only proved that Sakhalin was an island but he also proclaimed Sakhalin as ownership of Russia.

The first Japanese expedition visited Sakhalin in 1635. They tried to explore the south-western coast of Sakhalin. At the end of the 18th century the first Japanese trading station began to appear there. The Ainus, Nivkhs and other folks offered to conclude a trade agreement

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<sup>6</sup> *Guide to the Sakhalin museum. – Южно-Сахалинск, 1998. – С. 17.*

with Japan but the Japanese refused to sign an agreement.

At the beginning of the 19th century (1806–1807) the first Russian-Japanese military conflict took place. The Russian seamen closed all Japanese shops and trading stations founded on south-western coast of Sakhalin. But these actions were not supported by the Russian government. As a result the Japanese again return back to Sakhalin.

Only in 1855 the first Russian-Japanese Treaty was signed. According to that treaty the border was to be between Urup and Iturup islands. Sakhalin remained undivided between Russia and Japan. The question over belonging of Sakhalin was officially solved only in 1875, when the agreement between Russia and Japan was signed in St. Petersburg. According to that agreement Russia got Sakhalin in exchange for all Kuril Islands.

1869 was a critical year for the next forty years. A decree from the Tsar (Alexander II) turned Sakhalin into a place of penal servitude and exile, and the island became one of the gloomiest parts of Russia. The whole island became a prison and prison administration had limitless power over both the convicts and free Sakhalin people.

At the beginning of the 20th century a new military conflict between Russia and Japan took place. On August 20, 1904 the Russian cruiser Novik was attacked in Aniva Bay by the Japanese cruiser Tsushima. The Russian-Japanese war began.

On July 7, 1905, a Japanese squadron landed at the seaside of Aniva Bay. There were 14 thousand Japanese soldiers against 1200 Russian soldiers and convicts. The Russian units were destroyed. On September 5<sup>th</sup>, 1905 the Peace Treaty between Russia and Japan was signed in Portsmouth (USA). According to that Treaty Japan got the southern part of Sakhalin.

The centre of Japanese government was in the town of Toyokhara (then Vladimirovka, since 1946 Yuzhno-Sakhalinsk). The Japanese government brought a lot of settlers from Japan and later from Korea to Sakhalin. The Japanese played an important role in the economic development of Southern Sakhalin. They constructed roads and railways; they developed such industries as forestry, fishery, and pulp-and-paper industries.

On August 8, 1945, the USSR declared war against Japan. On September 3, 1945, the war was over. Southern Sakhalin and the Kuril Island were declared to be the property of Soviet Union. In 1947 the Sakhalin Region was formed which included Sakhalin and the Kuril Islands and which was independent of the Khabarovsk Krai. All the Jap-

anese populations, most of the Koreans were repatriated to Japan.

**Comprehension questions:**

1. Who populated the southern part of Sakhalin in ancient times?
2. How can you characterise Ainu economic and cultural activity?
3. Who were the first Europeans visited the southern part of Sakhalin?
4. What did the Dutch explore and map?
5. What Russian expeditions discovered Sakhalin?
6. What navigators believed that Sakhalin was a peninsula?
7. Who proved a fact that Sakhalin was an island?
8. When did the first military conflict take place?
9. What agreements between Russia and Japan were signed? What were the results?
10. What historic events turned Sakhalin into the gloomiest part of Russia?
11. What events happened in 1904–1905?
12. What role did the Japanese settlers play in the economic development of Sakhalin?
13. Under what circumstances was the Sakhalin Region formed?

**Word list:**

##	English language	Your Language
1.	Hunting (n)	
2.	Fishery (n)	
3.	Forestry (n)	
4.	Gathering (n)	
5.	pulp-and-paper industry (n)	
6.	smoking pipes (n)	
7.	beads (n)	
8.	explore (v)	
9.	map (v)	
10.	proclaim (v)	
11.	gradual inclusion (n)	
12.	peninsula (n)	

##	English language	Your Language
13.	mainland (n)	
14.	navigable (adj.)	
15.	border (n)	
16.	agreement (n)	
17.	penal servitude (n)	
18.	exile (n)	
19.	convict (n)	
20.	settler (n)	

**7.1. What do you think are the most important events in the history of the Sakhalin region? Share your ideas. Put the events on the timeline and then compare with the other students.**

**Events:**

- The newly formed Sakhalin Region independent from the Khabarovsk Krai;
- Liberation of the Southern part of Sakhalin and the Kuril islands;
- The Russian-Japanese war;
- The first Russian-Japanese Treaty signed in Shimoda;
- The first Japanese expedition to Sakhalin;
- The first Russian-Japanese military conflict;
- Sakhalin is officially announced to be a place of exile for criminals and political prisoners;
- The first European expedition to Sakhalin under the command of the Dutch navigator M.G.Vries;
- The attack of the Russian cruiser Novik;
- Russian-Japanese Treaty signed in St.Petersburg.

1635		1742		1855		1875		1945	
	1634		1806– 1807		1869		1904– 1905		1947

**Work in groups. Prove that some expeditions were of great importance. Give at least 5 reasons.**

Group 1. You are for the importance of Russian expeditions.

Group 2. You are for the importance of French and Dutch expeditions.

### 7.2. Words of the sentences are scrambled. Place them in order.

1. in the expedition Japanese visited 1635 first \_\_\_\_\_
  2. took the conflict first in Russian-Japanese place 1806–1807 military \_\_\_\_\_
  3. stations the seamen Japanese shops all and Russian closed trading \_\_\_\_\_
  4. to Urup the Russian-Japanese was border treaty the first between to be and Iturup according \_\_\_\_\_
  5. officially over the only question in Sakhalin of belonging solved was 1875 \_\_\_\_\_
  6. all Sakhalin in Russia Kuril islands the after St. Petersburg got in exchange for the agreement signed \_\_\_\_\_
  7. 1869 in exile and servitude place of penalty a became Sakhalin \_\_\_\_\_
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### 7.3. Render the article using the active vocabulary.

Остров Сахалин не всегда был отделен от материка и Японского острова Хоккайдо. На заре цивилизации уровень воды в Мировом океане стабильно понижался, в результате чего в проливе возникали так называемые мосты. Предположительно, именно по ним сюда и перебрались первые люди, мамонты и другие животные (около 300 тыс. лет назад). В эпоху Средневековья главными обитателями Сахалина стали нивхи и айны.

Благодаря составленной в период 1271–1295 гг. в ходе путешествия по странам Восточной и Центральной Азии путешественником венецианцем Марко Поло карте о Сахалине становится известно в Европе. В начале XVI века интерес к Сахалину начинает проявлять японский императорский дом и южную часть Сахалина исследует вассал клана Мацумаэ.

Почти одновременно с японцами в 1640 г. отряд русских казаков во главе с И. Ю. Москвитиным выходит к Охотскому морю и получает первые сведения о народах Сахалина. Следом за ним в 1645 г. участники амурского похода под руководством В. Д. Пояркова впервые наблюдают северо-западное побережье Сахалина.

В 1787 г. у берегов Сахалина ведет исследования французская экспедиция под командой Ж.-Ф. Лаперуза.

1803–1806 гг. – первая русская кругосветная экспедиция на шлюпах «Надежда» и «Нева» под руководством И. Ф. Крузенштерна. Подойдя к Сахалину 14 мая 1805 г., его корабль бросил якорь в заливе Анива. И. Ф. Крузенштерн детально исследовал остров, ознакомился с жизнью айнов и раздал им подарки. Летом того же года участники экспедиции описали и положили на карту все восточное и северо-западное побережье Сахалина, а также 14 островов Курильской гряды.

Однако Крузенштерн посчитал Сахалин полуостровом, считая, что он соединен с материком песчаным перешейком. Такой вывод он сделал под влиянием ошибочных утверждений таких известных иностранных мореплавателей, как Ж. Б. Лаперуз (1787 г.) и У. Р. Броутон (1797 г.).

#### **7.4. Translate the sentences into English.**

1. В течение 50 лет на окраине Российской империи проходил эксперимент по перевоспитанию особо опасных преступников.

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2. Для эксперимента был выбран остров Сахалин – идеальное место с точки зрения охраны каторжников: кругом море, а за морем – безлюдные места.

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3. Первые десять лет ссыльных направляли на Сахалин пешком через Сибирь, и их путь сюда иногда занимал до 14 месяцев. С 1879 г. каторжников стали перевозить морем на пароходах Добровольного флота, путь занимал 75 дней.

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4. Содержание каторжников на острове было очень суровым. Первые три-пять лет они были закованы в ручные и ножные кандалы.

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5. 80 % осужденных работали на угольных шахтах, остальные – на лесозаготовках и строительных работах.

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6. К началу 1904 г. на острове проживало около 46 тысяч человек заключенных, ссыльнопоселенцев, вольных жителей и коренного народа айнов (около двух тысяч).

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7. 14–15 мая 1905 г. произошло Цусимское морское сражение, в котором русские эскадры потерпели поражение.

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8. В 1905 г. Царское правительство подписало в Портсмуте (США) мирный договор между Россией и Японией, по условиям которого Россия теряла половину Сахалина (его южную часть) и все Курилы.

9. На протяжении последующих 40 лет развитие северной и южной частей Сахалина происходило совершенно различными путями.

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10. Динамическое развитие экономики и колонии в Южном Сахалине (графство Карафуто) было абсолютной противоположностью тому, что происходило на Северном Сахалине, сотрясающемся от социальных катаклизмов, охвативших в эти смутные годы всю Россию.

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**7.5. Role play “In the regional museum”. You are a museum guide responsible for the Sakhalin history hall. What can you tell about Sakhalin history to the foreign tourists? Prepare a lecture.**

**7.6. Express yourself. You are going to make a tourist leaflet about History hall in the Regional Museum. Your leaflet should be interesting, informative and attractive. Make the presentation showing the early development of Sakhalin.**

## UNIT 8. THE INDIGENOUS PEOPLE OF SAKHALIN<sup>7</sup>

Three major ethnic groups lived on Sakhalin in the early XIX century such as: the Nivkhs (lived mostly in the north of the island), the Uilta (Oroks) lived in the central part of the island and the Ainu who lived in the southern Sakhalin and the Kurile islands. Small number of the Uilta and the Evenki was also registered.

**The Ainu** is one of the most ancient and mysterious people of the planet. They differed greatly from the neighboring Mongoloid peoples not in their appearance only, but in specific language and many traits of material and spiritual culture. Light skinned and bearded the Ainu men and the Ainu women with tattoos around mouths and on the forearms were a belligerent people. Their main armament consisted of swords complete with plant fiber slings, heavy spiked war clubs, bow and arrows. Really unique example of the the Ainu weapon is an armor of intertwined narrow straps made of the bearded seal skin. Armor of this type fully covered warrior's body.

The fishing, hunting and marine mammals harvesting gear such as: spear, harpoons, bow and arrows testify to the islanders (Ainu) high degree of adaptability to natural conditions. The Ainu used bows impregnated with aconite poison for hunting animals. They used carved wooden household utensils (tableware) during festivities. They also used the ritual objects such as: ikunis (sticks for drinking) with which men lifted their moustache during the ritual drinking of sake. Ikunis are the mediators between human beings and the spirits serving as a sacrificial offering. They were decorated with pictures representing routine and ritual events for example: hunting grey seal or whale or the Bear festival.

Clothes and footwear were made by women using peltry of marine and forest animals. Robe was made of fish skin. The robe was decorated with colored cloth applique (cut- outs) around the collar, cuffs and hem. According to the Ainu superstitious beliefs these protected humans from the evil spirits. Robes made of the

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<sup>7</sup> *Sakhalin Indigenous minority development plan (2011–2015) Sakhalin 2 Project. Sakhalin investment company Ltd., 2010.*

grey seal's peltry decorated with fir inserts and cloth cut-outs were used as winter outfit. For the festive men's robes they wove cloth out of nettle and elm tree basts for everyday clothes. Robes made of cloth are amply ornamented by the embroidery of colored threads. Headbands are made of cloth or woven from the willow sheaves.

Traditional culture of the **Nivkhs** was based on fishing for migratory salmon fish, marine mammals' hunting and gathering of the forest herbs and roots. They traditionally used fishing gear such as: netting needle, mock-up of a fishing net with sinkers, hook for catching Sakhalin taimen (*Hucho perryi*); tools for hunting marine and forest animals, for example wooden club for bloodless killing of grey seals and a spear. Boats of different types were used for travelling on water. The Nivkhs used dug-out boats.

The Nivkhs used wooden tableware such as spoons, ladles and a trough for preparation of the mousse, the ritual mixture of fish, berries and seal fat splendidly ornamented with carving. The mousse was based on the grey seal's fat which was stored in the dried-out stomachs of sea lions.

The Nivkh clothes differed from that of the Ainu. The robes of the former were usually fastened on the left side. Of original design was men's traditional hunting clothing, for example skirt made of grey seal skin. Women's robes were decorated with the Amur River style embroidery with metal medallions sewn to the hems. Winter hat with lynx fur flaps is sewn over with blue Manchurian silk — an indicator of its owner's wealth and affluence.

Footwear was made of grey seal and sea lions peltry (skins) possessed extreme strength and waterproofness. The Nivkh women reached excellence in fish skin processing techniques; they made footwear, clothes, tobacco pouches and handbags of the fish skin.

**The Uilta** (Oroks) and the Evenki are representatives of the Tungus Manchurian language family. Reindeer herding is a distinctive feature of their material culture. Domesticated reindeers have been used as the main means of transportation. In summer time reindeers have been used for riding with special saddles and as pack animals and in winter time they have been put in sleighs. In winter the above-mentioned indigenous people wandered about the forests of the North of Sakhalin and in summer their nomadic travels covered the Okhotsk Sea and the Terpeniya Bay coasts. A pack reindeer was completed

with essential items of nomadic life such as: saddle, pack bags made of birch bark and buck skin, big pack bags of reindeer skin, round boxes decorated with multi-colored geometrical ornament and embroidered in white reindeer hairs.

The Uilta craftswomen were good at making very nice buck skins for clothes out of reindeer peltry. The buck skins were cut on special cutting boards using special knives. Things made of buck skin were decorated with embroidery in floral design and the Amur River ornaments made using the chain stitch technique. Winter clothes were sewn of reindeer fur: fur coat, fur hat, mittens and high winter boots decorated with mosaic of fur inserts.

In the summer time the Uilta (Oroks) and the Evenki were engaged in fisheries making food stock of salmon fish. On the shores of the Sea of Okhotsk they lived in summer dwellings of frame type covered with larch tree bark. Winter dwellings were in the form of conical portable tents covered with reindeer skins.

### **Comprehension questions:**

1. What ethnic group lived on Sakhalin?
2. Why is the Ainu considered to be one of the most ancient and mysterious people of the planet?
3. What kind of people were the Ainu?
4. What was their main armament?
5. What testified that the Ainu adapted to the natural conditions?
6. What ritual objects did they use for drinking sake?
7. What staff were clothes and footwear made of?
8. Why did they use applique in clothing?
9. What material did they use for making everyday clothes?
10. What was traditional culture of the Nivkhs based on?
11. What types of fishing gear and boats did they use?
12. How did the Nivkhs clothes differ from the Ainu ones?
13. Why did the Nivkhs women reach excellence in processing fish techniques?
14. What ethnic groups domesticated reindeers?
15. How did they use reindeers in winter and in summer?
16. What were the Uilta craftswomen good at?
17. What technique did they use for ornaments?
18. What kind of winter clothes did they wear?
19. What were the Uilta and the Evenki summer activities?
20. What type of winter/summer dwelling did they have?

**Word list:**

<b>##</b>	<b>English language</b>	<b>Your language</b>
1.	Light skinned (adj.)	
2.	bearded (adj.)	
3.	Belligerent people (adj. + n)	
4.	armament (n)	
5.	Plant fiber sling (adj. + n)	
6.	Spiked war club (adj. + n)	
7.	Bows, arrows, spear (n)	
8.	Impregnated with aconite poison (adj.)	
9.	peltry (n)	
10.	Cut-outs (n)	
11.	Superstitious beliefs (adj. + n)	
12.	Nettle and elm tree bast (adj. + n)	
13.	Embroidery of colored threads (adj. + n)	
14.	Willow sheaves (adj. + n)	
15.	Netting needle (adj. + n)	
16.	Mock-up (n)	
17.	Sinker, hook (n)	
18.	Dug-out boat (adj. + n)	
19.	Spoon, ladle, trough (n)	
20.	Dried-out stomach (adj. + n)	
21.	Fastened on a left side (adj.)	
22.	hem (n)	
23.	Tobacco pouch (adj. + n)	
24.	Reindeer herding (adj. + n)	
25.	Buck skin (adj. + n)	
26.	Chain stich technique (adj. + n)	

##	English language	Your language
27.	Fur insert (adj. + n)	
28.	Dwelling of a frame type (n)	
29.	Larch tree bark (adj. + n)	
30.	Conical portable tent covered with reindeer skin (n)	

**8.1. Read the text and find the English equivalents for the following phrases.**

Religious beliefs of the Sakhalin and the Kuril Islands' peoples were based on animistic, totemic and superstitious ideas of the surrounding world involving animals, plants and water bodies. Bear cult was the most important for Sakhalin and the Amur river peoples. Big tribal festivals used to be organized to worship the cult. A bear cub was put into a special log corral (enclosure) and kept there for 2 or 3 years, a ritual scoops used for feeding of the ritual bear. The scoops are decorated with carvings that look like the simplest pictographs. Special arrows with a quiver were used for killing bear on a ritual ground.

Peoples of Sakhalin visualized bear as a mountain man or spirit — that's why many amulets were made in the form of bear figurines. The amulets were believed to possess supernatural force. Family amulets, hunting amulets to help in hunting or sea harvesting and curing amulets had been kept by families for centuries. Protection amulets were made either by the shamans engaged in curing, or the people affected by an illness. Shaman 's ritual drum, sash with heavy metal medallions, headgear made of inau shavings or sacred stick and bear skin mask helped shaman to exorcise an evil spirit from the body, make travels to the Upper and Lower Worlds and help tribesmen in their harsh life.

Objects used in funeral rites testify to the existence of differences in spiritual culture of the peoples of the region. The Evenki and the Uilta (Oroks) used open air burials common with the Nivkhs erecting ritual house where cremation took place. They placed flat wooden figurine thought of as being a dead person's soul repository and regularly performed a rite of feeding. Ainu buried their dead in the ground.

Trade between China and Japan in which indigenous peoples

of Amur and Sakhalin were involved played an essential role in life of those peoples. By the XVII century a trade route from the northern China over the Lower Amur via lands of Nanai, Ulchi to Nivkhs and Ainu of Sakhalin and further on to Hokkaido had formed. Silk, metal objects, adornments and other objects became the subjects of exchange.

1. Религиозные верования \_\_\_\_\_
2. Поклоняться культу медведя \_\_\_\_\_
3. Деревянный загон \_\_\_\_\_
4. Ритуальный ковш \_\_\_\_\_
5. Резной орнамент \_\_\_\_\_
6. Стрелы с колчаном \_\_\_\_\_
7. Излечивающий амулет \_\_\_\_\_
8. Кушак с тяжелыми металлическими медальонами \_\_\_\_\_
9. Головной убор со священными стружками Инау \_\_\_\_\_
10. Маска из шкуры медведя \_\_\_\_\_
11. Изгонять злых духов \_\_\_\_\_
12. Похоронный обряд \_\_\_\_\_
13. Деревянная статуэтка \_\_\_\_\_
14. Хранилище человеческой души \_\_\_\_\_
15. Украшения \_\_\_\_\_

## 8.2. Match the words with their meanings.

1.	adornment	a	A long stick with a sharp tip used as a weapon for throwing or thrusting, or anything used to make a thrusting motion.
2.	amulet	b.	An arctic and subarctic-dwelling animal of the species Rangifer tarandus, with a number of subspecies.
3.	worship	c.	A habitation; a place or house in which a person lives; abode; domicile.



4.	tribe	d.	A rod bent into a curved shape, typically with one end free and the other end secured to a rope or other attachment.
5.	reindeer	e.	Facial hair on the chin, cheeks and jaw.
6.	tattoo	f.	Engaged in warfare, warring.
7.	embroidery	g.	A substance that is harmful or lethal to a living organism.
8.	cremation	h.	Drawings and pictures
9.	beard	i.	A kind of protective charm or ornament, often bearing magical symbols, worn for protection against ill will, negative influences, evil spirits &/or the supernatural.
10.	harpoon	j.	A weapon made of a curved piece of wood or other flexible material whose ends are connected by a string, used for shooting arrows.
11.	robe	k.	The condition of being worthy; honour, distinction.
12.	arrow	l.	A large medal, usually decorative.
13.	medallion	m.	A decoration; that which adorns.
14.	ornament	n.	A long loose outer garment, often signifying honorary stature.
15.	poison	o.	The ornamentation of fabric using needlework.

16.	belligerent	p.	A spearlike weapon with a barbed head used in hunting whales and large fish.
17.	hook	q.	A socially, ethnically, and politically cohesive group of people.
18.	dwelling	r.	A projectile consisting of a shaft, a point and a tail with stabilizing fins that is shot from a bow.
19.	bow	s.	A burning; especially the act or practice of cremating the dead, burning a corpse.
20.	spear	t.	A method of decorating the skin by inserting colored substances under the surface. The skin is punctured with a sharp instrument, which now is usually a solenoid-driven needle, that carries the inks to lower layers of the skin.

### 8.3. Render the following article in English.

#### **Охота коренного населения**

Охота давала мясную пищу членам общины, а также материал для пошива одежды и обуви. В горах охотники добывали медведей, дикого северного и благородного оленей, кабаргу, зайцев, лисиц, соболей, белок. Для поимки крупных животных использовали разные способы. В древности в охоте на медведя использовали копье. На звериных тропах ставили петли, капканы, самострелы и другие приспособления. Охотники наряду с дорогим огнестрельным оружием охотились с помощью лука и стрел. Наконечники копий, инкрустированные серебром и обычно хранившиеся в специальных чехлах, были эталоном богатства в общине и передавались по наследству от отца к сыну.

В прошлом с распространением меновой торговли и ростом

спроса на пушнину на китайском, а затем и русском рынке среди аборигенов стала быстро распространяться добыча пушного зверя. Охота проводилась зимой, когда мех пушных животных был особенно хорош. В снаряжение охотника кроме орудий промысла и оружия, съестных припасов входили лыжи-голицы с гладкой поверхностью либо подбитые оленьим мехом (камусом) или мехом нерпы. Мех был необходим, чтобы не скользить по насту, не проваливаться в глубокий снег. В день охотник проходил в полном снаряжении до 20 километров. Продажа шкурок приносила хороший доход хозяйствам. Пушнину меняли на продукты питания (рис, крупу, соль, сахар), водку, табак, изделия из металла, украшения, ткани и другие вещи в китайских и японских торговых факториях, а со второй половины XIX века и в торговых лавках русских купцов и торговцев.

Весной и осенью ловили перелетных птиц (лебедей, гусей), которые в огромных количествах прилетали на заливы и озера Сахалина. Была распространена охота на глухарей, на морских птиц. Уйльта и нивхи собирали яйца птиц.

#### **8.4. Read, answer the questions, and retell the article.**

The Indigenous peoples who live in Sakhalin number 4,000 or 0.7 % of the total population. They belong to four main ethnic groups: the Nivkh, the Uilta (Orok), the Evenki, and the Nanai.

**The Nivkh:** The Nivkh are the most numerous of Sakhalin's recognized Indigenous Minorities (at present numbering about 2,682 people and representing three-quarters of the Island's total indigenous population) and, along with the no longer resident Ainu community, are the original human inhabitants of the Island. Today almost two-thirds of the Nivkh are concentrated in two settlements: in the village of Nekrasovka in Okha District and in Nogliki, the administrative centre of Nogliki District. Fishing and hunting were the main traditional occupations of the Nivkh, but by the 1980s the majority was living in small urban settlements. Today very few practice hunting, but many still fish for subsistence and in small-scale fishing enterprises. Poor health, lack of education and unemployment pose significant community challenges to the Nivkh, as they do to other indigenous groups.

**The Uilta:** Prior to the Soviet period, the Uilta (also known as the Orok or Orochen) had a varied subsistence economy of hunting, fishing and reindeer herding. This changed early in the 20th century as

authorities selected reindeer herding to become the primary subsistence activity. Now one of the smallest groups of Indigenous Peoples in the Russian Federation, the Uilta currently number 362 and are concentrated in the village of Val and also live in the towns of Nogliki and Poronaisk.

**The Evenki:** The Evenki of Sakhalin are a small branch (numbering 326) of the Evenki (also known as Tungus) who are also found in Siberia, Mongolia and China. They arrived in Sakhalin at the end of the 19th century and have been closely associated with the Uilta, with many engaged in reindeer herding. Most are now to be found in the Alexandrovsk-Sakhalinsky, Nogliki and Okha districts of Sakhalin.

**The Nanai:** The Nanai of Sakhalin, like the Evenki, are also a small offshoot of mainland cousins, some families having migrated to Sakhalin in the wake of World War II. Poronaisk District is home to the majority of Sakhalin's 164 Nanai.

**Comprehension questions:**

1. What indigenous ethnic groups live in Sakhalin?
2. What is the most numerous indigenous minority?
3. What ethnic group is the smallest?
4. What parts of Sakhalin Island are they concentrated?
5. What are their traditional activities?
6. What ethnic group arrived at the end of the 19<sup>th</sup> century?

**8.5. Translate the sentences into English.**

1. Нивхи на сегодняшний день являются самой многочисленной этнической группой коренных малочисленных народностей Севера, проживающей на Сахалине.

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2. Эвенки и ороки занимались оленеводством, которое вынуждало их вести кочевой образ жизни. Для них олени были не только источником пищи и одежды, но и транспортным средством.

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3. Айны отличались от соседних народов не только физическим обликом, но и своеобразным языком и чертами материальной и духовной культуры.

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4. Одежду и обувь женщины шили из шкур морских и лесных животных.

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5. Для передвижения по воде народы Сахалина использовали лодки-долбленки.

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6. В основе религиозных представлений народов Сахалина лежали анимистические, тотемные и магические представления об окружающей природе животных, растений, водной стихии.

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7. Медведь в представлениях народов Сахалина был горным человеком или духом, поэтому многие амулеты выполнены в образе медведя.

8. На побережье Охотского моря уйльта жили в летних жилищах каркасного типа, укрытых корой лиственницы.

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9. Нивхская одежда отличалась от айнской: у халата обычно была широкая запашная левая пола.

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10. Орудия рыболовства и охоты (острога, крючок, лук и стрелы) свидетельствуют о высокой степени адаптации островитян к природным условиям.

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## UNIT 9. SAKHALIN OIL & GAS PROJECTS<sup>8</sup>

The Sakhalin-2 project is a phased development of one of the world's largest integrated oil and gas ventures to enable year-round production of oil and gas from three offshore platforms delivering oil and gas via an onshore processing facility (OPF) in the northeast of Sakhalin Island through the Trans-Sakhalin pipelines to the liquefied natural gas (LNG) plant and the oil export terminal (OET) in the south of Sakhalin.

Sakhalin Energy Investment Company Ltd. (Sakhalin Energy) is the operator of Sakhalin-2 Project. The shareholders are PJSC Gazprom (50 per cent, plus one share), Shell Sakhalin Holdings B. V. (parent company Royal-Dutch Shell plc, Netherlands, 27.5 per cent minus one share), Mitsui Sakhalin Holdings B. V. (parent company Mitsui and Co. Ltd., Japan, 12.5 per cent) and Diamond Gas Sakhalin B. V. (parent company Mitsubishi Corporation, Japan, 10 per cent).

**Phase 1** Phase 1 of the Sakhalin-2 project started in 1996 and focused on the Astokh oil development in the Piltun-Astokhskoye field with the installation of the Molikpaq (PA-A) platform as the main part of the Vityaz production complex and subsequent seasonal oil production. Ten production seasons (1999–2008) yielded a cumulative total of some 13.2 million tons of the Vityaz crude oil, a new brand introduced to the market by Sakhalin Energy.

### **Phase 2**

Phase 2 was launched in 2003. It is an integrated oil and gas development to enable year-round oil and gas production from the Molikpaq (PA-A), Lunskeye-A (Lun-A) and Piltun-Astokhskoye-B (PA-B) platforms. Phase 2 also involves the construction of an LNG plant and an oil export terminal (OET) in the south of Sakhalin, as well as the construction and installation of the onshore processing facility (OPF), offshore pipelines, and onshore pipelines. The project includes three offshore production platforms, two of them listed as the heaviest ever constructed offshore.

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<sup>8</sup> «Сахалин-2» глазами переводчика / «Сахалин Энерджи Инвестмент Компани Лтд.», 2009. – НОЦ «Школа Китайгородской», 2009. – С. 35.

### **Molikpaq Platform**

The Molikpaq platform was installed in the Astokh part of the Piltun-Astokhskoye field in the Sea of Okhotsk in September 1998, 16 km offshore at a depth of 30 m. It was the main facility of the Vityaz production complex. The Molikpaq is a converted ice-class drilling rig. The name Molikpaq means “big wave” in the language of the Inuit people of northern Canada, where the drilling rig was previously based (in the Beaufort Sea).

### **Piltun-Astokhskoye-B (PA-B) Platform**

The Piltun-Astokhskoye-B (PA-B) platform was installed in July 2007 in the Piltun area of the Piltun-Astokhskoye field, 12 km offshore in the Sea of Okhotsk,

at a depth of 32 m. Designed for year-round production, the PA-B is a drilling, production and processing platform that extracts oil and associated gas from the Piltun reservoir.

### **Lunskoye-A (Lun-A) Platform**

The Lunskoye-A (Lun-A) platform was installed in June 2006 in the Lunskoye gas field, 15 km offshore in the Sea of Okhotsk at a depth of 48 m. It is designed for

year-round production and produces the majority of gas for the LNG plant. The platform is equipped with minimum processing facilities. Gas treatment is carried

out at the onshore processing facility (OPF) before the gas is transported to the LNG plant.

### **Liquefied Natural Gas Plant**

The Sakhalin-2 liquefied natural gas (LNG) plant is the first of its kind in Russia. It is located in the south of Sakhalin Island. It receives, treats, processes and liquefies natural gas. A special gas liquefaction process was developed for use in cold climates, such as Sakhalin's, based on the use of a double mixed refrigerant (DMR).

**Oil Export Terminal (OET)** The oil export terminal (OET) is located next to the LNG plant. It supplies storage for oil prior to tanker loading and incorporates an export pipeline and a tanker loading unit.

### **Prigorodnoye Sea Port**

The port was named Prigorodnoye in October 2007. Prigorodnoye sea port was formally established and opened to foreign vessels in May 2008.

Environmental protection is a major focus of attention for Sakhalin-2 partners. Being a natural resources project, mitigation of potential environmental impacts is number one priority.



Implementation of the world’s largest integrated oil and gas Sakhalin-2 project accelerated a number of processes of crucial importance for the development of Russia and the Sakhalin Region.

**Comprehension questions:**

1. What kind of project is Sakhalin-2?
2. What companies are shareholders of Sakhalin-2 Project?
3. When did Phase 1 start & did it focus on?
4. When was Phase 2 launched? What did it involve?
5. What does the name “Molikpag” mean?
6. What is the task of PA-B Platform?
7. What is LUN-A Platform designed for?
8. How does LNG plant operate?
9. What does OET supply?
10. Why is environmental protection number one priority?

**Word list:**

##	English language	Your Language
1.	Oil & gas venture (n)	
2.	Offshore platform (n)	
3.	Onshore processing facility (n)	
4.	pipeline (n)	
5.	liquefied natural gas (n)	
6.	LNG plant (n)	
7.	Oil export terminal (n)	
8.	shareholder (n)	
9.	Parent company (n)	
10.	Oil field (n)	
11.	Crude oil (n)	
12.	To yield (v)	
13.	To be launched (v)	
14.	To be installed (v)	
15.	Drilling rig (n)	

##	English language	Your Language
16.	Cumulative (adj.)	
17.	To extract oil (v)	
18.	Associated gas (n)	
19.	To receive, treat, process & liquefy gas (v)	
20.	mitigation (n)	

### 9.1. Match the word combinations with their definitions.

1.	Production sharing agreement	a	Ликвидация аварийных разливов нефти
2.	Large-scale& long-term agreement	b	Морские трубопроводы
3.	Onshore processing facilities (OPF)	c	Пусконаладочные работы и ввод в эксплуатацию
4.	Converted ice-drilling rig	d	Сейсмосьемка
5.	Oil export terminal	e	Завод по сжижению природного газа
6.	Floating storage & offloading(FSO)	f	Устойчивое развитие
7.	Single anchor leg mooring	g	Модернизированная буровая платформа ледового класса
8.	Onshore pipelines	h	Сейсморазлом
9.	Booster stations	i	Подготовка технико-экономического обоснования
10.	Tanker loading system	j	Базы техобслуживания трубопровода
11.	Offshore pipelines	k	Береговой технологический комплекс

12.	Liquefied natural gas plant	l	Одноякорный причал
13.	Oil spill response (OSR)	m	План природоохранных мероприятий
14.	Sustainable development	n	Плавающее нефтеналивное хранилище
15.	Seismic surveys	o	Наземные трубопроводы
16.	Fault line	p	Выносное причальное устройство
17.	Environmental action plan (EAP)	q	Насосно-компрессионные станции
18.	Pipeline maintenance depots	r	Соглашение о разделе продукции
19.	Commissioning & start-up	s	Широкомасштабные и долгосрочные инвестиции
20.	Drafting a feasibility study	t	Терминал отгрузки нефти

## 9.2. Render the article in English.

Проект «Сахалин-2», реализуемый компанией «Сахалин Энерджи», включал строительство трасс нефтепроводов и газопроводов, протянувшихся почти через весь остров – от залива Анива на юге до залива Чайво на севере. Большая часть трассы прошла в коридоре уже существующих коммуникаций – линий электропередачи, автомобильной магистрали и железнодорожных путей. Однако во многих местах пришлось прокладывать трубопровод через топкие болота, крутые гористые склоны, тектонические разломы, оползнеопасные участки и, соответственно, разрабатывать приемлемые технические решения, обеспечивающие безопасность трубопроводной системы. Это была грандиозная стройка с привлечением опытных российских и иностранных экспертов, с одновременным вовлечением в работы нескольких тысяч человек из разных уголков России и многих других стран.

С серьезными трудностями специалисты встретились во время проектирования и обустройства переходов через многочис-

ленные реки. Высокая густота речной сети, особенности рельефа и грунта, своеобразный климат, местами широкие заболоченные поймы с извилистыми реками, наличие в реках нерестилищ ценных и краснокнижных видов рыб – все это необходимо было учесть и разработать специальные меры для того, чтобы воздействие оказалось незначительным и кратковременным.

Сохранение биоразнообразия острова – один из важных приоритетов компании «Сахалин Энерджи», поэтому даже после завершения строительства трубопровода ежегодно выполняется большой объем работ по мониторингу речных участков, прилегающих к проложенной трассе.

### **9.3. Translate the sentences into English using the active vocabulary.**

1. Геологи давно предполагали, что на Сахалине лишь треть запасов нефти и газа залегает в недрах острова, а две трети под дном моря, в прибрежной полосе.

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2. «Сахалин Энерджи Инвестмент Компани Лтд.» является оператором проекта «Сахалин-2», реализуемого на основе Соглашения о разделе продукции.

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3. Платформа «Моликпак» стала победителем международного конкурса среди морских платформ и названа «Лучшая морская буровая установка года».

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4. Общий итог морских геолого-разведочных работ – откры-

тие восьми месторождений, создание ресурсной базы углеводородов на шельфе острова.

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5. Второй этап проекта предусматривал строительство завода СПГ, терминала отгрузки нефти, а также морских и наземных трубопроводов.

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6. В апреле 2017 г. впервые нефть проекта была доставлена в Малайзию.

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7. Компания «Сахалин Энерджи» обеспечивает экологическую безопасность и работает над сохранением биоразнообразия острова Сахалин.

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8. В 2009 году на Сахалине начал работу первый в России завод по производству сжиженного природного газа.

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9. Проект «Сахалин-2» реализуется в зоне повышенной сейсмической активности.

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10. Нефть и газ поступают по трубопроводной системе на производственный комплекс «Пригородное», который включает в себя завод по производству СПГ и терминал отгрузки нефти.

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## UNIT 10. PLACES OF TOURIST INTEREST

### SAKHALIN REGIONAL MUSEUM

Sakhalin Regional Museum is one of the oldest scientific, research and educational cultural institutions of the Sakhalin Oblast. During a long period of operation the museum had passed a hard and long way of formation and development and gradually it started to play a prominent role among humanitarian scientific centers of the Far East.

The history of the museum in many aspects went hand in hand with the XX century's political history of Sakhalin. The foundations and traditions of museology on the island were laid out and established more than 100 years ago. First museum of Sakhalin was opened in the Aleksandrovsky Post in 1896. Owing to the efforts of a scarce local educated society and those of penitentiary's administration ethnographic, archeological, geological, botanical, zoological and other collections were gathered. First Sakhalin museum is closely connected with such famous Russian ethnographers as L. Ya. Shternberg and B. O. Pilsudsky who were convicts and exiles at that time and other persons who made possible contribution to studying of the nature and population of the island. Now only photographs, stored in different archives and publications of pre-revolutionary edition «Sakhalin Calendar», survived.

Upon signing of the Portsmouth Peace Treaty which put an end to the Russian-Japanese war of 1904–1905, Russia ceded southern Sakhalin to Japan and museum activities began to be conducted separately in both parts of the island. In 1932 the Regional museum after the 15th anniversary of the Great October Revolution opened in Aleksandrovsk, administrative center of the northern Sakhalin. It was stocked up with new collections on history of penal servitude and ethnography of indigenous people. In the years preceding World War II A. N. Ryzhkov, a famous Sakhalin historian later, worked in the museum as a student of local lore. On southern Sakhalin a museum was also established during the Karafuto Governorate period (1905–1945). For the purpose of demonstration of the island's natural history collections the Japanese authorities built a new museum building in 1932 owing to people's donations. The building of the Karafuto Governorate's Museum was constructed in the traditional style of «teican-dzukkuri» (imperial crown). It displayed ethnographi-

cal collections on the ingenious people of southern Sakhalin and those on paleontology, zoology and botanic. Names of such Japanese research scientists as Tiri Masikho, who specialized in Ainu studies, an ethnographer Yamamoto Tosio, botanist Sigidzo Sugavara are closely connected with the Karafuto museum. Museum staff published scientific collected volumes, articles and books. During Japanese occupation (in 1905 and 1920–1925) valuable collections on the ingenious people, paleontological artifacts and other exhibits were irreversibly lost under obscure circumstances. Part of collections was probably taken to Japan.

Upon completion of the World War II and liberation of the southern Sakhalin and the Kurile islands the Japanese museum in Toyohara was nationalized. Under the order of May 11, 1946 by D. Kryukov, a Chief of Yuzhno-Sakhalinsk Civil Administration, the Regional Museum was opened to visitors in the building of Japanese museum. For some period of time until repatriation of the Japanese citizen Soviet and Japanese museum employees worked together.

In 1947, the Sakhalin Oblast was established. A new stage in the history of the Sakhalin Regional Museum had begun. A small portion of nationalized Japanese collections was left in custody of the museum, but without explanatory information. In 1953, upon closure of the Aleksandrovsk city's museum, all collections from there were transferred to the Sakhalin Regional Museum for permanent custody. Therefore, the Sakhalin Regional Museum became a successor and custodian of all the Sakhalin's museum collections existing before in the insular region.

The Sakhalin Regional Museum has always played a priority role in the museum development of the Sakhalin Oblast as a scientific, methodological and organizational center. The Sakhalin Regional Museum brought about establishment of other museums on the territory of the Sakhalin Oblast. So, collections of paintings and graphics from the Museum served as a foundation for art collections of the Sakhalin Regional Art Museum, and the Chekhov's Museum of Alexandrovsk-Sakhalinsky was created owing to active participation of the Sakhalin Regional Museum's scientific employees in early 1990s.

In the mid-1980s a network of the Regional Museum's branches started to form in different district of the Oblast. By the beginning of the year 2000, there were seven branches of the SRM in district centers, such as: Okha, Nogliki, Poronaisk, Kurilsk, Alexandrovsk-Sakhalinsky, Kholmsk and Yuzhno-Kurilsk. In 2001 the SRM's branches were



eliminated by the order of Manager of Regional Department of Education, Culture and Sport and the branches were granted a status of municipal museums.

Activities of the Sakhalin Regional Museum are based upon professionalism, principles of creative initiative and mutual aid. Thanks to it the museum collections were enriched by more than tenfold having become an important scientific center of the Far East not just among museums of the Far-Eastern Region, but also among academic institutions. The museum issues periodicals, articles, monographs, pamphlets and other scientific production devoted to the Sakhalin and the Kurils' topics. The Sakhalin Regional Museum is known in many countries of the world. Its scientific employees actively participate in international research projects, conferences and expeditions.

The Museum is a keeper of a social and cultural history and a custodian of artifacts of Sakhalin and the Kurils' natural history. In the museum's repositories there are as many as 200 thousand of objects and collections on natural history, history and cultural heritage of the peoples of the Russian Federation.

Rare collections are represented by ancient artifacts of the Sakhalin indigenous peoples' traditional culture (of such people as Ainu, Ulta (Oroks), Nivkhs) and paleontological collections. Paleontological collections containing primordial (the most ancient) remains of cetacean, plants and mollusks, living in this region tens of millions years ago in Paleozoic and Mesozoic periods, reveal a history of the planet Earth and that of organisms inhabiting it.

The Museum's activities as a whole are aimed at enlarging knowledge of the Sakhalin Region and bringing it to the Museum's visitors based on scientific work, gathering and keeping good custody of museum collections. More than 70 thousand local residents and guest of the Sakhalin Oblast visit the Museum annually.

### **Comprehension questions:**

1. When was the museum tradition laid out in Sakhalin?
2. When & where was the first museum opened?
3. Who made a great contribution to the museum?
4. What are the details of opening museum in the South Sakhalin?
5. What happened with the museum after the World War II & establishing the Sakhalin region?
6. What collections & artifacts can be found in Sakhalin museum?
7. How many items does the museum keep?

8. What does the paleontological collection contain?
9. What academic activity does the museum have?
10. What is the main priority of the museum?

**10.1. Find in the text equivalents for the following words & phrases:**

1.	Расширять знания	
2.	Местные жители	
3.	Хранение музейных коллекций	
4.	Населять (землю)	
5.	Культурное наследие	
6.	Научные экспедиции	
7.	Выдающаяся роль	
8.	Одновременно с	
9.	Осужденные и каторжане	
10.	Уступить (территорию)	
11.	Запасать (готовить запас)	
12.	Каторжные работы	
13.	Коренное население	
14.	Передача в дар (пожертвование)	
15.	Смутные обстоятельства	
16.	Хранитель музея	
17.	Хранилище музея	
18.	Ежегодно	
19.	Открывать историю планеты	
20.	Первобытные останки	

**10.2. Read, translate the text about Sakhalin Regional Art Museum.**

**SAKHALIN REGIONAL ART MUSEUM**

The Sakhalin Regional Art Museum was opened in 1983. It is one of the youngest museums in Russia.

In March 25, 1989 the museum moved to the building of the former Japanese bank "Hokkaido Takuseku". This building was constructed in the early 1930s. In the 1980s, the building was reconstructed and then given to the museum. This building is in the center of Yuzhno-Sakhalinsk. It is considered to be a historical and architecture monument adding to the architectural diversity of the city. A big hall on the first floor is for all kinds of exhibits. The second floor halls have three permanent expositions: "Copies of Ancient Russian Frescos", "Art of Japan", and "Art of Korea".

The museum often organizes parties for employees of various companies. Under these company sponsored programs, employees can see new exhibits and informally communicate.

There are about 7000 items in our collection. These collections include comprehensive groupings: Russian ancient art, Russian art of the 19th century, Russian art of the first quarter of the 20th century, folk decorative art, fine arts of the West. There is also a collection of the works of the artists of the Russian Far East. The collection and promotion of Russian Far East art is one of the highest priorities of the museum.

There are various ways in which the museum continues to enhance its collection. The most important of them is State Exhibit Center "Rosizo", Russian Fund of Culture, Research Institute of Art, State Russian Museum, Union of Artists of Ukraine, Kirghizia, Georgia, Latvia. Some items came from art studios of Moscow, St. Petersburg and others from private collections.

**Decide whether the statements true (T) or false (F).**

1.	The Sakhalin Regional Art Museum is one of the oldest museums in Russia.	
2.	This building was constructed in the early 1980s.	
3.	The collection and promotion of Middle East art is one of the highest priorities of the museum.	

4.	The museum contains collections from art studios of Moscow, St. Petersburg and others from private collections.	
5.	The museum often organizes dance parties for employees of various companies.	
6.	This building is in the suburbs of Yuzhno-Sakhalinsk.	
7.	There are about 700 items in our collection.	
8.	The museum is a historical monument, but it doesn't add to the architectural diversity of the city.	
9.	It is one storied building. All kinds of exhibits are on the first floor.	
10.	The collections in the museum include: Russian ancient art, Japanese art of the 19th century, Korean art of the first quarter of the 20th century, folk decorative art, fine arts of the North.	

### **10.3. Read & translate the article about tourist complex in Yuzhno-Sakhalinsk.**

#### **TOURIST COMPLEX "MOUNTAIN AIR"**

"Mountain Air" is the best ski resort on the island, and, possibly, in Russia. It was opened in the distant sixties of the twentieth century and immediately gained immense popularity. It has repeatedly held competitions at the Cup of the Soviet Union. For the convenience of the athletes, a hotel was built, which was completely reconstructed before the Winter Olympics in the city of Sapporo. After the collapse of the USSR, this complex was badly damaged, but since 2004 it has begun to rebuild again.

"Mountain Air" is located on the slopes of Mount Bolshevik with a height of 600 meters. Its southern and western sides are dotted with slopes for skiers. And the mountain itself is located on the territory of the city of Yuzhno-Sakhalinsk, or rather, to the east of its center.

When does the ski season begin on Sakhalin Island? Ski resort "Mountain Air" is open from December to early May. The fact is that the local climate is very peculiar. The frost is felt strongly, the winter is

long and extremely snowy. Precipitation falls literally every two days, often blizzards. Therefore, such severity creates good conditions for skiing. To ride on the slopes of the complex, you need to purchase an advanced ski pass.

The Mountain Air resort is equipped with a convenient gondola suspension road, which takes skiers to the upper areas. Each cabin accommodates eight people. There are two more chairlifts and one drag lift. Suspended road is in the summer. Then tourists simply go up to admire the views of Yuzhno-Sakhalinsk. The resort operates 14 trails. Their total length is 25 km. The longest are more than four kilometers, and the height difference is up to 500 m. Here, at the height of the season, all the necessary services work – ski and snowboard rental, luggage storage, a team of instructors, lifeguards. Trails of varying difficulty, there are special areas for children and those who are just learning to ski. For snowboarders a separate winter park with springboards was constructed. Skating continues from nine in the morning to ten in the evening. At night, the trails are highlighted. Each slope has its own lift.

Many people come to rest in the complex “Mountain Air” for at least a few days. Therefore, not idle will be the question of where to stay. But this is not a problem at the resort. The hotel is on the camp site itself. In addition, in its vicinity there are more than thirty hotels of different levels of prices and comfort.

Every day, the Mountain Air base (Sakhalin) organizes festivals, concerts, art exhibitions. All-Russian competitions of professionals in winter sports, such as “Snow Carnival”, are held here very often. In the summer, the base invites tourists on hiking and cycling trips. There are many marked trails and paths. Companies can order a paintball game, and extreme sports fans can fly a paraglide.

Tourists and skiers who come here to spend their holidays or weekends have the most positive impressions. The complex is developing, and in the season there are not only Russians, but also guests from abroad. Here you can find spacious booths, tracks for all tastes and strengths – from green to black. And for those who visited the summer on the basis of “Mountain Air”, the photos of the surrounding mountains and the unique nature are just wonderful.

#### 10.4. Find in the article the following adjectives & adverbs

1.	Незамедлительно	
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2.	Огромный, колоссальный	
3.	Неоднократно, часто, повторно	
4.	Совершенно, полностью, вполне	
5.	Отдаленный, удаленный	
6.	Очень сильно, интенсивно, крайне	
7.	Специфический, особенный, своеобразный	
8.	Крайне, чрезвычайно	
9.	Переменный	
10.	Обширный, просторный, вместительный	
11.	Буквально, дословно	
12.	Продвинутый, подготовленный	

**10.5. Translate the following sentences into Russian; use the necessary adjectives and adverbs.**

1. Ski resort immediately gained immense popularity.

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2. It has repeatedly held competitions at the Cup of the Soviet Union.

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3. Here you can find spacious booths, tracks for all tastes and strengths - from green to black.

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4. Trails of varying difficulty, there are special areas for children and those who are just learning to ski.

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5. The hotel was completely reconstructed before the Winter Olympics in the city of Sapporo.

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6. After the collapse of the USSR, this complex was badly damaged.

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7. The fact is that the local climate is very peculiar.

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8. The frost is felt strongly, the winter is long and extremely snowy.

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9. Precipitation falls literally every two days, often blizzards.

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10. To ride on the slopes of the complex, you need to purchase an advanced ski pass.

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**10.6. Read & translate the article about popular tourist destination in Sakhalin.**

**CAPE GIANT (VELIKAN)**

Cape Giant (Velikan) is a natural monument of regional importance of the Sakhalin region. It is one of the most impressive places on the Sakhalin coast. It is located in the Korsakov district on the east coast of the Tonino-AnivSK peninsula. It so happened that the confusion with the names of capes firmly sat down in the minds of local residents and guests of the island. Restoring historical justice, it is worth saying that the most beautiful stone sculptures, including those presented here, are actually located on Cape Ptichiy (Bird). However, in most descriptions, this place is called Cape Giant. The very same cape with this name is located to the south.

From Yuzhno-Sakhalinsk to Cape Bird you have to overcome about 100 km. The first part of the route passes along the concrete road and presents no complexity. On the second segment you will overcome passes, steep descents and ascents, rills and mud. This road made of ramshackle logs will be remembered for a long time.

The first stop, if necessary, you make in the village of Okhotsk. Further, the route runs along the coast of the Sea of Okhotsk. Gorgeous sandy beaches and azure water attract thousands of people from all over the island.

Along the entire coast from Cape Bird to Cape Giant there are many grottoes created by wind and sea waves, standing directly in the sea caves, arches and pillars, on which are colonies of birds. The giant is a huge remnant, which from afar resembles the profile of a warrior, thanks to which the cape got its name. These stone giants



are located in cozy bays, the sandy strip of the coast of which rests against the rocks covered with continuous impassable taiga.

A walk will take from 2 to 3 hours, the length of which will be about 5 km. Everyone will be able to feel in the role of a real tourist passing sea clamps, climbing on the rocks and enjoying the unimaginable beauty of nature. We will definitely leave time for rest, lunch and photos. The most courageous will be able to plunge into the icy waters of the Sea of Okhotsk, to take a sun bath or go fishing.

**10.7. Match the adjectives + nouns to make word combinations from the text & translate them into Russian**

1.	regional	A	clamps
2.	impressive	B	residents
3.	impassible	C	logs
4.	historical	D	beaches
5.	cozy	E	importance
6.	stone	F	descent
7.	huge	G	water
8.	steep	H	bays
9.	azure	I	remnant
10.	ramshackle	J	sculptures
11.	sandy	K	place
12.	sea	L	taiga
13.	local	M	justice

**10.8. Read & translate the text about the natural monument Ridge Zhdanko.**

**TIKHAYA BAY**

Tikhaya Bay is a picturesque and amazing place located in the Terpeniya Bay on the east coast of Sakhalin. The first Russian navigator Ivan Kruzenshtern called the "quiet" bay. Sea rosehip, aralia, and the

other vegetation grow on the territory of the bay. The sand in the bay is only in the coastal strip, the main part of it is occupied by black-brown rocks and large stones protruding from dense sandstone. In the bay there is a rocky island "Visible" with a flat top and a wide base. It is possible to get to the rock only at low tide; therefore there are always a lot of noisy gulls on it. The bay is closed from the cold winds blowing from the north and north-east. From the west, the bay is protected by the spurs of one of the most beautiful southern ranges of Sakhalin, which is a natural monument. We are talking about the Zhdanko Ridge.

Zhdanko Ridge is one of the natural attractions of Sakhalin. Zhdanko Ridge is a complex natural monument of regional significance. The nature monument is a complex of mountain and coastal ecosystems. According to scientists, it was formed by frozen lava flows during the formation of a volcano. The mountain chain is 13 km long with a relatively small width of 1,5–2 km. The highest point of the range is Mount Zhdanko, located at an altitude of 682 m above sea level.

Zhdanko Ridge – a steep mountain range, the ridge of which is surmounted by numerous rock scallops – a mountain formation that is rare for Sakhalin nature. Previously, the ridge was covered with coniferous forests, but fires destroyed all the trees on its slopes. Here there is Sargent juniper, edelweiss, and peony. Lingo berry, red berry and evergreen shiksha shrubs abundantly bear fruit, the berries of which heal insomnia and are an excellent way to relieve chronic fatigue syndrome.

Ainu legends say that Ridge Zhdanko is like a dragon that fell asleep on the seashore. Its tail starts from Tikhaya Bay, closed from cold winds: first an island of Noticeable, then a sharp, elongated cape, turning into sharp ridges, which with each kilometer gain height and rushes up to the clouds. At the confluence of the river Pugachevka rests the head of a dragon with a single "eye" – the sacred place of the Ainu and the Japanese, the rock-arch Maguntanhama. The black stone obelisk of Matsuura Takeshiro stands here. Stretched for several kilometers, the front paws of the dragon abut against the cozy bay, which, in clear weather, offers an amazing view of the northern part of the coast. There, in the distance, mountains rise with conical peaks.

### **10.9. Find the English equivalents in the text.**

1. Живописное место \_\_\_\_\_

2. Морской шиповник \_\_\_\_\_
3. Полоска береговой линии \_\_\_\_\_
4. Шумные чайки \_\_\_\_\_
5. Сочетание горной и береговой экосистем \_\_\_\_\_
6. Застывшая лава \_\_\_\_\_
7. Крутой горный хребет \_\_\_\_\_
8. Хвойные леса \_\_\_\_\_
9. Изобильно плодоносить \_\_\_\_\_
10. Лечить бессонницу \_\_\_\_\_
11. Успокаивать хроническую усталость \_\_\_\_\_
12. Вытянутый мыс \_\_\_\_\_
13. Священное место \_\_\_\_\_
14. Упирается в бухту \_\_\_\_\_
15. Слияние реки \_\_\_\_\_

#### **10.10. Read & translate the article about Sakhalin religious places.**

##### **SAKHALIN CHURCHES**

Sakhalin was unlucky in terms of religion, the 17 Orthodox churches (9 of them prison churches) were built in the late XIX — early XX century, none of them has survived. The last churches in northern Sakhalin were destroyed after 1925 and by 1945 there were no more churches on Sakhalin.

In southern Sakhalin, after 1905, all Orthodox churches were destroyed by the Japanese, and in return there were about 180 Shinto and 55 Buddhist temples, which in turn were destroyed after 1945. By 1948, all of them had stopped working. The same fate befell the four churches of Karafuto. The premises of the churches were transferred for use in cultural and educational purposes. The regional library is located in the Church of Yuzhno-Sakhalinsk, and the maternity hospital is located in the Church of Korsakov.

Thus, from 1948 to 1989, not a single religious building remained on the territory of the region. It was only in 1989 that the first Orthodox parish of Blessed Xenia of St. Petersburg was registered in the regional center.

All the old churches on Northern Sakhalin were used for red “corners”, reading huts, clubs and cinemas. By the way, after 1990, the process went in the opposite direction. The cinema hall “Sputnik” in the South turned into a Korean Church. On Sakhalin, everyone liked to alter and adapt everything. For example, the sake factory was con-

verted into a movie theater, and when it burned down, a monument to V. I. Lenin, the work of Vutetich, was erected in its place.

On September 4, to the right of Victory square, the new Cathedral of the Nativity of Christ was consecrated in Yuzhno-Sakhalinsk. And there is a new object of display for tourists, which looks equally beautiful from the "Mountain air" sport complex and from the ground. Its construction cost 8.6 billion rubles (data 2012).

The temple is faced with red-brown granite brought from India, the structure itself is white marble from China. The Church ranks 11th in the world among Orthodox churches in height, and 2nd in the far East of Russia (after the Transfiguration Cathedral in Khabarovsk) – 77 meters. Capacity of it is 1 thousand people.

The Cathedral complex includes the lower Church in honor of the "Three saints» (Basil the Great, Gregory the Theologian, and John Chrysostom), several halls for classes, conferences, and exhibitions.

The Central entrance is decorated with the world's largest outdoor mosaic made from stones from Jerusalem – 14.5 meters high. In total, the Church has 42 mosaic icons and panels with a total area of 175 m<sup>2</sup>.

The five-tier iconostasis of 97 icons is 18 meters long x 15 meters high. The tallest stained-glass windows in Russia are 14.5 meters, each assembled from pieces of multicolored glass and weighing 9.5 tons.

There are 30 bells of various sizes with remote control. The largest, weighing 6.5 tons, is named "Sakhalin". A solemn funeral service was held on the day of the exaltation of the Holy and life-giving cross of the Lord, in Moscow, medium and small bells were cast in the Yaroslavl region, and bells for chimes were made by special order in Voronezh.

Above the entrance are chimes (which is unusual for a temple), and inside are balconies and galleries that mask seismic beams (the temple is designed for a 9-point earthquake), built of reinforced concrete 8 thousand cubic meters of concrete and 900 tons of rebar.

### 10.11. Match the English equivalents with their meanings.

1.	Orthodox church	a	Буддистский храм
2.	Funeral service	b	Крест Господень

3.	rebar	c	Помещение
4.	Reinforced concrete	d	Витражные окна
5.	Bells for chimes	e	Отливать (металл)
6.	White marble	f	Дистанционное управление
7.	Five-tier iconostasis	g	Изменять, переделывать
8.	Stained-glass windows	h	Армированный бетон
9.	To cast (cast-cast)	i	Церковный приход
10.	To alter	j	Колокола для перезвона
11.	parish	k	Пятиярусный иконостас
12.	premise	l	Белый мрамор
13.	Buddhist temple	m	Арматура
14.	Cross of the   Lord	n	Похоронная служба
15.	Remote control	o	Православная церковь

## SUPPLEMENTARY READING

### TEXT 1. NATURAL DISASTERS IN RUSSIA<sup>9</sup>

Volcanic activity has occurred in the Kuril Islands and on the Kamchatka Peninsula. Earthquakes have occurred on the Kamchatka Peninsula and Sakhalin Island. Permafrost over much of Siberia is a major impediment to development. There are spring floods and summer and autumn forest fires throughout Siberia and parts of European Russia.

#### **Tunguska Fireball**

At 7:07am local time on June 30, 1908 in the remote forests and peat bogs on Tunguska in northern Siberia one of the world's most astonishing and mystifying events took place. A blinding fireball visible for hundreds of miles exploded in the atmosphere seven kilometers above the Tunguska River with the force of ten Hiroshima atom bombs (10 to 15 megatons).

The explosion, centered at 101E longitude and 62 N latitude, was the largest event caused by an object from space in the history of civilization. The blast devastated an area of 3,900 square kilometers (1,500 square miles), flattening all the trees in that area. Fires caused by the blast, which lasted for weeks, wiped out the entire vegetation in a 1,000 square kilometer area. Shock waves circled the earth and trees were knocked down in parallel lines in a circle with a 20 kilometers (12 mile) radius around the center of the explosion, yet there was no crater. At the center of the devastated area was a mysterious island of trees, blackened and stripped of their branches but still standing upright.

The shock wave and deafening thundering sounds from the blast were experienced 1,000 kilometers away. In Kansk, 600 kilometers away, horses were thrown to the ground. People in the town of Kirensk, 350 kilometers away, saw a "standing pillar" of fire. Before

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<sup>9</sup> *Caŭm Natural disasters in Russia. Facts and details.* – URL: <http://fact-sanddetails.com/>

the explosion a falling star flashed across western China. During the «white nights» that followed strange luminous clouds surrounded the earth. People throughout Western Europe were able to read newspapers and take photographs at night. Scientist attributed the lights and luminous clouds to unusually bright northern lights.

The only people who saw the Tunguska Fireball it were some Tughus (Evenkh) reindeer herders. They described the object as a “bluish cylinder” followed by a multi-colored vapor trail. Nomads living 25 miles away were thrown from their tents. A farmer named S.B. Semyenov said his clothes nearly burnt onto his body.” It is not known how many people were killed if any. An estimated 4,500 reindeer were killed, including 1,500 that were incinerated to dust.

### **Explanations of the Tunguska Fireball**

Most scientists think the Tunguska Fireball explosion was caused by an exploding meteor, or possibly a small asteroid or comet. But no impact crater or mineral evidence of such an event was found. The destruction didn’t match the damage caused by a meteor. Some have suggested that the explosion was caused by a comet because comets are composed of water and frozen gases such as ammonia and would not leave behind much physical evidence after an explosion. An explosion could have been caused by such an object suddenly being heated as it entered the earth’s atmosphere but it seems if this had occurred the comet would have been observed approaching the earth.

Because of the remote location of the Tunguska River, no investigation into the phenomena was launched until 20 years later. In 1927, a scientific expedition led by Russian meteorite specialist Leonid A. Kulik didn’t find any meteorites or crater, which usually occurs after a meteorite fall. They did find some cosmic spherules and speculated they were caused by a stony meteorite that got sucked into a bog. The reason an investigation was launched so late was that Soviet scientists initially thought the event was caused by an earthquake and dismissed reports from nomads that it was caused by something coming from the sky as poppycock.

Farfetched explanations for the event include a wandering black hole, an alien spacecraft and collision between matter and anti-matter. The famous scientist Nikola Tesla thought it was because a death ray he built missed its target and thanked god no one was hurt and dismantled it. The local Evenkh people attributed the event local gods and shamanistic phenomena.

Scientist believe the blast was probably caused by the disintegra-

tion at an altitude of 10,000 meters (33,000 feet) of a 30-meter-in-diameter, 100,000-ton stone asteroid traveling at 2,500 kilometers per hour (1,500 mph). The reason no crater or fragments were found is because it exploded so far above the earth. If the object had struck a few hours later it would have devastated cities in northern Europe rather than one of the remotest places on earth.

### **Volcanoes in Russia**

There is significant volcanic activity on the Kamchatka Peninsula and Kuril Islands. Kamchatka alone is home to some 29 historically active volcanoes, with dozens more in the Kuril Islands. Kliuchevskoi (elev. 4,835 m), which erupted in 2007 and 2010, is Kamchatka's most active volcano. Avachinsky and Koryaksky volcanoes, which pose a threat to the city of Petropavlovsk-Kamchatskiy, have been deemed Decade Volcanoes by the International Association of Volcanology and Chemistry of the Earth's Interior, worthy of study due to their explosive history and close proximity to human populations. Other notable historically active volcanoes include Bezymianny, Chikurachki, Ebeko, Gorely, Grozny, Karymsky, Ketoi, Kronotsky, Ksudach, Medvezhia, Mutnovsky, Sarychev Peak, Shiveluch, Tiatia, Tolbachik, and Zheltovsky.

Describing the eruption of the Tolbachik volcano in 1895 a Russian volcanologist said, "It was awful, but very beautiful—huge clouds of ash, laced by lightning. Bombs were raining down, lumps of liquid lava. We ran around collecting them for study. That was a nice time – a lot of fun."∞

In 1981 a volcanic eruption on the Kuril Islands dropped thousands of tons of nutrient-rich ash into Kurilskoye Lake, a 50,000 year old caldera in southern Kamchatka. The year before scientist added algae to the lake to increase the survival rate of salmon hatchlings that feed on it. The algae ended up feeding on the ash nourishing numbers of hatchlings way beyond what anybody anticipated. By 1990 six million salmon returned to a lake that only had room for about 1.5 million. «It was a stinking mess,» said one scientist. Thrashing salmon literally fought each other for space, ruining eggs in the process. By 1993, fortunately, things had returned to normal.

Super volcanos erupted the Kurile Islands and Kamchatka in the last 2 million years.

### **Kamchatka Volcanoes**

Kamchatka is the only part of Russia located in the Pacific Ring of Fire. It boasts 300 conical volcanoes, crater lakes and natural



hot springs and has more volcanic earthquakes and eruptions than almost anywhere on earth. It is home to Asia's largest and most active volcano. The lava fields that surround many of the volcanoes served as training areas for the Soviet Union's planned missions to the moon. Life is found in the boiling springs on Kamchatka Peninsula. The springs are not just hot. Some are as acidic as battery acid. Some are alkaline. Some have high concentrations of arsenic. [Sources: Bryan Hodgson, National Geographic, April 1994; Jeremy Schmidt, National Geographic, August 2001.

The volcanoes in Kamchatka are very active. An eruption on Karymsky Volcano in September 2004 sent a plume of ash four kilometers into the sky. It had been active since April 2004, producing as many as 400 minor eruptions a day. The eruptions were occurring at intervals of 1½ minutes and 15 minutes, sometime producing large volcanic "bombs." No people were threatened by the eruptions but there were worries that ash plumes could disrupt air traffic in the area.

In March 2003, Sheveluch Volcano erupted producing large quantities of ash, some of which flowed down the slopes and threatened to disrupt road traffic on the Kamchatka peninsula for the first time since 1956. Also in 2003, Koryaksky Volcano erupted for the first time since 1956. In February 2005, three volcanoes—Sheveluch, Klyuchevskaya Sopka and Bezmyanny—roared to life at the same time. Ash from Klyuchevskaya Sopka, the highest volcano in Europe and Asia, rained ash on the town of Kluchi, 30 kilometers away.

The volcanoes in Kamchatka are unusual in that they emit CFCs such as chloroform, carbon tetrachloride and Freon 11 and 112. It was previously thought that these ozone-depleting gases resulted only from human action. The chemicals are created by reactions with vegetation, sediments and fossil fuels with chlorine and fluoride minerals. It is not known of the full of impact on the environment.

### **Kamchatka Main Volcanoes**

Mutnovsky Volcano—50 miles south of Petropavlovsk-Kamchatskiy, Kamchatka's main city — is one of the most active volcanoes on Kamchatka. It consists of a number of active craters on a single massif. Some volcano lovers and explorers have ventured on the volcano to explore its steaming and sulfur-encrusted fumaroles. To get really close to the action you need a gas mask. One visitor wrote in Time magazine that his group braved storms and cold weather to reach the summit. "The spectacle was worth the effort: a vast crater licked by glaciers, steaming vents encrusted with yellow sulfur crystals,

sputtering mud holes and a turquoise acidic lake.” There were major eruptions in 1994. In March 2000, a steam eruption from one of the craters caused a 65-foot-in-diameter, highly-acidic green lake to form in a large glacier.

Klyuchevskaya Volcano (500 miles north of Petropavlovsk Kamchatskiy) is Asia’s largest and most active volcano. It is 15,584 feet high and less than 10,000 years old and still growing. It consistently produces eruptions and fire and ash and discourages 60 million tons of basalt a year. An eruption in 1994 was so large that flight traffic from North America to Asia was disrupted, Most climbers stay off of it, and climb its dormant neighbor, Kamen, instead. The Itelmen, a group of people indigenous to Kamchatka, believed that volcanoes were occupied by *gomuls* (“ghosts”) who caused eruptions when they became hungry and left the mountain in search of a whale to eat. The fire and smoke is caused by the massive bonfire used to cook the whale.

Bezmyannaya Volcano (near Klyuchevskaya Volcano), or No Name, was thought to be dormant until 1955, when it began shaking and spew out steam. On March 30, 1956 it exploded with a force equaling Mt. St Helens. Trees were flattened for 15 miles and a huge cloud of ash spread first to Alaska and then around the globe. Like Mt. St. Helens the explosion began with giant avalanche that was followed by a blast out of the side of the mountain, leaving behind a giant horseshoe-crater. The volcano has erupted periodically since then.

Describing the action around the crater in 2001, Jeremy Schmidt wrote in National Geographic, “We hiked through soft ash, sinking knee-deep at times, climbed heaps of shattered rocks, and scrambled in and out of ragged gorges. Through wind and whipping clouds we climbed to the crater’s broken rim and looked over. The inner cliffs dropped hundreds of feet to a circular channel ringing a new mountain rising for the ruins of the old—a huge dome of smoking rock, its summit tower above us...On the floor of the channel sprawled a field of ice and snow-blackened by cinders and split by crevasses that gaped white in the enveloping mists. As we clung to the sharp edge, the dome hurled showers of rock from its steep sides. When large boulders hit the ice below, they left white wound in the dark surface,”

### **Earthquakes**

Most of Russia is relatively earthquake free but earthquake takes place on Kamchatka peninsula and Sakhalin Island in the Far East and the Caucasus region in southwest Russia near Turkey and the Black

Sea. One of the worst recorded earthquakes ever in term of number of dead was in Shemaka, Caucasia in November 1667. An estimated 80,000 people died.

Most powerful earthquakes since 1900 (magnitude on the Richter scale): 1) Chile on May 22, 1960 (9.5); 2) off Sumatra, Indonesia on December 26, 2004 (9.3); 3) Prince William Sound in Alaska on March 28, 1964 (9.2); 4) Andean Islands, Alaska on March 9, 1957 (9.1); 5) Kamchatka Peninsula in eastern Russia on November 4, 1952 (9.0); 6) off the coast of Ecuador on January 31, 1906 (8.8); 7) Rat Islands, Alaska on February 4 1965 (8.7); 7) off Nias Island, Indonesia on March 28, 2005 (8.7); 9) Tibet on August 15, 1950 (8.6); 10) Kamchatka Peninsula in eastern Russia on February 3, 1923 (8.5); 10) Banda Sea, Indonesia on February 1st 1918 (8.5); 10) off Etorofu Island, northern territories, Japan (8.5.)

On December 7, 1988 an earthquake measuring 6.9 on the Richter scale occurred in northwest Armenia when it was still part of the Soviet Union. More than 25,000 people were killed and 18,000 were injured. Most of the deaths were attributed to poor construction. An earthquake measuring 8 on the Richter scale hit the Altai region of Siberia. Nobody was hurt because virtually nobody lived there,

In 1978, Russians predicted an earthquake in the Pamirs only a few hours before it occurred. The coastline along the Kamchatka Peninsula is considered vulnerable to a catastrophic tsunami. An earthquake in Kuril Islands in Russia and Hokkaido in Japan 1994 caused \$11.7 billion in damage.

### **Sakhalin Earthquake**

On May 27, 1995, an earthquake measuring 7.5 on the Richter scale struck an area around the town of Neftegorsk on Sakhalin Island. More than 1,841 people were killed. Five months before Russian scientist predicted there was an 80 percent chance that a serious earthquake could occur on Sakhalin or the Kuril Islands in the coming year.

A third of Neftegorsk's resident were killed. Most people were asleep when the earthquake hit. Most of the dead were crushed by slabs of concrete in collapsed apartment buildings built on sandy soil without proper supports. Survivors included men that left their apartment for a smoke and a woman who sought refuge under her overturned bathtub.

The rescue effort at Sakhalin was hampered by a lack of heavy equipment and lack medical help. No effort was made to rebuild Neftegorsk. The rubble was bulldozed over and survivors were moved.

There were 15 ruptures along a 60 mile stretch of oil pipeline but no major leakages.

### **Floods in Russia**

According to the Guinness Book of Records, 18,000 years ago an ice dam broke in the Altay Mountains, releasing water from a 75-mile long and 2,500-foot-deep lake. The wall of water from the flood was probably 1,600 feet high and traveled at a speed of 100mph.

During the spring thaw in 2001, huge floods along the Lena River created by huge blocks of ice that accumulated in dams, causing the river to back up and water levels to rise. The city of Yakutsk was particularly hard hit. Over 3,500 people had to be evacuated as houses and buildings were submerged in the suburbs and the city center. Dikes built along the river threatened to break. To prevent the same from happening again in 2002, new dikes were built and explosives were set off in places where ice accumulated.

In April 2004, ice jams on a river in the Kemerovo region produced devastating flood that killed at least 18 people and submerged more than 1,500 homes. Nine people were killed in the town of Abaz when an accumulation of ice flooded 450 houses. Russian aircrafts were called in to break up the ice jams with bombs.

In the early 2000s, flood that hit Russia's Black Sea resort area left 55 dead. Most of the dead were people who drowned or were swept away by flood rivers produced by heavy rains.

### **Avalanches in Russia**

In September 2002, a catastrophic avalanche in the Caucasus Mountains in the Russian Republic of North Ossetia caused by a collapsing glacier killed more than 140 people, including the famous Russian actor Sergei Bodrov and film crew shooting a film called *The Messenger*. Several tourist bases, including Nizhny Karmadon, were buried. The large village of Knai just missed being hit. It was the third time in the past century that part of this particular glacier broke apart but it was the first time that large numbers of people were killed.

The disaster began when the Maili Glacier, heavy with record snowfalls from the previous winter, on the slope of 15,682-foot-high Mt. Dzhimara collapsed, sending 8 million tons of ice crashing into a valley below. The collapsed glacier picked up mud and rocks as it moved along and became a 20 million ton mass of mud, rock and ice by the time it came to rest. It is not clear why the glacier collapsed: perhaps it was because of a small earthquake, or maybe a chain reaction caused by a falling glacier further up the mountain; more likely it

was the result of the additional weight caused by heavy rain that had fallen recently in the area.

The mass of ice and mud reached a height of 160 feet and roared through a gorge at a speed of more than 60 miles per hour. It traveled more than 11 miles before coming to a stop and traveled so fast that birds in the path were crushed before they had time to fly away. Along the route trees were toppled like matchsticks, boulders were scoured and the topography of the route itself was radically altered. Some blamed the magnitude of the disaster on global warming.

Most of the dead were buried under meters of ice and mud. More than 500 rescuers searched for the dead. They used dynamite to explode craters in the ice, cave out tunnels and used excavation equipment to search for bodies. A month later only two dozen bodies had been recovered. The rescue effort was hampered by the avalanche which covered the main road into the area.

### **Forest Fires in Russia**

Even though the boreal forest may appear very green and damp, it receives relatively little rain and is susceptible to fires. Every year huge fires, caused by lightning and man, destroy as many trees as logging. Fires are essential to the regeneration of the forest. After a fire larch is the first to appear, followed by pine, spruce and fir.

The taiga forests in northern China are incredibly prone to forest fires and sometimes fires spread into Russia. Many are started by careless people, the effort to put them out are hampered by a shortage of firefighting equipment and helicopters. The Great Black Dragon fire in May 1987 burned for more than a month and devastated more than 46,000 square miles on the Russian side of the Amur and around 5,000 square miles on the Chinese side. China and the Soviet Union did not cooperate at all in fighting the fires.

A forest fire in 1998, damaged two million hectares, an area the size of Michigan, of forest in the Khabarovsk region of Russia's Far East. Over 200 square miles of forest vanished in a single night. The carbon dioxide released was equivalent of 4 percent of the carbon dioxide produced annually worldwide from man-made sources.

Major fires struck throughout Russia in the summer of 2002. Almost 25,000 individual fires were reported across 2.5 million acres of land. At one point 250,000 acres was on fire. In May, 2002 in a half dozen locations in Siberia and the Far East were engulfed in smoke from fire. In August 2002, Moscow was shrouded in haze and smoke from peat and forest fires fueled by unseasonably high temperatures

and dry conditions. The visibility was less than 50 meters in some places. People with asthma were told to leave the area. Old people were told to stay indoors. Emergency officials said it was the worst smog in 30 years.

Smoldering peat fires are particularly worrisome. They produce a lot of smoke and are difficult to put out. Tons of water and sand can be poured on them in an attempt to smother them but they can continue to smolder underground for months, even years. The only thing that can put them out is continuous rain that lasts for a long time.

**Answer the questions:**

1. When did Tunguska Fireball take place?
2. What happened after the explosion?
3. What were the scientific explanations of Tunguska Fireball?
4. When did the investigation about this phenomena start?
5. Who led the scientific expedition?
6. What do you know about Kamchatka volcanoes?
7. What regions of the world are famous for the most powerful earthquakes?
8. What happened on Sakhalin Island on May 27, 1995?
9. What do you know about flood & avalanches in Russia?
10. What usually causes forest fires?

## TEXT 2. TOP 10 MOUNTAIN RANGES IN THE WORLD<sup>10</sup>

Mountain ranges occur on every continent. Here are some of the Earth's highest, longest, and most famous ranges. In this Top Ten List, we are going to start with the ranges with the highest peaks (including four sub-ranges of the Himalayan system), move on to some of the longest ranges, and end with a few mellow old ranges on quiet continental margins.

### **Why Are There High Mountain Ranges in Asia?**

The earth's surface is constantly moving, a few centimeters a year, with continents riding the drifting geologic plates. Where the plates collide, under or next to a continent, the crust thickens into mountains. Continental and ocean-floor rocks are crumpled and thrust over each other, sometimes along with slices of the mantle from under the ocean floor, and often pierced with volcanoes that erupt masses of molten material squeezed out of deeply buried crust.

All south-central Eurasia is festooned with mountain ranges. A succession of smaller landmasses slamming into the southern edge of Eurasia have risen up many mountain ranges: the Himalayan complex, the Tien Shan, the Caucasus, and the Alps, among many others.

### **The Himalayan Mountain System**

In south-central Asia, the ongoing collision between the Indian Plate and the Asian plate has raised up the world's most mountainous area, the Himalayan orogenic belt. The area began rising in the last 50 million years ago and continues to rise at about 5 mm a year as the collision continues. Since both plates were covered with lightweight continental crust, which tends to float on top of the heavier mantle layer, crust from both plates was crumpled together. In addition, the ocean floor between the two moving continents was swept up and stacked between them. The top of Mount Everest itself is sedimentary rock from the ocean bottom.

The Himalayan region contains the world's greatest accumulation of ice outside the Arctic and Antarctic. The world's hundred tallest

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<sup>10</sup> <https://mountainplanet.com/>

peaks are nearly all in the Himalayas, Karakoram, Pamir, or Hindu Kush. (A few exceptions are also in southern Asia, in China's Hengduan Mountains and Kunlun Shan.) The world's fourteen 8000-meter peaks are all in the Himalayas proper or the Karakoram.

### **The Himalaya Range**

The Himalaya Range (meaning «home of snow»), stretching from Pakistan to Bhutan, separates the Indian subcontinent from the Tibetan Plateau. The world's highest peak, Mount Everest, at 29,029 feet, is in the Himalayas, as are scores of massive, beautiful, dangerous peaks climbers have given their lives to ascend. Their snowfields supply great rivers: the Ganges, the Indus, and the Brahmaputra.

### **The Karakoram Mountains**

The Karakoram (meaning "black gravel") Mountains of Pakistan mark the western end of the greater Himalayan mountain chain and contain the greatest concentration of high peaks on earth. The Karakoram is a mountain desert: a vast region of barren rock and ice, of gravel-covered glaciers where jeep roads cut through valley systems to remote villages still many days' walk from the high mountains.

### **The Hindu Kush**

The Hindu Kush, part of the Himalayan complex, is a group of ranges in Afghanistan and Pakistan. The name is said to mean either "border of India" or "killer of Indians." The Khyber Pass crossing it, connecting Afghanistan with Indian and Pakistan, has long been of great military importance, including during the 21st-century invasion of Afghanistan by the US.

### **The Pamir Range**

The Pamir Range, in Pakistan, Afghanistan, and Tajikistan, trends more north-south than the other Himalayan ranges. The ancient Silk Road, the long and dangerous land route between China and Europe, crossed it. Its highest peak is 24,590-foot Ismoil Somoni Peak, at one time called Stalin Peak, then Communism Peak.

### **The Tian Shan**

The Tian Shan (or Tien Shan) continues eastward from the Hindu Kush into China and is separated from the Himalayan ranges and Tibet to the south by the huge Taklimakan Desert in the Tarim Basin. The Tian Shan marks the northern boundary of another micro continent that rammed into the southern edge of Asia before India did. Compression in the area is lifting the range up.

### **The Andes Mountains**

The world's longest mountain chain, and the highest outside Asia,



is the Andes, running 7000 miles from Colombia to the southern tip of South America. Unlike the Asian mountain ranges discussed earlier above, which resulted from collisions between continents, the Andes are a result of plates bearing ocean crust colliding with the continent of South America. Since the Cretaceous period (about 65 million years ago, the time of the dinosaurs), ocean crust has been sliding below the west coast of South America, sinking, melting, and causing volcanoes and uplift. The Andes are part of the “Rim of Fire” surrounding the Pacific, marked by volcanoes, earthquake zones, and deep ocean trenches. The glaciers and snowfields of the Andes supply water to the arid coast of central South America as well as to the Amazon Basin.

The Andean peak Aconcagua, like Everest, is one of the Seven Summits, that is, it is the highest peak on its continent.

### **The Alaska Range**

The Alaska Range is a long, narrow, curved range that traverses Alaska from the Aleutian Peninsula to the Yukon Territory. In its bend in Central Alaska, it has the highest mountain in North America, 20,237-foot Denali (Mt. McKinley), one of the Seven Summits (as the highest mountain in North America), and one of the world’s tallest mountains from base to top. Geology here is complex; like much of the western margin of North America, Alaska is made of strips of continents that came from somewhere else. In Alaska, the faults that bound the strips have been bent, so that Denali, made of lightweight granite, popped up at the corner, under pressure from a seduction zone far to the south in the Gulf of Alaska. It dominates the surrounding peaks and is visible from great distances, seeming to float above its surroundings.

### **The Caucasus Range**

The Caucasus is another Eurasian range that resulted from a subcontinent, the Iranian Plate, running into the Eurasian land mass. The range is visible in the Central Asia map above as a linear feature between the Black Sea and Caspian Sea. Volcanism surged in the area in the last few million years, creating volcanic peaks like Mt. Elbrus (18,510 feet), the highest mountain in Europe and one of the Seven Summits.

### **The Alps**

Another range formed by an approaching continent (Africa) smashing into Eurasia, along with great sheets of the sea floor, beginning about 50 million years ago. Stretching around Northern Italy

from Monaco through France, Switzerland, and Austria to Slovenia, the Alps contain many huge flat-lying folds called napes, in which rocks from the vanished ocean Tethys are stacked on top of European rocks, and in turn covered by rocks from Africa. The European pastimes of geology and mountain-climbing originated in large part in the Alps in the 1700s and 1800s.

### **The Transantarctic Mountains**

The Transantarctic Mountains deserve mention, in part because they are long, 2200 miles. They run from McMurdo Sound, the base of 19th century Antarctic exploration, in a gentle S-shape across the continent to the Weddell Sea. They are an old range, 500 million years old, far back in the past as plate collisions go. They are largely covered with snow and ice; only their tallest peaks poke out of the ice. Robert Scott's expedition geologized there, finding sedimentary rocks including coal, full of plant fossils. The range is also home to the Dry Valleys, sheltered glacial valleys containing the few patches of bare soil on the continent. Although Antarctica has one of the Seven Summits (Mount Vinson, 16,050 ft), it is not in the Transantarctic Mountains, but the younger Ellsworth Mountains.

### **The Rocky Mountains**

The Rocky Mountains are another long range, extending more than 3,000 mi (4,800 km) from northern Mexico to Alaska; Mt. Elbert (14,431 ft./4,399 m) in Colorado is its highest peak. The Rockies are located between the Great Plains on the east (from which they rise abruptly for most of their length) and a series of broad basins and plateaus on the west.

For a long time, plate tectonics had no good explanation for the Rockies' existence. They are not obviously a plate margin; for much of the range's history the plate boundary has been far to the west, along the western edge of the continent. One explanation (for example, in Keith Heyer Meldahl's book *This Rough-Hewn Land*) is that much of the Farallon plate formerly to the west has been dragged underneath western North America, and its slowly melting remnants are supporting the Rockies and the Colorado Plateau.

### **Australia's Great Dividing Range**

The Great Dividing Range is a long, rather old mountain range (from the Carboniferous, 300 million years ago) with complex geology, running from Queensland to New South Wales. Its Snowy Range gets winter snow, has alpine scenery, and contains the highest point in Australia, Mt. Kosciuszko at 7,310 feet. As the highest point on a

continent, it makes the list of the Seven Summits, if you do not include New Guinea's Punczak Jaya instead (16,024), as the highest point in the region of Oceania.

### **The Ural Mountains**

The Ural Mountains extend for 1600 miles from the hot Kazakh steppes to the frozen coast of the Arctic Ocean. The Urals are old mountains – 250 to 300 million years–and were formed at the boundary between two plates when Kazakhstan collided with Laurussia. Their highest peak is Mount Narodnaya at 6,217 feet.

### **Answer the questions:**

1. What happens with mountain system in south-central Asia?
2. What region contains the world's hundred tallest peaks?
3. What is the world highest peak?
4. What does the name "Karakoram" mean?
5. How can you characterize the Andes Mountains?
6. What countries do the Alps stretch around?
7. What distance are the Rocky Mountains extending?
8. What is Australia Great Dividing Range for?
9. How old are the Transantarctic Mountains?
10. Why are the Ural Mountains worth mentioning?

### TEXT 3. THE NIVKHS<sup>11</sup>

The Nivkhs live in Khabarovsky Krai, forming continental group (about 4673 p.).

The self-designation of the people living on the River Amur is the Nivkhs and on Sakhalin Island it is N'ivhgn-N'igvn, which means 'man'. In older literature they are known as Gilyak, the name given them by their neighbors, the Manchus (Gilyami-Gileke). Various Nivkh tribes have also named themselves according to the area they are settled in, for example Chombing – 'the people on the River Chom' and Mybing – 'the people on the River My'. Since the 1930s, when the Soviet national policy took to calling ethnic groups by their self-designations, the name Nivkhs has been officially adopted in Russian.

The earliest historical data concerning the Nivkhs dates back to a 12th century Chinese chronicle. The people called Tszhi-lya-mi on the Lower Amur mentioned in the chronicle are evidently Nivkhs. In the 17th century, the Nivkhs are referred to in the reports written by the Russian Cossacks (Vasily Poyarkov 1643–46, Yerofey Khabarov, etc).

The Nivkhs live in the Far East, on the Lower Amur, on the coast of the Okhotskoe Sea on the river's estuary, and on Sakhalin Island (Yh-mif in the Nivkh language). In the administrative sense, they belong to the Khabarovsk district of the Russian Federation (the districts of Takhatin and Lower Amur), and Sakhalin region. In the past, their habitation was more extensive. The Nivkhs population is not compact and they mostly live side by side with the Russians or the Negidal people.

Anthropologically the Nivkhs belong to the Sakhalin-Amur subgroup of the Mongoloid racial type. They are of short stature (men approx. 160 cm). They have a broad flat face, a snub nose and thick lips. Unlike other Mongoloid peoples, they have a relatively dark skin, and dark eyes and hair. They have remarkably dense beards, a supposed influence of the Ainu.

The Nivkhs language belongs to the Paleo-Asian languages as a

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<sup>11</sup> Сайт Сахалинского областного краеведческого музея. – Режим доступа: <http://sakhalinmuseum.ru/>

separate unit, unconnected to any other group or subgroup. It is connected to the Chukchi-Kamchatkan and Altai languages by typological similarities and, in the opinion of several academics, also to North American Indian languages. The neighbors of the Nivkhs speak widely different Manchu languages (Ulchi, Orochi, Nanai). Three different dialects can be distinguished within the Nivkh language: a) Amur, b) East Sakhalin and c) North Sakhalin.

The Amur and the East Sakhalin dialects contain notable differences in phonetics, grammar and vocabulary. They have even been presumed to be two different languages. The North Sakhalin dialect is placed somewhere in between the other two. The dialects, in their turn, can be subdivided into local vernaculars.

In the areas of life central to the Nivkhs' existence (nature, the sea, weather, fishing, hunting) the language is remarkably rich in its native stock of words. There are only a few loans from the Manchu-Tungus or Paleo-Asian languages. However, vocabulary connected with newer occupations (e.g. agriculture, cattle-breeding, horticulture), is pervaded with loans from the Russian language.

The Nivkhs have always interacted and traded with all their neighboring peoples. An important Chinese and Manchu influence (e.g. in architecture, clothing, food) is manifest in Nivkh folk culture and, to a lesser degree, some Ainu and Japanese influence (mainly on Sakhalin Island). In the 20th century, the influence of Russian culture has considerably increased.

Of all Nivkhs traditions the most enduring are fishing and hunting. The importance of fish is best illustrated by the name once given to the Nivkhs of fish-eaters. For the coastal-dwelling Nivkhs, an additional occupation was the hunting of sea animals, especially seals. Dog breeding (for draught animals and for food) was also widespread. Traditional clothing and food, and also women's handicrafts, have to some extent been preserved. Changes in the structure of settlements have had a detrimental impact on traditional architecture.

In the 1880s, a Nivkhs-Nanai primer was compiled by a missionary, but its use was limited. The activity of local primary schools was of a short duration (from 1895 to 1905). Under the Soviet regime, a Nivkh alphabet based on the Latin alphabet (1931) and a written language based on the Amur dialect were created. Utilizing these, a primer, Cuz-dif (New Word), a few primary school textbooks and 11 issues of a newspaper Nivhgn Mykyr Klaj-dif (The Nivkh Truth) were published. In 1953, the transition to the Russian alphabet was completed and a

new primer published. At that point, unfortunately, the Nivkh written language was dissolved. The spoken language remained in the educational sphere a little longer, used in nursery classes, but soon it was banished from there on the pretext that, all children could speak Russian anyway and consequently there was no need for schooling in their mother tongue. With the abolition of native language schools, an ethnic mix of schoolchildren became additional justification for using Russian in schooling. The trend toward bilingualism begun in the 1930s, soon gained momentum: by 1959 the figure was 23 %. Russian is now by far the predominant language, and the Nivkhs are on their way from bilingualism back to mono lingualism but this time with the Russian language. In the 1980s Ch. Taksami and M. Pukhta compiled a primer in the Amur dialect; V. Sangi published a primer and a reader in the East Sakhalin dialect.

**Answer the questions:**

1. Where did the Nivkhs people live?
2. When was the name “Nivkhs” officially adopted in Russian language?
3. What ethnic group do the Nivkhs belong anthropologically?
4. How do this ethnic group look like? Describe the appearance of a typical Nivkhs.
5. What do you know about their language?
6. Are there any dialects? Do they differ from each other?
7. What are the traditional Nivkhs activities?
8. Why was written Nivkhs language dissolved?
9. When did the trend towards bilingualism begin?
10. Who published the primer and a reader in the eastern Sakhalin dialect?

## TEXT 4. THE OROKS<sup>12</sup>

The self-designation is ul'ta = ulcha = uil'ta, probably deriving from the word ula – 'a domestic reindeer', hence ul'ta - 'reindeer (people)'. Another self-designation is nani. The Ainu called the Oroks orohko and the Russians orochen. The origin for this is probably in the Manchu-Tungus word oro – 'a domestic reindeer' the name of the people thus being 'reindeer people', 'reindeer-breeders'.

The Oroks live in the northern part of Sakhalin Island in the Sea of Okhotsk, and in the Poronai District in the south of the island. They live alongside the Nivkhs.

Anthropologically, the Oroks are pure Mongoloids belonging to the Baikal or Paleo-Siberian group like the Nanai, the Even and the Evenks people.

The language belongs to the Southern Group of the Manchu-Tungus languages. It is most closely related to the Nanai and Ulchi and shares features common with the Evenki and Negidal languages of the Northern Group.

The Oroks oral tradition has references to a continental origin, re-settlement on the island, and reindeer-breeding in the past. Probably the migration took place in the 17th century at the latest, from the area of the River Amgun. In Russia they were first studied by N. Boshnyak in 1852.

Ethnographically, the Oroks are close to the Orochi and the Ulchi, yet differing from them sharply in regard of their economy based on reindeer-breeding. Their attachment to the reindeer has even given occasion to regard them as an Evenki subgroup. Fishing has also shaped the Oroks mode of life – to adjust them to this occupation they had to modify their nomadic habits to an extent compliant with its more stationary demands. Hunting wild and sea animals was also practiced. The relatively restricted mobility of the Oroks resulted from the need to stay close to the fishing grounds in summer. In spring the reindeer and winter tents were left behind in the taiga and the people settled

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<sup>12</sup> Сайт Сахалинского областного краеведческого музея. – Режим доступа: <http://sakhalinmuseum.ru/>

on the coast or near an estuary. From there they moved upriver in autumn to catch more fish and gather the reindeer. In the 1920s the North-Sakhalin Oroks were divided into five groups, each with their more-or-less established migratory zone. A peculiar habit of the Oroks was their regular visits to the continent to attend the Puli fair by the River Amur. By the Amur they used to meet the linguistically-related Ulchi who were the only people to call the Oroks ul'cha or ol'cha, that is, by their own name. On Sakhalin the Oroks were in close proximity to the Ainu, the Nivkhs and the Evenks, who had settled there in the 19th century and were also breeding reindeer.

The North-Sakhalin the Oroks joined the collective farm Val, established in 1932 and specialized in reindeer-breeding. The farm also contains Nivkhs, Evenks and Russians. Russian-type log cabins are the main form of dwelling. Only the herdsmen lead a nomadic life. Vegetable-farming and cattle-breeding are the new occupations gaining ground. Hunting sea animals and fishing are of relatively modest importance.

The South-Sakhalin Oroks live in the villages of Rechnoye (formerly Naiputu) and Ustye near the town of Poronaisk. Formerly, they lived in the taiga but having liquidated their herds for economic reasons; they settled on the coast and took to fishing at the turn of the century. Until 1945 this part of the island belonged to Japan. According to estimates, there were about 160–170 the Oroks living there in 1960. The Oroks inhabit villages of standardized dwellings, shared together with Nanais, Nivkhs and Russians. The main occupation is fishing but there are also people employed in industry. Only a few items, mainly clothing and fishing gear as well as some commodities made of birch bark, have been preserved from the old ethnic culture. The Oroks have no written language. Children are educated in Russian, usually they study at boarding schools together with Nivkh, Nanai and Evenk children. There is no organized cultural activity though to some extent amateur art is practiced in the local clubs together with the Nanais and Nivkhs. No precise data exists concerning the standing of the native language. Knowledge of Russian is universal, nurtured by school and by living in close communion with other peoples. In the 1959 and 1979 censuses the Oroks were not registered. The ethnographer Z. Sokolova mentions in the journal *Soviet Ethnography* (6, 1990) the fact that the population of the Oroks and Orochi has decreased by 7.7 % in the ten years between 1979 and 1989. Despite a lack of any nationalist organizations, N. Solovyov participated in the work of the



Congress of Northern Ethnic Minorities, held 30–31 March 1990 in Moscow, as the representative of the Oroks people.

**Answer the questions:**

1. What is the origin of the name “Oroks”?
2. What areas did the Oroks live?
3. What ethnic group are they close to ethnographically?
4. What were the Oroks traditional activities in the past?
5. Why did they change the place of living in summer/spring period?
6. What type of lodging did they have?
7. What places did they live on Sakhalin?
8. Did the Oroks have written language?
9. Why didn't the census of population in 1979 register the Oroks?
10. Who participated in the Congress of Northern Ethnic Minorities in 1990 in Moscow?

## TEXT 5. WHAT IS A GRAY WHALE?<sup>13</sup>

The gray whale (*Eschrichtius robustus*) is one of the oldest mammals on Earth, and has been around for more than 10 million years. It is also one of the largest: dubbed 'great whales', it ranks among the world's 12 biggest species of mammals. Adult whales reach an average weight of 25 to 30 tons and an approximate length of 12 meters for males and 13 meters for females. Females bear calves every two or three years. The gestation period for gray whales is 12 to 13 months. At birth, the calves can be as much as five meters long and weigh up to 800 kilograms. While gray whales on average live 60 years, records exist of whales caught with 100-year-old stone harpoons in their bodies.

The skin of the gray whale is dark slate in color, rarely dark brown, blending in with the sea bottom. The skin has lightly-colored patches up to 10 centimeters in diameter. Because patches remain unique to each whale throughout its lifespan, they serve as fingerprints, assisting scientists in identifying the whales.

The gray whale is the only species that feeds on benthic organisms in waters 15 to 60 meters deep.

Instead of teeth, each gray whale has 130 to 180 pairs of flat baleens, which it uses to filter 70 species of invertebrates, such as worms, mollusks, and crustaceans, as well as small fish that swim along the water bottom. Their average daily food ration is about 250 kilograms for a young animal and 400 to 1,200 kilograms for an adult. To get a sufficient amount of food, each whale filters dozens of tons of the muddy sediment from the seabed.

Gray whales are slow swimmers, normally moving at seven to 10 kilometers per hour. After diving to feed, a gray whale typically stays underwater for three to seven minutes, or 20 minutes maximum. Gray whales keep to coastal areas and reproduce in shallow lagoons. They are often seen alone, or in small groups that do not stay together very long.

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<sup>13</sup> Владимиров, А. В. Серые киты. Сахалинская история / А. В. Владимиров, В. Ю. Ильешенко, Е. А. Олейникова, И. О. Черняховский // *Gray whales. The Sakhalin Story*. – М. : ИП «Волкова М. А.», 2012. – С. 20.

Gray whales have the longest known yearly migration of any mammal. They travel up to 11,000 kilometers between their summer feeding grounds and winter calving lagoons, with a yearly total trip of up to 25,000 kilometers. Migrating whales have been observed alone, in pairs, or in groups of 10 to 18. During migration and while inhabiting wintering grounds, the whales live on fat stored in their blubber and eat only occasionally. At the end of migration, whales can lose up to one-third of their body weight.

Historically, gray whales have inhabited every ocean in the Northern Hemisphere. Scientists have defined several populations of gray whales by their original range of distribution. Today the scientists believe the only essential difference among the whale populations was their distribution range, while physically the whales looked very much alike. The Atlantic population was hunted to extinction as early as the 19th century. The Pacific gray whales were classified as part of the eastern (Chukotka-Californian) and western (Okhotsk-Korean) populations. The western population consisted of two stocks, with Okhotsk-Korean as such being the larger one. A small subpopulation of gray whales also existed in the coastal waters off southern Honshu, the main island of Japan. Information is scarce on this latter group, since it was fully exterminated by the mid-18th century by a Japanese net technique called Amitori-shiki.

Whales of the eastern population migrate from the west coasts of the USA and Canada to Chukotka. Their pre-commercial whaling stock has been estimated at 18,000 to 19,000. The eastern gray whale was close to extinction in 1880–1890. In 1938 when the US Government banned gray whale hunting; they numbered just a few hundred. The IWC issued a moratorium on all gray whale hunting in 1948. Following the ban, the eastern gray whale population began to slowly recover, and in 1998 it reached an estimated 32,000. Some scientists believe the population may have overgrown the carrying capacity of its habitats, and as a result, its numbers again started to diminish.

Today the population is maintaining its natural level of about 20,000. In recent years, the eastern gray whale has been thoroughly studied. Scientists know a lot about the diet, genetics, and migration routes of these whales. The Okhotsk-Korean (western) population summered in the Sea of Okhotsk and presumably reproduced in the South China Sea, but since 1960-s there has been no reliable evidence on whether the whales regularly wintered in the Asian seas. It is believed that the historical size of the western gray whale popula-

tion was about 2,500. Then these whales almost disappeared.

Even though these giant mammals continued to be sighted near the Korean coastline until 1960, the western gray whale population was considered extinct until 1983, when 20 were seen offshore Sakhalin. The whales were re-discovered twice in one year by two independent sightings: by the captain of the Zvezdny whaleboat, while sailing from Vladivostok to Chukotka in May, and by the Pacific Ocean Scientific and Research Institute of Fishery and Oceanography specialists (TINRO), while performing aerial surveys of marine mammals at the mouth of Piltun Bay in July.

In 1983 the Red Data Book of the Russian Soviet Federative Socialist Republic listed this population, and the Red Data Book of the Russian Federation after the fall of the Soviet Union maintained this status. Prior to the 1990s, the only monitoring of the western gray whale was seasonal aerial surveys conducted by TINRO. Since then, the types of threats to the whales have changed dramatically. The main threats today come from intensive fishing, collisions with ships, ocean contamination with household waste, and chemical and noise pollution.

These threats apply to the gray whales when they come to Sakhalin to feed, when they migrate, or at the places they winter at. In recent years, five of them died in Japanese whaling nets, one died of an unknown disease, and one washed ashore on Sakhalin. The cause of death of the marooned whale is unknown, but in all probability was due to swallowing fishing gear. Observers also recorded a few whales with caudal stems injured from a wrapped fishing line.

The whales also face formidable natural threats. Direct observations near Sakhalin show 44 % of the whales had scars from attacks by orca, the so called 'killer whales', including 39 males, 26 females, and two unidentified whales. No whales died from these scars, the report found, except for probably one calf. However, this is a high injury rate. Orcas generally attack calves and the adults that accompany them. A high density of orcas was recorded near the Commander and Aleutian Islands, which are along the migration route of the eastern gray whale.

**Answer the questions:**

1. Prove the fact that the grey whale is the oldest and the largest mammal on Earth.
2. What helps the scientists identify the whales?

3. What is the grey whale's ration? How much do they eat?
4. How far do they migrate?
5. In what way do the scientists define populations of grey whales?
6. Where does the eastern population migrate?
7. Where does the western population inhabit?
8. What dangers do the grey whales meet with?
9. What are the reasons of whale's deaths?
10. What natural threats do grey whales face with?

## TEXT 6. SPRING DELICACIES IN SAKHALIN<sup>14</sup>

Among Russian territories, the Sakhalin Oblast population stands out in terms of its gastronomic preferences. Locals' passions are unique not only thanks to seafood, including seaweed, which is never used in traditional Russian cuisine. Sakhalin people consume significantly more wild plants, even in comparison with the neighboring regions of the Far East. The probable reason is that Sakhalin Koreans must have greatly influenced the food habits of the islanders, as many dishes of Korean cuisine have long turned into favorites of the entire population of Sakhalin Region.

On Sakhalin Island, floodplains and meadows abound in wild plants that Koreans extensively use as side dishes for rice. In spring and early summer, at full swing is harvesting of ferns (bracken, Asian cinnamon fern and others), leaves of ramson, Japanese spikenard and cow parsley, tender stalks of ample butterbur, succulent shoots of marsh marigold, nettle, and young stems of giant knotweed that taste somewhat like rhubarb. Many of the wild plants require pre-treatment (cleaning, soaking, boiling) to remove bitterness, and to make stems softer (but still crunchy), and only after that one can prepare various dishes. Special care must be taken with marsh marigold as all parts of this plant are poisonous. Its stems and leaves usually collected before flowering, carefully soaked and boiled, and only after that do they become edible.

Many of these edible wild plants are also present on the mainland, but on Sakhalin Island they differ particularly in their large size and striking abundance. Thickets of young juicy ample butterbur cover almost all valley streams and rivers, while ferns cover all forest edges.

Sakhalin locals have become similar to foreign neighbors in terms of leisurely foraging activities. Although, residents of Far Eastern Asia rely on long-standing traditions of green cuisine, whilst we are driven by the fashion for healthy eating and the pursuit of vitamins. Nutritionists state that wild greens nourish us with minerals and vegetable

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<sup>14</sup> *Ядовитые растения и грибы / «Сахалин Энерджи Инвестмент Компани Лтд.» – Владивосток : изд-во «Апельсин», 2012. – С. 27.*

fibers, and supply oxygen thanks to chlorophyll. Regular consumption of plant foods shifts the acid-alkaline balance of our internal environment toward alkaline, which is especially beneficial for those who consume large amounts of food of animal origin.

Plants produce a huge amount of complex chemical compounds that are not formed in the animal body, and if one does not consume some of these with food, one lives under conditions of a biochemical stress. That is why so many plants have healing properties. Indeed, consumption of vegetables and fruits from tropical countries can compensate for the lack of vitamins, but it cannot harmonize the subtle evolutionary balance that exists between the body and its environment.

Meanwhile, wild plants are a rich source of biologically active substances and, most importantly, they are naturally synthesized in the area where one lives.

Fortunately, flora of Sakhalin Island is rich in edible plants.

**Answer the questions:**

1. Why are the gastronomic preferences of locals in Sakhalin very unique?
2. What wild plants in Sakhalin used as side dishes?
3. What preparations are very important before cooking the wild plants?
4. How are edible wild plants different from ones on the mainland?
5. Why are wild plants useful for our health?

## TEXT 7. SAKHALIN BERRIES<sup>15</sup>

Just like other areas in Russia, Sakhalin Island is rich in berries, such as cowberry, cranberry, crowberry, cloudberry, blueberry and bog bilberry. In forests, one can come across honeysuckle and mountain-ash. Meanwhile, Arctic raspberry occupies wet clearings, and bird cherry and redcurrant settle in river valleys. Bright berries of the Japanese rose decorate both copses, and coastal areas all over Sakhalin Island. In the south, one can find bog bilberry, cowberry, cranberry and cloudberry, moreover, here this berry cocktail also includes some exotic flavors of warm-loving berries of magnolia-vine, actinidia and grape.

From the point of view of botanical science, not all of the above-named berries have the right to be called so. Botanists classify fruit depending on from what parts of the flower it is formed, thus for botanists a tomato or a banana are real berries, while strawberry and Japanese rose are false berries, mountain-ash berries are in fact apples, honeysuckle is not just a berry, but an infructescence, and magnolia-vine berries are a fleshy fruit aggregate. But for lovers of nature's gifts the morphological structure of the fruits they collect is not that important, and they refer to all of these as berries. Dictionary definitions are consistent with this understanding and describe a berry as a small juicy fruit of shrubs, sub-shrubs, dwarf shrubs and herbaceous plants.

On Sakhalin Island, there is one iconic berry that leaves no one indifferent. Being one of the unique features of Sakhalin, *Vaccinium praestans*, or Kamchatka bilberry, is a large round red berry the size of a cranberry, with a strong and unusual smell. Due to this particular smell, people call this berry "klopovka" (originates from bugs that inhabit forests and have peculiar smell). Bouquet of klopovka is so strong that it is always present even after Kamchatka bilberry juice is repeatedly diluted. This is often used by street vendors selling to in-

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<sup>15</sup> *Flora of Sakhalin. Растительный мир Сахалина / «Сахалин Энерджи Инвестмент Компани Лтд.»*. – Владивосток : изд-во «Апельсин», 2014. – С. 62.



experienced visitors almost pure sugar syrup disguised as Kamchatka bilberry juice.

On Sakhalin Island, there are also berries with confused names, such as the two species of bilberry. One of them, oval-leaved bilberry, looks like a European bilberry, but as it often happens in Sakhalin Island, both the bush and its berries reach a much larger size. Apparently, as ripe berries of oval-leaved bilberry are blue, the locals call it a blueberry. The second species, Small's bilberry, grows black berries in racemes, so local people consider it the real bilberry. In autumn when it ripens, its leaves are colored in burgundy tones and stand out among other vegetation on the slopes of hills and in river valleys.

Sakhalin currant is another deceptive inhabitant on the island. Its leaves look like currant leaves, but this is the only similarity, as neither look nor taste nor smell of its berries have anything in common with redcurrant or blackcurrant. Its small dark-red fruits are densely covered with light hairs, for which the locals call it "mokhovka".

Its berries are sweet with a slight bitterness and contain so much sugar that they stick to one's hands. Sakhalin currant grows in wet areas in floodplains, mixed woods, dark coniferous woods, sometimes very abundantly, although its crop of berries is rather poor, and that is why there is no interest in harvesting it. In fact, the real mokhovka, named recumbent currant is also present on the island, but its leaves have a smell of black currant, while its berries are smooth and brown.

Numerous songs and poems have been dedicated to a mountain-ash, the tree with red clusters of sour-and- bitter berries, which become edible only after frost.

On Sakhalin Island, rowan-tree is present and its fruit never lose their bitterness, even after freezing. Another present species is Siberian mountain ash. This spreading shrub ranges from 50 cm to 2.5 m, it has wider leaves and large red or orange sweet-and-sour fruits, completely devoid of any bitter taste. This berry is valued not only for the whole complex of biologically active substances, but also for the exceptionally tasty desserts and cordials that one can make with it. Siberian mountain ash is present in different habitats all over the island, but more often on the coast and in plant communities on sites of clearings and fires.

The Japanese rose is prominent among wild roses on Sakhalin Island. Sometimes it forms continuous thickets along the coast. Its bushes appear very elegant during flowering, and its ripening orange or bright-scarlet berries look particularly striking. On sandy wind-

swept coasts, this plant is often pressed to the ground, and the lower the bush, the more impressive it's large sometimes up to three centimeters in diameter fruits look. Locals keenly use fleshy rose hips for making fragrant amber-colored fruit jam.

On Sakhalin Island, there grows a perfect berry that combines five tastes, and that was known in Chinese medicine long before our era. In autumn, when the forest changes color and becomes more transparent, the magnolia-vine, entwining trunks of birches and firs, stands out with its pale-yellow leaves and bright fruit. All parts of this plant, stem, leaves, flowers and fruits, smell of lemon and exhibit medicinal properties. 20 % of its berry weight is given to organic acids, such as citric, malic, tartaric, and ascorbic, along with other useful components. Magnolia-vine is most praised for its pronounced tonic effect, which is second only to ginseng, as well as for other medicinal properties. Its berries are not usually consumed fresh because of their astringency. Most often, the islanders harvest the magnolia-vine for making juices or syrups, which when diluted with water never lose its bright red coloration nor the refreshing quality or lemon flavor.

Actinidia kolomikta is another vine present in the south of Sakhalin Island. An interesting feature of this vine is its leaf color that varies during summer and autumn several times. At first, leaves are bronze, then pure green, before flowering leaf tips turn white, then pink, and crimson in the autumn. Meanwhile, its berry taste resembles those of its cultural relative the kiwi fruit, although the berries remain green even when ripe. Unlike magnolia-vine, which firmly holds onto the clusters of its ripe fruit until late autumn, the fruit of Actinidia fall soon after ripening. In some seasons, berries ripen in such abundance on Sakhalin Island, that they can change the landscape color. In the north, marshes are draped with an orange veil of cloudberry, or a blue moire of Bog bilberry. Pea sized crowberries exhibit a cornucopia of black beads. Cowberry glades, cranberry bogs, and Japanese rose thickets on the coast generously add the red color in bright palette of wild plants. All Sakhalin Island berries, each ripening during its particular season, are a magnificent sight and a real treat.

**Answer the questions:**

1. What kinds of wild berries can be met on Sakhalin?
2. What way do the botanist classify the berries?
3. What berry has the strong & unusual smell?
4. What Sakhalin berries have confused names?

5. What Sakhalin berry combines 5 tastes & was known in Chinese medicine?
6. What is it praised for?
7. What interesting facts about Actinidia Colomikta do you know?
8. Why do the Japanese rose berries look striking?
9. What kinds of mountain ash grow on Sakhalin?
10. What is its value for?

## TEXT 8. SAKHALIN OIL & GAS PROJECTS CHRONOLOGY<sup>16</sup>

### 1975

- Oil and gas exploration is launched offshore Sakhalin.

### 1984

- Lunskoye field with unique gas reserves is discovered in the northeastern part offshore Sakhalin.

### 1986

- Piltun-Astokhskoye oil field is discovered in the northeastern part offshore Sakhalin.

### 1991

- An international tender is announced for the right to produce a feasibility study (FS) for the development of the Piltun-Astokhskoye and Lunskoye license areas.

### 1992

- A consortium of Marathon (USA), McDermott (USA) and Mitsui (Japan) wins the right to produce the feasibility study.
- The consortium and the Russian Federation enter into a feasibility study agreement for the Sakhalin-2 project license areas.
- Shell (Great Britain, the Netherlands) and Mitsubishi (Japan) join the consortium.

### 1993

- The Sakhalin-2 feasibility study is approved by the Russian Federation.

### 1994

- The consortium forms Sakhalin Energy Investment Company Limited (Sakhalin Energy) as Sakhalin-2 project operator.
- The Sakhalin-2 production sharing agreement, the first PSA in Russia, is entered into between Sakhalin Energy and the Russian Federation represented by the Russian Federation Government and the Sakhalin Oblast Administration.

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<sup>16</sup> «Сахалин-2» глазами переводчика / «Сахалин Энерджи Инвестмент Компани Лтд.», 2009. – НОЦ «Школа Китайгородской», 2009. – С. 13.

## **1995**

- Sakhalin Energy registered a branch office of the company in Yu-zhno-Sakhalinsk. It was Russia's first registered branch of a 100-percent foreign company.

## **1996**

- The Federal Law on Production Sharing Agreements is enacted.
- Sakhalin Energy is awarded licenses to develop Piltun-Astokhs-koye and Luns-koye fields.
- Sakhalin Energy announces a commencement date under the Sakhalin-2 PSA – the official start of the project.

## **1997**

- The supervisory board approves the plan of development of the Astokh feature (Phase 1) of the Piltun-Astokhs-koye field.
- The announcement by Sakhalin Energy of a development date for Piltun-Astokhs-koye field (Phase 1).
- McDermott sells its stake in Sakhalin Energy to the other share-holders.
- Studies of the Western gray whale population begin offshore Sakhalin.

## **1998**

- Project financing, the first for Russia, is received from three ma-jor international lending institutions.
- The Phase 1 technical and economic substantiation (TEO) is ap-proved.
- The Molikpaq (PA-A) ice-class drilling and production platform, the first for Russia, is installed offshore, at the Astokh feature of the Piltun-Astokhs-koye field.

## **1999**

- The enactment of the Enabling Law on Changes and Amend-ments to the Russian Federation's Legal Framework Arising from the PSA Law.
- First oil production from Molikpaq.
- The first crude cargo produced offshore Sakhalin is exported to the Asia Pacific.

## **2000**

- Shell signs an asset swap agreement with Marathon and as-sumes the majority shareholder role in the company.

## **2001**

- The integrated plan of development of the Piltun-Astokhs-koye and Luns-koye fields (Phase 2) is approved by the supervisory board.

## **2002**

- Sakhalin Energy prepares and submits the TEO of integrated development under Phase 2 project.

## **2003**

- The official launch of the implementation of the Sakhalin-2 Phase 2 project.
- First long-term liquefied natural gas (LNG) sales contracts with Japan utility companies are negotiated.
- The Phase 2 TEO is approved.
- The major engineering, procurement and construction contracts for Phase 2 facilities are awarded.

## **2004**

- Commencement of the Trans-Sakhalin pipeline system construction.
- A sales and purchase agreement is signed to supply LNG to the West Coast of North America.
- Sakhalin Energy awards contracts for the long-term charter of three new-built LNG ships to two Japanese-Russian ship owning consortia.
- Sakhalin Energy decides to convene an independent panel of gray whale experts.

## **2005**

- The offshore pipeline system is re-routed to bypass the gray whale feeding grounds.
- Sakhalin Energy signs an agreement to supply LNG to Korea.
- Russia's first concrete gravity-base structures for the offshore platforms in Lunskoye and Piltun fields are installed.

## **2006**

- The topsides installation on the Lun-A base structure is completed in a record-breaking operation offshore Sakhalin Island.
- The LNG jetty is completed.
- The entire output of both LNG trains (9.6 million tonnes of LNG a year) is contracted under long-term contracts with buyers in Japan, Korea and North America.

## **2007**

- Entry of Russia's largest company, Gazprom, into Sakhalin Energy as the leading shareholder.
- Sakhalin Energy breaks the world record once again by installing the topsides of the PA-B platform.
- Commissioning and start-up activities begin at Russia's first LNG

plant, using imported LNG cargos.

- Two new LNG carriers built in Japan for the Sakhalin-2 project are christened the Grand Elena and the Grand Aniva.

**2008**

- The third LNG carrier, also built in Japan, is named the Grand Mereya.

- The port of Prigorodnoye is opened to foreign vessels by a Russian Government decree.

- Sakhalin Energy secures project finance funding for Phase 2 from the Japan Bank for International Cooperation (JBIC) and an international consortium of commercial banks. This sets a new record for Russia in terms of the amount of project financing.

- Yuri Trutnev, Minister of Natural Resources of the Russian Federation, announces Sakhalin Energy the “Best Environment-Friendly Project of the Year.”

- Sakhalin Energy’s practices are recognized as the best example of corporate social responsibility and commended for promulgation by the Federation Council’s Committee on the Affairs of the North and Ethnic Minorities.

- Sakhalin Energy starts year-round oil export operations from the new oil export terminal at the port of Prigorodnoye.

**2009**

- President Dmitry Medvedev opens Russia’s first LNG plant.

## TEXT 9. PEAKS AND PLANES OF SAKHALIN<sup>17</sup>

Due to its unique shape, Sakhalin Island is often compared with a fish swimming in two seas: its belly in the Sea of Jap Okhotsk. If we maintain this comparison, the relief of the island is very easy to describe. Nearly the entire body of the Sakhalin fish is covered in scales of mountains, and only its head is fairly smooth. Mountain ranges, after rising from the seafloor at different times, compose the island. The “circulatory system” – the rivers – course through the axis of the island’s contour. Of these rivers, the largest made their way along tectonic faults and formed floodplains. Countless lesser rivers are, day and night, flattening the island’s steep topography, and this process will continue until the end of the present geological period.

Northern Sakhalin Island is dominated by plains. These were formed by erosion of once-elevated landforms and the heavy accumulation of loose sediments, brought by flowing waters. Neo-tectonic movements, most of which are weak and gradual compared with those of central Sakhalin Island, have raised and continue raising the central areas of the Sakhalin’s northern plains, while wide strips of coast remain behind.

The Schmidt Peninsula has experienced the most intense tectonic lifting, especially along its coastal blocks. This led to the formation of two low massifs separated by the Pil-Dianovskaya Lowland, which was named after the rivers that created the valley floor with their deposits. The peninsula’s mountain ranges are deeply dissected by narrow and steep river valleys, and exhibit almost no terracing.

North Sakhalin Plain lies to the south of the Schmidt Peninsula. This undulating territory of small river valleys extends from the Bay of Baikal in the north to the confluence of the Nysh and Tym in the south. It encompasses two parallel hill ranges and lowland, and its head and back in the Sea of remnant mountains, which are a continuation of the West-Sakhalin and East-Sakhalin Mountains. In the flood-

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<sup>17</sup> *Rivers of Sakhalin Island. Реки Сахалина / «Сахалин Энерджи Инвестмент Компани Лтд.» – Владивосток : изд-во «Апельсин», 2012. – С. 87.*



plain, the river valleys are wide and have several terraces. Where rivers intersect mountain ranges, however, valleys narrow significantly and turn into steep slopes with no terraces. In front of the ridges, valleys extensions contain sedimentary soils typical of lakes.

The western, northwestern, and eastern margins of North Sakhalin Plain are areas of new troughs. Here, one can find widespread four-tiered marine terraces. Upper terraces, especially in the west, have numerous lakes, wetland depressions, and peat bogs directly under which lies permafrost. Individual islands of such soils are found on the plain as well.

The island's northeastern coast stands apart as a unique subarea of the plain, one comprised of large lagoons, dunes, and low marine terraces. Its largest bays are separated from the sea by alluvial bands that contain narrow straits through which the seawaters of the Piltun, Chayvo, Nyisky, Nabil, and Lunsky bays penetrate. This subarea, together with the adjacent shelf of the Okhotsk Sea, contains some of Sakhalin Island's major oil and gas fields.

Central and Southern Sakhalin Island contains the sharply dissected mountainous terrains of the two major ranges, Western and Eastern. These mountains experienced sharp uplift in the past few million years. Even though the eastern ridge appeared much earlier than the western ridge, the period of Sakhalin regional folding has «renewed» its appearance. Between the major ridges lie depressions with tectonic faults, along which flow two of Sakhalin Island's major rivers, the Tym and the Poronai, as well as many minor rivers, such as the Susuya and the Naiba.

**The West Sakhalin Mountains** are the longest mountain range on the island: over 650 km of rocky ridges punctuated by deep saddles, as if strung on one elongated meridional rod. The veins of the mountain ranges have a dominant north-west strike, and are primarily formed in sandstone, shale and other sedimentary rocks. Landslide sand avalanches occur on the steep slopes.

**The East Sakhalin Mountains**, in terms of their topographical relief and appearance, are similar to the West Sakhalin Mountains, only higher, with ridges more massive and smaller intermountain depressions. Precipitous folded-block ranges line the axis: the Nabil range, with its highest peak Mount Lopatin (1609 m) in the northwest, and the Central ridge, with Mount Sokolov (1125 m) to the southeast.

**The Terpeniya Peninsula** is long and narrow. It stretches to the south of the East Sakhalin Mountains and, currently undergoing in-

tense neotectonic uplift, it has a system of low marine terraces, recently raised to the same height as islands and later joined by sand-spit. Here, one can find 20 beautiful lagoon-like lakes as well as many small tundra lakes with abundant Dolly Varden char, brown trout, pike, ide, and other fish.

**The Susunai and Tonino-Aniva ridges** constitute the southern extension of the East Sakhalin Mountains and have similar structure and composition, characterized by vertical dissection and quite steep slopes. The Tonino-Aniva Ridge forms the peninsula of the same name, which is the eastern half of the “tail fin” of our “Sakhalin Fish”.

**The Crillon Peninsula**, formed by spurs of the South Kamyshovy Ridge of the West Sakhalin Mountains, is the western half of the «tail» of Sakhalin Island.

The natural features here are very distinctive. The valley of the Ulyanovka River abounds in ammonite fossils – the preserved remains of giant mollusks that became extinct millions of years ago. A unique natural monument lies directly west atop Mount Spamberg a complex of 18 mountain lakes of landslide origin. A mountain plateau with lakes at an altitude of 800 meters! Mountain springs fill the lakes and rivers with pure artesian water. Rivers flow down the plateau with picturesque waterfalls, attracting admirers of the island’s beauty and excellent fishing from all over the world. One local waterfall, Shuisky, is located three hours from the summit of Mount Spamberg, in the upper reaches of the Chekhovka River – and with a height of 35 meters it is considered one of Sakhalin Island’s natural wonders.

**The Tym-Poronay Lowlands** comprise an area of land from 5 to 90 km wide, which exhibits a long and gradual bowing. During the interglacial period, the time of extinction of mammoths and woolly rhinoceroses, the southern part of these lowlands was covered by sea. The Tym and the Poronai rivers paved their way along tectonic faults and formed a series of broad terraces. The Tym terrace reaches an altitude of 8 m, and that of the Poronai 18–22 m. The Poronai floodplain lies less than 2 m above sea level, and gradually merges with a wide semicircular marshy plain that stretches along the coast of Terpeniya Bay.

**The Susunai Lowland**, the bottom of which has an altitude of 10–15 m, separates the Susunai Ridge from the West Sakhalin Mountains and is drained by the Susuya and Naiba rivers and their tributaries. The width of the plain varies, from 6 to 23 miles, and it grows more waterlogged as its elevation lowers in the north and south. Valleys

of the Naiba, in the north, and the Susuya, in the south, gradually merge with low marine terraces. While the Tym-Poronay lowland is a cold and insolated place, the Susunai Lowland is the most populated valley on Sakhalin Island. Here, at the foot of Bolshevik Mountain, nestles the island's capital town.

**The Muravievskaya Lowland** has a different origin, and separates the Tonino-Aniva Ridge from Korsakov Plateau. Some 12,000 years ago, sea waves were still splashing here. The famous lagoon-like lakes of Tunaicha, Izmenchivoye, Busse, Bolshoye and Maloye Vavaiskoye, Bolshoye and Maloye Chibisanskoe were once bays of the Sea of Okhotsk. All of them, to a greater or lesser extent, are still connected to this «parent” body of water. In addition to large brackish lakes, there is a whole scattering of smaller freshwater lakes. Between Lake Tunaicha and Mordvinova Bay there is a string of 13 lakes, popularly called the “Warm Lakes”. Indeed, Muravievskaya Lowland is Sakhalin Island's land of lakes, a unique phenomenon even on this island that boasts 16,000 lakes altogether.

**Answer the questions:**

1. How can you characterize the mountains of the Schmidt Peninsula?
2. What areas of Sakhalin contain major oil & gas fields?
3. What is the longest mountain range on Sakhalin?
4. Where are peal Lopatin (1609 m.) and Sokolov (1125 m.) located?
5. Why is Mount Spamberg thought to be a unique natural monument?
6. Which lowland is Yuzhno-Sakhalinsk situated?
7. Where are famous lagoons like lakes Tunaicha, Busse, Vavaiskoye located?
8. What is their origin?
9. What is the size of Tym-Poronaisk lowlands?
10. How did it look like during the interglacial period?

## TEXT 10. RARE AND PROTECTED BIRD SPECIES ON SAKHALIN<sup>18</sup>

The list of birds included in the Red Data Book of Sakhalin Oblast and which are present, or recorded from, Sakhalin Island (i.e. excluding the Kuril Islands) consists of 90 species. Out of these, 19 species are included in the Red Data Book and Threatened Birds of Asia and 42 species are included in the Red Data Book of the Russian Federation. A significant number of these species are also listed in the Japan-Russia Migratory Bird Treaty (1973).

The major part (about 70 %) of Sakhalin is rare bird fauna is represented by wetland (lake-swamp and littoral marine species) species reflecting the extensive presence of these habitats across the island and in particular the dynamic and productive coastal ecosystem of the north-east of the Island. Terrestrial species, representative of the mountainous and forested interior of the island and human-influenced habitats (e.g. commercial forestry or agricultural land) make up the remaining 30 % of the rare bird fauna.

The majority of the RDB listed species are characterized by small populations and an uneven distribution, linked to either very specific habitat requirements, or other influencing factors such as human disturbance. Because of this, and issues associated with survey feasibility and access to often remote and difficult working areas, definitive information on the status of many species is lacking and our knowledge of many populations on Sakhalin is limited. However, for some species, this is not the case and there is significant data available for highly visible (from a conservation perspective) species such as white-tailed eagle and Steller's sea eagle, which have been well studied. Other species that have a distribution closer to the main areas of human population in the south of the Island have also been more intensively studied (e.g. Japanese robin and Latham's (Japanese) snipe).

The geographical position of Sakhalin Island indicates its potential as a migratory bridge for birds travelling between Japan and

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<sup>18</sup> Сахалин и Курилы. Современный путеводитель по Сахалинской области. – 2-е изд., испр. и доп. – М. : PressPass, 2018. – С. 48.

the mainland Far East. Some bird populations that utilize habitats in northern Russia and Kamchatka during the spring-summer for breeding undoubtedly migrate to wintering areas through the Komandorskiye Islands and Kuril Islands and do not fly through Sakhalin. Whether Sakhalin is a bridge for other Palearctic birds originating from Khabarovsk Krai and the Russian North (e.g. many species of passerines) or whether the migratory population is largely comprised of local birds are not fully known. Certainly, it is apparent that some species make use of Sakhalin as a staging ground during both spring and autumn migrations.

Notable examples include Bewick's swan (*Cygnus columbianus bewickii*) and whooper swan (*Cygnus cygnus*) which congregate in large numbers in the north-east and the extreme south of the Island prior to moving to wintering grounds in Japan or breeding grounds in northern Russia. Certainly the importance of the Island in this respect is reflected by the fact that a significant number of birds recorded from Sakhalin are included in the international convention on migrating birds signed between Russia and Japan.

Bird ringing has also been undertaken on Sakhalin as part of the Amur-Ussuri study and data from this provide some evidence for a direct migration route

between the island and Japan. In total, 7320 birds were ringed on Sakhalin between 1998 and 2004, covering both spring and autumn migration periods; many of the birds having been ringed during surveys for SEIC. Between 1998 and 2004, 13 birds (buntings and snipe) ringed on Sakhalin were caught in Japan and 2 birds ringed in Japan were caught on Sakhalin (bird ringing and migration studies are far more widespread and intensive on Japan than on Sakhalin). The recapture represents 0.18 % of the birds ringed, a rate that compares favorably with rates observed (0.2 %) from many years of ringing in Europe and Japan. This data clearly indicates that there is a significant migratory route between Sakhalin and Japan and that this route is used by a wide range of birds, from passerines through to waders and birds of prey.

**Answer the questions:**

1. How many rare & protected birds inhabit Sakhalin?
2. How many of them are included in RDB of Russian Federation & Japan?
3. What document are they listed in?

4. What types is rare bird fauna represented by on Sakhalin?
5. What are RDB species characterized by?
6. How does human disturbance influence bird species?
7. Why is there limit or lack of information about some species?
8. Which bird species have been studied more intensively? Why?
9. What areas do birds migrate to/from Sakhalin?
10. How does the geographical position indicate Sakhalin island potential?

## TEST 1

Sakhalin is Russia's largest island at 948km (589 miles) in length and 25 to 170km (16 to 106 miles) wide, with an area of 72,492 sq. km (or 27,989 sq. miles). Sakhalin Island is separated from the mainland by the narrow and shallow Strait of Tartary, which often freezes over at its narrowest points in winter. It is also very close to Hokkaidō in Japan across the Soya or La Perouse Strait.

There is some debate about the origin of Sakhalin Island, but the dominant theory is that this geological feature rose up from the Sakhalin Island arc. As much as two-thirds of Sakhalin is mountainous. Two parallel ranges of mountains with peaks reaching 600–1,500m (2,000–5,000 feet) traverse it from north to south. The highest peak in the Western Sakhalin Mountains is Mount Ichara at 1,481m (4,859 ft), while the highest peak of the Eastern Sakhalin Mountains and on Sakhalin Island is Mount Lopatin at 1,609m (5,279 ft). The two mountain ranges are separated by the Tym-Poronaiskaya Valley. The Susuanaisky and Tonino-Anivsky ranges traverse the island in the south, while the north of Sakhalin Island is predominantly taken up by the swampy Northern-Sakhalin plain.

Cretaceous lime stones which contain abundant and specific fauna of gigantic ammonites occur at Dui on the west coast while crystalline rocks crop out at several capes. Tertiary conglomerates, sandstones, marls and clays, folded by subsequent upheavals, are found in many parts of the island. The clays contain layers of good coal and an abundant fossil vegetation, indicating that during the Miocene period Sakhalin formed part of a continent which comprised north Asia, Alaska and Japan, and enjoyed a comparatively warm climate. The Pliocene deposits contain a mollusk fauna more Arctic than that which exists today, indicating that the connection between the Pacific and Arctic Oceans was probably broader than it is now.

The Tym River is 330km (205 miles) long and navigable by rafts and small boats for 80km (50 miles). It has numerous rapids and flows north to north-east to the Sea of Okhotsk. The Poronai River flows south to south-east to the Gulf of Patience on the south-east coast. Three other small streams enter the wide semicircular Gulf of Aniva at the southern extremity of the island.

Lying close to Sakhalin Island, just southwest of Kholmsk, is the

small unpopulated island of Moneron which is popular with divers, snorkelers, and bird watchers. It became Russia's first marine park because of the abundance of underwater wildlife with even some subtropical species and fantastic plants. These have come about due to an array of underwater reliefs and the warm Tsusimskoye current. Above the water the scenery is quite dramatic and features interesting rock formations, waterfalls, rocky canyons and alpine meadows. The island has numerous bird colonies and is a breeding ground for sea lions.

Tiny Tyuleniy (Seal) Island has one of the largest Northern Fur Seal and Sea Lion rookeries in the world, so the island is aptly named. There is a small Russian research station on the island, with blinds for observing the wildlife including many bird species.

Lake Tunaycha, the largest body of fresh water on the island, is 45km south-east of Yuzhno-Sakhalinsk. It is one of a string of shallow lakes running along Sakhalin's western coast line which are host to a number of wading bird species.

The Vaida mountain range is part of Smirnych Nature Reserve, which cuts the island in two at what used to be the division between Japanese and Russian Sakhalin. The area has seen some fierce fighting over sovereignty disputes but these days it is more peaceful although heavy deforestation has taken its toll on unprotected forests. This area boasts some spectacular caves (particularly the Vaida Cave) with impressive stalactites, stalagmites and petroglyphs. The scenery above ground is also spectacular with many alpine plants and some pretty lakes dotted here and there for good measure.

Zhdanko Ridge was created by molten magma rising through cracks but not allowed to surface through the crust. Wind and water eventually caused the collapse of this ridge north of Tikhaya village. The 13km long, 1–2 km wide streak of solidified magma is now the main feature of a protected state territory where unusual volcanic rock formations, hardened lava flows, sudden 30m vertical drops and many beautiful waterfalls, up to 50m high can be seen. In spring the dark volcanic rocks contrast the light-green grass and trees, providing some beautiful vistas.

**Glossary:**

1. Mainland \_\_\_\_\_
2. To be separated from \_\_\_\_\_
3. Shallow \_\_\_\_\_



4. Narrow \_\_\_\_\_
5. Swampy \_\_\_\_\_
6. to freeze over \_\_\_\_\_
7. dominant theory \_\_\_\_\_
8. range \_\_\_\_\_
9. ridge \_\_\_\_\_
10. to traverse \_\_\_\_\_
11. valley \_\_\_\_\_
12. plain \_\_\_\_\_
13. Cretaceous \_\_\_\_\_
14. Limestone \_\_\_\_\_
15. Abundant \_\_\_\_\_
16. Ammonites \_\_\_\_\_
17. Tertiary conglomerates \_\_\_\_\_
18. Cape \_\_\_\_\_
19. Sandstones \_\_\_\_\_
20. Marls \_\_\_\_\_
21. subsequent upheavals \_\_\_\_\_
22. fossil \_\_\_\_\_
23. Miocene period \_\_\_\_\_
24. Pliocene deposits \_\_\_\_\_
25. Navigable \_\_\_\_\_
26. Semicircular \_\_\_\_\_
27. Gulf \_\_\_\_\_
28. Snorkelers \_\_\_\_\_
29. Abundance \_\_\_\_\_
30. Current \_\_\_\_\_
31. Waterfall \_\_\_\_\_
32. alpine meadows \_\_\_\_\_
33. breeding ground \_\_\_\_\_
34. Northern Fur Seal \_\_\_\_\_
35. Rookery \_\_\_\_\_
36. Blind (n.) \_\_\_\_\_
37. Wading \_\_\_\_\_
38. Specie \_\_\_\_\_
39. fierce fighting \_\_\_\_\_
40. sovereignty \_\_\_\_\_
41. deforestation \_\_\_\_\_
42. toll \_\_\_\_\_
43. stalactites, stalagmites, petroglyphs \_\_\_\_\_

44. molten magma \_\_\_\_\_
45. crust \_\_\_\_\_
46. solidified magma \_\_\_\_\_
47. to harden \_\_\_\_\_
48. vista \_\_\_\_\_
49. clays \_\_\_\_\_

**Read the text and answer the following questions:**

1. What is the length and width of Sakhalin Island?
2. What strait does it separated from the mainland?
3. What is the theory of the origin of the island?
4. What are the highest peaks in Sakhalin?
5. What ranges traverse the island?
6. What evidence of Miocene and Pliocene period can be met on Sakhalin?
7. What rivers of Sakhalin are navigable?
8. Why is Moneron Island so popular with divers?
9. Why is Lake Tunaicha so specific?
10. What mountain cuts the island in two parts?
11. What is the origin of Zhdanko Ridge? Why is this place so unusual?

**Match the word combinations, translate them into Russian:**

1. Geological	a. vista	
2. alpine	b. deforestation	
3. warm	c. feature	
4. underwater	d. forests	
5. mountain	e. meadows	
6. beautiful	f. ground	
7. gigantic	g. range	
8. fossil	h. stalactites	
9. impressive	i. station	
10. molten	j. ammonites	
11. tertiary	k. relief	
12. unprotected	l. conglomerate	

13. Miocene	m. vegetation	
14. marine	n. period	
15. heavy	o. species	
16. Pliocene	p. of wildlife	
17. research	q. deposit	
18. breeding	u. current	
19. abundance	r. port	
20. subtropical	s. magma	

**Translate the sentences into English.**

1. Остров Сахалин – самый большой в Российской Федерации, он отделен от материковой части Татарским проливом.

2. Озеро Тунайча – самое крупное пресноводное озеро на Сахалине.

3. Река Тымь – длинная и судоходная река.

4. На острове Тюлений находится маленькая исследовательская станция, с которой ведут наблюдения за разными особями птиц.

5. Остров Монерон стал первым морским заповедником на Сахалине из-за обилия подводных морских животных и растений.

6. Гора Вайда разделяет остров на две части и в прошлом служила разделением между японской и русской частями острова.

7. Слои глины содержат уголь и окаменелую растительность, указывая на то, что Сахалин был когда-то материковой частью.

8. Весной темные вулканические скалы контрастируют с ярко-зеленой травой и деревьями.

9. Хребет Жданко образовался из расплавленной магмы, поднимающейся через расщелины в земле.

10. Затвердевшая лава образовала красивые водопады высотой до 50 метров.

## TEST 2

The climate of Sakhalin Island is largely determined by its geographical location, a place where the vast waters of the northern Pacific Ocean meet the expansive and varied lands of the northern Asia. Like two antagonists, ocean and land exist in a state of eternal conflict, and their continual friction generates steady winds. In summer, winds from the sea bring Sakhalin the heavy rainfalls of cooling monsoons, while the winds of frozen inland regions bring frigid weather in winter. As a result, the island climate is much cooler and more severe than in areas on the same latitude between Tula and Odessa. However, the climate varies substantially between different parts of the island. The island extensive reach from north to south contributes to this variation, especially with respect to the influence of mountain ranges and the effect of ocean currents, warm on one side and cold on the other. The northern region of Sakhalin Island and its eastern coast are exposed to the Sea of Okhotsk winds cold mists.

Here the climate is almost polar. A segment of the sea of Japan's Tsushima current warms the southwestern coast of Sakhalin Island, while the cold East Sakhalin Current flows north to south along the island east coast, bringing ice until June. Mountain ranges protect central regions of the island from oceanic effects, and so if compared with Sakhalin coastal climate the weather there is more continental, with the air temperatures higher in summer and lower in winter.

Sakhalin certainly experiences controlling influences of water. 100 % relative humidity levels are commonplace, but precipitation and associated river levels are subject to seasonal changes. On average, annual precipitation (rain or snowfall) is approximately 500-600mm. in the north of Sakhalin, 600-700mm. in the central regions, and up to 800-1200 mm. in the south. On the Kuril Islands, the precipitation ranges between 1000-1400mm.

Each year some 100 cyclones swipe over Sakhalin Island and the typhoons of late summer and early fall often brings heavy rains accompanied by storm-force winds reaching speed of 40mps. (144 kph.).

The island warm season occurs from April to October, bringing two or three times more precipitation than the cold period between November and March. Sometimes, however, the snowfalls accompanied winter cyclones render statistical forecasts invalid, when over

the course of 2 or 3 days, snow accumulation reaches tremendous depths, causing mighty avalanches to descent mountains burying roads so heavily that, when finally cleared of snow, they look like tunnels winding between several meter embankments.

Still Sakhalin highest precipitation levels are observed alongside the severest cyclonic activity of August and September, while lowest precipitation levels occur in February.

**Glossary:**

1. Eternal \_\_\_\_\_
2. Steady \_\_\_\_\_
3. Avalanche \_\_\_\_\_
4. Precipitation \_\_\_\_\_
5. Rainfall \_\_\_\_\_
6. Monsoon \_\_\_\_\_
7. Severe climate \_\_\_\_\_
8. Frigid \_\_\_\_\_
9. Snowfall \_\_\_\_\_
10. Forecast \_\_\_\_\_
11. Humidity \_\_\_\_\_
12. Mist \_\_\_\_\_
13. Snow accumulation \_\_\_\_\_
14. Coastal climate \_\_\_\_\_
15. Storm-force wind \_\_\_\_\_
16. Latitude \_\_\_\_\_

**Read the text and answer the questions:**

1. Why is climate in Sakhalin so different?
2. What influences Sakhalin climate?
3. What is in the part of Sakhalin climate polar?
4. How many cyclones visit Sakhalin each year?
5. What is the wind reaching speed?

**Match the adjectives with their meanings.**

1.	expansive	a	прохладный
2.	varied	b	вечный
3.	eternal	c	хрупкий
4.	continual	d	суровый

5.	heavy	e	напряженный, тяжелый
6.	frigid	f	продолжительный
7.	cooling	g	разнообразный
8.	severe	h	обширный
9.	extensive	i	пологий
10.	tremendous	j	огромный
11.	descent	k	пространный

### Translate into English.

1. Климат Сахалинской области определяется его географическим положением.
2. Летом ветер с моря приносит обильные дожди.
3. Горные цепи защищают центральные части острова от влияния Тихого океана.
4. Климат на Сахалине характеризуется холодными влажными зимами и прохладным дождливым летом.
5. Зимние циклоны приносят мощный шторм и обильные снегопады.
6. Теплое время года продолжается на Сахалине с апреля по октябрь.
7. Дороги зимой напоминают тоннели, вьющиеся между снежными насыпями высотой в несколько метров.
8. Каждый год более ста циклонов с силой ударяют по Сахалину, а летние тайфуны сопровождаются штормовыми ветрами, достигающими скорости до 40 м/с.
9. Как две противоборствующие стороны – земля и океан находятся в состоянии вечного конфликта, который и порождает устойчивые ветра.

## TEST 3

### Task 1. Choose the best answer.

1. Sakhalin Island resembles...
  - a) big shrimp;
  - b) big fish with forked tail;
  - c) big squid.
  
2. Sakhalin Island lies off...
  - a) The eastern coastline of the Eurasian mainland;
  - b) The western coastline of the Kuril islands;
  - c) The northern coastline of Hokkaido island.
  
3. Sakhalin is separated from the continent by...
  - a) Nevelskoy strait;
  - b) La Perouse strait;
  - c) Petropavlovsky strait.
  
4. Sakhalin is separated from the island of Hokkaido by...
  - a) The Amur Estuary;
  - b) Sakhalin Bay;
  - c) La Perouse strait.
  
5. The Kuril Islands are...
  - a) an archipelago of volcanic islands;
  - b) an archipelago of mountains;
  - c) an archipelago of ranges.
  
6. The length of Sakhalin Island is..
  - a) 765 km;
  - b) 948 km;
  - c) 890 km.
  
7. The largest river of Sakhalin is..
  - a) Susuya;
  - b) Naiba;

c) Poronai.

8. The whole territory of the Sakhalin region is situated in the zone..

- a) Of seismic danger;
- b) Of volcanic activity;
- c) Of floods.

9. The climate of Sakhalin is ...

- a) temperate monsoon;
- b) Cold monsoon;
- c) Hot monsoon.

10. Who discovered that Sakhalin was an island?

- a) G.T. La Perouse;
- b) W.R. Broughton;
- c) G.I. Neveskoy.

**Task 2. Translate the words and word combinations into Russian.**

- 1. Avalanche \_\_\_\_\_
- 2. Extremity \_\_\_\_\_
- 3. Anchorage \_\_\_\_\_
- 4. Swamp \_\_\_\_\_
- 5. Waterlogged \_\_\_\_\_
- 6. Extinct volcano \_\_\_\_\_
- 7. Heavy precipitations \_\_\_\_\_
- 8. River net \_\_\_\_\_
- 9. Mineral spring \_\_\_\_\_
- 10. Coniferous forest \_\_\_\_\_
- 11. Broad-leaved forest \_\_\_\_\_
- 12. Alder \_\_\_\_\_
- 13. Larch \_\_\_\_\_
- 14. Pine \_\_\_\_\_
- 15. Fir \_\_\_\_\_
- 16. Maple \_\_\_\_\_
- 17. Poplar \_\_\_\_\_
- 18. Butterbur \_\_\_\_\_
- 19. Mammal \_\_\_\_\_
- 20. Otter \_\_\_\_\_



21. Mink \_\_\_\_\_
22. Stoat \_\_\_\_\_
23. Herring \_\_\_\_\_
24. Plaice \_\_\_\_\_
25. Halibut \_\_\_\_\_
26. Squid \_\_\_\_\_
27. Whale \_\_\_\_\_
28. Pollack \_\_\_\_\_
29. Hazel hen \_\_\_\_\_
30. Guillemot \_\_\_\_\_

**Task 3. Translate the words and word combinations into English.**

1. Напоминать рыбу \_\_\_\_\_
2. Над уровнем моря \_\_\_\_\_
3. Сложный гористый рельеф \_\_\_\_\_
4. Покрыта низменностями \_\_\_\_\_
5. Обильные осадки \_\_\_\_\_
6. Источник пресной воды \_\_\_\_\_
7. Река горного происхождения \_\_\_\_\_
8. Струя пара вырывается с громким шумом \_\_\_\_\_
9. Минеральные подземные источники \_\_\_\_\_
10. Зона умеренного климата \_\_\_\_\_
11. Среднегодовая температура \_\_\_\_\_
12. Влажный прохладный воздух \_\_\_\_\_
13. Наибольшее количество осадков \_\_\_\_\_
14. Уникальная и незабываемая природа \_\_\_\_\_
15. Хвойные леса \_\_\_\_\_
16. Сплошной ковер \_\_\_\_\_
17. Гигантские травянистые растения \_\_\_\_\_
18. Медицинские растения \_\_\_\_\_
19. Разные виды млекопитающих \_\_\_\_\_
20. Колонии птиц \_\_\_\_\_
21. Ластоногие \_\_\_\_\_
22. Лежбище котиков \_\_\_\_\_
23. Прилегающий материк \_\_\_\_\_
24. Достигать веса в одну тонну \_\_\_\_\_
25. Населять территорию региона \_\_\_\_\_
26. Достигать высоты \_\_\_\_\_
27. Природные условия \_\_\_\_\_

28. Склоны гор \_\_\_\_\_
29. Направление ветра \_\_\_\_\_
30. Сильные дожди \_\_\_\_\_

**Task 4. The following sentences. Write the correct variant.**

1. The total area of the Kuril Islands is 154 000 sq.km.  
\_\_\_\_\_
2. The Sakhalin Island is washed by the sea of China, the Red sea, the Arctic Ocean.  
\_\_\_\_\_
3. The shores of Sakhalin are steep and rocky.  
\_\_\_\_\_
4. The Sakhalin region is the zone of seasonal mountain torrent.  
\_\_\_\_\_
5. Chekov peak is situated in the north of Sakhalin.  
\_\_\_\_\_
6. The Pacific Ocean, The Sea of Japan set conditions for a dense river net in Sakhalin.  
\_\_\_\_\_
7. You can find boiling lake on Iturup island.  
\_\_\_\_\_
8. The Sakhalin region is affected by hot zone monsoon.  
\_\_\_\_\_
9. During the year the Sakhalin region undergoes about a thousand of cyclones.  
\_\_\_\_\_
10. Spruces, pines, firs, larches are rare on Sakhalin.  
\_\_\_\_\_

**Task 5. Translate the sentences into English.**

1. Татарский пролив соединяет Охотское море с Японским.
2. Расстояние между мысами Крильон и Елизавета составляет 948 км.
3. Зима на Сахалине снежная и суровая.
4. Курилы – острова вулканического происхождения.
5. Полуостров Шмидта – северная оконечность Сахалина.
6. Циклоны и тайфуны формируют погоду зимой и летом.

7. Сложная гористая поверхность, зона умеренного муссона и положение острова влияют на формирование климата Сахалина.
8. Хвойные леса занимают 80 % территории Сахалина.
9. Сосны живут до 300 лет и достигают в высоту 28 метров.
10. Крупнейшее ластоногое – это сивуч, может достигать в весе до тонны.
11. Потепление может вызвать сход лавины.
12. Самая высокая вершина Сахалинского региона – вулкан Алаид, находится на острове Атласов.
13. Лимонник и аралия могут использоваться вместо лекарств.
14. Мускус делает аромат духов стойким.
15. Иногда мхи образуют сплошные ковры на земле.
16. В Сахалинской области только три лежбища тюленей.
17. Обильные осадки питают речную сеть Сахалинской области.
18. Западно-Сахалинские горы простираются с севера до мыса Крильон.
19. Некоторые сахалинские растения могут заменить женьшень.
20. Фауна похожа на животный мир прилегающего материка.

## GLOSSARY

1. **Abundance** (n) – a very large quantity of smth.
2. **Affect** (v) – 1. To change or influence something. 2. To cause physical damage to smth.
3. **Agriculture** (n) – the work, business or study of farming.
4. **Algae** (n) – marine plant grows in sea, lake.
5. **Anchor** (n) – a heavy object that is dropped into the water to prevent a boat from moving.
6. **Aquaculture** (n): the raising of fish and other aquatic animals for food.
7. **Ash** (n) – a tree with a smooth grey bark.
8. **Associated petroleum gas** (APG), or **associated gas** – is a form of natural gas which is found with deposits of petroleum, either dissolved in the oil or as a free «gas cap» above the oil in the reservoir.
9. **Average** (adj.) – the amount, level, standard that is typical of a group of people or things.
10. **Bay** (n) – an area from the coast where the land curves inward.
11. **Beach** (n) – an area of sand or small stones beside the sea or a lake.
12. **Blizzard** (n) – a storm with a lot of snow & strong winds.
13. **Bottom** (n) – the deepest side of a sea or a pool, lake or river.
14. **Broad-leaved** (adj.) – 1. Relating to or belonging to deciduous or evergreen trees such as oak or holly that have wide rather than needle-shaped leaves. 2. Relating to all plants that have wide leaves rather than narrow leaves, for example grasses.
15. **Butterbur** (n) – any of several Eurasian herbs, of the genus Petasites, have dense clusters of often purple flowers.
16. **Caviar** (n): the eggs of the sturgeon fish sold as an expensive food.
17. **Celsius** (n) – a system for measuring temperature, that is a part of a metric system, in which water freezes at 0 degrees and boils at 100 degrees.
18. **Coast** (n) – an area of land beside the sea.

19. **Coastline** (n) – the land along the coast, especially when seen from the sea or the air.
20. **Cone** (n) – the fruit of a pine tree.
21. **Conifer** (n) – a type of tree that produces cones and which leaves do not fall in winter. Pines, firs and yews are conifers.
22. **Coniferous** (adj.) – a coniferous forest has mainly conifers growing in it.
23. **Crude oil** (n) – oil in its natural state, before it has been refined for use.
24. **Current** (n) – a strong movement of water in one direction.
25. **Depopulation** |(n)| – a situation where people leave a place of residence in order to live somewhere else.
26. **Desert** (n) – a large area of land with few plants and little water in the regions where the weather is always dry.
27. **Destroy** (v) – to damage smth. so severely that it is no longer exist or can not ever return to a normal state.
28. **Disaster** (n) – something that causes a lot of damage and kills a lot of people.
29. **Discovery** (n) – the process of learning something that was unknown before.
30. **Embroidery** (n) – is the craft of decorating fabric or other materials using a needle to apply thread or yarn.
31. **Fertile** |(adj.) – land able to produce good crops and plants
32. **Fir** (n) – a tall tree with sharp leaves (needles) that do not fall off in winter. It produces large brown fruit called cones.
33. **Flood** (n) – a situation when water from a river or from rain covers large areas of land.
34. **Fluctuate** (v) – to change frequently.
35. **Foliage** (n)| – the leaves of a plant or a tree.
36. **Ginseng** (n) – is the root of plants in the genus *Panax*, such as Korean ginseng (*P. ginseng*), South China ginseng (*P. notoginseng*), and American ginseng (*P. quinquefolius*), typically characterized by the presence of ginsenosides and gintonin.
37. **Guillemot** (n) – is the common name for several species of seabird in the Alcidae or auk family (part of the order Charadriiformes).
38. **Harbor** (n) – an area of water near the land where it is safe for

boats to stay. A port is a harbor where passengers and goods can be taken on and off.

39. **Hillock** (n) – a small hill.

40. **Humid** (adj) – wet and hot that makes you feel very uncomfortable.

41. **Isolated** – (adj.) 1. Isolated place is a long way from other places and is often difficult to get to. 2. Happening only once, or existed only in one place.

42. **Lagoon** (n) – an area of sea water that is separated from the sea by sand or rocks.

43. **Larch** (n) – a tree a tall coniferous tree with sharp leaves (needles) that falls off in winter.

44. **Lighthouse** (n) – a tower built next to the sea to show vessels where to go.

45. **Liquefied natural gas (LNG)** – is natural gas (predominantly methane, CH<sub>4</sub>, with some mixture of ethane, C<sub>2</sub>H<sub>6</sub>) that has been cooled down to liquid form for ease and safety of non-pressurized storage or transport.

46. **Mainland** (n) – a large mass of land that forms the main part of the country but doesn't include any islands.

47. **Marine** (adj.) – 1. Living in or happening in the sea; 2. Relating to the sea and creatures that live in it; 3. Involving ships or the business of moving people and goods in ships.

48. **Mountain** (n) – a very high hill.

49. **Mountain range** (n) – a long row of mountains.

50. **Mountainous** (adj.) – covered with mountains.

51. **Mussel** (n) – a small shellfish with a soft body inside a hard black or green shell, often cooked and eaten as sea food.

52. **Natural** (adj) – existing in nature and not produced or caused by people.

53. **Navigable** (adj) – deep and wide enough for ships to travel through.

54. **Oak** (n) – a large tree that can live for a very long time and produces hard fruits called acorns.

55. **Ocean** (n) – one of the large areas of salt water that covers most of the Earth.

56. **Ocean current** (n) – a movement of the water on the surface

of an ocean, caused by wind, temperature or the salt in the water.

57. **Oceanic ridge** (n) – a section of a range of mountains under the sea.

58. **Octopus** (n): a sea creature with a soft round body, no shell, and eight arms called tentacles.

59. **Offshore** (adj.) – 1. In the sea not in the land. This word is used especially for talking about oil industry; 2. In the sea but near the coast; 3. An offshore wind is blowing away from the land, towards the sea.

60. **Oil** (n) – smooth dark liquid from under the ground, used for making petrol and the other fuel.

61. **Oil platform, offshore platform, or offshore drilling rig** is a large structure with facilities for well drilling to explore, extract, store, and process petroleum and natural gas that lies in rock formations beneath the seabed.

62. **Oil rig** (n) – a tall structure fitted with equipment for getting oil & gas out of the ground.

63. **Oil spill** (n) – the amount of oil the accidentally poured out of the tanker or container.

64. **Oilfield** (n)- an area where is oil under the land or under the bottom of the sea.

65. **Outgoing** (adj.) – going out or away from the place.

66. **Oyster** (n) – a type of shellfish that has a rough shell and is eaten as food often raw. Some type of oyster contains pearls.

67. **Oyster** (n): shellfish with a rough shell in which pearls can grow.

68. **Paleontology**(n) – is the scientific study of life that existed prior to, and the start of the Holocene Epoch (roughly 11,700 years before present). It includes the study of fossils to determine organisms' evolution and interactions with each other and their environments (their paleoecology).

69. **Pebble** (n) – a small stone, especially one that has been made smooth by water.

70. **Peninsula** (n) – a long piece of land that is mostly surrounded by water but is joined at one end to a larger area of land.

71. **Pipeline** (n) – a long underground tube that carries gas from one place to another.

72. **Plain** (n) – a large flat area of land.

73. **Polar** (adj.) – coming from, or relating to an area near the North Pole or the South Pole.

74. **Prawn** (n): a sea creature with a thin shell and ten small legs.

75. **Pulp & paper industry (n)** – comprises companies that use wood as raw material and produce pulp, paper, paperboard and other cellulose-based products.

76. **Reef** (n) – a long line of rock or coral in the sea, with its top just below or above the surface.

77. **Relief** (n) – the elevations of a land surface.

78. **Roe** (n): all the eggs inside a female fish.

79. **Salmon** (n) – a silver fish with pink flesh that lives in the sea but swims up rivers to produce eggs.

80. **Sandstone (n)** – is a clastic sedimentary rock composed mainly of sand-sized (0.0625 to 2 mm) mineral particles or rock fragments.

81. **Sea breeze** (n) – a gentle wind that blows from the sea onto the land.

82. **Sea level** (n) – the average level of the sea. It is used for measuring the height of parts of the land.

83. **Seal** (n) – a large sea animal that eats fish and lives mostly in the cold parts of the world. Seals are amphibious = (they can live both in water and on land). A young seal is called a pup.

84. **Seaside** (n) – 1. An area that is near the sea especially one where people go for a holiday. 2. at the seaside or taking place there.

85. **Shallow** (adj.) – with a short distance from the top or surface to the water.

86. **Shellfish** (n) – sea creatures with a hard shell around them, for example crab mussels and oysters.

87. **Shelter** |(n)| – a temporary place to live (for people, animals) especially in the case of danger.

88. **Slope** (n) – the slide of a hill or a mountain.

89. **Squid** (n): a sea creature with a soft body, eight arms and two long tentacles.

90. **Stormy** (adj.) – with a lot of rain and strong winds.

91. **Summit** (n) – the top of the mountain.

92. **Sustainable development (n+adj)** – is the organizing principle for meeting human development goals while simultaneously sustaining the ability of natural systems to provide the natural resources



and ecosystem services based upon which the economy and society depend.

93. **Swamp** (n) – an area of land that is covered by water.

94. **Swampland** (n) – an area of land covered by a swamp.

95. **Taiga** (n) – an area of land situated in the northern Hemisphere. It has cold winters and hot summers with many coniferous trees.

96. **Tide** (n) – the regular movement of the sea towards and away from the sea.

97. **Trawl** (v): to catch sea creatures, esp. fish, by pulling a large net behind a boat.

98. **Tundra** (n) – a large flat area of land without trees in the northern parts of the world. Its subsoil is permanently frozen.

99. **Valley** (n) – a low area of land between mountains or hills usually with a river flowing between it.

100. **Waterlogged** (adj.) – soaked or saturated with water.

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