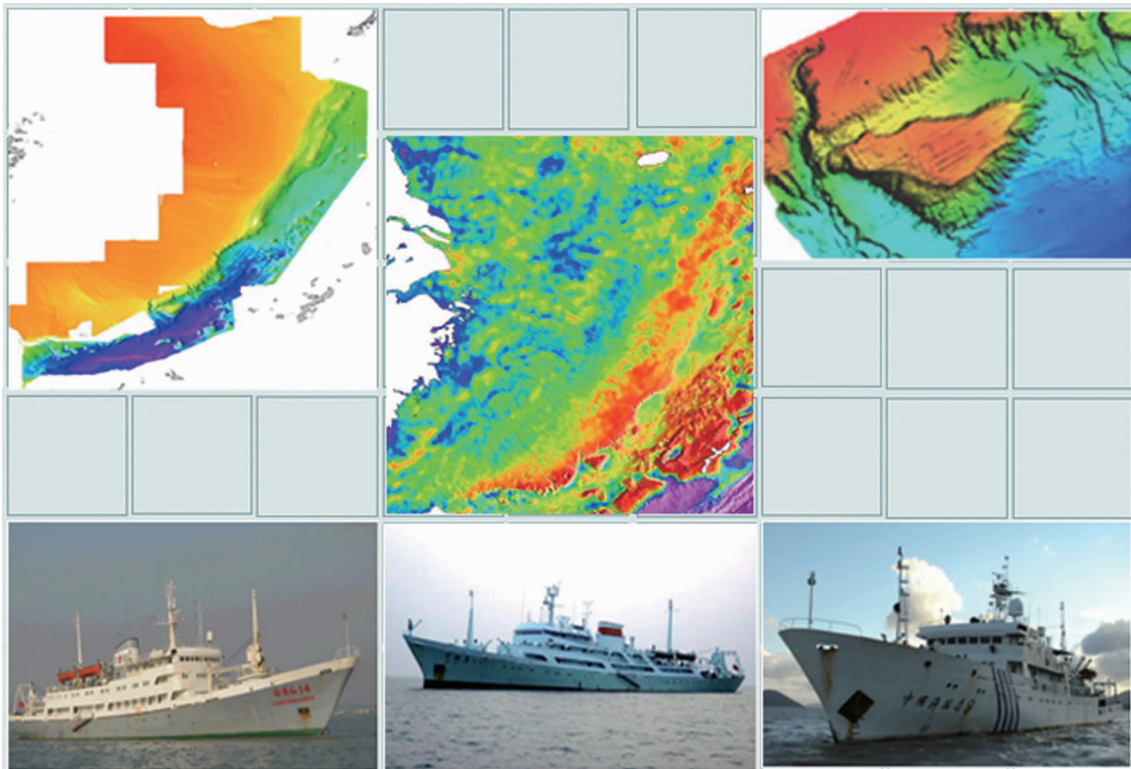


**Submission**  
**by the People's Republic of China**  
**Concerning the Outer Limits of the Continental Shelf**  
**beyond 200 Nautical Miles in Part of the East China Sea**



**EXECUTIVE SUMMARY**



## 1. Introduction

The People's Republic of China (hereinafter referred to as "China") signed on 10 December 1982 and ratified on 15 May 1996 the United Nations Convention on the Law of the Sea (hereinafter referred to as "the Convention").

According to article 76(8) of the Convention, article 4 of Annex II to the Convention and the Decision of the eleventh Meeting of States Parties to the Convention (SPLOS/72), the States Parties for which the Convention entered into force before 13 May 1999 shall submit particulars of the outer limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured to the Commission on the Limits of the Continental Shelf (hereinafter referred to as "the Commission") along with supporting scientific and technical data before 13 May 2009.

A decision (SPLOS/183) was made at the eighteenth Meeting of States Parties to the Convention that "the time period referred to in article 4 of Annex II to the Convention and the decision contained in SPLOS/72, paragraph (a), may be satisfied by submitting to the Secretary-General preliminary information indicative of the outer limits of the continental shelf beyond 200 nautical miles and a description of the status of preparation and intended date of making a submission in accordance with the requirements of article 76 of the Convention and with the Rules of Procedure and the Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf."

The geomorphologic and geological features show that the continental shelf in the East China Sea (hereinafter referred to as "ECS") is the natural prolongation of China's land territory, and the Okinawa Trough is an important geomorphologic unit with prominent cut-off characteristics, which is the termination to where the continental shelf of ECS extends. The continental shelf in ECS extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea of China is measured.

China delineates the outer limits of the continental shelf beyond 200 nautical miles in part of ECS in accordance with article 76 of the Convention, Annex II to the Convention, the Rules of Procedure of the Commission and the Scientific and Technical Guidelines of the Commission.

The Chinese Government submitted the Preliminary Information on Defining the Outer Limits of Its Continental Shelf beyond 200 Nautical Miles to the Secretary-General of the United Nations on 12 May 2009. It is specified in the Preliminary Information that "China is making preparations for the submission of the information on the outer limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured. China has conducted data gathering and processing in the sea areas concerned, is formulating the submission in accordance with the requirements of article 76 of the Convention, the Rules of Procedure of the Commission and the Scientific and Technical Guidelines of the Commission, and is undertaking relevant work of assessment and review", and that "China is intended to make a submission on the outer limits of all



or part of its continental shelf that extends beyond 200 nautical miles at an appropriate date upon completion of the above work. ”

The Chinese Government has completed the preparation of the information on the outer limits of the continental shelf beyond 200 nautical miles in part of ECS and hereby makes the partial Submission.

Paragraph 3 of Annex I to the Rules of Procedure of the Commission provides that “A submission may be made by a coastal State for a portion of its continental shelf in order not to prejudice questions relating to the delimitation of boundaries between States in any other portion or portions of the continental shelf for which a submission may be made later, notwithstanding the provisions regarding the ten-year period established by article 4 of Annex II to the Convention. ”

This Submission is a partial submission concerning the outer limits of the continental shelf beyond 200 nautical miles in part of ECS. This Submission of the Chinese Government is without prejudice to any future submission by China on delineation of the outer limits of the continental shelf in ECS and other seas.

The preparation of this Submission was carried out with the State Oceanic Administration of China and the Ministry of Foreign Affairs of China taking the lead. The majority of the data used in this submission was taken from the projects organized by the State Oceanic Administration of China, and part of the data was provided by the China Geological Survey, the Chinese Academy of Sciences and China Petrochemical Corporation, etc.

## **2. Maps and Coordinates**

The data and information contained in this Submission are intended to prove that China's continental shelf in ECS extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, and to delineate the outer limits of the continental shelf in part of ECS.

Two figures and one table are included in this Executive Summary.

Figure 1 is the geomorphologic map of ECS.

Figure 2 is the map depicting the outer limits of the continental shelf in part of ECS.

Table 1 lists the coordinates defining the fixed points comprising the line of the outer limits of the continental shelf in part of ECS, description of and distance between the fixed points.

## **3. Commission Members Who Provided Advice during the Preparation of the Submission**

During the preparation of this Submission, Prof. Lu Wenzheng, member of the Commission provided advice.

## **4. Provisions of Article 76 Invoked in Support of the Submission**

seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin”. If a claim of a coastal State on continental shelf involves areas that extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, the outer limits of the continental shelf beyond 200 nautical miles shall be delineated in accordance with the provisions in paragraphs 4 ~ 6 of article 76, and information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured shall be submitted by the coastal State to the Commission.

Provisions invoked in this Submission to delineate the outer limits of the continental shelf beyond 200 nautical miles in part of ECS include article 76(4)(a)(ii) of the Convention, i. e. “a line delineated by reference to fixed points not more than 60 nautical miles from the foot of the continental slope” and article 76(5), i. e. “the fixed points comprising the line of the outer limits of the continental shelf on the seabed ... shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured.”

Article 76(7) provides that “the coastal State shall delineate the outer limits of its continental shelf, where that shelf extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by straight lines not exceeding 60 nautical miles in length, connecting fixed points, defined by coordinates of latitude and longitude.” In this Submission, the lengths of the straight lines connecting the 10 fixed points comprising the line of the outer limits of the continental shelf beyond 200 nautical miles do not exceed 60 nautical miles.

## 5. Natural Prolongation of Land Territory

ECS, located to the east of the mainland of China, consists of three geomorphologic units: the shelf, the slope and the Okinawa Trough. The continental shelf of ECS is the natural prolongation of the mainland of China. The maximal width of the shelf exceeds 500 km. The seafloor topography is flat and inclines southeastwards. The gentle inclination ends at the shelf break where the water depth deepens sharply and the slope of ECS begins. The gradient of the slope of ECS is gentle in the north and steep in the south. The topography shows a step-by-step decline in general. The slope of ECS is corroded by numerous seafloor canyons, and the sediments caused by turbidity current are formed in the foot region of the slope outboard of the canyons, leading to complicated topography at the base and in the foot region of the slope. Okinawa Trough is a generally elongated depression. The length of the trough is about 1,200 km from north to south and the width is 100 to 150 km from east to west. The water depth of the trough gradually increases from northeast to southwest, and the maximum water depth is over 2,300 meters (Figure 1).

The shelf of ECS, together with the eastern part of the mainland of China, is tectonically viewed as a whole, because both of them hold the same ancient continental core. The interaction between the Pacific Plate and the Eurasian Plate since the Mesozoic era, had gradually resulted in the formation of the tectonic framework of ECS. The Okinawa Trough was gradually formed by breakup and rifting at the



edge of the continental shelf of ECS. The regional structural features of ECS vary from west to east in strips of tectonic units, namely the Fujian-Zhejiang rise zone, ECS shelf basin, the Diaoyu Dao upfold zone and the Okinawa Trough basin, with the geologic ages in descending order from west to east.

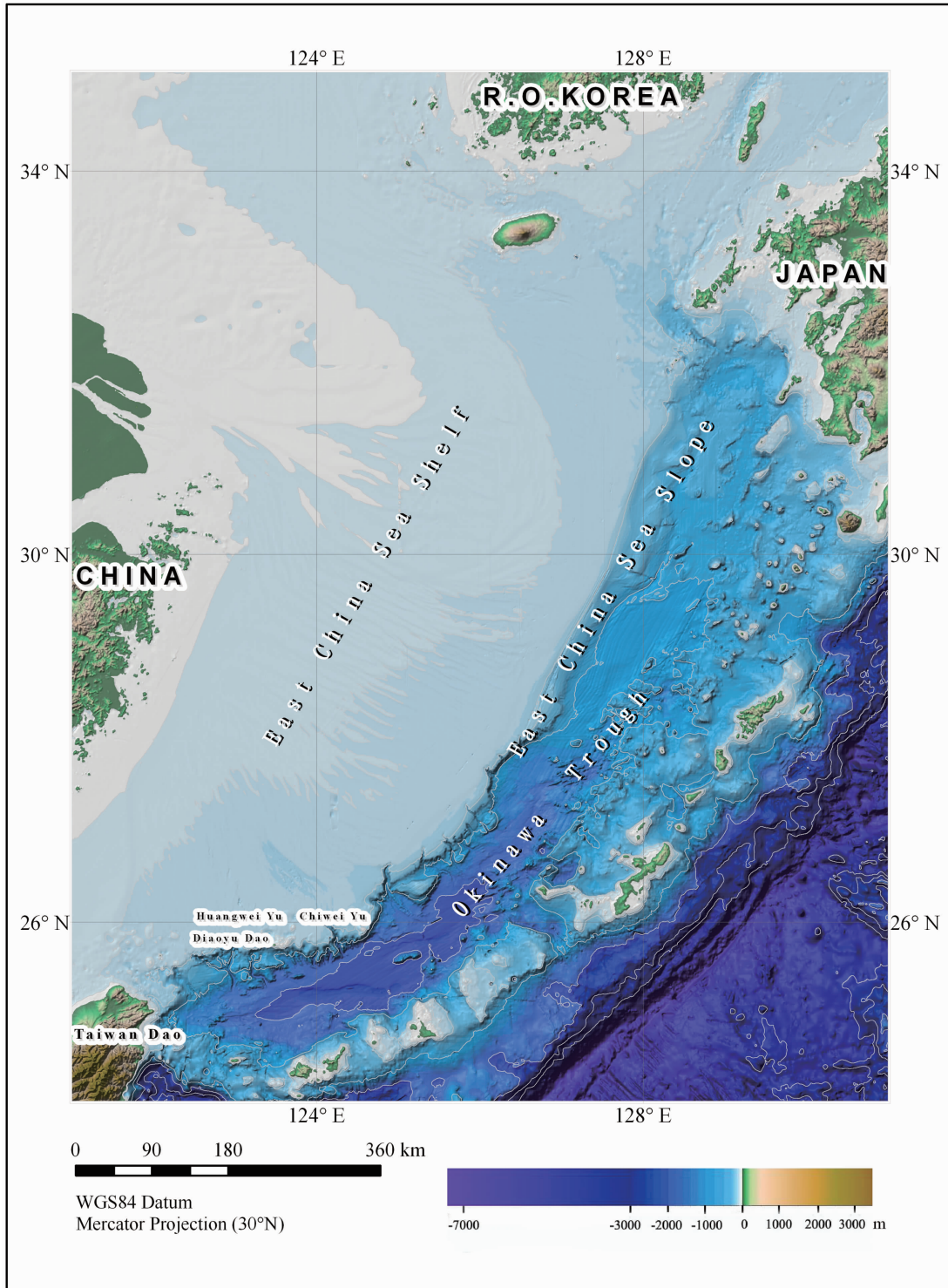


Figure 1 Geomorphologic map of ECS



The Fujian-Zhejiang rise zone consists of a series of islands and reefs in the offshore and Fujian-Zhejiang mainland region, and as a whole the zone shows NE orientation. The basement of the zone is composed of two rock series, one is NEE-trending pre-Sinian metamorphic rock series dominated by plagioclase amphibolite with local migmatization, and the other is NNE-trending Mesozoic volcanic and detrital rock series.

ECS shelf basin, to the east of the Fujian-Zhejiang rise zone, is the main component of East China Sea shelf. The basin generally manifests NNE-NE-trending depressions composed of a series of sags, which has infilled by extremely thick Cenozoic deposits. In the middle part of the basin, an uplift consists of a series of NNE-NE-trending highs divided the basin into West-and East depression belts. The main part of the West depression belt is a Paleocene and Eocene eastward dipping dustpan-like depression with the basement of volcanic rocks and pre-Sinian metamorphic rocks found also in the coastal area of Zhejiang and Fujian provinces. The East depression belt, with the basement formed by pre-Mesozoic low-grade metamorphic rocks, has received deposits since the Eocene era. Late Yanshanian and early Himalayan volcanic rocks can be found in local area of the sags.

The Diaoyu Dao upfold zone, located between ECS shelf basin and the Okinawa Trough, is bordered by faults on both sides. The zone, extending from the Goto Islands of Japan in the north to the Taiwan Dao of China in the south, is a NNE-NEE trending upfold belt with old basement. The zone was upfolded in the Himalayan period, associated with large-scale magmatic activities, and the Paleogene system experienced intensive folding and metamorphism.

Okinawa Trough basin is situated to the east of the Diaoyu Dao upfold zone. Due to mantle upwelling and crust extension, a NNE-NE-trending central rifted zone was formed along the base of the trough basin. The geological characteristics of the Okinawa Trough basin are distinctly different from those of adjacent East China Sea shelf, e. g. , sharply thinned crust, magnetic anomaly lineation and high heat flow value. Seismic refraction indicates that the crustal thickness of the middle and southern part of the Okinawa Trough has been sharply thinned with the minimum crustal thickness of about 13 km, and the stripped magnetic anomalies were identified. The Okinawa Trough is one of the high heat flow regions in the world, with intensive modern volcanism and seafloor hydrothermal activities. Olivine tholeiite found in the southern part of the trough bears the characteristics of oceanic tholeiite, which originates from high extent partial melting of source rock and is resulted from rapid mantle upwelling under the tectonic setting of extremely thinned crust caused by extension.

In conclusion, the shelf of ECS is of stable continental crust. At the Okinawa Trough, however, due to the upwelling of the upper mantle and the sharp thinning of the continental crust, the crust is transformed from thinned continental crust to transitional crust. Nascent oceanic crust occurs in the central rifted zone of the south part of the Okinawa Trough. The shelf of ECS, the slope of ECS and the Okinawa Trough form a passive continental margin. The Okinawa Trough is the natural termination of the continental shelf of ECS.



## 6. Description of the Outer Limits of Continental Shelf in Part of ECS

### 6.1 The Foot of the Slope ( hereinafter referred to as “FOS” ) and the outer envelope of 60 nautical miles from FOS

Article 76(4)(b) of the Convention provides that “in the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in gradient at its base”. According to paragraph 5.1.3 of the Scientific and Technical Guidelines of the Commission, the fundamental requirements for the determination of the foot of the continental slope are: first, identification of the region defined as the base of the slope; and second, determination of the location of the point of maximum change in the gradient at the base of the slope.

According to the geomorphological features of the seafloor and paragraph 5.4.5 of the Scientific and Technical Guidelines of the Commission, the slope base region referred to in this Submission are defined as the area of sudden topographical change between the base of the steep slope of ECS and the relatively smooth upper rise of the Okinawa Trough.

Based on the multi-beam bathymetric field data at a grid of 200m × 200m and the geomorphological features and trends of the seafloor, a series of profiles are selected from the slope of ECS to the Okinawa Trough and 12 points of maximum change of gradient on the base of the slope are defined as FOS. The outer envelope of 60 nautical miles from FOS is formed based on the 12 FOS ( Figure 2 ).

### 6.2 Maximum water depth points and outer limits of ECS's continental shelf beyond 200 nautical miles

The determination of the outer envelop of 60 nautical miles from FOS according to article 76(4)(a)(ii) of the Convention confirms that ECS's continental shelf has naturally prolonged to the Okinawa Trough's axis. Considering the geographical conditions and based on the topographical change of the seafloor, the outer limits of ECS's continental shelf beyond 200 nautical miles is defined as the line connecting of the maximum water depth points on the axial area of the profile which is vertical to the trend of the Okinawa Trough ( hereinafter referred to as the “maximum water depth points” ).

The axial area of the Okinawa Trough is determined based on the regional geological structure, the crustal structure, the petrologic characteristics, and the topographical and geomorphological features of the seafloor. Based on the multi-beam bathymetric field data of the relevant sea area that China obtained in 1996—2002 and with reference to GEBCO 30" × 30" bathymetric data, a series of morphological profiles which are perpendicular to the trending of the Okinawa Trough's axis, are chosen. A maximum water depth point is selected from each profile. This Submission has selected 8 maximum water depth points as the fixed points for determining the outer limits of the continental shelf beyond 200 nautical miles in part of ECS. A line comprising straight lines connecting these points

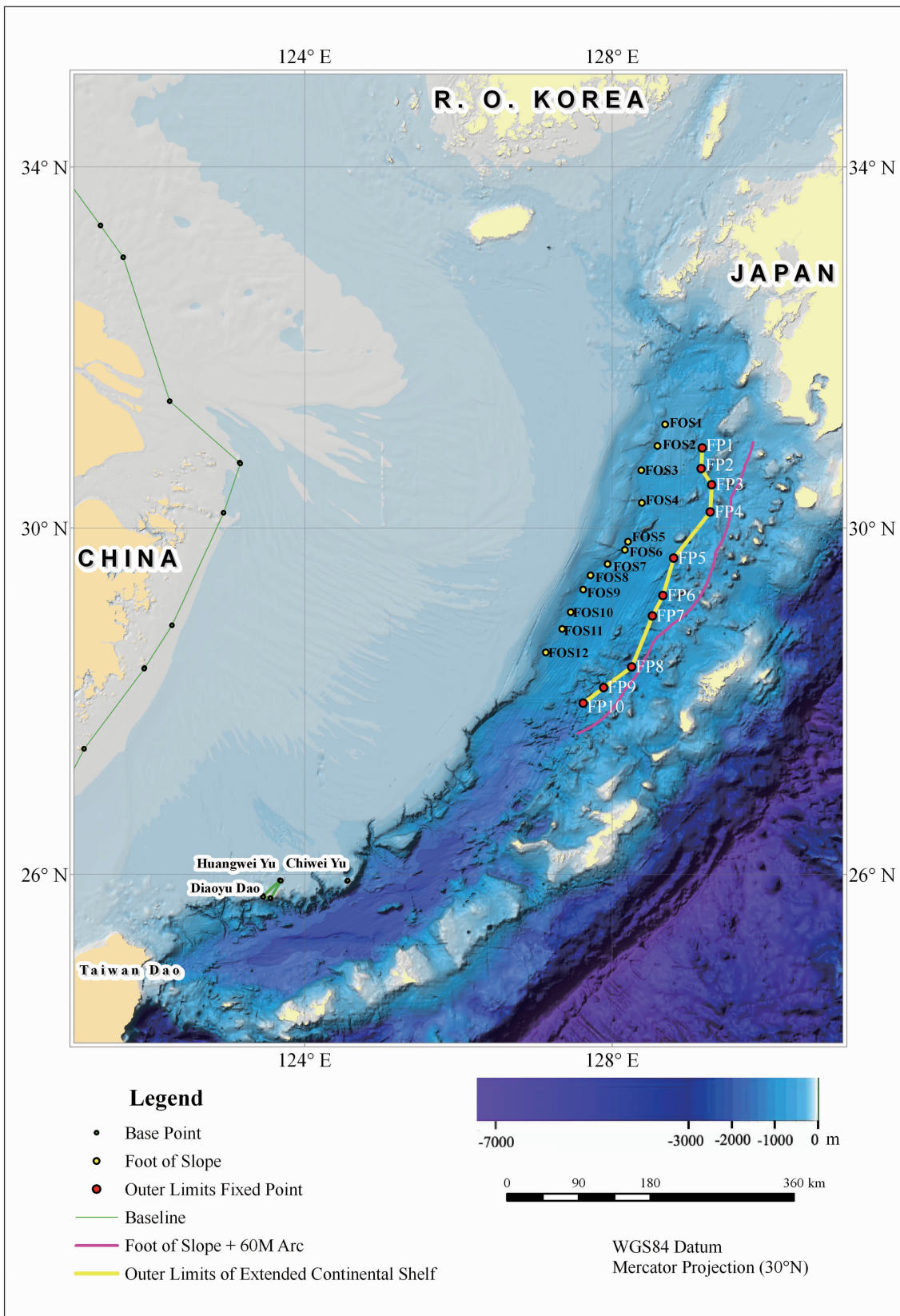


Figure 2 Map depicting the outer limits of the continental shelf in part of ECS





forms the outer limits of ECS's continental shelf beyond 200 nautical miles, which does not exceed the outer envelope of 60 nautical miles from FOS or 350 nautical miles from the baselines from which the breadth of the territorial sea is measured.

The outer limits of ECS's continental shelf beyond 200 nautical miles is composed of 10 fixed points (FP1 – FP10) in the present Submission, all of which are the maximum water depth points of the Okinawa Trough (Figure 2). The straight lines connecting the fixed points do not exceed 60 nautical miles in length. See Table 1 for the coordinates of these points.

**Table 1 Coordinates defining the fixed points comprising the line of the outer limits of the continental shelf in partial area of ECS, description of and distance between the fixed points**

| FixedPoint | Latitude (°N) | Longitude (°E) | Description of Fixed Point                                  | From Fixed Point | To Fixed Point | Distance (M) |
|------------|---------------|----------------|---|------------------|----------------|--------------|
| FP1        | 30.8991       | 129.1708       | maximum water depth point on the axis of the Okinawa Trough | —                | —              | —            |
| FP2        | 30.6679       | 129.1588       | maximum water depth point on the axis of the Okinawa Trough | FP1              | FP2            | 13.85        |
| FP3        | 30.4867       | 129.2928       | maximum water depth point on the axis of the Okinawa Trough | FP2              | FP3            | 12.88        |
| FP4        | 30.1781       | 129.2767       | maximum water depth point on the axis of the Okinawa Trough | FP3              | FP4            | 18.49        |
| FP5        | 29.6552       | 128.8008       | maximum water depth point on the axis of the Okinawa Trough | FP4              | FP5            | 39.94        |
| FP6        | 29.2286       | 128.6608       | maximum water depth point on the axis of the Okinawa Trough | FP5              | FP6            | 26.56        |
| FP7        | 28.9953       | 128.5228       | maximum water depth point on the axis of the Okinawa Trough | FP6              | FP7            | 15.73        |
| FP8        | 28.4127       | 128.2528       | maximum water depth point on the axis of the Okinawa Trough | FP7              | FP8            | 37.66        |
| FP9        | 28.1746       | 127.8888       | maximum water depth point on the axis of the Okinawa Trough | FP8              | FP9            | 23.97        |
| FP10       | 27.9931       | 127.6248       | maximum water depth point on the axis of the Okinawa Trough | FP9              | FP10           | 17.73        |

## 7. Maritime Delimitations

Paragraph 2 of Annex I to the Rules of Procedure of the Commission provides that in case there is a dispute in the delimitation of the continental shelf between opposite or adjacent States, or in other cases of unresolved land or maritime disputes, related to the submission, the Commission shall be:

(a) Informed of such disputes by the coastal States making the submission; and (b) Assured by the coastal States making the submission to the extent possible that the submission will not prejudice



matters relating to the delimitation of boundaries between States.

In accordance with the provision in paragraph 2 of Annex I to the Rules of Procedure of the Commission, the Chinese Government hereby informs the Commission that China, the Republic of Korea and Japan are yet to complete the delimitation of the continental shelf in the area involved in this Submission. According to article 76(10) of the Convention, recommendations of the Commission with regard to this Submission will not prejudice future delimitation of the continental shelf between China and the states concerned.



# Contents

|  |     |
|--|-----|
| 1. Introduction .....  | (1) |
| 2. Maps and Coordinates .....  | (2) |
| 3. Commission Members Who Provided Advice during the Preparation of the Submission ..... | (2) |
| 4. Provisions of Article 76 Invoked in Support of the Submission .....                   | (2) |
| 5. Natural Prolongation of Land Territory .....  | (3) |
| 6. Description of the Outer Limits of Continental Shelf in Part of ECS .....             | (6) |
| 7. Maritime Delimitations .....  | (8) |