



ACTION PLAN FOR THE ERASMUS + KA229 (TILT) PROJECT IN THE ACADEMIC YEAR 2020/21 – 2022/23.

LINES OF WORK:

1. Environmental Education on sustainability:

- Blue-Planet Project
- Ecohuerto Project.

2. Environmental Education for the conservation of biodiversity:

- Bird Study Project
- Coastal Line Project.

3. Environmental Education in Natural Spaces: Learn about the protected natural spaces of Huelva and the protected species.

GENERAL OBJECTIVES OF ENVIRONMENTAL EDUCATION.

The Environmental Education Program that has been proposed at the IES San Sebastián Centro is focused on raising awareness and sensitizing students about environmental problems, based on both the loss of biodiversity and climate change, and trying to alleviate these problems with mitigation measures, reduction and promotion of sustainable habits. That is why we participate in the Erasmus+ K229 Project “TOGETHER, RESEARCH AND LEARN, TO FACE CLIMATE ISSUES” and the ALDEA Program (Junta de Andalucía)

The objective is to develop an environmental education program with an interdisciplinary integration of the different subjects of the curriculum and promote responsibility towards the environment in students. And in turn, promote students' self-esteem and their responsibility towards environmental work. To do this we base ourselves on the objectives of the different lines:

- Environmental Education on sustainability and global change.

“Blue Planet”: Promote the development of environmental education and awareness initiatives and processes around climate change to encourage personal and collective involvement in a process of reducing greenhouse gas emissions.

“Eco-garden”: Know the rhythms of nature and have direct contact with the interrelationships with the environment, direct contact with natural and ecological products and their cycles, promoting their consumption according to their seasonality, which will facilitate the acquisition of good eating habits.

Increase social awareness about the importance of producing in a sustainable way, using methods that are not aggressive to the environment, and producing foods free of synthetic chemical compounds, valuing the quality of the foods obtained with these production methods.

- Environmental Education for the conservation of biodiversity:

“Coastline”: Develop environmental education activities to promote sustainable habits related to the conservation of the coastline in educational centers in the Andalusian coastal environment.

“Bird-study”: Promote knowledge of birds and their habitats among students, observe and record the changes that birds show in response to climate change, and promote school research in ornithology.

- Environmental Education in Natural Spaces:

Know and appreciate the diversity and richness of the natural spaces of Andalusia.

Value natural and cultural resources as part of the Andalusian heritage and as a source of collective wealth.

Promote respect and conservation of the natural environment.

Promote research and involvement in solving environmental problems.

Develop attitudes and skills of respect and teamwork.

DEPARTMENTS INVOLVED in the Erasmus+ K229 Project:

- *Biology and geology
- * Math
- * Physics and chemistry
- * Language and literature
- * English and French
- * Social
- * Philosophy
- * Administration and Business

- *Marketing and Commerce
- * Computing
- * Orientation
- * Management team.

SUMMARY OF ACTIVITIES

1. Environmental Education on sustainability and global change

➤ “Ecohuerto Project”

Work subjects:

- Free subject of 1st ESO: "My organic garden"
- Biology and geology
- Language
- Math
- Social

Courses involved:

- 1st ESO
- 1st Baccalaureate

The activities done:

- Garden work: planting, irrigation, fertilizing with organic matter, collecting garden products and composting
- Study of water eutrophication.
- Meteorological studies in the organic garden.
- Analysis of water and soil of the eco-garden.
- Monitoring of organic crops with Autumn-Winter and Spring-Summer plantations.
- Preparation of “Insect Hotels” to promote pollination.
- Study of harmful fauna associated with the orchard and biological methods for eliminating pests.
- Study of the fauna associated beneficial to the orchard-
- Use “PERMACULTURE” Cultivation techniques
- Plant local varieties of seeds from the ANDALUZ SEED BANK, and close the cycle to exchange the seeds collected in the garden for other varieties from the Bank.

➤ **Blue-Planet Project**

Work subjects:

- Free subject of 1st ESO: "My organic garden"
- Biology and geology
- Physics and chemistry
- Economy
- Philosophy
- English
- Tutorials and Guards

Courses involved:

- 1st and 4th of ESO
- 1st and 2nd year of Bacalaureate
- CF Computer Science and Commerce.

The activities done:

- "TILT" and "ALDEA" logo contest
- Phenological study of Eco-garden plantations
- Phenology of the Flora of Moret Park and Marismas del Odiel during the 20-21 Course
- Comparative phenological study in Moret Park with that of the 21-22 academic year.
- Study of CO₂ fixation in the Ecogarden with different crops
- Reforestation of native plants in Moret Park.
- Oil (soap) recycling workshops
- Plastic Reuse Workshops (Passeriformes drinkers and feeders)
- Wooden box reuse workshops (Insect Hotel for the organic garden).
- Workshops on assembling nest boxes for passerines.
- Awareness activity: Your idea counts "Reduce water consumption"
- Awareness activity: "No to global warming"
- Awareness activity: "CO₂ Alert" (Study of CO₂ emissions in the history of humanity)
- Conference: "Out of Plastic" organized by Wofest-Huelva
- Awareness campaign: "Save the poles", organized by the Spanish Ministry of Defense, with the sponsorship of penguins.
- "Eco-Audit": study of CO₂ emissions of the IES Centro San Sebastián, due to consumption of light, paper and trips to the Center.

- "SUSTAINABLE VILLAGE" model, of self-sustainable houses with renewable energy.
- Analysis of Environmental Factors in commercial companies (GVEC projects of the CFGS and CFGM)
- Game: "Domino effect"
- Video-forum: "Climate change"
- Awareness campaign: Celebration of JUNE 5 "World Environment Day"
- Local Collection of Waste to Recycle and Reuse in the Natural Area of Marismas del Odiel and Playa de la Canaleta de Punta Umbría. Organized by the CHELONIA association, within the CIRCULARES MARES Project.
- Tire collection at the Marismas del Odiel Natural Park Beach.
- Visit INTA, to learn about the research they carry out on renewable energy and atmospheric studies.
- Energy Workshops, given by the Department of Energy of the Provincial Council of Huelva.
- "Bicycles" awareness campaign

2. Environmental Education for the conservation of biodiversity:

➤ "Bird study project"

Work subjects:

- Biology and geology
- French and English
- Language and literature

Courses involved:

- 1st, 2nd and 4th of ESO
- 1st and 2nd year of Baccaulaureate

Performed activities:

- Bird dictionary in French and English.
- Ornithological sheets of birds from Huelva.
- Passerine ornithological conferences, taught by SEO-Huelva.
- Sighting in Parquet Moret, accompanied by ornithologists from SEO-Huelva.
- Placement of Passerine Nests in the Center patio and terraces.
- Bird painting contest: "My favorite bird"
- Awareness campaign on the Canaleta beach in Punta Umbría: "Nest in the sand" of snowy plovers and terns. Talk given on site by the president of the AHUNA Association.

- Stork Census, organized by SEO within the CICAMVE program.
- Ornithological route in Marismas del Odiel, accompanied by ornithologists from SEO-Huelva, and relationship with the biotope.
- Ringing of passerines in Laguna Primera de Palos and Marismas del Odiel.
- Ringing of the Osprey in Marismas del Odiel.
- Martini nest census and monitoring of martin nests
- Tales of marsh birds, prepared by 1st Baccalaureate students. One of them has been selected for the “La Banda” Program broadcast by Andalusian Television: CANAL SUR.
- Bird workshops “Nests in the Sand”, taught at the Center by ornithologists from the AHUNA association.
- Ornithological route through the Isla Cristina Marshes and the Molino Marale del Pintado, accompanied by the PLATALEA Association
- Ornithological routes through the different ecosystems of the Doñana National Park.
- Visit to the CREA-CEGMA of Marismas del Odiel, to learn how injured birds can be recovered in the environment.
- Study of migratory birds in Marismas del Odiel.

➤ **“Coastal Line Project”**

Work subjects:

- Biology and geology

Courses involved:

- 4ºESO
- 1st Baccalaureate

The activities done:

- Collection of benthic species from the coast of Huelva for laboratory study.
- Creation of Identification Keys for Bivalve Mollusks. <http://ka226.online/>
- Study of coastal ecosystems: Biotope-biocenosis relationship

Punta-Umbría Estuary

Canaleta Beach

Portil Lagoon (Natural Reserve)

Evaporators of the marshes of Marismas del Odiel (Natural Site)

- Coastal Inspection from the mouth of the Piedras River to La Bota beach (Huelva).
- Study of the benthic biodiversity of the beaches of the Doñana National Park.
- Biodiversity in the seabed: Visit Aquarium
- “Marine Biology” Workshop at the Seville Aquarium.

3. Environmental Education in Natural Spaces:

➤ “Nature and You Project”

Work subjects:

- Biology and geology
- Language and literature
- Marketing and Commerce
- English

Courses involved:

- 1st, 3rd and 4th ESO
- 1st Baccalaureate

The activities done:

- Reading and summaries of “Tales of threatened species”
- Study of the different habitats of the “Marismas del Odiel” Natural Area:
 - Marsh pipes and estuaries
 - Calatilla freshwater lagoon
 - salt evaporators
 - Beach
- Study of biodiversity in the “Marismas del Río Piedras y Flecha del Rompido” Natural Area
- Study of biodiversity in the "Enebrales de Punta Umbría" Natural Park
- Study of biodiversity in the “Laguna Primera de Palos” Natural Park
- Botanical routes in Moret Park
- Inverted Classroom from 1st year of Baccalaureate to 1st year of ESO:
 - Biodiversity and Classification of S.V.
 - Moneras Kingdom
 - protocist kingdom
 - mushroom kingdom

plant kingdom

animal Kingdom

- Biodiversity Exhibition: "WITHOUT BIODIVERSITY THERE IS NO LIFE", with the panels provided by the ECOLOGISTS IN ACTION Association
- Study of the biodiversity of the Flora in the Laguna Primera de Palos Natural Area.
- Study of the biodiversity of Ecosystems in the Doñana National Park.
- Visit to the Iberian Lynx Observation Center at the Doñana Acebuche Interpretation Center.

ERASMUS+ KA229 TILT PROJECT FOOTPRINT

- Graffiti in the courtyard of the Center with an environmental theme, made by Huelva artist Victor Romero Toscano

<https://iessansebastianciencias.blogspot.com/2023/08/huella-del-proyecto-erasmus-tilt.html>

MOBILITIES

1. Francia: Energía
<https://iessansebastianciencias.blogspot.com/2021/12/i-encuentro-del-proyecto-erasmus-ka229.html>
<https://www.youtube.com/watch?v=bebQDW8onTM>
2. España: Sostenibilidad y Biodiversidad
<https://padlet.com/mcintafernandez/bxczsjb980halxjs>
<https://padlet.com/mcintafernandez/cayfn2ugwv4f3xju>
https://iessansebastianciencias.blogspot.com/2022/04/ii-encuentro-transnacional-del-proyecto_48.html
https://iessansebastianciencias.blogspot.com/2022/04/ii-encuentro-transnacional-del-proyecto_12.html
https://iessansebastianciencias.blogspot.com/2022/04/ii-encuentro-transnacional-del-proyecto_20.html
https://iessansebastianciencias.blogspot.com/2022/04/ii-encuentro-transnacional-del-proyecto_11.html
<https://iessansebastianciencias.blogspot.com/2022/04/ii-encuentro-transnacional-del-proyecto.html>
https://www.youtube.com/watch?v=Gmt_ea47CzM
<https://www.youtube.com/watch?v=x-sl5PkeeTU>
<https://www.youtube.com/watch?v=AFJJI3HKuQg>
<https://www.youtube.com/watch?v=Rh9mINEsonc>
<https://www.youtube.com/watch?v=uplxudgTxR4>
3. Italia: Consumo de Agua
<https://padlet.com/mcarzal706/albx4b7q4p5hp38r>

https://iessansebastianciencias.blogspot.com/2023/01/iii-encuentro-internacional-en-riposto_22.html
https://iessansebastianciencias.blogspot.com/2023/01/iii-encuentro-internacional-en-riposto_62.html
https://iessansebastianciencias.blogspot.com/2023/01/iii-encuentro-internacional-en-riposto_55.html
https://iessansebastianciencias.blogspot.com/2023/01/iii-encuentro-internacional-en-riposto_12.html
<https://iessansebastianciencias.blogspot.com/2023/01/iii-encuentro-internacional-en-riposto.html>
<https://www.youtube.com/watch?v=LITtidpLIYg>

4. Grecia: Construcciones sostenibles

<https://es.padlet.com/pzalvide/meeting-in-crete-of-the-erasmus-project-ka229-tilt-ijlce8ilith9dbj7a>
https://iessansebastianciencias.blogspot.com/2023/04/iv-encuentro-transnacional-del-programa_34.html
https://iessansebastianciencias.blogspot.com/2023/04/iv-encuentro-transnacional-del-programa_20.html
https://iessansebastianciencias.blogspot.com/2023/04/iv-encuentro-transnacional-del-programa_49.html
https://iessansebastianciencias.blogspot.com/2023/04/iv-encuentro-transnacional-del-programa_20.html
<https://iessansebastianciencias.blogspot.com/2023/04/iv-encuentro-transnacional-del-prgrama.html>
<https://www.youtube.com/watch?v=zRnxwoPxipc>
<https://www.youtube.com/watch?v=BWmUgy0vmiQ>

DIFUSIÓN DEL PROYECTO ERASMUS+ KA229 TILT

- Celebración del día de ErasmusDay (13 de Octubre 2022)
<https://padlet.com/mcarzal706/s0tf8z3gdem4t86h>
<https://iessansebastianciencias.blogspot.com/2022/11/erasmusdays-13-de-octubre-de-2022.html>
<https://www.facebook.com/100022129717489/videos/883357562593852/>
- Celebración del día Europeo de las lenguas:
<https://www.youtube.com/watch?v=2KGDmMhTO9s>

PRENSA:

https://www.huelvainformacion.es/huelva/IES-San-Sebastian-Huelva-ErasmusDays_0_1729328914.html

https://www.huelvainformacion.es/huelva/Fundacion-Cepsa-Juntos-IES-Sebastian_0_1672633343.html

https://www.huelvainformacion.es/huelva/Ayuntamiento-Huelva-IES-San-Sebastian_0_1671433829.html

https://www.huelvainformacion.es/huelva/Alumnos-IES-Sebastian-Huelva-Francia_0_1638736783.html

https://www.huelvainformacion.es/huelva/IES-San-Sebastian-biodiversidad-exposicion_0_1558946037.html

<https://huelvabuenasnoticias.com/2022/10/15/erasmusdays-el-ies-san-sebastian-de-huelva-en-vanguardia-de-la-internacionalizacion/>

<https://huelvabuenasnoticias.com/2022/04/08/alumnos-del-ies-san-sebastian-ponen-en-practica-el-programa-internacional-juntos-investigamos-y-aprendemos/>

<https://huelvabuenasnoticias.com/2021/12/15/estudiantes-del-ies-san-sebastian-profundizan-sobre-el-cambio-climatico-en-una-visita-a-francia/>

TELEVISIÓN:

<https://www.facebook.com/ies.sansebastian.7/videos/883357562593852>

YOUTUBE:

INTA: <https://www.youtube.com/watch?v=IGr-NVO0-Is>

Recogida de Residuos en Marismas del Odiel:

<https://www.youtube.com/watch?v=FkXdaita8SY>

<https://www.youtube.com/watch?v=rVr8lOlggBA>

Recogida de Residuos en Playa de la Canaleta:

<https://www.youtube.com/watch?v=fNXjnHHKG1U>

Biodiversidad en Doñana: <https://www.youtube.com/watch?v=-1jn-xgDuFc>

Avistamiento en el Parque Moret: <https://www.youtube.com/watch?v=bwgb-MkBlp0>

Ruta Ornitológica Marismas de Isla Cristina: <https://www.youtube.com/watch?v=Td30fX4X-5c>

Ruta Ornitológica en Marismas del Odiel:

<https://www.youtube.com/watch?v=usfOL9Y9QUE>

<https://www.youtube.com/watch?v=N-UbjqEYTMo>

<https://www.youtube.com/watch?v=Q91OwHddvdQ>

<https://www.youtube.com/watch?v=mXhhHGZB7yw>

Estudio de parámetros F-Q del agua de los distintos ecosistemas en Marismas del Odiel:

<https://www.youtube.com/watch?v=Q91OwHddvdQ>

Anillamiento del Águila pescadora: <https://www.youtube.com/watch?v=5itfobEpgUo>

Cuentos de aves de los alumnos: <https://www.youtube.com/watch?v=Vv8jJGKWNQU>

Recogida de neumáticos en Marismas del Odiel:

https://www.youtube.com/watch?v=Kx_Fx_RWmvg

Talleres de Energía: <https://www.youtube.com/watch?v=1DEnJ3ODJOQ>

Celebración del día mundial del reciclaje: <https://www.youtube.com/watch?v=E49RTAeuQ9w>

Anillamientos en la Laguna Primera de Palos:

https://www.youtube.com/watch?v=1v89UZk_dGo

<https://www.youtube.com/watch?v=6UuEXWpkAKI>

<https://www.youtube.com/watch?v=YoYAdngPnFY>

<https://www.youtube.com/watch?v=chHtTwpFwOM>

<https://www.youtube.com/watch?v=1tKB0kiWA6c>

Estudio de la Biodiversidad de la Flora en el Parque Moret:

<https://www.youtube.com/watch?v=0ftT7r5aTXw>

Taller de reciclaje de aceite:

<https://www.youtube.com/watch?v=ninj38uPczY>

<https://www.youtube.com/watch?v=Pv4Q7S7FsVM>

Taller de “Biología Marina”: <https://www.youtube.com/watch?v=RYvNXBm0OFg>

Biodiversidad de fondos acuáticos: <https://www.youtube.com/watch?v=qjbQGeqDbxE>

El águila pescadora en Marismas del Odiel:

<https://www.youtube.com/watch?v=leQf6OvyQAo>

<https://www.youtube.com/watch?v=0tbkcYIQ9k4>

Visita CREA-CEGMA de Marismas del Odiel:

<https://www.youtube.com/watch?v=FLNhTp-oSac>

<https://www.youtube.com/watch?v=8nDsJfOuQmU>

Estudio de aves Migratorias: <https://www.youtube.com/watch?v=PO4J1Qc28qc>

Taller de reutilización de plásticos:

https://www.youtube.com/watch?v=3rqSf5_HHWY

<https://www.youtube.com/watch?v=Pg-jX70wdcE>

Anillamiento en Marismas del Odiel: <https://www.youtube.com/watch?v=HIDHLd7hN2g>

Celebración del día de la educación ambiental (2022):

<https://www.youtube.com/watch?v=3J12mN1QivI>

Taller de anfibios en el Parque Moret: <https://www.youtube.com/watch?v=wqipdS5TUMU>

Reforestación en el Parque Moret:

https://www.youtube.com/watch?v=64_Dd6baDMs

<https://www.youtube.com/watch?v=bsp8E21OFA0>

Estudio Fenológico en el Parque Moret:

<https://www.youtube.com/watch?v=-oy0XvDnguc>

<https://www.youtube.com/watch?v=CxvanhL4fKQ>

https://www.youtube.com/watch?v=Rmsnb3K_xeA

<https://www.youtube.com/watch?v=LYNKLbHJbIA>

<https://www.youtube.com/watch?v=beCA5tmOt9c>

<https://www.youtube.com/watch?v=YTWRrQQ-QS8>

<https://www.youtube.com/watch?v=GPohSqjVXlk>

https://www.youtube.com/watch?v=xpwK_7KIPOA

<https://www.youtube.com/watch?v=7DoBw8GTaX8>

<https://www.youtube.com/watch?v=lqe71tFPsCQ>

<https://www.youtube.com/watch?v=trGBLH90apw>

<https://www.youtube.com/watch?v=kp6bpH7EXho>

<https://www.youtube.com/watch?v=P7V50s54iyg>

Estudio Fenológico en Marismas del Odiel:

<https://www.youtube.com/watch?v=L2RQXYjC1Ck>

<https://www.youtube.com/watch?v=eySaY4z6wvM>

<https://www.youtube.com/watch?v=zsiYsK8m8L8>

<https://www.youtube.com/watch?v=usSYL6oxDs4>

<https://www.youtube.com/watch?v=-t3VRmLoLxs>

<https://www.youtube.com/watch?v=z9Yh4L4Z-5Y>

https://www.youtube.com/watch?v=U_xqAX9L2U0

<https://www.youtube.com/watch?v=NwXngtXk19s>

<https://www.youtube.com/watch?v=RAh4vDJwpvI>

Estudio de la biodiversidad en Ecosistemas costeros de Huelva:

<https://www.youtube.com/watch?v=MFLbvg4Ur6I>

Estudio de la biodiversidad en el litoral de Huelva:

<https://www.youtube.com/watch?v=a6Tb88cLK4>

Celebración del día mundial medioambiental:

<https://www.youtube.com/watch?v=RRYsTLQDvu0>

Campaña para disminuir el consumo de agua:

<https://www.youtube.com/watch?v=UllwyY4qEgo>

<https://www.youtube.com/watch?v=TEs7IdaFAHg>

<https://www.youtube.com/watch?v=jbAiu2iKvrM>

<https://www.youtube.com/watch?v=RDyPipS1hh4>

<https://www.youtube.com/watch?v=H-HAvMQVM1g>

<https://www.youtube.com/watch?v=anoCuQXwP64>

Campaña de sensibilización “Alerta CO2”: <https://www.youtube.com/watch?v=9HVE1SZS2Qg>

Itinerario botánico en la Laguna Primera de Palos:

<https://www.youtube.com/watch?v=Xi0r9bIMitg>

Estudio de la biodiversidad en los Enebrales de Punta Umbría:

<https://www.youtube.com/watch?v=KjcrNfZe0sw>

Censo de cigüeñas:

<https://www.youtube.com/watch?v=EA3XwZNYF3g>

<https://www.youtube.com/watch?v=A1oKtNYGonM>

Clases invertidas:

https://www.youtube.com/watch?v=9U_0rwec2-Q

<https://www.youtube.com/watch?v=3uEkRh6o61A>

<https://www.youtube.com/watch?v=srhzh1eTASM>

<https://www.youtube.com/watch?v=OHGLdPvMSZk>

<https://www.youtube.com/watch?v=SeabhgEN2mM>

<https://www.youtube.com/watch?v=n41f5hXWlek>

Biodiversidad: <https://www.youtube.com/watch?v=mlaut-MKtLA>

Ruta ornitológica en Marismas del Odiel: <https://www.youtube.com/watch?v=qQZ2DhuNS8g>

Ruta botánica en el Parque Moret: https://www.youtube.com/watch?v=CT_COFV-7Dc

Aves de la laguna de Calatillas en Marismas del Odiel:

<https://www.youtube.com/watch?v=PZ1Qz7ZfYZE>

Construcción de Cajas nidos para paseriformes:

<https://www.youtube.com/watch?v=jCWAN7PPTqE>

Jornadas Ornitológicas:

<https://www.youtube.com/watch?v=xh5A2CxFPeM>

<https://www.youtube.com/watch?v=pOUZsWwlymU>

<https://www.youtube.com/watch?v=7AaSuelH9JE>

Conferencia “No a los plásticos”: https://www.youtube.com/watch?v=c_BySOSSPPk

Campañas de sensibilización “Bicicletas”

<https://www.youtube.com/watch?v=N28lvymAmts>

<https://www.youtube.com/watch?v=zlkfQuzNm-Q>

Censo de nidos de avión común: <https://www.youtube.com/watch?v=uCdK4VTv98s>

Ecosistemas en Marismas del Odiel: <https://www.youtube.com/watch?v=RSkd0VscblI>

REDES SOCIALES: