Science Advances

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Supplementary Materials for

Bioinspired polarization vision enables underwater geolocalization

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The PDF file includes:

- fig. S1. RMS error statistics.
- fig. S2. Sensitivity data recorded under windy conditions.
- fig. S3. Camera hardware in use.
- Legend for movie S1

Other Supplementary Material for this manuscript includes the following:
(available at advances.sciencemag.org/cgi/content/full/4/4/eaao6841/DC1)

- movie S1 (.mp4 format). Data collection with bioinspired polarization imaging sensor.

Supplementary Materials

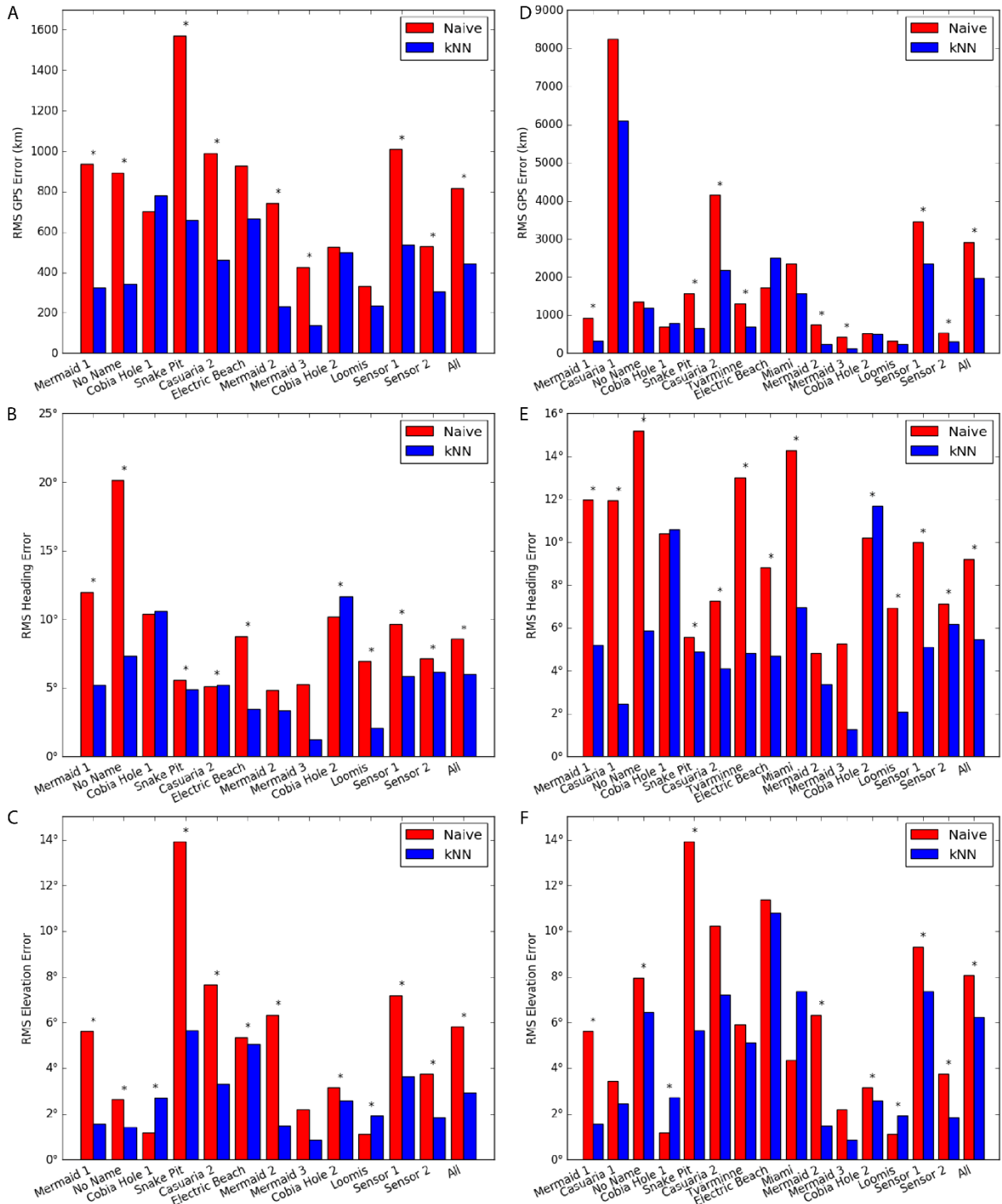**movie S1. Data collection with bioinspired polarization imaging sensor.**

fig. S1. RMS error statistics. (**A**, **B**, **C**) RMS errors of position, sun heading, and sun elevation estimates, respectively, for sun elevations at least 40° above the horizon. (**D**, **E**, **F**) RMS errors of position, sun heading, and sun elevation estimates, respectively, for all sun elevations. * indicates significant difference between the naïve and *k*NN results, *p* < 0.05.
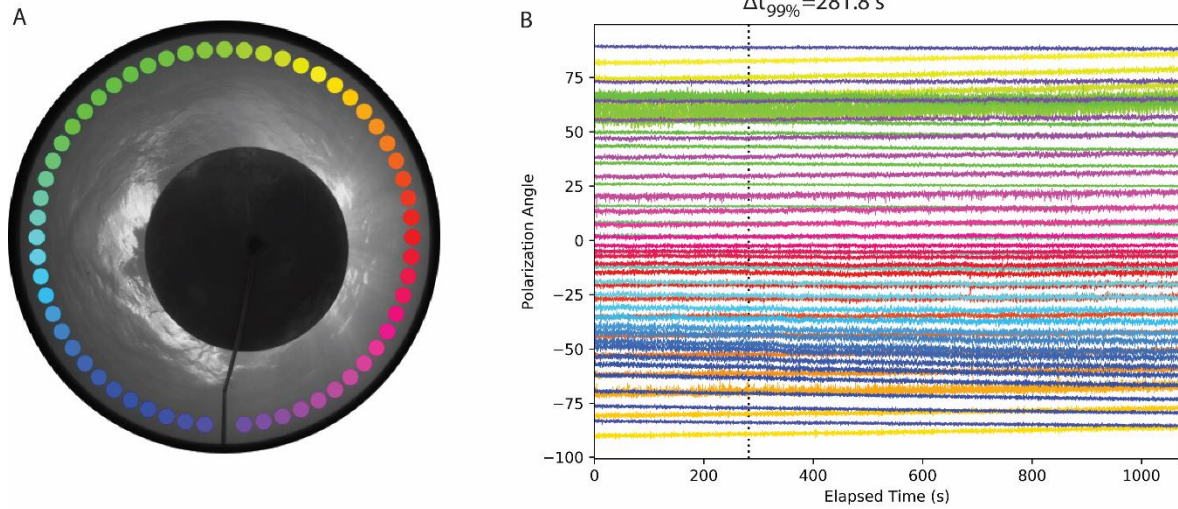
fig. S2. Sensitivity data recorded under windy conditions. (**A**) Intensity image taken during a sensitivity experiment performed during the morning. The camera is set vertically, with a disk to block the sun. The colored circles around the periphery show the regions over which the polarization angles are measured. Regions with partial polarization less than 5% were rejected. (**B**) Polarization angles measured during the sensitivity experiment; colors correspond to the regions shown in (A). The vertical dotted line shows how long it takes the angles to change with 99% confidence.
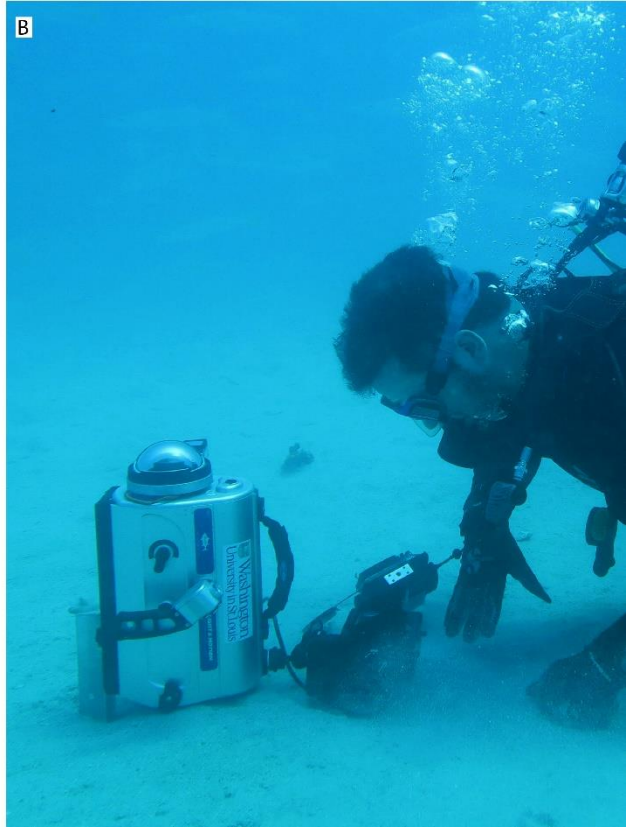
fig. S3. Camera hardware in use. (**A**) Underwater polarization camera prepared for recording sun inference data. (**B**) Underwater polarization camera with fish-eye lens, in a configuration similar to how the sensitivity data were collected.