

Time for Bili: Geography

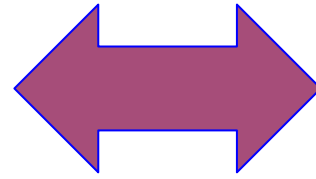
Mr. Häcker

Who already visited a Christmas market?

- Have you bought candied almonds?



What is the relation between the Sierra Nevada / California and candied almonds???



Ca\$h Crops - What are cash crops?



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Cash crops are agricultural products **grown primarily for sale** rather than for local self-sufficiency.

→ Main purpose is **commercial profit** (regional, national, or global).

Connect the characteristics and definitions:

- 1 High market value:
- 2 Market-oriented production:
- 3 often monoculture-based:
- 4 capital-intensive:

need irrigation, fertilizers, machinery, technology and is affected by price fluctuations

large areas where only a single type of crop is grown to maximize profit

rely on external markets, domestic or global

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Ca\$h Crops - Are almonds cash crops?

Watch the video and **evaluate** whether almonds are cash crops based on the characteristics of cash crops.



(click to play)



Ca\$h Crops - Are almonds cash crops?

1. High market value
2. Rely on U.S. (almost 100%) and global market (80%)
3. Huge monocultures
4. Capital intensive



Where almonds are grown effects become visible

Tasks:

Answer the following questions with a partner (**Partner A:** Task 1, 2; **Partner B:** Task 3, 4).

1. **Name** the location where are almonds grown and name the year when?

2. **Outline** the circumstances and requirements under which almonds are grown.

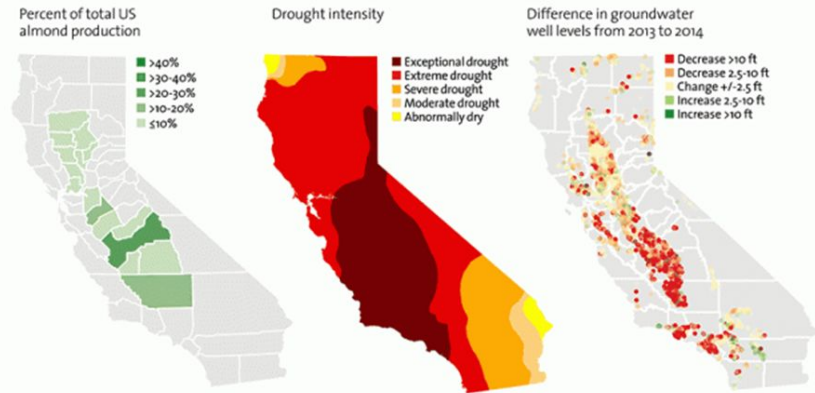
3. **Name** the beneficial conditions of the Central Valley.

4. **Outline** the economic dimension of California's almond industry?

5. Together with your partner **evaluate** whether the Central Valley almond industry is more
are curse or a blessing (Fluch oder Segen) for the region.



California's Almond Counties Are Its Driest—and Most Overpumped



Note: The drought map represents the intensity of the drought as of January 6, 2015. The groundwater map shows data currently available from the California Department of Water Resources. Not all wells in California are part of the database.

Sources: US Drought Monitor (drought map); California Department of Water Resources (groundwater levels); California County Agricultural Commissioners (crop maps).

<https://www.drought.gov/>

Use the material to answer the questions. A 1, 2 / B 3, 4

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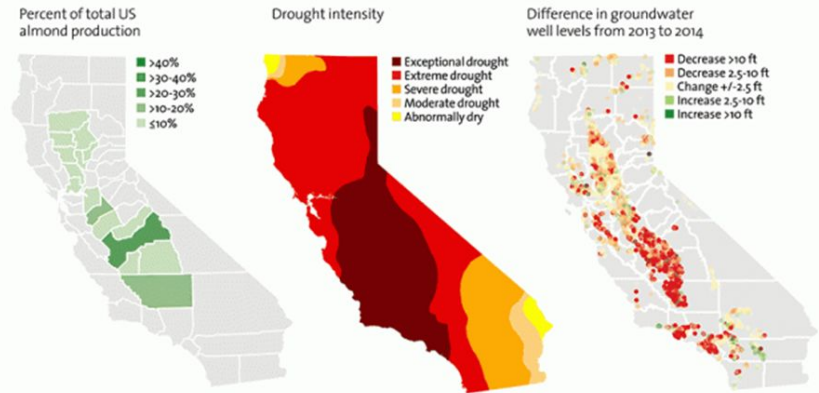
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Almond Farming in California's Central Valley



M1 Location of the Central Valley, CA

Almonds are one of the most important crops in the United States, and almost all American almonds come from the Central Valley in California (M1). This long, **fertile** (*fruchtbar*) valley has been the center of almond production since the 1950s. Today California produces around 80% of the world's almonds.

The Central Valley offers perfect natural conditions for almond trees due to the Sierra Nevada mountain range. The mountain range causes dry, hot summers for the valley, which help the almonds **ripen** (*reifen*) and stay free from diseases. The mild and wet winters give the trees enough water during their resting period. Together with fertile soils, the climate makes the Central Valley one of the best places in the world to grow almonds.

However, this industry is dependent on Sierra Nevada meltwater during the summer which is a critical factor (M2). The Sierra Nevada is the main supplier of California's Aquifer. In years with little snowfall e.g. 2012 – 2016, often caused by climate change, there is far less water available. This causes severe droughts which in consequence create conflicts between agriculture, cities, and natural ecosystems that all rely on the same water sources.



U.S. Drought Monitor
California
November 25, 2025
(Revised Thursday, Nov. 20, 2025)
10:47 a.m. EST



Almond plantations in California are usually large monocultures. During the flowering season, almond trees need millions of bees for pollination. Because there are not enough local bees, beekeepers from all over the United States transport their bees to California every spring. Without these bees, no almonds would grow. In addition, the large monocultures reduce biodiversity, can increase the use of pesticides and intensify soil degradation.

Economically, almonds are a high-value cash crop. Almonds are sold across the U.S. and also exported to many countries around the world (M3). This makes the almond industry one of the most important part of California's agricultural economy.

However, almond farming also creates environmental challenges. Almond trees need a lot of water, about 12 liters for a single almond or 1200 liters for 100g of almonds. This is a big problem because California often suffers from severe droughts, especially in summer. To keep the plantations alive, farmers must use large amounts of **irrigation** (*Bewässerung*) water, which puts pressure on rivers, groundwater, and ecosystems.



M2 Drought intensity in California Nov. and Jul. 2025



M3 Shipping Destinations of Californian Almonds in 2015/16

Tasks:

Answer the following questions with a partner (**Partner A:** Task 1, 2; **Partner B:** Task 3, 4).

1. Name the location where are almonds grown and name the year when?

- Grown in the **Central Valley, CA**; since the **1950s**

2. Outline the circumstances and requirements under which almonds are grown.

They are grown in large monocultures that require **millions of bees for pollination**. The plantations often lead to **soil degradation**, increased **pesticide use**, and **reduced biodiversity**. They also need large amounts of **water** and rely on extensive **irrigation systems**.

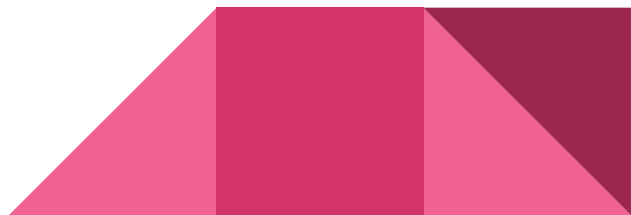


3. Name the beneficial conditions of the Central Valley. |

-Hot and dry summers, fertile soils, wet winters

4. Outline the economic dimension of California's almond industry?

Almonds are a **high-value cash crop**. California produces about **80% of the world's almonds**. The industry exports to major markets such as **Europe and India** and creates lots of jobs



5. Together with your partner **evaluate** whether the Central Valley almond industry is more are curse or a blessing (Fluch oder Segen) for the region.

Curse: Almonds are extremely water-intensive (about 1,200 liters per 100 g). Summer droughts, groundwater depletion, water conflicts with cities and residents, pesticide use, and loss of biodiversity create serious environmental and social problems.

Blessing: The industry generates high profits, provides many jobs, and is an important economic sector for California.

