

*Marine Days 2015 International Symposium*

***The Possibility of Ocean Education  
in the Context of Education for  
Sustainable Development (ESD)***

***-Based on the Case of Kesennuma City-***

**持続可能な開発のための教育(ESD)の  
実践下における海洋教育の可能性  
～気仙沼市の事例から～**

及川 幸彦 Yukihiro Oikawa

Member, Japanese National Commission for UNESCO  
Chairman, ESD Roundtable Meeting of the Japanese Govt.

Researcher, RCIUE, Miyagi University of Education

Associated Researcher, RCME, University of Tokyo

# 1. Significance of Ocean Education in ESD

## ESDにおける海洋教育の重要性

- KEY ACTION THEMES FOR THE SECOND HALF OF THE DESD (2010–2015)
- UNESCOはDESDの後半期に優先的に取り組むべきプライオリティーとして次の3つのテーマを掲げている
  - ① Climate Change (気候変動) *in the Ocean*
  - ② Biodiversity (生物多様性) *in the Ocean*
  - ③ Disaster Risk Reduction (防災・減災) *against Tsunami*

*The Ocean Is a Key Action Theme for ESD*

海洋教育はESDの重要テーマ

## 2. Synergy between ESD and Ocean Education

### ESDと海洋教育のシナジー

Lessons of ESD & the East Japan Earthquake in Kesenuma

☆気仙沼のESDと東日本大震災の教訓から

1. 持続可能な社会の構築の視点から  
**Concepts of Sustainable Development**
2. 海洋教育の質的向上の視点から  
**Innovation in Ocean Education Quality**
3. 海洋教育の能力・態度育成の視点から  
**Fostering Ability and Attitude**
4. 海洋教育ネットワーク構築の視点から  
**Building Networks and Partnerships**

### 3. *Improving Ocean Education: Learning Methods* 教育の質的向上- 学習手法の改善

#### *ESD Learning Styles* <ESDの学習手法>

- *Inquiry-based Learning* 探究的な学習
- *Problem Solving* 問題解決的学習
- *Experience-based Learning* 体験的な学習
- *Community-based Learning* 地域に根ざす学習
- *Integrated & Interdisciplinary Learning* 総合・学際的学習

➔ *Adapting ESD learning methods for Ocean Education* ESDの学習手法の海洋教育への応用

# 4. Background of Ocean Education in Kesennuma

## 気仙沼の海洋教育の背景

国際水産文化都市

International Fisheries Cultural City



海洋教育の進展

Progress of Ocean Education



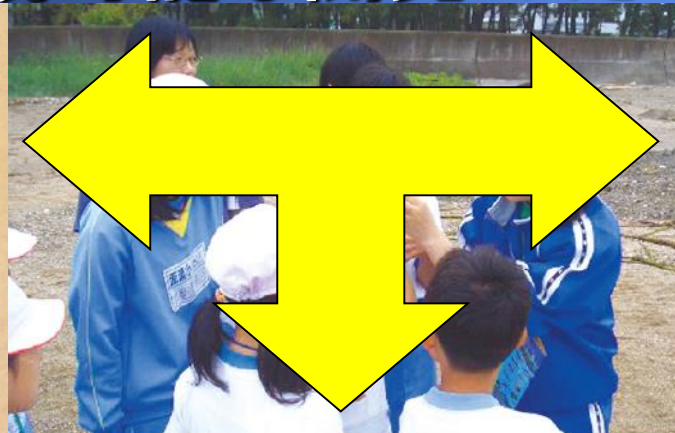
「森は海の恋人運動」  
Forest Conservation



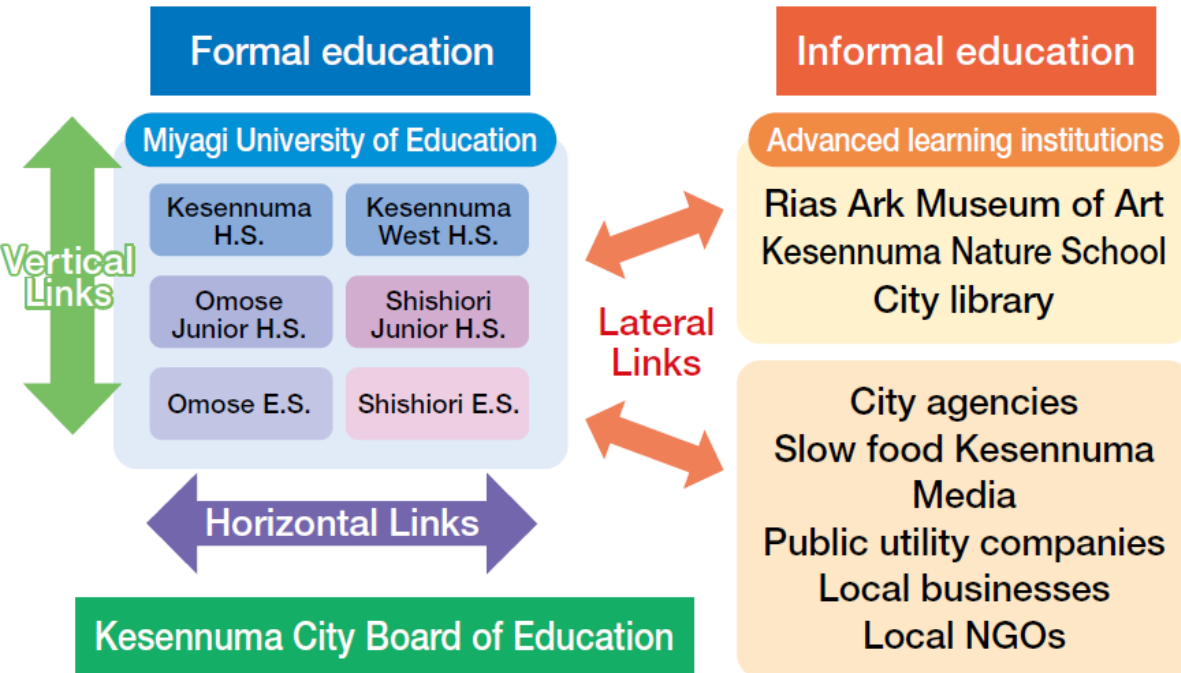
スローフード都市運動  
Slow Food City

# 5. ESD in Kesennuma

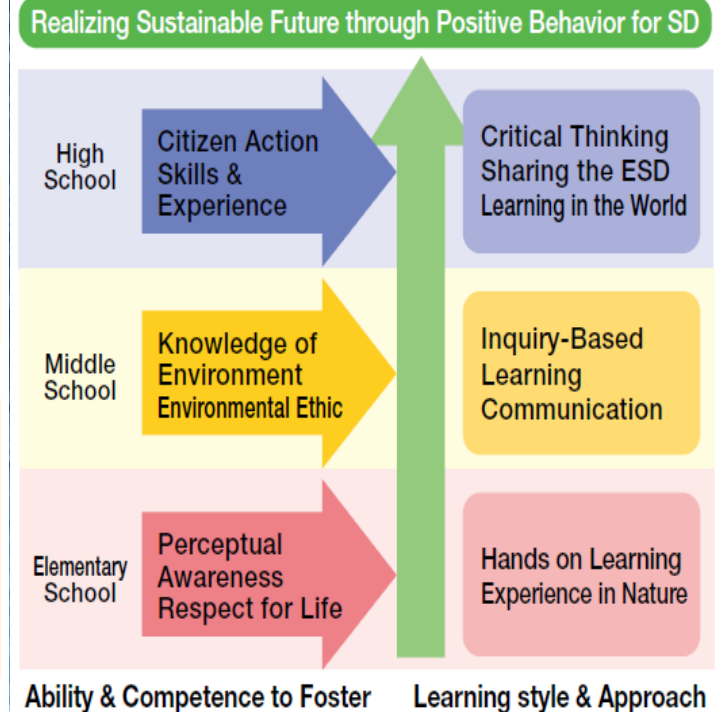
## 気仙沼の持続可能な開発のための教育/ESD



### Coalition to Promote ESD in Kesennuma (RCE)



### Systematic ESD from Primary to High School



# 6. Concepts in Ocean Education

## 海洋教育のコンセプト (Kesennuma)



Build Back Better after the East Japan Earthquake/Tsunami

東日本大震災からの復興  Live with Ocean 「海と生きる」

# Activity 1: Ocean Diversity

Sea Museum Project 豊かなる海 (Omose E.S., Grade 5)



Observation of Forest



Tuna Cooking Party



Seaweed Crafts



Investigation of Marine Life



Experience on a Tuna Boat



# Activity 2: Ocean Conservation

Hummingbird Project 環境保全一ハチドリ計画(大谷小・中学校)

海中林

Marine Forest

大谷小・中学校ハチドリ計画全体図



磯焼け

Barren Ground or  
Coralline Community

2年 本吉・大谷中  
生 磯焼けの  
ウニ解剖!



Ocean Research by  
Junior H.S. Students



海岸林の植樹

Planting Coastal Forest

# Activity 3: Food/Industry

Slow Food Education 海の恵み<産業・食>-牡蠣養殖体験(唐桑小)



Constructing Oyster Craft of School  
唐桑小学校のカキ筏の製作



Experience at an Oyster Plantation  
牡蠣耳つり等体験活動



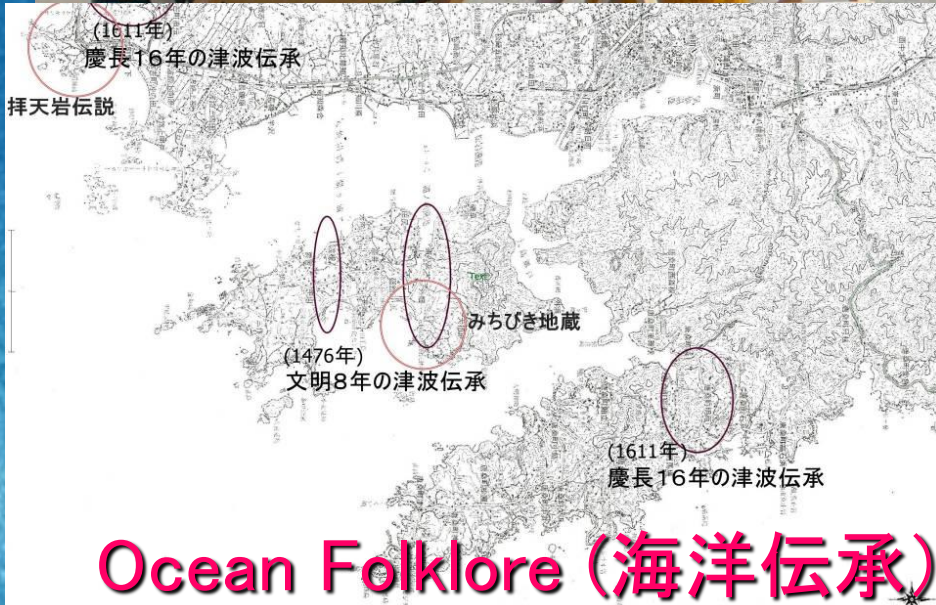
“Forest Is the Ocean’s Sweetheart” Festival  
森は海の恋人植樹祭参加



Selling Products at the Oyster Festival  
牡蠣まつり参加・販売

# Activity 4: Oceanic Cultural Heritage

## 海洋文化の伝承(伝統芸能、伝承、遺跡等)



# Activity 5: Global Education Beyond the Ocean

## 海を越えた国際海洋教育の推進

Realization of the “Sharing of Learning” using ICT while overcoming the time and spatial differences



# 7. Curriculum Development Based on ESD

## 海洋教育のカリキュラム開発 (Omose E.S., Grade 6)

### ESD Program Chart – The model program for ESD

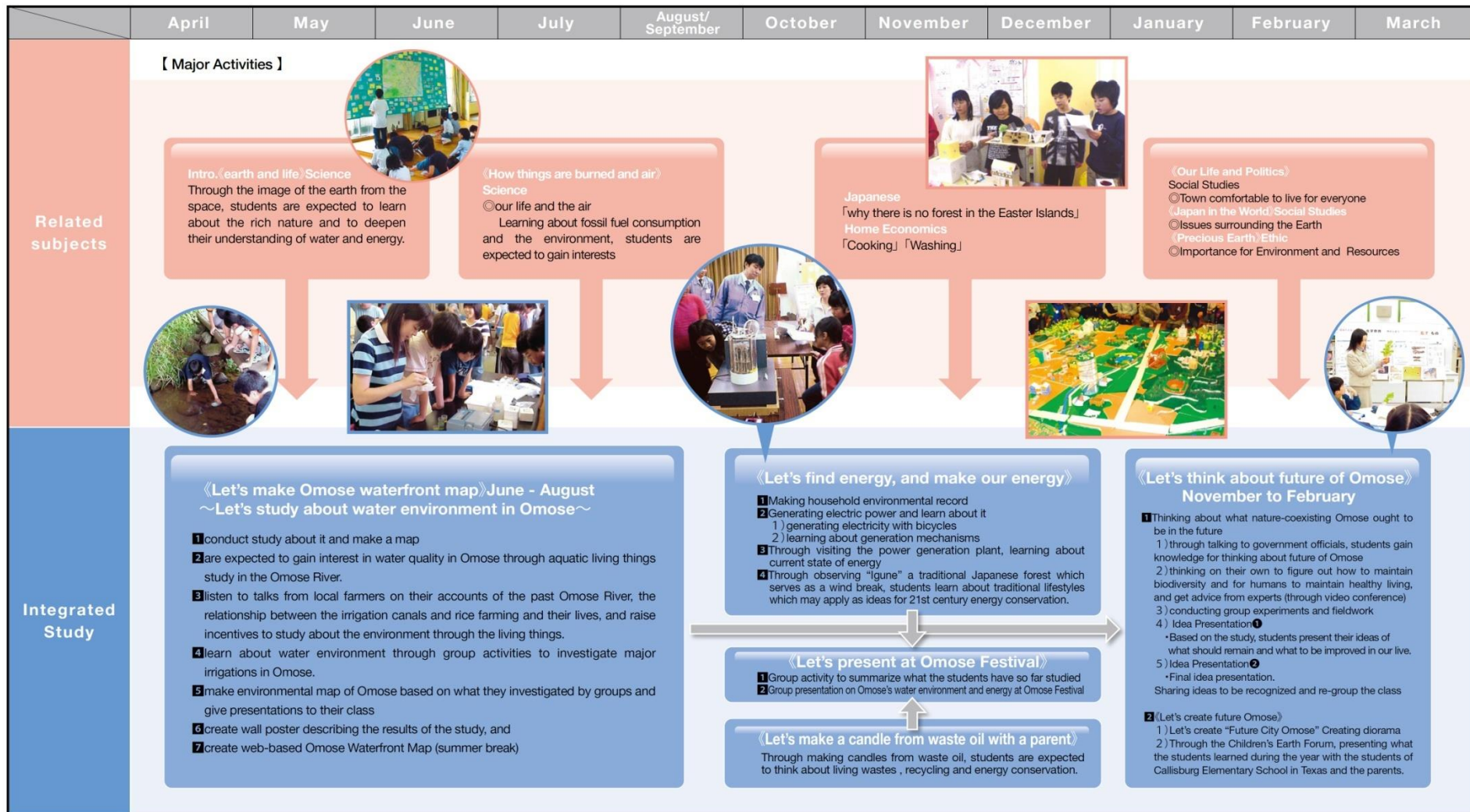
At Omose Elementary, we centered our Integrated Studies Period on the development and implementation of our ESD projects. We expanded the curriculum and the project to incorporate environmental education, previous international understanding and information education curricula. We aim to build a comprehensive Global Inquiry Based Environmental Education program (ESD), which embraces the environmental education project, international understanding activities and information education.

Theme Subject	We are global citizens. "Waterfront Future City Omose"
Period	June to March
Subjects	Integrated Study, Japanese, Social Studies, Science, Home Economics, Manual Art, School Activities, etc.

#### Comprehensive Objectives

Through the study of local and world environments, students are expected to express their own plans for Omose's future environment where people can peacefully coexist with the natural environment.

### Sixth Grade – "Environmental Future City Project"



# 8. East Japan Earthquake and Tsunami

東日本大震災発生 March 11, 2011



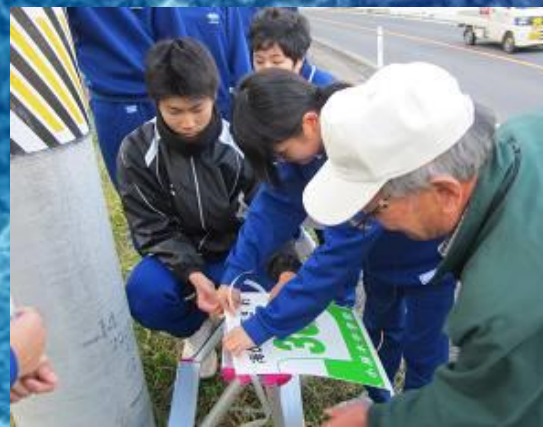
# 9. Disaster Education as a Learning Process for SD

## 持続可能なプロセスとしての津波防災教育

<b>段階</b> Stage	<b>Step 1</b> 災害発生の仕組み Mechanism	<b>Step 2</b> 災害の社会や環境への影響 Linkage	<b>Step 3</b> 災害リスク軽減への対応と準備 Action	<b>Step 3</b> 被災からの復興 持続可能な社会 Recovery
<b>能力</b> Ability	知識・理解 Knowledge & awareness of disaster mechanisms	因果関係の認識力 Recognition of influence & relations	備え・対応の行動力 Responsive action & preparedness for mitigation	創造と協働 Creativity & collaboration for recovery
<b>学習内容</b> Content	気候変動や災害の種類や発生のメカニズムを科学的・客観的に理解する Mechanisms of disaster	気候変動と災害が人間生活や環境、文化にどのような影響を与えるかを認識する Influence on society	気候変動がもたらす災害のリスクを軽減するための対応や準備の仕方を理解し実践する Mitigation and adaptation	災害による被災からの創造的復興に向けたプロセスや貢献のあり方を学ぶ Recovery process
<b>ESD</b>	科学的理論 Scientific 社会的要因 Social 経済的要因 Economic	社会的影響 Social 経済的影響 Economic 文化的影響 Cultural	インフラ Infrastructure 組織力 Management 知恵・スキル Wisdom, Skill	経済的復興 Economic 文化的復興 Cultural 精神的復興 Spiritual

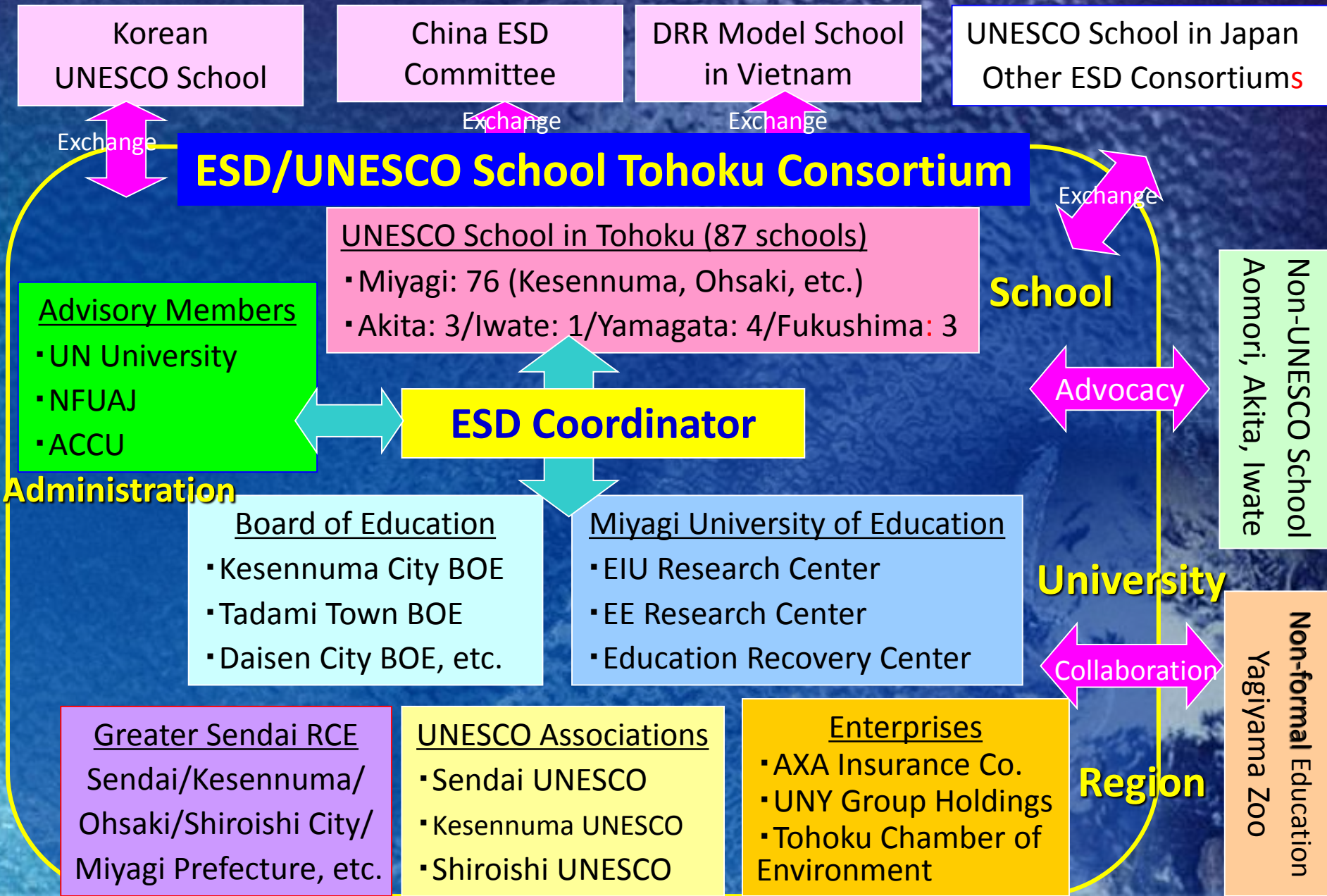
# Activity 6: Altitude Display Project (Koharagi J.H.S.)

## 海拔表示プロジェクト (小原木中学校)





# 10. Building a Consortium for Ocean Education



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*Thank You for Your Attention!*

ご静聴ありがとうございました。

**Yukihiko OIKAWA**

[y-oikawa@staff.miyakyo-u.ac.jp](mailto:y-oikawa@staff.miyakyo-u.ac.jp)